Udupa K.N. Committee

on

Ayurveda Research Evaluation, 1958

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INTRODUCTION

HISTORICAL BACKGROUND

The historical background of ayurveda has been ably dealt with in reports of the earlier committee appointed by the central and the state governments. It may, however, be useful to give in brief the various stages in the birth, growth, decadence and revival of ayurveda.

2. Dating back to more than thousand years, the history of ayurveda is generally spilt in four periods, viz. vedic period, period of Samhitas and sangrhas, period of compilation by Hindu chemists and the decadent period. Then comes the present period of attempt at reviving the ancient science of ayurveda. It is generally understood that ayurveda forms part of both the Rig Veda and the Atharva Veda.
3. That there was systematic medical education imparted in ayurveda in evident form the fact that as early as 2nd century B.C. the university of takshila attracted medical students from far and near even then all the specialities in medicine were highly developed and full fledged surgery was in vogue. It is well known that nagarjuna had made many discoveries in the 2nd century A.D. in regard tomineral preparations used in ayurveda. In the 6 th and 7th centuries A.D. the university of nalanda was in full swing and medical students from Japan, China. Etcare known to have prosecuted their higher studies in medicine at university.

Vedic Period Etc.

4. The fact that there were in vogue eight branches of ayurveda, viz.(1) Kaya Chikitsa (medicine), (2) salya chikitsa (surgery),(3) salakya chikitsa (diseases of eye, ear nose throat, etc), (4) kauma4rabrithya(paediatrics), (5)bhuta vaidya (psychotherapy), (6) agada tantra(toxicology), (7) rasyana (rejuvention) and (8) vajikarana (virilisation), proves beyond doubt that there was a high degree of medical knowledge among the Aryans. By the beginning of the chrisitians era, ayurveda had spread far beyond the shores of India and laid foundations of the westerns medicine of today.

Decadence

5. But with the advent of budhism and ahimsa (Non-Violence) theory, ayurvedic surgery declined considerably and thus failed to keep pace with later scientific developments. During the Moghul period, ayurveda suffered another serious set back, because amny of the texts of ayurveda were destroyed and practitioners of the system were systematically discredited. Lack of state support during the British regime reduced ayurveda to a stagnant stage. By this time, the situation was ripe for the introduction of western system of medicine which resulted in a further deterioration. The conservative vaisyas becoming dogmatic and impervious to modern advance in medicine made condition worse. Ayurveda still managed to survive only because the ruling princes in some of the more enlightened Indian states took a keen interest in the science.

REVIVAL

Earlier attempts

6. However, earnest attempts were made to resuscitate ayurveda in the early part of this century- first the all India ayurved mahamandal, then the avrous resolution of the Indian National Congress on Ayurveda (1920-38), next the Bengal government committee of

1921-22 and U.P. committee of 1925. all these efforts, unfortunately, met only with a small measure of success and that too was not of permanent nature.

Bhore Committee

7. The Bhore Committee appointed by the government of India in 1945 side- tracked the issue by merely saying that they were "unfortunately not in position to asses the real value of these systems (indigenous system) of medical treatment as practiced today as we have been unable with the time and opportunities at our disposal to conduct such an investigation into this problem as would justify clear-cut recommendations". The Bhore committee also "left it to the provincial governments to decide what part, if any, should be played by the indigenous systems in the organization of public health and medical relief", after such investigation as may be found necessary. The only positive suggestion that the Bhore committee made was in regard to the established of a chair of history of Medicine in the All India Medical institute to "study indigenous systems of medicine in view of the importance of investigating the extent to which they can contribute to the sum total of medical knowledge." There was however, a minute of dissent by three members of the Bhore committee, containing a definite recommendation regarding the free utilization of the services of person trained in indigenous systems for promoting public health and medical relief in India.

FIRST HEALTH MINISTERS' CONFERENCE

8. The first health ministers' conference of 1946 brought the subject again prominently to the forefront and passed a strongly worked resolution to the effect that provision should be made for training and research in indigenous systems of medicine and practitioners of ayurveda and unani should be absorbed into the state health organizations.

CHOPRA COMMITTEE

9. As a result of this, a committee under the chairman ship of lt. col R.N. Chopra was appointed in 1946 by the government of India which went into the matter thoroughly and made far reaching recommendations. Their report was published in 1948.
10. This committee's recommendations, in brief, were as follows:-

General: (1) For rendering of medical relief, the western and indigenous systems should be harmonica.

(2) Synthesis of Indian and western medicines is not only possible but Practicable, through it will be time- consuming and not easy. Immediate steps should be taken in this direction.

Education (3) curricula should be in such a way that whatever is weak in one System should be supplementary details.

(4) Syllabus of integrated studies should be properly worked out cutting out unnecessary details

(5) Curriculum should be so arranged as to give the student adequate Knowledge of Indian medicine with essentials of western medicine Particularly in those branches where Indian medicine is deficient.

(6) Curriculum should be uniform for the whole country.

(7) There should be an improvement in the basic education of entrants.

(8) Working Knowledge of Sanskrit and should knowledge of English and basic modern Sciences like Chemistry, Physics and biology will be necessary.

(9) Course of training should be five years.

(10) Unified text- books should be compiled.
(11) A board of experts should be set up for editing and publishing old classic and the right kind of text – books of integrated type.
(12) Each subject should be taught by the same teacher giving a reconciliation of the views of Indian and western medicine.
(13) Chairs of History of Indian medicine should be established in modern medical colleges.
(14) There should be short term course of three years for a temporary period till adequate medical personnel become available for rural areas.
(15) Grants should be made to selected educational institutes for providing adequate accommodation, equipment and staff.

Teachers: (16) Training of teachers for integrated studies. The first source of supply of such teachers will be from present schools and colleges of integrsted medicine. The second source of supply will be promising graduates of both system with proper training.
(17) Teachers should be well paid.

Control of Education: (18) All India standards of professional and technical education should be established.

(19) Central government should control education and practice of Indian medicine.
(20) A Deputy Director of health services should be appointed under the health ministry to hold charge of the Indian medicine and he should be responsible for implementing the above recommendations and coo4rdinating the work in provinces.
(21) There should be a national medicine borad consisting of two Autonomous sections Viz. Indian medical council and council Of Indian medicine.
(22) Institution with low standards should either be abolished or amalgamated with good institutions.

Research: (23) All India institutions should also be centers for carrying out research.
(24) In the research institute experts of both the systems should work Side by side checking and verifying the various hypothesis and theories, either rejecting or harmonizing them.
(25) There is urgent necessity for inaugurating research in Indian Medicine, to clear it of accretions of centuries of doubtful value and to make it intelligible to modern minds and to synthesize Indian and western medicine into one unified system. Research should be done in fundamental doctrines of Indian medicine, it Literary research, clinical research, drug research, research on Nutrition and dietetics and research on psychological aspects of medicine.
(26) A Central research institute should be established.

Control Of Research: (27) A Central council of research should be set up in Indian medicine to formulate policies to stimulate research, to supervise and control, etc.

Drugs Standardisation (28) Proper identification of medicinal plants used in Indian medicines region- wise should be made.

(29) Established of herbarium in the central research institute.
(30) Cultivation of all medicinal plants should be done after a proper

Survey has been carried out. This should be on collaboration with forest and agricultural departments.

(31) A materia – medica for ayurveda should be compiled.

(32) An ayurvedic pharmacopoeia by the central research institute should Be compiled.

(33) Control should be exercised over collection and distribution of crude drugs.

(34) Same facilities should be afforded for procuring excisable drugs used. in Indian medicine as in the case of manufacturing firms of western medicine

(35) Training of pharmacists of Indian medicine should be undertaken.

Medical Relief: (36) Use should be made of existing practitioners for covering the gap in medical relief for rural areas.

Central Government decision

11. The recommendations of the chopra committee were considered by the government of India and final decision were taken as follows:-

"(1) Integration of different systems of medicine on the lines contemplated by the Chopra Committee is impracticable, as the theories and principles of modern medicine are very different from the theories and principles enunciated by ayurveda and unani. The evolution of an integrated system will be possible only after the methods of modern scientific research have been applied to the principles and practice of ayurveda and unani and it has been ascertained what is of proven merit and value in these systems."

"(2) The central and provincial governments should decide that modern scientific medicine should continue to be the basis for the development pf the national health services in the country."

"(3) Facilities for research on scientific lines in to the ayuvedic and unani systems of medicine should be promoted on as broad a basis as possible an the lines recommended in para. 251 of the Chopra committee's Report. The results of such research, as are of proved value, will not only enrich the ayurvedic and unani systems but will also be incorporated in modern medicine so that eventually there will emerge only one system of medicine. A start should be made by established one center of research for this purpose. In order to work out the details of its development, a small committee consisting of suitable persons representing the ayurvedic and unani systems of medicines, modern medicine and the natural and biological sciences should be appointed."

"(4) Pending the results of the research and the ultimate evolution of a unified system of medicine as contemplated in the previous sub paragraph, the question of the nature and content of the training to be provided for those who wish to practice ayurveda or unani requires careful consideration. At present the ayurvedic and unani systems are taught in institutes of widely differing standards and even the best of them do not provide an adequate grouping in the basic sciences essential for the practice of any system of medicine. It is, therefore, proposed that a full course of education in modern scientific medicine should be the basis on which special training in ayurveda, unani and other systems should be engrafted for those who want to specialize in those systems of medicine. Such special training in ayurveda, unani and other system can graduate medical courses in the modern medical colleges for the benefit of those who desire to quality themselves in those systems or alternatively ayurvedic and unani systems can form subjects of post graduate studies. The question of the curriculum of studies for those who wish to

practice ayurveda and unani should also be examined by the committee suggested under the previous sub paragraph. On the basis of the recommendations of the cpmmittee, a uniform policy can be prescribed."

"(5) All India legislation should be enacted for the registration of people who have been practicing ayurveda, unani and other systems of medicine for a specified number of years and the practice of medicine of unregistered persons should there after be prohibited."

"(6) Existing practitioners of ayurveda, unani and other systems who have had a basic training in the principles of modern scientific medicines may be given such training in public health work as may be necessary and utilized by the provincial governments in the expansion of the health services to the extent necessary."

PANDIT COMMITTEE

12. A committee research was set up under the chairmanship of Dr. C.G. Pandit to follow up some of the recommendations of the Chopra committee that committee recommended:

(1) that a central research institute in indigenous systems of medicine should be set up at Jamnagar.
(2) That the in corporation of instruction in ayurveda, unani and etc, in the curriculum of modern medical colleges was not immediately feasible either at the under-graduate level or post-graduate level;
(3) That teaching of modern medicine in ayuvedic college was not advisable because of the low standards of the institutions and that the curriculum for integrated course proposed by the Chopra committee will have to be revised only when the results of the work done at the central research institute were available;
(4) That such should be upgraded before concurrent teaching of modern and indigenous systems was resorted to;
(5) That higher qualification for admission to ayurvedic etc. colleges be insisted upon;
(6) That there should not be a diploma and degree course in ayurveda because this will tend to continue the existing neglected state of affairs in ayurveda; and
(7) that therefore there should only be one uniform course of training ayurveda."

Action by Central Government

13. As a result of the Pandit committee's report, the central research institute in indigenous systems of medicine was created at Jamnagar in 1952.

DAVE COMMITTEE

14. In pursuance of a resolution passed by the Central Council of Health in1954, the Government of India appointed a committee headed by Shri D.T. Dave in 1955 to study and report on the question of establishing standards in respect of education and regulation of the practice of indigenous systems of medicine.
15. The Dave committee first considered the question of regulation of practice of indigenous systems of medicine and their recommendations in short were:-

(1) Institutionally qualified persons and traditional vaids and hakims with fifteen years of practice should be on the respective state registers;
(2) There should be board in each state to control the practitioners of indigenous systems and also to regulate academic teaching;
(3) The privileges given to registered practitioners of indigenous systems of medicine should be equal to those of the modern medical practitioners."

16. As regards educational standards for ayurveda, the Dave committee recommended that:-

(1) There should be one uniform standards of training consisting of a course of 5.1/2 years including one year internship, with at least three months training in rural areas;
(2) The basic qualification for admission should be intermediate in science with physics, chemistry and biology or higher secondary examination, with basic knowledge of Sanskrit in both cases;
(3) There should be a council on the analogy of the Indian medical council, to control teaching in all institutions;
(4) Subject – wise text-books should be written up or revised;
(5) The syllabus should be taken up by separate faculties of ayurveda affiliated to universities;
(6) A pharmacopoeia and dictionary of aturveda should be copiled;
(7) All teaching institution should have indoor hospitals attached in the ratio of five beds per student;
(8) The ayurvedic Degree should be styled as G.A.M.S.
(9) Separate directorates of ayurveda should be established in the center and states;
(10) Post-graduate training for two years and research facilities should be provided at suitable places; and
(11) Refreshers course should be organized in teaching institutions."

17. The Dave committee also gave a model syllabus for the integrated course.
18. The report of the Dave committee was circulated to the state governments and their views placed before the central council of health at Bangalore. Unfortunately, however, the state authorities seemed to have given it a poor reception with the result that the states were allowed to take it or leave it according to their discretion.

General Observations

19. It will be observed from the preceding paragraphs that the decision of the governments of India on the Chopra committee and the Pandit committee's recommendations was that research in Indian systems of medicine should first be done before an integration with modern medicine took place, the training in ayurveda and unani etc. should be given mainly to the undergraduate in modern medicine and that alternatively ayurveda, etc, should form the subject of post graduate study for the modern medical student of post graduate study for the modern medical student. Thus the training of ayurvedic students was relegated to the background until such time as research had proved the merit of ayurveda.
20. It appears that government's intention was to recognize the merit of ayurveda only after research on modern methods had proved its worth. Incidentally, we wish to state that drugs or their values do not constitute the entire ayurvedic science. We would like to urge, as the Pandit committee had done, that ayurvedic training to be given to an under-graduate in modern medicine or making ayurveda a post graduate study of the modern

medical student is not the best way improving the present status of ayurvedic training. The previous recommendation of the Chopra committee in regards to the formation of central bodies for training and research was not implemented by government and this, in our opinion has been the cause of the present deadlock.

21. We feel the merit of ayurveda should not have formed a subject of contention and the proving of such merit to the authorities of modern medicine should not have been made a condition precedent for its recognition by government. All along people have been convinced that ayurveda had been developed on scientific lines but that certain inexplicable gaps left in it owing to political events had to be filled in, if not by current ayurvedic knowledge, by modern scientific methods.
22. in short, all the useful work of the Chopra Committee and the Dave committee in the matter of integrated system of education in ayurveda practically went to waste and a general impression was created that the integrated system of education was a failure.
23. This unsatisfactory and one-sided decision led to the so-called “shudha ayurveda” movement which in turn created confusion in some of the important Ayurvedic institutions in the country. It left nothing but frustration in the minds of students, who naturally rebelled. The strikes in the various colleges and the closing down of the institution for long periods are too well known to be repeated or gone into here. The fact remains, however, that the “shudha Ayurveda” movement has turned the hands of the clock backward to a considerable extent. There has been a certain amount of misconception and confusion about the terms “shudha ayurveda” in the minds of the protagonists themselves. While some of the agree that science is universal and continually growing and should be incorporated in Ayurveda, other contend that Ayurveda is a complete science and needs no further accretions. It is felt the new syllabus chalked out by the “shudha Ayurveda” people is only a rehash of the old integrated system of medicine and that even the pure ayurvedic institutions have included in their syllabus modern science subjects. The “shudha ayurvedas” all the time agreed that only one-eight of the pure Ayurvedic Science (ashtanga ayurved), Viz Kaya Chikitsa , was in vogue, while the remaining seven-eights had to be revived and reintroduced in the training institutions. We are sure that in the process of this revival these very enthusiasts will feel the necessity of absorbing the modern scientific developments while giving it an ayurvedic touch.
24. In the mean time, the central government had initiated a scheme during the latter half of the first five year plan period for giving grants to research projects on indigenous systems of medicine. That scheme was continued in the second five year plan period also. Such research projects of individuals and institutions were aided financially with the object of giving a fillip to the development of Ayurveda, unani, homeopathy, etc. in the country. In every case the project had to be sponsored through the state government concerned.
25. It was, however, found that either the state governments were not enthusiastic or the projects themselves failed to come up to the standards prescribed, with the result that it took some time before the central aid could be satisfactory utilized
26. The central government naturally wished to find out how far their aid for the development of ayurveda had been effective and they appointed the present committee for that purpose. The committee was asked to the present status of ayurveda, not only in the field of research but in all its aspects.
27. It is hoped to deal with these problems in the succeeding chapters and to suggest what the central and state government could do to raise the status of Ayurveda.

CHAPTER-II

TERMS OF REFERNCE AND METHODS OF STUDY

Constitutions of the Committee:

The Government of India in the Ministry of Health in their letter No. f.2-50/58-ISM, dated the 29th July,1958, appointed the following persons to serve on the ayurvedic Research evaluation committee:-

(1) Dr. K.N. Udupa, — Chairman
Surgical specialist,
Himachal Pardesh, Simla

(2) Shri Kaladi Parameswaran pillai — Member
Research Professor,
Government Ayurvedic College,
Trivandrum

(3) Shri R Narasimhan, — Member Secretary
Under Sectary to the government of India,
Minister of Health
New Delhi

Terms of Reference:-

2. The terms of reference of the committee were as follows:-

(1) To evaluate and assess the work already done in the field of Ayuvedic Research and upgrading of Ayurvedic Institutions as a result of grants already given by the Central and state Governments;

(2) To assess the existing facilities for training and research in Ayurveda;

(3) To assess the nature, volume and standards of the Ayurvedic pharmaceutical products; and

(4) To find out the factual position in regard to the practice and recognition of the Ayurvedic system of medicine.

3. It was decided that for administrative convenience the committer should be integral part of the Ministry of Health. The chairman and the member of the committee were, therefore, designated as officers on special duty in the Ministry, while the Member-Secretary continued as under secretary in the Ministry.

Methods of Study

4. The committee actually started functioning on the 7th of August, 1958.

5. In the First Instance, the following questionnaires (vide Appendix-i) were prepared and circulated to the parties concerned:-

Questionnaire No.1

For educational institutions:

Part-A-Colleges

Part-B- Hospitals.

Questionnaire No.2

For selected Ayurvedic medical practitioners.

Questionnaire No.3-A

For Boards of Indian medicines in states.

Questionnaire No 3-B

For State Governments.

Questionnaire No 4-A

For Ayurvedic institutions (literary Research).

Questionnaire No 4-B

For Pharmaceutical Concerns.

Questionnaire No 4-C

For Pharmacology and other Research Department of modern medical colleges.

Questionnaire No. 5

For non-technical persons (A certain cross section of the public).

6. The committee then discussed the terms of reference. While the first them of the terms reference was purely factual, it was decided to get the idea through personal discussion on the spot as to how government stands had been utilized and at the same time brining to the notice of the authorities concerned the various types of grants available from Government. It was felt that on the spot inspection, even though not very detailed in nature, may give a true perspective of the actual work being done.

7. As regards the second term of reference, viz. existing facilities for training and research, the committee was convinced that it covered a fairly large field. A study of the present facilities for training in Ayurveda, which was well known to be a diverse nature in different states, will naturally lead to the question of how best to standardize the mode of education in Ayurveda in order to make it really effective for the reorientation of the science as also for making it beneficial to the country's medical needs. The relevant recommendations of previous committee, (Chopra committee, Pandit Committee,Dave Committee etc.) had to be reviewed in order to find out how far they had been implemented.

8. The study of the third item, viz. standard of Ayuvedic pharmaceutical products, involved personal visits at least to some of the more important pharmaceutical firms in the country. As logical consequences, the best way to standardize these products at all sages of manufacturing had to be gone carefully.

9. Similarly, in the investigation of the present position in regard to the practice and recognition of Ayurveda, vide item 4 of the terms of reference the committee felt that they could not stop with mere fact- finding. A certain amount of healthy uniformity will have to be suggested in the interests of the development of Ayurvedic throughout India.

10. The Committee, therefore, came to the conclusion that the terms of reference were rather wide and decided that very careful through will have to given to the various aspects referred to above by means of personal contacts with as many individual and institutions as possible.

Tours of the Committee

11. The tour programme of the committee was then drawn up, involving visits to the Capitals of all the states and other important centers connected with ayurvedic
12.education, research etc. the tour was started about the 10th august, 1958 and lasted till almost the end of October, 1958.

12. The following table shows the places and institution visited and also the important individuals contacted.

TABLE-1

S. No	State	Place	INSTITUTIONS VISITED	INDIVIDUAL CONTACTED
1.	Andhra Pardesh	Hyderabad	1. Government ayurvedic and unani college & Hospitals 2. Research department	1. Special Offier, Indigenious systems of medicine 2. Research officers Ayurveda 3. Deputy secretary department of health. 4. Principal government Ayurvedic and unani Colleges.
2.	Assam	(1)Guhati	Government Ayurvedic Colleges, Gauhati (old And new premises)	Director of health services Principal, government Ayurvedic colleges, Guahati.
		(2)Shillong	-	1. Chief Minister, Assam. 2. Education Minister Assam 3. Secretary, medical Department.
3.	Bihar	Patna	1. Government Ayurvedic college And Hospital 2. Government unani colleges And Hospital 3. Patna Medical college Pharmacology department 4. Baidyanath Ayurvedic Bhawan	1. Health Minister 2. Secretary, Medical Department 3. Principal, Government Ayurvedic collges 4. Principal, patna medical college 5. professor of pharmacology 6. patna medical college. 7. professor of pharmacology, patna medical college 8. Deputy director of Sanskrit studies.
4.	Bombay	(1) Bombay	1. Podar Medical College (Ayurvded) and hospital 2. Punarvasu Ayurved Mahavidyalaya 3. Topiwala National Medical college (Pharmacology Department) 4. G.S. medical college 5. Nanavati hospital (Research division) 6. Board of Research in in ayurveda 7. Shudh ayurvedic College& Hospital, sion 8. Dhootapapeshwar industries Panvel 9. Zandu pharmaceutical works	1. Health Minister 2. Surgeon- General To government of Bombay 3. Director of Ayurveda 4. Secretary Medical Department 5. Chairman of the board of research 6. Secretary, Board of research in Ayurveda, Bombay 7. Chairman of the shudh Ayurvedic Committee, Bombay 8. Pandit Shiv Sharma Chairman, board of Indian Medicine 9. secretary, universal Health institute Bombay 10. Dr. Krishnamurthi
		(2) Poona	1. Sasson Hospital 2. Indian Drugs Research Association 3. Ayurveda Mahavidyalaya Hospital pharmacy & Herbarium 4. Ashtanga shudh ayurvedic Mahaviyalaya, Poona 5. Ayurved Rasasala, Poona	11. Vaidya N.V. Joshi, in charge of Ayurvedic research 12. Dr. Pendse, Indian drugs research Association 13. Dr. B.C. Lagu. 14. Principals of the teaching institutions

	(3) Baroda	1. Seth Ujamshi Pithambardas Ayurvedic Research Unit, Baroda medical college.	1. Dr. Jivraj Mehta finance minister, Bombay 2. Dr. G.K. karandikar, professor of Pharmacology of the medical Ayuvedic research Unit.
Bombay	(4) Surat	O. H. Nazir Ayurveda Mahaviyalaya and hospital	(1) shri bapalal G. vaidya. (2) Shri ranjit roy.
	(5) Jamnagar	(1) Central Research Institute of indigenous Systems of medicine. (2) Post graduate training Center. (3) gulab kunwarba Ayurvediv college.	(1)shri ram raksha pathak, director. (2) shri B.V. Gokhale principal.
5. Jammu& Kashmir	(1) Jammu	Regional drugs research Laboratory, herbarium and Pharmacy	(1) Dr. Chopra director of the drugs research Laboratory.
	(2) Srinagar		(1) Health Minister (2) Col A N Chopra Director of health Services. (3) Assistant Director Indian medicine (4) Lt. Col R.N. Chopra
	(3) Baramula	Drug and shortage depot of the forest department.	
6. Kerala	(1) Trivandrum	(1) government ayurvedic College, hospital & pharmacy Trivandrum. (2) Maternity ward poojarai (3) Pharmacology Department Trivandrum Medical College. (4) Pharmacology department of Kerala University	(1) chief secretary to the Govt. of kerala. (2) Director of Health Services. (3) Director of general medical (4) principal Government Ayuvedic College Trivendurm
	(2) Ernakulam	Government Ayurvedic Hospital&pharmacy	
	(3) Trichur	Government Ayurvedic & pharmacy.	
	(4) Shoranur	Kerala ayurvede Samajam, hospital	
	(5) Kottakal	Arya vaidyasala Ayurvedic college Hospital, nursing Home & Pharmacy.	Shri P. K. Warrier.

Cho

pra.

7.Madhya Pardesh	(1) Gwalior	(1) Government Ayurvedic College & pharmacy.	(1)Joint Director Ayurveda, (2) Principal, Govt. Ayurvedic college.
	(2) Bhopal	(1) Government unani Dispensary. (2) Pharmacalogy department Bhopal medical college.	(1) Deputy minister for Health (2) Secretary, medical Department. (3) Professor of Pharmacology Bhopal medical
	(3) Indore	(1) Raj kumar singh Ayurvedic college (2) Ashtanga Ayurvedic College (3) Nilratan bagh of Forest Depatment. (4) M G memorial medical College	(1) Director of health service Madhya pardesh. (2) professor of pharmacolgogy.
8. Madras	Madras	(1) Collge of integrated medicine Drug farm and research section Of hospital (2) Cooperative pharmacy Adayar.	(1) secretary, Health Department (2) dean, college of integrated medicine (3) Professors of the College of integrated Medicine
9. Mysore	(1) Banglore	(1) Jaya chantrajendra hospital Herbarium and pharmacy (2) Shudh Ayurvedic College Banglore. (3) Free ayurvedic Dispensary Srirampuram (4) Karantak pradeshika Ayurvedic Mandal.	(1) chief Minister (2) Health minister (3) Director of health services (4) Assistant Director (Indian medicine) (5) Shri Parthanryana pandit
	(2) Mysore	Government college of Indian Medicine and hospital	Principal, Government college of Indian medicine
10. Orissa	(1) Cuttack	Cuttack medical college (Pharmacology department).	(1) Principal and Professor of Pharmacology, Cuttack medical College.
	(2) Bhubansewar	-------	(1) Secretary, Medical department (2) Director of Health services.
	(3) Puri	(1) Gopabandu ayurveda Vidyapith hospital herbarium And pharmacy. (2) Sadashiv Sanskrit college	(1) Principal Gopabandu Ayurveda Vidhyapith
11.Punjab	(1) Amritsar	-	(1) director of Ayurveda (2)Promencent Local Ayurvedic Practitoner
	(2) Jallundur	D.A.V. Ayurvedic College & Hospital	Principal, D.A.V Ayurvedic college
	(3) Patiala	Government Ayurvedic College and Hospital	
	(4) Chandigarh	-	(1) Health Minister. (2) Secretary, medical Department (3) Director of health Services.
12. Rajasthan	Jaipur	(1) Seth surajmal government Ayurvedic hospital (2) Government Ayurvedic Pharmacy (3) Government	(1) Health minister (2) services health department (3) Director of ayurveda

		Ayurvedic college Hospital & pharmacy	
		(4) Dhanvanthry Aushadalaya	(4) Principal, govt. Ayurvedic college.
13. Uttar pardesh	(1) Banaras	(1) Ayurvedic college, Hospital, research section And herbarium of the banaras Hindu University. University	Acting principal and persons of the Ayurvedic college, Banaras hindu
		(2) Pharmaceutical chemistry Department of college of Technology, banaras hindu University.	
	(2) Lucknow	(1) Government Ayurvedic College Lucknow Hospital and pharmacy	(1) Chief Minister.
			(2) Health Minister
		(2) National botanical gardens	(3) secretary, medical department
		(3) Drugs farm, banthura	
		(4) Central drugs research institute	(4) Deputy director of ayurveda.
		(5) K.G. Medical college pharmology Department	
			(5) Director of the National botanical Gardens.
			(6) director of the Central drugs Research institute,
			(7) Professor of Pharmacology of the K.G. medical college.
	(3) hardwar	(1) Gurukul university kangri- Ayurvedic college, hospital And pharmacy.	(1) Principal of the gurukul Ayurvedic College.
		(2) Rishikul Ayurvedic college Hospital & herbarium.	(2) chairman, managing Committee and principal Of rishikul Ayurvedic College.
	(4) Dehra dun	(1) Forest research institute Senior research officer, Indian medicinal plants.	Economic botanist and
14. West Bengal	Calcutta	(1) jamini bhushan ashtanga ayurvedic college	(1) General chakravarti secretary medical department.
		(2) Shyamadas vaidya shastra pith	(2) Vice President Faculty of ayurveda
		(3)Vishwanath ayurvedic college	(3) principals of the Teaching institutions.
		(4) School of tropical medicine	(4) Director and Professors of pharmac- Ology school of Tropical medicine.
		(5) Baidyanath ayurvedi bhawan	(5) Manager Baidyanath Ayurved bhawan.
		(6) Marwari hospital.	
Union Territories			
15. Delhi	Delhi	(1) Tibbia unani and ayurvedic College and hospital.	(1) Principal and the Staff.
		(2) Moolchand kairatiram trust Ayurvedic hospital New delhi.	(2) The trustees and Director of the hospital

13. By the time the committee came back to head quarters most of the replies to the various Questionnaires had been received. These were then statistically analyzed before conclusion could be arrived at.

14. In the following chapters an attempt has been made to cover all the topics included in the terms of reference and then finally to give the committee conclusions.

CHAPTER-III

GENERAL OBSERVATIONS

The following contain the general observations of the committee in regard to the present status to the present status of ayurveda in the various states and also the possibilities of development therein.

2. At the outset, one may mention that there is a great awaking in all the states regarding the resuscitation of Ayurveda. The chief Ministers and the ministers of helath whom the committee had the privilege of meeting showed great enthusiasm for the development of this ancient science. It was obvious that they had devoted serious through to the various difficulties that were existing and to the possible remedies to remove such defects.
3. The directors and assistant directors of indigenous systems of medicine, where they existed, and the principals of the Ayurvedic Institutions, showed a keen interest in the subject. They had substantial contributions to make to the question of the type of training, research, etc.
4. The students were extremely anxious to know what their future would be. They expressed their present handicaps in the matter to training under-graduate and post graduate, in research and last but not least in the government's attitude towards them.

ANDHRA

5. After the transfer of the Andhra Pradesh government to Hyderabad steps have been taken to improve the position of ayurvedic training and research. The Government Ayurvedic and Unani college at Hyderabad which under the previous Nizam's regime was devoting greater attention to Unani has now been recognized in such a manner that Ayurveda is given equal attention. The research aspect of ayurveda appears to be in efficient hands. The huge hospital attached to the Government college is being advantageously utilized for the purpose of training and research.

ASSAM

6. Although there is at present only one Government Ayurvedic college at Gauhati and although many students are not being attracted towards Ayurvedic training because of lack of prospects, it should be mentioned that the Government of Assam are keenly alive to the situation and are taking necessary steps to reorganize Ayurvedic training, research and practice and to provide enough facilities in the future under a separate directorate of Ayurveda. Another important point is the exploitation of the natural resources of Assam by way Ayurvedic drugs and plants to which attention has not been paid by the government so gar. The committees have pleasure in stating that the governments have now agreed that steps should be taken in collaboration with the forest authorities to areas the availability of such drugs and plants in Assam and to promote subscribe for their proper exploitation in the near future so that the state can become self- sufficient in this matter. The state government have also realized that the status of the Ayurvedic teacher and practitioner needs to be enhanced considerably in order that more and more people may be drawn in the fold of Ayurveda.

WEST BENGAL

7. The committee 2was constrained to more that all was not well with Ayurveda in West Bengal in spit of the fact that it was the home of Ayurveda for a long time past. There was no government Ayurvedic teaching institution or hospital in the state, nor were there any Government research institutions. Training in Ayurveda is confined to a few Government-aided or private institutions. The old legion of efficient Ayurvedic practitioners of Bengal was not being fully utilized in the cause of medical relief.
8. We may, however, state that legislation is being undertaken to reorganize Ayurvedic training and research and to control the practice of Ayurveda in some measure.

BOMBAY

9. The committee could not help feeling that Bombay had made huge strides in the development of Ayurveda. The state governments were very keen indeed to revive Ayurveda in all its aspects as quickly as possible. An independent director of ayurveda, a board of ayurvedic research, statutory control of Ayurvrdic practice, grant of privileges to Ayurvedic practitioners, etc, gave proof of what we have stated above. Bombay was one of the states where both the integrated and pure ayurveda were recognized pari passu in order that the best in both the types of training should be taken advantage of. In some of the place like Poona and Broda there was ample proof that modern medical men and vaidyas were successfully collaborating in the modern medical hospitals with the earnest object of finding out the best in the ancient science by means of clinical research. It may be added that education in ayurveda has been accorded recognition by two Universities in Bombay viz. Poona and Gujrat.
10. The advancement in the field of pharmaceutics in the field of pharmaceutics in the private sector was worthy of note.

BIHAR

11. Bihar has made a good beginning in the field of Ayurvedic Education. They are reorganizing the old curriculum. The new Ayurvedic college has made satisfactory provision for integrated education and research in Ayurveda by way of building and equipment. Even the large number of Sanskrit colleges who were imparting education in Ayurveda in the shudha Ayurvedic system were beginning to realize that training in modern medical subjects and practical facilities were necessary to make Ayurveda a success. But it must be stated that the status of the Ayurveda teachers and practitioners is still very low.

JAMMU & KASHMIR

12. At present, there is no training institution for Ayurveda in the Jammu & Kashmir state. There are a few dispensaries. The Government have appointed an assistant director of indigenous systems of medicine under the director of Health services. In this state Unani is more popular than Ayurveda. It must, however, be said that the minister for Health and the director of health services were found to be extremely keen about the development of Ayurveda. They were considering the question of opening an Ayurvedic college at Jammu.
13. one thing about the Jammu & Kashmir state need necessarily be petitioned and that is the existing of rich flora capable of yielding large qualities of Ayurvedic plants and Drugs, provided proper steps are taken for their identification, cultivation, collection, storage, etc. in complete collaboration with the Ayurvedic Scholars. At present, the forest department of the Jammu & Kashmir state are doing good work at Baramula in the above direction but only a few drugs are collected and stored and that too from the point of view of the development and standardization of Ayurvedic drugs.

KERALA

14. Kerala state being the cradle of Ayurveda can very well prove a fertile field for the development of this science in all aspects. Here a large proportion of the people patronize Ayurvedic treatment. There are innumerable Ayurvedic scholars and vaidyas of repute in this state, who can boast of tremendous tradition. Kerala is perhaps the one state, where a majority of the eight branches of Ayuevda ares till being practiced. This state which has developed specialties like panch karma and massage treatment can contribute a great deal to the entire country. Being a state with a high percentage of literates, there is vast scope for improvement of Ayurvedic education and practice. The fact that the Ayurveda college is affiliated to the universities of Kerala is an added advantage. Side by side with the integrated system of training, shudha ayurveda is also being taught and practiced.
15. We, however, found that the present Government are Trying to hamper the progress of the integrated system of training because the Central Council of health, more or less, decided that integration was not a success.
16. Kerala is also very well advanced on the pharmaceutical side of Ayurveda and are utilizing the rich flora of this purpose.

MADHYA PARDESH

17. The state Government is devoting a good amount of attention to reorganize Ayurvedic training and research under an enthusiastic joint director of Ayurveda. The government colleges at Gwalior and Raipur were well planned. The integrated system of medicine was in vogue in government colleges, with a large emphasis on the Ayurvedic aspects of medicine. They are present proposing to exploit the natural sources of the state for the benefit of the pharmaceutical industry and they have introduced modernized methods of manufacturing at the Government pharmacies. They have not left the rural areas of the state. A large number of dispensaries are being run by them. One notable feature was that they were supplying medicine chests containing about simple Ayurvedic to gram panachayts with full instructions for use.
18. At Bhopal, unani is also in vogue.
19. At Indore, we found a greater tendency for the shudha ayurvedic system of training rather than the integrated system. Indore cam boast of many eminent Ayurvedic practitioners, philianthropically inclured with an earnest desire to revive the ancient science of ayurveda.
20. The health Minister of the state was taking keen interest in the development of indigenous systems of medicine. This augurs well for the future of Ayurveda in the state.

MADRAS

21. Our general impression about the status of Ayurveda in Madras was somewhat disappointing considering that this was a place where maximum efforts was taken only few years ago to revitalize Ayurveda by the introduction pf an integrated course of training. Change of policies consequent upon the change ministers and handing of the subjects by disinterested parties appear to have lowered the status of Ayurveda in recent years. The college of integrated medicine seems to have given a go bye to the excellent principles which led to the establishment of the school of Indian medicine at Madras in the very early years of the present century. The curriculum of studies has integrated medicine know more about modern science than about Ayurveda.
22. There is model Ayurvedic Cooperative Pharmacy at Adyar, whose example can be advantageously followed by other states.
23. The Madras state has very good material for brining Ayurveda back to its glory provided the government takes a revised stand in regard to the subject under the guidance of a separate directorate.

MYSORE

24. The committee’s discussion with the chief Minister of Myosre gave the impression that the intention to improve the status of Ayurveda was defiantly there. In, fact schemes for the establishment of more government Ayurvedic colleges of the integrated type, a board of Ayurvedic research, etc. were being thought of. It should, however, be mentioned that the government college at Mysore which is one of the oldest Ayurvedic institutions in the country and which was flourishing under the aegis of the previous Maharaja, has receded considerably from its original ideals. The committee felt that the authorities were indifferent about this institution.
25. Private efforts were being made to set up Shudha Ayurvedic Institutions in various parts of the state.

ORISSA

26. Despite the fact that Orissa is a small state, we found that there was great enthusiasm for the development of Ayurveda in all its aspects. There is only one government Ayurvedic College at Puri. This college is in very good hands. The college authorities are doing all in their power, within their limited means, in the direction of Ayurvedic training, research, etc. Apart from the institution at Puti, there were certain Sanskrit colleges teaching Ayurveda also, but the training here is purely of a theoretical nature. Orissa state is trying to do its best in the matter of rural

medical relief by establishment a good number of Ayurvedic dispensaries. They are contemplating a legislation for the improvement of the status of Ayurveda as a whole.

27. The committee had a good reception from the Health Minister of the Punjab state. He appeared to be quite aware of the need for developing Ayurveda on proper lines. The new government Ayurvedic College at Patiala is doing very well under the able guidance of the director of Ayurveda. The D.A.V. College at Jullundur, which is an institution started long ago at Lahore and which is aided by the Government, is continuing to give systematic education in Ayurveda. We understood that an Ayurvedic institution at Rohtak has recently started functioning. The committees were left with the feeling that with proper encouragement from the Government, the development of Ayurvedic science in Punjab state will be successful.

RAJASTHAN

28. The committee had an agreeable surprise during its visit to jaipur. The Minister for health and the Government authorities were really enthusiastic about putting Ayurveda on sound lines. The state budget includes a generous allocation for Ayurveda. There were a very large number of dispensaries being run by Government. While on this point it needs to be pointed out that the unique system followed for opening hospitals or dispensaries in the state is worth copying by the other states. Philanthropists come forward with contribution of building and the state looks after the expenditure in running the hospital or dispensaries. The hospitals or dispensaries are naturally named after the philanthropist donors.
29. Rajasthan has an ancient background of Ayurveda with a large amount of Ayurvedic literature in original and a large number with of reputed practitioners. The people also largely prefer Ayurvedic treatment. The committees have no doubt that Rajasthan will attain significant success in the Ayurvedic field.

UTTAR PARDESH

30. The committee had the privilege of discussing the status of Ayurveda, present and future, with the chief minister and the health minister besides Government authorities. The fact that a number of places in Uttar Pardesh have recently been in site of trouble in regard to Ayurvedic education indicates the ardent desires of all concerned to uplift the status of Ayurveda in the state. The state Government were generally of the view that modern scientific subjects should not be delonked from the curriculum of Ayurveda Provided, of course, prominence was given to Ayurveda in all the teaching institutions. The committee hopes that the recent reforms proposed by the state Government to settle the outstanding issues about Ayurvedic education in the state will be implemented and Ayurveda placed on a sound basis.
31. The following table will given a bird's eye view of the position Ayurveda in the various states:-

TABLE II

Showing the Factual Information Regarding Ayurveda in Individual States

Sl. No.	Name of State	Head of Department of Ayurveda	Technical head	Per Capita expenditure on Ayurveda (N.P.)	No. of Ayurvedic institutions (Hosps & Disps)	No. of registered Vaidyas	No. of Ayurvedic Colleges	No. of Clinical Research Units	No. of large Pharmaceutical concerns
1.	Andhra	Spl. Officer, Dir, Ind, Med.	Spl. Officer Dir. Ind. Med.	6	582	1,365	5	2	1
2.	Assam	Director, Health Services	Nil.	5	17	281	1	Nil	—
3.	Bihar	Supdt. Ay Disps.	Supdt. Ay. Disps.	1	352	4,311	6	1	1
4.	Bombay	Director Ayurveda	Director Ayurveda	8	721	13,455	18	9	7
5.	Jammu & Kashmir	Director, Health Services	Asstt. Director, Ind. Med.	11	156	600*	—	Nil	1
6.	Kerala	Director, Ind. Med.	Director, Ind. Med.	19	149	5,159	6	1	5
7.	Madhya Pradesh	Director, Health Services.	Joint Director, Ayurveda.	7	759	5,855	4	1	2
8.	Madras	Dir., H.S.	nil.	5	28	9,066	2	3	1
9.	Mysore	—do—	Asstt. Dir., Ind. Med.	6	515	3,000*	9	Nil	1
10.	Orissa	—do—	nil.	3	133	900*	4	1	3
11.	Punjab	Dir. Ayur.	Dir. Ayurveda	12	238	25,043	3	Nil	4
12.	Rajasthan	—do—	—do—	19	620	6,648	7	1	3
13.	U.P.	Dir. H.S.	Dy. Dir. Ayur.	7	1,112	31,937	12	1	5
14.	W. Bengal	Dir. H.S.	nil.	.02	9	7,287	4	3	6
15.	Delhi	Supdt. Med. Ser.	nil.	—	—	1,658	1	1	1
16.	Himachal Pradesh	Dir. H.S.	nil.	—	80	300*	—	—	1
17.	Manipur	—do—	nil.	—	—	—	—	—	—
18.	Tripura	—do—	nil.	—	—	—	—	—	—
19.	Andamans	—do—	nil.	—	—	—	—	—	—
			TOTAL:—	—	5,471	1,16,765	82	24	42

*Approximate

(*Note*:—The average per capita expenditure incurred on Ayurveda is Naye Paise 7.78)

CHAPTER-IV

TRAINING

"A thing that is modern is not nedessarily good, because it is modern; and a thing that is old is not necessarily bad, because it is not old. The converse is also true…. What should our approach be? Obviously our approach should be one of trying to profit by past experience and integrating with the best in other systems."

.. Jawaharlal Nehru

Previous history of training:

Before we discuss about the status of training in the Ayurvedic system of Medicine, it may be beneficial to go briefly into the historical background of the subject. In ancient times, our rishis who started and popularized this system used to teach their students under the shade of trees. Sufficient practical training was given even in those times. Later Ayurveda became a subject of study in the universities of Takshiasila (2^{nd} century B.C.) and nalanda (7^{th} century A.D.). Many well known personalities from different nations received training in these two universities. But after the 10^{th} century A.D. the training facilities in Ayurveda went into the background and the students were trained only in the houses of well known vaidyas.

2. It was only in 1822 that the school of native doctors was started at Calcutta on modern lines. Here lectures were given on modern medical subjects side by side with Ayurveda. After the school had been working some ten years or so, a committee appointed by the government reported that the training was very defective in view of the fact that both the systems cannot be taught simultaneously and also because the modern theories of science could not be combined with those of Ayurveda. Hence, in 1835, this school was abolished and a modern medical college was opened. After that, the training course in pure Ayurveda was transferred to the various Sanskrit Colleges.

3. Some time the early part of this century, history repeated itself Ayurveda was again separated from the Sanskrit colleges and many independent new Ayurvedic teaching institutions were established. But this time, some of the essentials of the modern were also taught side by side. Nobody was, however, definite as to how much of modern subjects should be taught and for how long. Hence many committees were appointed by the state and the central Governments to go into this question in detail and to draft an ideal curriculum for the training and also for regulating the practice of Ayurveda. All these matters have already been dealt with in a previous chapter. Suffice it to say here that the controversy over the method of education of the Ayurvedic students has gone to such a level that even the top-most administrators are now perplexed as what is the best way to solve the problem.

4. In this connection, Prime Minister Nehru has observed 'there is no reason why we should not bring about an alliance of old experience and knowledge as exemplified in the Ayurvedic and Unani systems with the new knowledge that the modern science has given us. It is necessary, however, that every approach to this problem should be made on the basis of scientific method.'

5. Many other people in the country should hold similar views on the subject. The pros and cons of the integrated course versus Shudha Ayurveda course are being discussed later in this chapter. It is apparent, however, that the very fact that there is a lot of controversy on the subject is a sign of progress. Our main task will be to find out a satisfactory solution. Before suggesting a probable solution, we may briefly discuss the existing educational institutions in Ayurveda and their method of imparting training.

EXISTING FACILITIES

Total Number of instructions:

6. In all, there are about 76 Ayurvedic institutions in the whole of India giving various types of instructions in Ayurvedic system of medicine.
In addition, we were told that six Sanskrit colleges also have some arrangements to impart teaching in Ayurveda.

7. these teaching institutions can be divided into two broad categories, namely, those which impart instructions in Ayurveda supplemented by training or principles of modern medical sciences- these are often called integrated training courses- and those which impart training in Ayurveda on traditional methods, without being supplemented by modern science subjects- these are called Shudha Ayurvedic courses.

8. The integrated colleges can be further sub-divided in to three:-

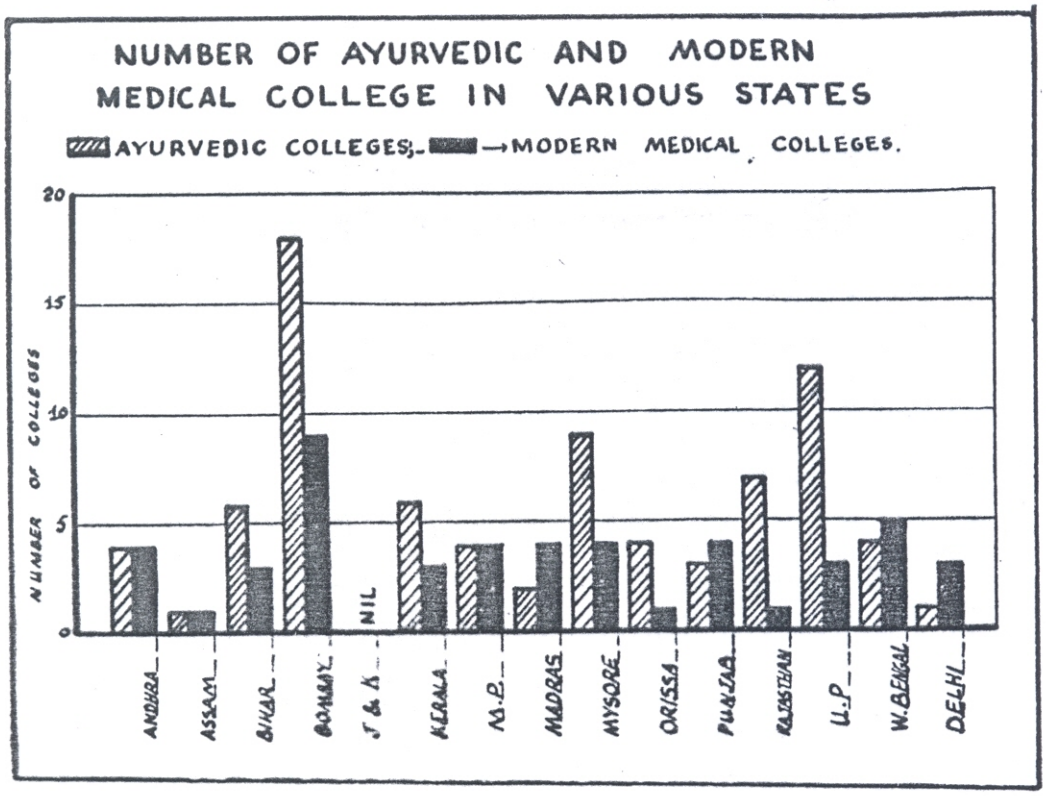
(a) Colleges which follow the degree courses and are allilated tp the universities;
(b) Instittutions which follow the curriculum of the degree courses but have not Been affiliated to any university; and
(c) Those institutions which impart training leading up to a Diploma.

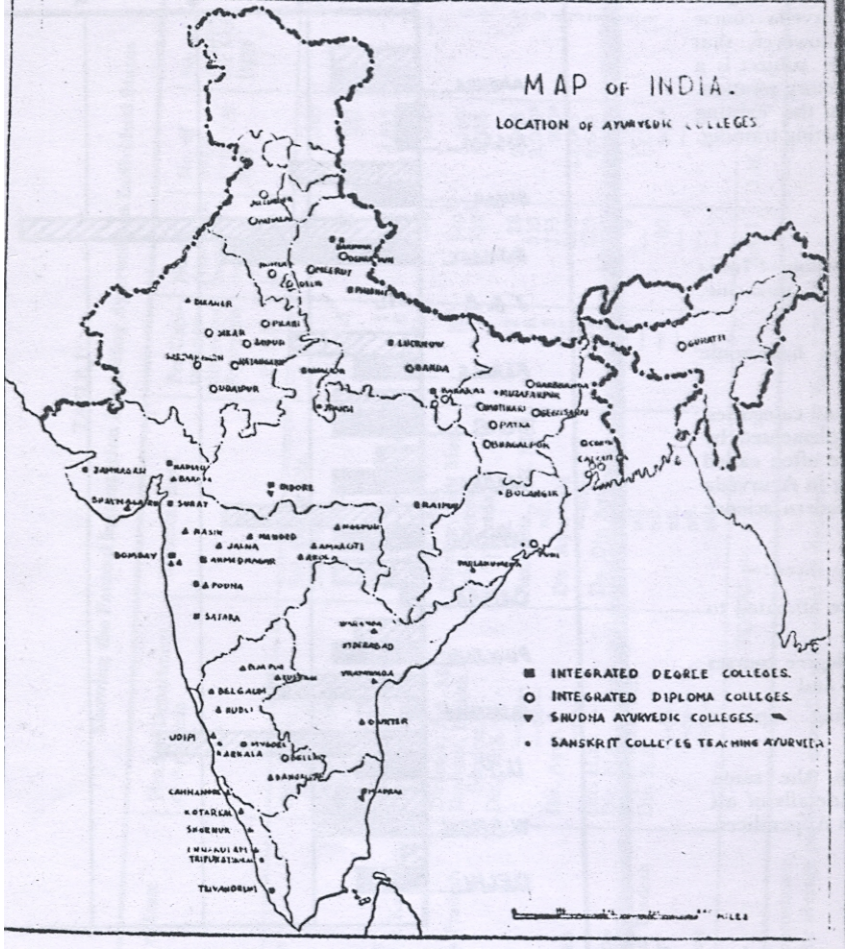
9. The Shudha Ayurvedic colleges follow, more or less, the same pattern and hence they can be considered together. The details of all these colleges have been given in the following pages and also in Appendices.

INTEGRATED COLLEGES

Affiliated to Universities

10. Amongst the integrated colleges, so far seven have been affiliated to the regional universities, namely, Poona, Gujarat (two colleges), karalla, Saugor, Banaras and locknow. However, during our tour we understood that afew of the remaining degree colleges might also get themselves affiliated to the regional universities in the future.





Basic Qualifications for Admission, Duration of Course etc.

11. All these colleges, expect the one under the Saugor Universities who have not yet declined the admission qualifications, admit students who have passed the intermediate examination of any university with biology, physics and chemistry and posses a good knowledge of Sanskrit, after admission along with the detailed instructions in Ayurveda, they are given instructions in certain modern subjects such as anatomy, physiology, hygiene, gynaecology, obstetrics and surgery. Usually the training course lasts from 4-1/2 to 5 years. At the end of this period, some universities insist on one years internal ship in the various sections of the hospital before the is awarded, while the remaining award the degree just after the trainee pass out of the colleges. The Banaras Hindu University was the first to start the college of Ayurveda at the university level and by now it is toughly estimated that more than 2000 graduates might have come out of the college alone. In the whole country, about 400 students are admitted to these degree colleges every year and in all about 1600 students' study out of which more than 200 are girl's students. In the year 1957-58, in all about 220 graduates passed out of these colleges. This relatively small figure is due to the fact that two of these colleges have not yet completed their five years training course. Since most of these universities have started their Ayurvedic faculties only recently, the training course, the curriculum, the duration of the training, etc. have not yet been established. At the time of our visit we were told that their curriculum was under revision. The problem has become more complicated because of the non-recognition of these qualifications by the government.

Not-Affiliated to Universities

12. Some of the degree colleges which are not affiliated to the universities also must on similar admission standards of intermediate with science and follow almost the same type of curriculum. But they are all affiliated of the state medical faculties. In all, there are about in such colleges in the country. They are distributed in the states of Bombay, Madhya Pardesh, Madras, Mysore and Uttar Pardesh. Most of these colleges are either run by the state governments themselves or are government-aided. Amongst them, the Government college of Indian medicine at Mysore seems

to be the oldest in the country. All of them give different degrees. In all they admit about 690 students every year and the total numbers of students in these colleges may go up to 3100. Annually about 369 graduates might be coming out of these colleges as graduates of Ayurvedic medicine.

13. The controversy over the curriculum followed by some of these colleges, especially of Uttar Pardesh, was very acute a few months ago and only recently they have decided to follow a new curriculum. According to this, they will admit the students after completing Madhyama ot after intermediate with Arts. Thereafter, a five years training is given in Ayurveda supplemented with essentials of modern medicine. At the end of this training, they are given the degree of Ayurvedachrya. All the colleges in the Uttar Pardesh have been ordered to follow this curriculum. However, it is premature for us to express any definite opinion on the subject.

14. Similarly, the Mysore Government has also revised its curriculum recently and has changed more towards Shudha Ayurveda. The Bombay and Madras government faculties have been following almost the same type of curriculum for the last 8 years or so with some modifications from time to time.

Integrated Diploma Course

15. This is the largest group amongst the colleges imparting integrated training. In all, there are about 27 such colleges in the country. Out of these, the government Ayurvedic College, Jaipur, Tibbia College, Delhi Government Ayurvedic College, trivendrum Government Ayurvedic College, Patna and Ashtanga Ayurvedic College Calcutta are the oldest institutions in the country. More than 50% of these colleges have, however, been started only recently, i.e. after the country became independent.

16. About half of these integrated diploma colleges are run by the state Government and the remaining half are either Government-aided or run entirely by the efforts of private organizations. Most of them are affiliated to the boards of Indian medicine of the respective states.

Basic Qualifications- Duration of course Etc,

17. Students are admitted to these colleges after matriculation or equivalent examination with Sanskrit. In some states like Rajasthan, they give preference to students who have passed the basic Sanskrit examination of Madhyama standard.

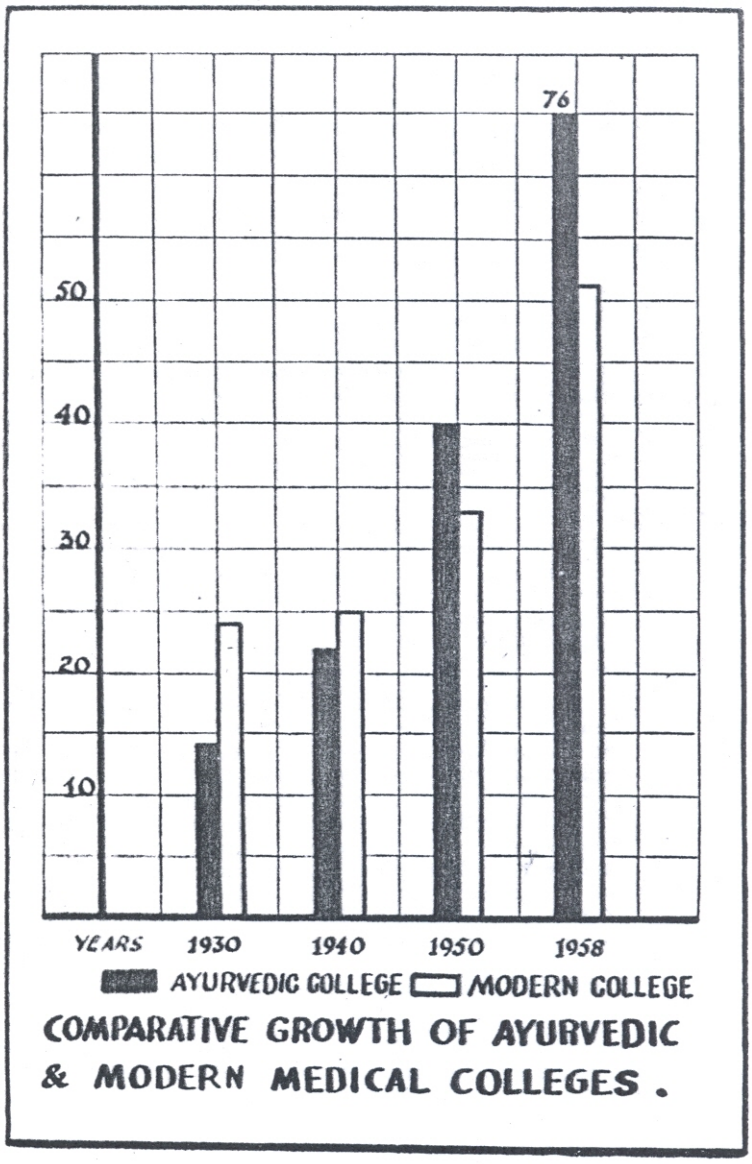
Total Number of Diploma Holders

18. About 800 students are admitted every year and there might be a total of about 2200 students studying in these colleges. The annual number of candidates passing out of theses colleges might be in the neighborhood of 500 every year. Their course varies from 4 to5 years. In West Bengal and Rajasthan, they have two stages in the training course which are completes with in five years. After three years training, there is an examination which the students can take and get a diploma e.g. Ayurved Tirtha as in West Bengal or Bishag vara as in Rajasthan. Thereafter, they can either continue their studies or settle down in practice. Those who want to continue, study for a further period of two years and then appear in another examination. Those who are successful, will get another diploma, e.g. M.A.S.F, as in West Bengal or Bishagachary as in Rajasthan.

19. In all the remaining states, they have a complete four years integrated training after matriculation. In the first year, they are given instructions in the basic sciences and Sanskrit in addition to the training in the basic medical and ayurvedic subjects. In the last two years, they are given instructions in the clinical subjects both Ayurvedic and modern. At the end of that period, they are given diplomas like G.A.M.S., D.A.M.S., Ayurved Visharad Ayurved Vachaspathi, etc.

Curriculum

20. The curriculum of these colleges has not been changed very much during the past few years, since they fully recognize the principles of integrated training and in the course of four years they are given instructions in basic principles of both Ayurveda and modern medicine.



COMPARATIVE GROWTH OF AYURVEDIC & MODERN MEDICAL COLLEGES.

SHUDHA AYURVEDIC INSTITUIONS

General

21. Training in Ayurveda in the old traditional methods of Guruparampara is also prevalent in the country since a long time. It is perhaps because of this system alone that the practice of Ayurveda is still continuing in our country in spite of many upheavals in the past several countrues. Thus Sushruta says:

    "He who learns his science direc from the guru and repeatedly studies and practices it is indeed the real physican, while all others are mere pilferers."

22. Many people felt that the original way of teaching Ayurveda on the traditional Guru-Parampara methods was the only thing that could save it from extinction. Therefore, they met together and drafted a Shudha Ayurveda ciurse under the patronage of Bombay Government in 1952. The name Shudha Ayurveda is, however, a Misomer, because there is nothing pure or impure in any science. The sponsers are not opposed to incorporate in the curriculum some of the very essential modern science subjects. But they insist that thses subjects must be incorporated in Ayurveda in accordance with the Ayurvedic principles.

23. This type of training seems to have become very popular not only in Bombay but also in other parts of the country. The detailed curriculum of this course along with other explanations is discussed elsewhere in this report. However, it is sufficient to mention here that at the end of the four years training the students get a through knowledge on the basic principles of Ayurveda and develop a strong belief in the Ayurvedic system of medicine.

24. In all, there are about 27 Ayurvedic institutions in the country which follow the shudha Ayurvedic course, or a course almost identical with it. The tendency for opening more of these Shudha Ayurveda Instructions seems to have arisen because of the fact that graduates of the integrated courses are learning more towards modern medicine than Ayurveda. About 50% of these colleges have been started only during the past five or six years and their numbers has been increasing very rapidly during the past two years. Because the establishment of these colleges does not cost much and they do not need costly scientific equipments or big laboratories. While the growing, enthusiasm in the people to revive our ancient science is a good sign, there is a great danger of lowering the standard of training considerably by not providing adequate practical facilities in the institutions. Hence it is imperative that before the matter goes out of hand, we must lay down the standards for opening such colleges

25. Almost all the colleges are run by private organizations. Many of them receive Government aid also. In all, there are about 1500 students studying in these institutions where the admission standard is matriculation with Sanskrit or equivalent examination. After the usual four years training predominantly in Ayurveda, they are given the diploma of Ayurved pravina or some similar title.

SANSKRIT COLLEGES IMPARTING TRAINING IN AYURVEDA

26. There are in all six government or government- aided Sanskrit colleges in the country which have a section of Ayurveda also. This list is by no means complete since there are some privately managed Sanskrit colleges which also impart similar training. There are not many students in these colleges but the students who are trained in these colleges are well versed in the literary aspects of Ayurveda. But the defect of this system of training is that the students of these colleges during their course of studies do not get any practical training as they do not have hospitals attached to these colleges. Therefore, in most of the states the Ayurvedic sections have gradually become separate from the main Sanskrit colleges and have started functioning as independent Ayurvedic colleges.

AYURVED VIDYAPITH

27. No discussion on the existing training facilities on Ayurveda will be complete, without mentioning the efforts of the all-India organization names “Nikhil Bharat Ayurveda Vidyapith.” It will not be an exaggeration to say that this non- official organization has done service to preserve and propagate the science of Ayurveda throughout the country at a time when Government was rather inactive in the development of Ayurveda. The Vidhyapth is an academic wing of the All- India Ayurvedic Congress and was established in the year 1910 for the specific purpose of encouraging and organizing Ayurvedic studies in India. Its first examination was held in year 1912 with only one student. Since then. It has spread its activities in a vast portion of the country and it holds examinations every year. To being with it started three examinatios, namely Ayurvedabhishak, Ayurveda Visharad and Ayurvedacharya. The medium for the first examination is the regional language and that for the remaining two in Sanskrit. In 1950 and 1952, two more examinations-vaidya visharad and vaidyacharya respectively- were started for syudies of Ayurveda in the regional language also. The Vidyapith has laid down standard syllabus for their studies and examination giving every importance to the subjects and not so much to the old text books.

28. The number of students appearing in these examinations is steadily increasing every year and in the year 1957 about 2270 students appeared in all the categories of examination. The report of

the vidyapith shows that out oof 58875 students who appeared in the vidyapith examinations during the last 46 years, 14830 qualified themselves as diploma holders of various categories. It may be pointed out that the ayurved vidyapith is more of an examining body than a training institution. While we do not intent to go into the merits or demerits of the diplomas awarded by the vidyapith, it may be said that some of their diploma holders are occupying important positions in government. Whether the activities of such an organization should be allowed to continue or not, will be dealt with elsewhere in this report. We feel that such bodies should not be allowed to conduct examination unless the candidates are trained in recognized institutions.

REPLIES TO QUESTIONNAIRE

29. The committee also issued a Questionnaire (no. 3b) to State Government enquiring inter alia about the number of Existing Ayurvedic training institutions. The committee had the opportunity of discussing the question of future improvement in training methods with the aim of lifting Ayurveda from the present quagmire.

30. The following table shows in summary from the position in the above regards:-

TABLE III

AYURVEDIC TRAINING

State	Existing training institutions			Future Proposals	Views and suggestions
	Govt.	Others	Total		
1	2	3	4	5	6
Andhra	1	4	5	Upgrading of the Government Ayurvedic College, Hyderabad, has been proposed.	Modern science subjects should be included in Ayurvedic training.
Assam	1	—	1	Scheme for upgrading of Government Ayurvedic College, Gauhati, into a Degree College being implemented.	Solid background in modern science subjects necessary. At least 30% of study hours in Ayurvedic College should be devoted to modern subjects.
Bombay	2	16	18	Both Integrated and Shudh Ayurveda should continue.	
Bihar	1	4	5	Curriculum of studies in Ayurvedic College, Patna being revised by the State Faculty.	General view is that modern medicine should be integrated with Ayurveda but teaching of Ayurveda should have predominance.
Jammu & Kashmir	—	—	—	Scheme under consideration for opening an Ayurvedic College.	Basic knowledge of modern subjects necessary. There should be a Diploma and Degree course and Ayurvedic education must be gradually upgraded if it is to last.
Kerala	1	3	4	There has been a change in policy regarding Ayurvedic education. Revised syllabus embracing pure Ayurvedic subjects has been formulated. The Integrated College at Trivandrum will be upgraded and made a training centre for teachers.	Under the revised curriculum, it has been mentioned that modern medical text books should only be used by teachers as reference books.

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1	2	3	4	5	6
Madhya Pradesh	2	4	6	Reorganisation of Government Ayurvedic Colleges in the State under consideration.	Modern scientific subjects should be taught in colleges.
Madras	1	1	2	The College of Integrated Medicine is being reorganised.	Modern scientific subjects should be absorbed in the teaching of Ayurveda. The old syllabus for L.I.M. may be adopted.
Mysore	1	7	8	State Government has a programme for improving the teaching of Ayurveda.	Integrated system should continue.
Orissa	1	—	1	A Committee is going into the question of revising the existing syllabus of the Gopabandhu Ayurveda Vidyapith, Puri.	General opinion was that integrated system of training should be given. Even the Ayurveda Faculty controlling Sanskrit Colleges are proposing to include Anatomy, Physiology, etc. in their syllabus in addition to higher Sanskrit.
Punjab	1	2	3	The three colleges of Integrated System of Medicine in Punjab are proposed to be affiliated to the Kurukshetra University. Improvement of status and training in Ayurveda is under consideration.	—
Rajasthan	2	5	7	New syllabus in the light of the Dave Committee Report has been formulated.	—
Uttar Pradesh	1	11	12	A High Power Committee has recommended a new syllabus of Shudh Ayurveda course to be followed in the Government Ayurvedic Colleges.	Inclusion of modern subjects to the minimum with much greater emphasis than at present on Ayurveda. Science should have no barriers.
West Bengal	—	5	5	Enactment of legislation covering training and practice of Ayurveda under consideration.	Consensus of opinion among the authorities of the three institutions was that modern scientific subjects should be taught, emphasis being on Ayurveda. Proportion of time devoted to Ayurveda and to modern subjects should be 80: 20 or 70: 30.

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1	2	3	4	5	6
Delhi	—	1	1	The Tibbia Unani & Ayurvedic College which was giving a Diploma previously has now instituted a Degree course with Intermediate as entrance qualification.	Integrated System should be taught.
TOTAL:	15	61	76		

INTEGRATION VERSUS SHUDH AYURVEDA

31. We now come to the question of merits and demerits of the integrated course and shudh Ayurvedic course of training.
32. Medical education and research are never static, or at least should never be static. Therefore, the problem before us is not merely to discover what is wrong with the present type of education in Ayurvedic system. Our problem is to discover why no remedy van be found.

33. Search for the improvement of the ideal type of Ayurvedic education from the present chaotic condition must continue. Such an improvement and reform is a question not merely of adding something to the curriculum here or subtracting something from there as is usually done by many now-a-days. Nor is this to be solved by the provision of new building and creating new departments in the colleges. It is an untiring search for unity amongst all the various subjects of medicine which has a natural tendency for separation and disunity. We make no claim to have found a solution but have tried to indicate the directions in which we think it may be found. Let us hope that this will lead to an answer or pretty close to an answer in the near future.

IS INTEGRATION NECESSARY?

Old Objections to Integration

34. In the past, the principal objections[*] to integrated have been (i) that the different basic principles of Ayurveda and modern medicine will cause mental confusion and (ii) that five years study will not suffice to cope with both Ayurveda and modern medicine as the syllabi of the two systems stand at present. The fact that the earlier L.I.M. of madras and the earlier batch of graduates of Ayueveda from the Banaras University and other institutions of integrated courses have been successful practitioners of Ayurveda in spite of the strong oppsition in the medical field will prove that no mental confusion was caused in them by the then teachers of the integrated system. As regards the bulkiness of the syllabus attention may be drawn to the fact that even in the modern medical colleges attempts arebeing made to eliminate unnecessary details in the curricula for anatomy, physiology bacteriology, etc. which are not really essential for the general practitioner. Even so the unnecessary details of the modern subjects taught in the Ayurvedic colleges can be eliminated.

35. While condemning the integrated system of training advantage was taken of the fact that in certain states like Madras and Uttar Pardesh where integrated teaching had been followed, the recent graduates of integrated medicines inclined more towards modern medicine than Ayurveda.

In Madras

36. The real fact of the matter appears to be this. The Madras L.I.M. of the earlier days proved a success, even judged by the strictest standards of inspection by foreign medical authorities belonging to the category of modern medical science. The L.I.M. syllabus had a preponderance of Ayurvedic subjects over modern subjects. The G.C.I.M. course was then instituted. In this the proportion of Modern medical subjects taught assumed greater proportions. Gradually with the growing influence of the authorities of the institution, disinterested in or unimpressed with the growth of Ayurveda, and also with the change of Government policies consequent on the change of Ministers, the syllabus went on undergoing radical change from time to time and today we have the sorry spectacle of the syllabus having a very large proportion of modern medical science and very little of Ayurveda. So it is not the mistake of the principle underlying the integration of Ayurveda with the modern medicine, but it is the substantial change in the syllabus made from time to time that seems to have produced this situation. Thus, we cannot entirely blame the Ayurvedic students for learning towards the practice of modern because they are actually more trained it than in Ayurveda.

In Uttar Pardesh

37. The same considerations would seem to apply to the Ayurvedic colleges in Uttar pardesh, where inefficient teaching and lack of control by authorties concerned undermined the interest of students in Ayurveda. There was a change of curriculum every now and then. Clinical teaching and research aspects in Ayurveda were neglected. The beds for clinical teaching were insufficient.

[*] Cf. paras 343 and 344 of Vol I of the Chopra Committee Report

38. Another important general defects lay in the system of teaching of modern medical subjects. If they had been taught by graduates of integrated medicine or modern medical men with psot-graduate qualifications, capable of making a comparative study of Ayurveda and modern subjects, the emphasis on Ayurveda would not have been lost and the interest of the students in Ayurvedic medical science would have been sustained.

CURRENT VIEWS ABOUT INTEGRATION

Lt-Col. M.H. Shah

39. In a memorandum submitted by Lt.Col M.H. shah to the chopra committee, it has been mentioned that [†] the constitutions of the neither the western nor the indigenous systems is perfect and free from defects. Each had its own special merits and special limitations…… The western systems though full of valuable facts is poor in its knowledge of general principles…… On the other hands, if vaids had a genuine desire for increasing the unfullness of their systems they should take the help of scientists. The practitioners of western medicine should understand that even though the indigenous systems to be too abstract, it is the investigation of this speculative knowledge rather than mere research on indigenous drugs which is likely to yield more fruitful results.

Dr. Sampurnanand

40. Again Dr. Sampurnanand, the Chief Minister of Uttar Pardesh, recently stated that he was[‡] "a believer in integration in the domain of medicine and that any valid integration should be governed by definite laws of nature which binf a large variety of facts together and allow deductions to be made in the domains not yet within the field of experience alone. Attempts so far integration have been confined to a metamorphosis of Ayurved while allopathy did not move a single step towards integration with Ayurveda."

41. While condemning some of the present day practitioners of Ayurveda. Dr. sampurnanand stated that "the fault lies not in the science but in the modern commentators, the vaidyas themselves, and none of them can enhance the reputation either of himself or of his science by ignoring modern scientific knowledge."

42. The chief Minister was all for taking the best that auxiliary science had to give us, at the same time ensuring that ayurveda was true to itself and its basic prinviples. He has pleaded for the re-interpretation of the principles of Ayurveda in the light of modern knowledge. For this the vaidyas must re-examine their position and see if it is not possible to state it in language of modern science.

Shri G.L. Nanda and Expert Committee, 1957

43. If we go through the proceeding of the expert committee of vaidyas which met at Bombay in June, 1957, we find shri G.L. Nanda, the planning minister of the government of India, saying that experts in Ayurved should "utilize all the aid science for its development and that other scientific development should be incorporated in Ayurveda while the approach should be Ayurvedic." He has opined that the teaching of Ayurveda must be well- versed in both systems and that when teaching Ayurveda he should bring in the ingredients of modern science. At the meeting of this expert committee, even the best supporters of "pure Ayurveda admitted that additional training in modern science was necessary.

Dr. B. Mukherji

[†] Of pp 379-430 Vol. II of the Chopra Committee Report

[‡] Cf. Opening remarks of Dr sampurnanand at a conference in Nainital in 1958 to consider the revised syllabus of Shudh Ayurveda

44. As Dr. B. Mukherjee of the central drugs research institute, Lucknow, said" it may be worthwhile in the 20th century to create a class of people who would be responsible for the treatment of human aliment in all its aspects and who would be completely ignorant of the wonderful achievements of modern science. People like completely ignorant of the wonderful achievement of modern science. People like Charak and Sushruta not only chronicled all the Ayurvedic knowledge existing before their period but also put forth newer development that had taken place since the earlier times. If Charaka and sushrut had lived today, they would have effected elaborate changes in the old concept of Ayurveda in the light of scientific development that have taken place. Neither reckless denunciation nor more emotionalisms will serve the needs of medical relief of the country and progress of science as a whole[§].

Shri Moraji Desai

45. Shri Moraji desai, in his address to the All-india Ayurvedic congress in 1955 said that "shudha Ayurvedic Course" implied that it was a course taught by people who had faith in Ayurveda and who taught it by methods of Ayurveda and not by any other method superimposed upon it. He, at the same time, emphasized that there was nothing in the world which could be called "Shudha" in a strict sense. There are always found to be accretions here and there. His intention plainly was that the system of training in Ayurveda should be true to itself.

Pandit Shiv Sharma

46. The real protagonists of "shudha Ayurved" are not opposed to the incorporation of the very essential modern subjects in the Ayurvedic curriculum. For instance, pandit shiv Sharma, an eminent Ayurvedic practitioners, said,[**]" I have invariably advocated the development of Ayurveda with gradual assimilation of the entire extraneous knowledge. The so-called shudha Ayurvedic curriculum merely different from the mixed course in two respects, viz.(a) that the quantum of Ayurvedic teaching was increased and received greater attention and importance as against the allopathic teaching which was educed to the minimum necessary requirement; and (b) the allopathic teaching was put at the end of the course to enable the Ayurvedic students to grasp the tenets of Ayurveda on a clean and unconfused mind before any additional subject was taught to him."

Integration in China

47. It will also be increasing to quote the story of the integrated of ancient Chinese medicine with modern medicine. Dr. Fee lien chang, the president of the Chinese medical association, said [††]"in the past we have organized training courses for old time physicians to learn western medicine. It emphasis is placed solely on the learning of modern medicine by all traditional doctors then the result will be that they all become doctors of western medicine…….. We must also fully realize that our ancient cultural heritage is the fruit of genius, and that many of our contributions to culture are worth preserving and developing. …….A critical attitude is necessary. We should reject what is useless and unceasingly search for scientific explanation for the methods that show good empirical results unless we do so we are not qualified to criticize it. It must be emphatically stated that not only should doctors of traditional medicine learn western medicine but particularly western trained doctors should study Chinese medicine. Only thus can there be a merging of the old and new.

Conclusion

48. We, therefore, come to the inevitable conclusion that in the interests of the resuscitation of the science of Ayurveda, an integration of the old and new will be necessary and that as much of the subjects of modern medical science as will be necessary to explain away the gaps left in Ayurveda particularly in regard to anatomy, physiology etc. should be taught in Ayurvdic colleges, prominence being given to the principles of Ayurveda throughout. This will equip the general practitioners of Ayurveda more efficiently with the patients of the present day, whose conceptions of life while environments etc. have changed considerably from the past.

[§] Note submitted to the Nainital conference 1958 to consider revised syllabus of Shudh Ayurveda

[**] Address of Pandit Shiv Sharma at O.H. Nazar Ayurvedic College, Surat in 1957.

[††] Dr Fee Lien Chang. Chinese Medical Journa 73:363, 1955

49. In the end we would like to say that the word 'integration' has been much misunderstood and has even been used as a political weapon by interested parties. The latter point was urged before the committee on several occasions. In the development of science, politics should be completely eschewed.

IS SHUDHA AYURVEDA ALSO NECESSARY

50. The question naturally aruses whether there is any place for the traditional vaidyas or the shudha Ayurved in our plan. Most certainly they have a valuable part to play in the countries medical and public health relief.

Number of available Modern Medical Practitioners:

51. It is a well known fact that the number of doctors required for medical relief in India falls tremendously short of our needs even with the explanation of medical colleges, we are not going to get enough doctors for many years to come. Figures will speak for themselves.

52. It is understood that today we have only about 75000 modern medical men in the country, while even at the rate of one doctor for 2000 population we will need 1,80,000 doctors approximately. They fifty modern medical colleges may at the most produce about 2,000 doctors per year. As this rate, the total number of doctors which will be available in the next ten years will not exceeds one Lakh.
53. The deficit cannot also be made up by adding the number of Ayurvedic graduates produced by the colleges of integrated medicine for at least some time to come.

Number Of Available Ayurvedic practitioners
54. According to available figures at least about ten crores of people are being treated by vaidyas. They can surly cater to a very much larger number of people provided Government ensures that they are properly trained and that they are given an appropriate status in society.

Place of Ayurveda in Rural Medical Relief:
55. So far as medical relief is concerned, we feel that expect perhaps in West Bengal (where we are told that there was such a huge surplus of modern doctors that they will be able to make them go to villages), we may not have many medical men who will be prepared to go to rural areas. Even where doctors go to villages, we doubt whether they will work with the necessary amount of missionary zeal. It may be pointed out that while the vaidyas can successfully practice with the medicinal herbs and drugs available in the village, the modern man may not be able to deliver the goods without the paraphernalia of foreign equipment and foreign medicine.

56. In spite of the statement of some of the state health authorities, we are not prepared to believe that people in Indian villages prefer modern medical men to vaidyas. We know that 80% of the populations of India who are residing in village are actually served by vaidyas and hakims.

57. In this connection, the Madras Government stated[‡‡] some time ago that they "would not condemn out of hand the village vaidyas who is a person known to the rural population and has a good knowledge of their life, difficulties and ailments. It may take centuries for a country of India's size, population and habits to provide up to date methods of relief under modern systems. There was, therefore, no objection to tolerating the practice of indigenous systems by persons

[‡‡] Madras Government letter No 901 dated 10.3.1950 in reply to the Government of India Circular No F. 28-1/49-MI, dated 9/10.11.1949 regarding the Chopra Committee Report

other than the products of the college of integrated medicine even though they had no grounding in modern medicine."

58. It is, therefore, felt that by properly canalizing the Shudh Ayurvedic training and by encouraging all the existing Ayurvedic physicians, the modern medical men and the vaidyas can be made to cooperate in giving adequate medical relief to the people of the country, particularly in rural areas.

59. We have separately dealt with the question of the proper type of training to be given to students in the Shudh Ayurvedic Institutions. Suffice it to say here that in the interest of medical relief, India will reqiue at least for some time to come, modern medical men and vaidyas trained both in integrated systems and Shudh Ayurvedic system.

MERITS AND DEMERITS OF PRESENT METHODS OF TRAINING

60. At this stage, it will be advantageous to give in brief the merits and demerits of the present systems of training in Ayurveda, so that the necessity for continuing both the integrated and Shudh Ayurveda types, at least for some time more, can be easily understood.

61. The present Shudh Ayurved is no doubt conversant with Ayurvedic principles and so Ayurveda can flourish in his hands. But he is, however, not in a position to impress the educated public about the scientific nature of Ayurveda. Therefore, he is unable to convince his patients about his diagnosis and treatment. The Shudh Ayurved, whose practical training is inadequate, cannot prove to be successful general practitioner without acquiring additional knowledge regarding midwifery, preventive medicine, first-aid and minor surgery. He does not know even that much of preventive medicine, sanitation or hygiene which an ordinary sanitary inspector with one year's training knows. He does not have any basic knowledge of modern medical jurisprudence and hence is unable even to fill up an ordinary medical certificate form, let alone his appearing in court of law o give medico-legal evidence.

62. The integrated graduate of Ayurveda because of his modern scientific training can impress not only the public but also his counterpart in modern medicine. He can explain to the scientific world the basis of Ayurveda with the result that the modern medical man, if he is so inclined, can absorb several things from Ayurveda. The integrated type of graduate can prove a better general practitioner because of his knowledge of surgery, midwifery preventives medicine, etc.

63. We admit that integrated graduates lean more towards modern medicine than Ayurveda in their practice. Modern medicine has all the glamour of the undergraduate education, post graduate education and research institutions being provided for in ample measure and the student is attracted by them. The reasons this are as follows:-

- There is no whole-hearted recognition of Ayurveda by Government.
- The status of the Ayurvedic teacher and practitioners and the prospectors of students taking up Ayurvedic studies are extremely discouraging.
- Lack of proper teachers with modern outlook.
- Absence of subject wise text-books.
- Lack of practical training facilities in institutions.
- Absence of good professors in modern medical subjects with goodwill towards Ayurveda.
- Totally inadequate facilities for practitioners of Ayurveda by way of properly equipped hospitals or dispensaries and non-availability of ready made Ayurvedic medicines.

The integrated student of Ayurveda is also not in apposition to appreciate the merits of the because of his insufficient knowledge in Sanskrit.

These drawbacks wean away the present day student from the fold of Ayurveda.

64. All these reasons have created a vicious circle and the task of Government and those interested in the development of the ancient science of Ayurveda should be to break this vicious circle at some suitable point no doubt, this will be a hard problem.

65. After considering the present status of Ayurvedic training in the country and after having come to the conclusion that both the integrated and shudh typea of training are necessary; we may proceed to discuss about the various drawbacks found in the existing pattern of training, to which reference has been made in the previous paragraph.

RECOGNITION BY GOVERNMENT

66. It will recalled that one of the decisions of the government of India on the recommendations of the Chopra Committee was that "[§§]the cebtral and provincial Government should decide that modern scientific medicine should continue to be the basis for the development of the national health services in the country." This was in 1949. After that, no unequivocal declaration seems to have been made by Government about Ayurveda being one of the agencies for the development of the national health services in India.

67. We strongly recommend, therefore, that *the central and state Governments should make a clear declaration of policy recognizing the training a practice of Ayurveda.*

68. Some of the states have, no doubt, been taking steps to improve the status of Ayurveda, though no substantial results have yet been achieved. Funds have also been provided in the budgets of Governments for indigenous system of medicine. The first and second five year plans have included schemes for the development of Ayurveda. Still, these sporadic efforts appear only to be in the nature of indirect recognition or half-heated recognition of the indigenous systems of medicine. Ayurvedic treatment, which can help to relieve the suffering of the masses, has not been fully exploited. This should now be done. Doubts were expressed by many people whom the committee met about the real recognition of Ayurveda as an instrument of medical relief. It has been said that Government have always been placing emphasis on the research of the principles of Ayurveda and not on utilizing it in the best possible manner for the benefit of the people.

Teachers

Professors of Ayurveda:

69. It is common knowledge that in many places the Ayurvedis practitioners takes up a job as professor in a college, more to advertise himself and augment his practice than really to teach ayurveda to his undergraduates. The high qualities of head and heart are absent in many places. The missionary zeal is not there. Teaching of science, and more so, revival of an ancient science, requires special enthusiasm.

70. At present, the standards of teaching are poor. Quality of teaching and not quantity counts. This will be apparent from the fact that though the syllabus is self-contained, its merit is not fully reflected in the students coming out of the colleges. Only a competent teacher will be able to infuse a spirit of knowledge in the student and to satisfy and clear his relevant doubts. If, in addition to his competence in the science of Ayurveda, he were able to adapt himself to modern conditions and acquire a comparative knowledge of modern science, he can easily command the respect of his students and dispel the doubts of the modern- minded student in regard to the scientific background of ayurveda. For instance, where an insufficient description of the structure of human body is available in ayurveda, he should not feel it below his dignity to take what modern anatomy has to say on the subjects. He should have an open mind in such matters. At present, apart from the traditional vaidyas handling Ayurvedic, subjects in colleges, the teachers of modern science like anatomy, physiology, etc. are generally ill-qualified modern medical graduates with no interest in the uplift of Ayurveda or no knowledge of the basic principles of

[§§] Vide page 5, Chapter I.

Ayurveda. What is lacking in Ayurvedic teaching today is that the professors does not give a practical demonstration of the theories he teaches to the students either in a hospital or laboratory or a pharmacy, and thus he fails to impress the students. The objectives before the teacher should be to help students to learn the fundamental of science, to develop a critical mind and to gat equipped as a general practitioner who can understand and treat a patient as a whole, both as an individual and as a member of the committee. The teachers on Ayurvedic subjects should have no reservations whatever while imparting education to students. Thus sushrata says, "when you(student) on your part keep your vows and it I do not respond fully and impart all my knowledge, I shall become a sinner and my knowledge will become fruitless." It may be mentioned that the lack of this kind of moral stature in scholars of Ayurveda has resulted in a great loss to us and many of the wonderful remedies in Ayurveda have died with these scholars. Any so-called 'secret' remedies in the possession of teachers of the traditional type should be unreservedly divulged to the younger generation, the basis explained and the practical application demonstrated, it these scholars have an honest desire to pass the gems of their knowledge to posterity and thus benefits humanity at large.

71. This brings to the point as to how provide for such a competent set of teachers of Ayurveda. The source of such teachers at present are perhaps (1) the odd set of graduates from the colleges of integrated medicine who have successfully practiced Ayurveda, and (2) traditional vaidyas with experience who have kept their scientific knowledge up to date by imbibing some of the developments in modern medicine. These two sources are very limited indeed.

Recommendations

72. We think that part from the post- graduate training centre at Jamnagar, there should be three more model past-graduate centers where teachers can be trained. The post-graduate training centre at Jamnagar may no doubt serve the same purpose but obviously its scope is limited. The students are at present especially only in a limited aspects of certain subjects particularly on the research side. Again it has begin turning out only 20 to 25 post-graduates per year, not all of whom may be available for the whole of India. The location of the post graduate training center at one corner of the country prevents many people from taking advantage of the training there.

73. It is therefore recommended that to begin with at least three more post-graduate training centers in Ayurveda should be set up by the government of India, one for the Northen and Eastern zone, another for the central and third for the southern zone. We recommented that these three centers may be located at Banaras, Poona and Trivandrum respectively.

74. In addition, it will be necessary to hold training courses for the existing teachers of Ayurveda lasting for about one year, so that they can also fill up the gap in the availability of good teachers.

75. We therefore, recommend that training course of about one year should be arranged in the four post-graduate centers under the central government.

76. The four post-graduate centers referred to above will conduct three year courses for the integrated type of graduates drawn both from the existing teaching staff of Ayurvedic colleges and from outside.

77. These post-graduate training centers should also allow suitable modern medical graduates interested in Ayuveda to his course so that they can be employed as teachers in Ayurvedic institutions or modern medical colleges.

78. Apart from this, these four post-graduate centers should start another course lasting for about one year for giving a short training to the existing teachers of Ayurveda.

79. The future council of Indian medicine should work out the training programmers referred to above according to availability of facilities and availability of candidates.

80. Again there are many persons who have passed the higher examination held by the All-India Ayurveda Vidyapith, some of whom can be used as professors in Ayurvedic subjects, if necessary, after a short course of training in modern medical subjects. Incidentally, it may be useful for the future central council of Indian medicine to bring the Vidyapeeth in to its fold and utilize them in the field of training.

81. We are informed that in Kerala a new attempt was made to get a few seats allotted in the condensed M.B.B.S. course to graduates of integrated medicine from the Trivandrum Ayurvedic College so that these graduates could come back and take up posts of teachers in modern science subjects in Ayurvedic college. As a matter of fact, these integrated Ayurvedic graduates who are equal to M.B.B.S. should have dirstly been given facilities for post graduate training in modern medial colleges. But even the attempt of the Kerala college, which was an indirect blot to the Ayurvedic graduate and which put an additional obstacle in his way, did not succeed because of the recalcitrant attitude of the medical council. We feel that modern medical colleges should give facilities to suitable integrated Ayurvedic graduates to undergo post-graduate courses in modern medical subjects, if necessary, after a preliminary examination.

82. *Pending the scheme of providing teachers in modern medical subjects as described above, Government should see to it that only top men like M.Ds. or M.Ss. are allowed to man the relevant posts in Ayurvedic colleges.* These men will not only have a high degree of knowledge in the modern science subjects, but being post-graduates men will have the urge out the truths which have been lost to us doing the past few centuries.

Mental Aptitude of Teachers:

83. Lastly, teachers cannot be trained fully by starting only a few training classes. They must train themselves by adopting proper methods. In this regards, Dr. Lawrence says[***],"true, the best and inspiring teacher has inborn aptitudes which surpass what mere education can produce. Beyond mere knowledge of medicine he has individual character and personality to an unusual degree, he must have a ready flow of words, a clear and impressive voice and intensity and seriousness in all he says."But even those who have no such inborn qualities can develop provided they are serious about it.

New Methods of Teaching

84. Innumerable new methods have been adopted in foreign countries to teach medical students. Formerly, only class-room lectures and clinical lectures in the wards were given. In recent times, a number of reforms have been adopted with great benefits.

85. Thus, along with giving lectures, it will be much better to introduce the internal system of teaching in which a small group of students freely discuss with the on all aspects of a particular subject. The subject is announced earlier and all the references are also given. The students themselves go and study these themselves go and study these references in the Library. At Harvard, for example, small groups of clinical students meet in the evening discuss with their tutor and perhaps with a member of the hospital staff, a paper prepared and presented by one of the students.

86. Another important way of teaching and learning simultaneously by the teachers is to have a journal club with senior students, say fortnightly or so, to consider recent articles in the leading medical journals.

87. To maintain a high standard of clinical teaching, a weekly or fortnightly staff round should be started in every teaching hospital where all the interesting cases are shown by the senior students and junior house officers. These cases are thoroughly discussed by all the members of the

[***] Dr. R. D. Lawrence in Recordings of First World Conference on Medical Education, 1954. Pag 539.

teaching staff, which enable the junior staff to acquire the method as to how to demonstrate and discuss patients with the students.

88. By coming into close contact with students, the teacher is able to realize gradually how effective his teaching had been and if he is keen to improve his methods he can do so with in a short period.

Should a teacher be a research worker also?

89. One may ask whether the teacher should know how to teach only or whether he should also be good research worker. Though the teacher, who is also a research worker, may intimate and encourage research in his department, he should not overload the students with all his research knowledge. In fact, it has been seen many a time that a good research worker is not always a good teacher. Hence, interest in research should only be an additional qualification for a teacher. But on this account, a good teacher without research qualification should not be made to suffer in the matter of his promotion to a higher post.

90. Apart from these methods of training and selecting teachers, we need in the Ayurvedic institutions a few original thinkers with great personality to standardize teaching and research.

91. In these ways, we are certain that within the next ten or fifteen years there will emerge a new set of teachers, completely reoriented and refreshed. Government may take necessary action to remedy these defects before condemning outright the existing system of Ayurvedic training.

92. The above drawbacks and recommendations apply equally to the integrated systems and the Shudh Ayurvedic system of training. As we have already said, there are great Pandits of Ayurveda whose knowledge should be properly canalized and utilized in order to uphold the traditions of the science. These Pandits have a definite palace in our scheme of training; otherwise the few shastric vaidyas existing today will fast die out.

93. Any discussion about competent teaching staff required for the resuscitation of Ayurveda will be incomplete without considering what type of principals the training institutions should have. The principal. In our opinion, is the real person responsible for the proper education of future Vaidyas. The committee appointed by the Travancore-Cochin Government in 1956, said that it was desirable to have as the principal of an Ayurvedic institutions at least for the first few formative years a person possessing high academic qualification in Ayurveda as well as modern medicine and experience of medical education. Or a person with high qualification in either system of medicine and also experience in organizations and administration of a college. If person with qualifications and experience in modern medicine is selected as principal acre will have to be taken to see that be is free from prejudice against indigenous of medicine. The above committee also stressed the point that the status and salary offered for the principal ship of an Ayurvedic college should not be below those of the principal of the medical colleges.

STATUS OF TEACHERS

Low Status:

94. One of the reasons why teachers of Ayurveda are not keen to give of their best to students is that they and their science are looked down upon with some contempt and indifference.

Present Pay Scales:

95. The committee regretted to find in most of the places visited that the scales of pay of principals, professors and other medical personnel attached to Ayurvedic teaching institutions and hospitals were meager and had no comparison whatever with similar personnel in modern medical institutions. In some of the places, professors were being paid a salary which was even lower than what a staff car driver gets. It need not be pointed out that a professor with such low status as compared with his modern medicine compatriot neither draws respects from his modern nor can be have any real enthusiasm to advance the cause of Ayurveda.

96. There is no reason why a graduate of Ayurveda with scientific training should get a lower stauts although he has practically the same amount and quality of education. Appendix V will show the various grades of pay of Ayurvedic staff as compared to the modern medical staff. There is no uniformity even among the Ayurvedic staff of various states.

97. We would, therefore, suggest that the central council of Indian medicine, the establishment of which has been recommended later in his chapter, should take up the question of status of principals, professors, etc. in Ayurvedic institutions on a priority basis. Their scales of pay should be appropriately equated to corresponding posts in modern medical colleges.

CURRICULUM

Introductory Remarks

98. We now come to the vexed question of the curriculum of Ayurvedic studeies prevalent in the various institutions in the country. In short, the condition in this regard is chaotic. There is absolutely no informality and the students undergoing training do not know they stand in relation to Ayurveda or modern medical science. There is also an absolute confusion in the degree of title awarded to students in the various states at the successful end of their training.

99. As has already been pointed out, there are two types of training in vogue, viz. integrated system and the Shudh system and both the systems have their strong supporters and strong opponents.

Previous Views

100. We are aware that the pandit committee and the dave committee recommended only one course in ayurveda, viz. the degree course. The pandit committee stated that if the period of training is cut short and the standard of admission is lowered, considerable will be caused to Ayurveda. The creation of a licentiate class wills other problems viz. the necessity at some stage or other for the creation of facilities for advanced training for getting the degree qualification. The Pandit committee referred to similar problems created in the modern medical training field and suggested that government should avoid repetition of such a costly mistake.

101.In this connection, the committee would like to recall that when modern medical education was first introduced in India in 1835, it was started with 50 stipendiary and their training period was from four to six years. Side by side, in 1846, a two year course, later extended to three years, was institutes for hospital assistants, which enabled then to join the subordinate medical service in British India. In 1860, medical education was handed over to the Calcutta University which granted a license in medicine and surgery or M.B., foe students having the basic educational qualification of matriculation or intermediate respectively. After some time M.B.B.S. and licentiates were the two qualifications left throughout the country. Recently, in order to get uniformity, in medical education, only the M.B.B.S. has been recognized as the minimum medical qualification. Such a gradual introduction of the western system established it firmly in the country, for all practical purpose, Ayurvedic training stands today in the same place as the western medicine more than hundred years ago when it was first introduced.

102. We have tried to prove in the earlier pages that integration of Ayurveda with modern science is necessary and even in the shudh Ayurvedic course a certain amount of modern scientific subjects should be included though not as much as in the integrated system. By experience and by adopting the trial and error method a time may soon come when a unified system of Ayurvedic training will be evolved, while recommending the continuance of two systems of training we have also taken in to consideration the impracticability of closing down entirely one set of teaching institutions and giving recognition to the other set. This will contrary to the existing facts.

103. we have also attempted to show that in providing adequate medical relief to the country, particularly in rural areas, the integrated and such Vaidyas have an important part to play,

Recommendations:

104. We, therefore, recommend that for some time to come at least till integrated courses of training produces the proper type of Vaidyas in Adequate numbers, there should be two courses of training in Ayurveda. One will integrate training and the other Shudh

105. Persons completing the integrated type of training successfully may be given a bachelor's degree and those complting the Shudha ayurveda course may be awarded the title of ayurvedacharya or pravina. In any case, the degree and title should be uniform in the whole country.

106. The details in regard to the curricula and the degree and the title to be awarded should be left to the central council of Indian medicine, the establishment of which has been deals with later on.

MODEL CURRICULA

107. We now proceed to lay down model curricula for the two types of training. While doing, so, the committee have observed certain broad principles only, thus allowing freedom to the Central Council of Indian Medicine or Universities or Governments to adapt them as best as possible considering local circumstances. In this connection, Mr. G.W. Pickering[†††], the Regions Professor of Medicine in Oxford, Ins rightly observed, "I would like to make a plea for elasticity. Any attempt at medical under-graduate amine is necessarily a compromise and a purely arbitrary one. There are ninny ways to Rome. We shall never find out the best way so long as all pilgrims are forced to take the same path."

108. Again here is what L. Whitby, the Regius Professor of Physic in Cambridge, says,[‡‡‡] "Not unnatural the medical teachers are obsessed by the difficulties of deciding how many hours to allot to this or that subject, of relating such decision to the duration o(medical training and to the examinations which punctuate its course. The curriculum, important, as it is, in no more and no less than the sinecure of medical education and this structure is given significance by the quit that informs it and the functions that arc fulfilled within it."

109. The Committee fully realizes the difficulties and controversies involved in drawing up a curriculum of studies for students to Ayurveda which satisfy all parties. Such difficulties are is unknown even in the field, of modern medicine.,

110. Therefore, the Committee have laid down two model syllabi, the spirit of which is the intention to uplift Ayurveda and the functions to produce real good students of Ayurveda.

111. It is hoped that in due course a unified system of education in Ayurveda wilt be adopted throughout the country. It took more than 100 years before a uniform type of modern medical education viz., the M.B.D.S. came into being. Let us, therefore, act be unduly alarmed at starting two types of training. After all an organised attempt at Ayurvedic education at College level is being made only since the last 30 years.

INTEGRATED SYSTEM

Curriculum for integrated type

112. While formulating a model curriculum for the integrated system of training culminating in a Degree, we have had the following points in view.

Basic Qualification

113. The basic qualification for admission should normally be successful completion of a two year course Matriculation (Intermediate) with Physics, Chemistry, Biology and Sanskrit. Where the pre-University course has already been started with these subjects, there should be a pre-professional course.

[†††] Dr. G.W. Pickering.. British Medical Journal 2.113, 1956

[‡‡‡] Sir Leonard Whitby in Proceedings of the First World Conference on Medical Education, 1954. page 3.

Duration

114. The duration of the Ayurvedic College course should be four-and-a-half to five years, excluding, a suitable period of internship. So far as the under-graduate course is concerned, it is intended that there will be two sessions in a year of fifteen weeks duration each, thus in all providing for 900 hours of teaching in each year.

115. Curriculum for integrated system of Ayurveda:

Pre-professional course in the case of universities which have insulted the pre-University course:

Physics
Chemistry
Biology
Sanskrit and basis of Indian Philosophy
Social Sciences.

UNDER-GRADUATE COURSE:

First year
(1) Fundamental principles of Ayurveda including Sharer and the philosophic approach in relation to Darshanas.
(2) Anatomy including Embryology.
(3) Physiology and Biochemistry

Second Year
(1) Fundamental principles of Ayuveda including Sharir and the philosophic approach in relation to Darshanas (Contd.)
(2) Dravya Guna, Ras Shastra and Baishajya Kalpana.
(3) Anatomy (Cont.)
(4) Physiology (Contd.)
(5) Principles of Pharmacology.

Third Year
(1) Rasa Shastra and Baishajya Kalpana (Contd.)
(2) Roga Nidana and Chikitsa.
(3) Pathology and Bacteriology.
(4) Principles of Medicine.
(5) Surgery.

Fourth Year
(1) Roga Nidana and Chikitsa (Contd.)
(2) Swastha Vritha, including Preventive Medicine.
(3) Principles of Medicine (Contd.)
(4) Surgery (Contd.)
(5) Midwifery and Gynecology.
(6) Pathology and Bacteriology (Contd.)

Fifth Year
(1) Roga Nidana and Chikitsa (Contd.)
(2) Medical Jurisprudence including History of Ayurveda and Ayurvedic Medical Ethics.
(3) Principles of Medical Ethics.
(4) Surgery (Contd.)
(5) Midwifery and Gynecology (Contd.)

Detailed working out of Curriculum

116. Only the main subject headings have been indicated, with the specific intention that the Central Council of Indian Medicine and the authorities of each institution may be given freedom to work out details, consistent with local conditions.

117. In the working out of details by the Central Council or individual institutions or authorities, the Committee desire that attention may be given to the general principles mentioned below.

General Suggestions for Teaching

118. Quality rather than quantity of instruction is more important. Therefore, it is suggested that two-fifths of the should be devoted to lecture and discussions and the remaining three-fifths to practical's by students themselves.

119. As Sir Henry Cohen said, "The under-graduate curriculum is meant merely to lay the foundation of the doctor's training. It should not aspire to cover the entire theory and practice of medicine or to give all the techniques required in the practice of the specialists. These will come in at the post-graduate level.

Philosophy of Ayurveda

120. Ayurveda is unique in one respect. It lays as much emphasis on the philosophical aspect of human life as on scientific aspects of medicine. The under-graduate training should, therefore, lay great stress on the philosophical aspects of Ayurveda in detail.

Place of modern medical subjects in Teaching:

121. In all their discussions, the Committee felt that the State Health authorities were in favour of an integrated system of education in which a much grater amount of time that at present should be devoted to the teaching of Ayurveda subjects as compared to modern medical subjects. We may repeat that these letter subjects are necessary only to fill up the lacunae in the existing knowledge of Ayurveda. We feel that as grater and greater attention is paid to the proper and adequate teaching of ayurveda and as post-graduate studies and research work improve side by side and go on filling up the gaps the amount of time in the teaching of modern medicine can come into being.

Other suggestions:

122. Each group of subjects in the syllabus should constitute a separate department. One subject should be taught by one Professor. He should have a lecturer and a demonstrator attached to his department.

123. Modern medical subjects should be taught either by graduate of the Integrated System of Medicine who has undergone Post-Graduate training in modern subjects or a modern medical man M.D. or M.S. so that a comparative picture is given to the students and the discrepancies explained in the proper light in a non-contentious manner without discrediting Ayurveda Selection o professors in Ayurvedic subjects should be made the basic of means Parses with a accusative ledge of modern science should be preferred. At present, politics seema to be playing a significant part in such appointments.

124. The Professors should be asked to prepare their lecture books in such a way that these in due course can be converted into text books. There should be full facilities for giving practical knowledge, e.g. a pharmacy, herbarium, a museum, hospital laboratory, etc. The student will then follow the lecture given by the professors more intelligently and more quickly. Professors should always be in-charge of the dim cal section of the hospital so that they demonstrate to the students what they teach in the class. This alone will create a lasting impression in the minds of the students. Students of Ayurveda should be so equipped that they can explain the principles of Ayurveda in a language which will carry conviction to the modern minded people.

SUGESTION ABOUT TEACHING OF INDIVIDUAL SUBJECTS

Anatomy

125. In the above curriculum, Anatomy, Physiology and Pathology are the important teaching subjects of basic medical sciences. How much one should teach to the under-graduate is a big question. In this connection, Sir Cecil Weakly says[§§§], "The ordinary practicing doctor does not require to have a detailed knowledge of the human body, but he should have a knowledge adequate to the practice of clinical medicine and surgery. But at present so much of Anatomy is being to the students in such a minute detail that very few people can remember them all when they pass out of the colleges. It will be much better if only the basic facts are taught so that colleges. It will be much better if only the basic facts are taught so that they can remember everything that they learn …… If students are asked to dissect one part the remaining is shown by the demonstrators after dissection, a lot of time could be saved. For those persons who want specialize in Surgery, it would be necessary for them after qualification to take a course in basic medical sciences before they appear for a Post-Graduate examination."

Physiology

125. A good general course in Physiology must stress principles rather than details. One of the methods by which one can arouse interest in students is to refer wherever possible, both in lectures and practical work, to the physiological approach to clinical problems. In the whole subject, only fundamentals should be presented in such a way as to make appeal to the students. To arouse such an appeal in may be suggested that a bed side instruction in the subject may be added to the theoretical aspects. In this connection, it may be added that Physiology in Ayurveda while being self-contained is rather too concise to be understood without the aid of modern Physiology.

Fundamental principles of Ayurveda including Sharer and its philosophical approach in relation to Dracaenas:

127. In this, the composition of the body and their functions as described in the Ayurvedeic texts will be taught. Some people during our tour asked us as to what is the difference between the modern Anatomy and Physiology and that of Ayurveda. To them, we would quote Charaka to the effect that the living person consists of this physical body, the sense organs, the mind and the Atma all put together." It will be obvious; therefore, that Fundamental Principles in Ayurveda deals not only with the Anatomy and Physiology of the physical body as is the case in modern medical science, but also with the metaphysical aspects of man. A knowledge of this aspect will be necessary for a student to comprehend the theory Dosha Datu Mala Vignam, which forms the basis of Nidan and Chikitsa to be studied in later years. Sunilaryl, the philosophical approach to treatment as described in Ayurveda should also be taught. In short, by the end of two years, they will have a full knowledge of all the basic principles required for the study of Ayurvedic medicine.

Pharmacology and Therapeutics

128. The teaching of modern pharmacology in the College of Ayurveda might be generally considered as objectionable. Since modern surgery, midwifery, etc. are also included in the syllabus and since many of the newer drugs are replacing the older ones, a knowledge of general principles of pharmacology will be essential. Therefore, the students should be given instruction on the general principles rather than details.

Dravya guna, Rasa Shastra and Baishaiya Kalpana

129. We have already discussed the importance of teaching both the theoretical and practical aspects of these subjects. It may not be particular for a student to make a thorough study of the 2,000 and odd proven drugs in the Ayurvedica Materia Medica. Therefore, a thorough study of important drugs in current use and their preparation is enough in the under-graduate level leaving the remaining drugs for the post-graduate course on the subject. In the teaching of this subject, particular importance will have to be attached to the practical side, for which a herbarium, a museum and a well-equipped pharmacy will be necessary adjuncts to the Department of Dravyguna and Baishajya

[§§§] Sir Cecil Wakely in Proceedings of the First World Conference on Medical Education, 1954. Page 225.

Kalpana. Property unedifying the herbs, making a detailed physical and chemical study of the various parts of herb and plant and preparing the medicines themselves in the pharmacy will leave a lasting impression in the minds of the students.

Pathology and Bacteriology

130. This is an important subject which is often called a basic clinical science. This is taught after the students have acquired some knowledge of Anatomy and Physiology. Once the student understands the normal structure and function of the body, he can very well follow what happens when there are abnormal and diseased conditions. Hence teaching of this subject must be integrated wherever possible, or at least the continuity should be maintained, with the teaching of medicine and surgery.

Modern Medicine

131. We are convinced that in the integrated type of training, the student must be taught the principles of modern medicine so that he can compare and contrast it with the Ayurvedic system of medicine. He must know about the etiology, pathology, signs and symptoms and diagnostic procedures in modern medicine. The uses of Radiology and other laboratory methods should be known to him. There are special subjects like pediatrics, tuberculosis, which the students should get to know. Modern medicine should, however, be taught in hospitals than in lecture rooms.

Surgery

132. As things stand at present, the student of integrated medicine has necessarily to learn surgery, entirely on modern lines. In the teaching of surgery, emphasis should be on principles of surgical and methods of investigation rather than on operative techniques. A good practical training should, however, be given. A few lectures on Ophthalmology E.N.T., Venereal Diseases, Orthopedics, Radiology and Radiotherapy as related to Surgery, should also be given. In the teaching of surgery, special attention may be given to the principles of Shalakya, and Marma Chikitsa (Bone Setting), as prevalent in Kerala and Andhra, followed where possible by practical training.

Midwifery and Gynecology

133. Here again modern scientific training may be necessary for the time being. Thorough practical training should be given. The historical background of Ayurvedic Midwifery and Gynecology as given in the old texts should necessarily be taught. Emphasis should be laid on the prenatal and post-natal treatment given in Ayurveda while teaching Midwifery. In view of the fact that in certain Ayurvedic institutions Midwifery and Gynecology cases are being treated on Ayurvedic lines, we are recommending elsewhere in this Reoprt that research on this subject will be fruitful, and it is, therefore, hoped that in course of time the punciples and methods followed in Ayurveda will be introduced in the teaching of these subjects.

Medical jurisprudence

134. It is necessary to teach the broad principles of this subject on modern lines for more than one reason. As far as medical ethics are concerned, Ayurveda has a great contribution to make and therefore Ayurvedic medical ethics has been included under this heading. In this group should be added a few lectures on the History of Ayurveda which will enable the student to understand the importance it had in the past and to conceive of future possibilities in the science.

Rog nidana and Chikitsa

135. This is the most important subject so for as the teaching of Ayurveda is concerned and it must be taught in every detail. During this period, instruction on the etiology, pathology and diagnosis of diseases described in Ayurvedic texts should be given along with bed-side clinical instructions. In this regard, the utility of Panchkarma and other related therapeutic procedures on some of the incurable neurological conditions described in modern medicine may be explored. It is only then that the younger generation will take more in the ancient system and will continue to develop in on modern lines rather than lean towards modern medical science. Except in certain parts of India, all

the eight branches of Ayurveda are not being taught or practiced properly. We may point out here that the Ashtanga Hridaya is practically the resume of all the previous developments in Ayurveda and the text has been arranged in a systematic and concrete manner. Therefore, we feel that the Central Council of India Medicine while disusing details of the curriculum may include all the eight branches under the general heading Chikitsa. Needless to say that knowledge of all the eight parts of Ayurveda will help the general practitioner to become a success.

Swastha Vritha including Preventive Medicine

136. Ayuveda has a lot to contribute of the subject of personal hygiene. As Dr. Radhakrishanan said[****] "We (Ayurvedists) do not look upon health as mere absence of disease; we look upon it as positive well-being, as sometime derived from the integration of man's nature. Our science of medicine, Ayurveda, is not science of disease, but a science of life. It is Arogyashasthra, "Ayurveda attached greater importance to the "Soil" than to the "Seed" and thus places greater reliance on maintenance of positive health rather than on destruction of invading organisms. Prevention of communicable diseases, environmental sanitation, etc. have been highly developed in modern science and should also be studied by the students of Ayurveda.

CURRICULUM FOR THE SHUDH AYURVEDIC COURSE

137. We discussed the syllabus of Shudh Ayurvedic tainting with responsible bodies like the Shudh Ayurvedic Committee of Bombay and Kerala and have tried to frame a model syllabus for the Shudh Ayurvedic Course.

Basic Qualification, Duration of Course etc.

138. The basic qualification for admission to the course may be Matriculation with Sanskrit or qualification. The duration of the course has been taken as four to years including a suitable period of internship. Leven in the Shudh Ayuveda course, the consensus of opinion is that certain amount of Anatomy, Physiology and other modern science subjects may be usefully included. Much greater emphasis than at present should be laid on practical training both in the pre-clinical and clinical stages of teaching. For this purpose, it is essential for every institution conducting the Shudh Ayurveda course to thane a well-equipped hospital attached. Similarly, a herbarium and museum of Ayurvedic drugs are essential.

CURRICULUM

139. The model curriculum for Shudh Ayurveda is given below:-

(i) Pre-Clinical

(1) Sharir (with relevant aspects of modern Anatomy Physiology).
(2) Dosha Dhatu Mala Vignan.
(3) Rasa Shastra.
(4) Dravya Guna and Dravya Parichaya.
(5) Swastha Vritha (with modern aspects of Preventive Medicine).
(6) Padartha Vignan.

(ii) Clinical

(1) Panchalakshana Nidan and Sarvaroj;a Samprapti Vignan.
(2) Kayika Roga Vignan and Chikilsa.
(3) Shalya Slialakya Tantra.
(4) Prasuti Tantra.
(5) Agada Tantra.
(6) Vyavahar Ayurveda.

(In all cases, Ashtanga Hridaya may be the text book, Charak and Sushrata being only reference books).

140. Here again we have indicated only the main subject headings and a certain amount of discretion may be allowed to the Central Council of Indian Medicine, or other authorities in the

[****] Dr. S. Radhakrishnan in Swath Hind, Vol II, October 1958

matter of details under each subject heading, as in the case of the curriculum for the Integrated course.

141. The general suggestions given in regard to the method teaching of the Integrated course will apply equally in the case on the Shudh Ayurvedic course.

TEXT BOOKS

Present position

142. We now come to another important drawback in the training of efficient Ayurvedic students and that is the significant absence of stander-dosed text-books on Ayurvedic subjects which can easily be followed by the novice. As Sir William Osier has said[††††], "To study the phenomena of disease without books is to sail an unsheltered sea; while to study books without patients is not to go to sea at all."

143. Moreover, it will be seen from any of the syllabi at present in vogue in the Ayurvedic institutions, relevant portions of several old Ayurvedic text books like Charak or Sushruta or Vagbata are to be read in connection with one and the same subject, thus making the student carry several voluminous treatises to a particular class. This is not only a torture but creates confusion in the minds of students at the lime of the examination.

Efforts made by States etc.

144. Fortunately, the lovers of Ayurveda have woken up lo the urgent need of simple text-books for teaching purposes. Efforts are made in certain States to write some of these text-books as part of their literary research in indigenous systems of medicine. The Post-Graduate '1 raining Centre at Jamnagai is shortly intending to take up this question in right earnest.

145. The Bombay Board of Ayurvedic Research have included in their activities a programme of literary research. They have already published four books on certain subjects of Ayurveda and arc planning to entrust the publication of another twenty-three books to learned scholars all over the country.

146. The attempts of certain individuals and non-official bodies at publishing a number of useful text-books are really praiseworthy. Mention may be made of Messrs. Baidyanath Ayurved Bhawan, Arya Vaidyasala, Kottakal, Swami Laskmiramji of Jaipur, Shri Bapalal Ranjit Roy of Surat, Shri Priyavrath Sharma of Patna and many others. We will be failing in our duty if we do not include in the above category the monumental translation of Charak done by Shri P.M. Mehta under the auspices of the Gulab Kunwarba Ayurvedic Society of Jamnagar.

Recommendations:

147. *We therefore, recommend that immediate attention may be given to the writing up of subject-wise text books in Ayurveda and annotations of the original text-books.*

148. As regards the latter point, the question is whether such annotations can be in regional languages. Some arc of the opinion that publication in regional languages will be helpful to the teaching of Ayurveda and they quote the example of the original text of modern medicine, which were once in Greek and Latin and which have since been translated into M-vrial languages all over the word.

149. It is further *recommended to coordinate and guide the preparation of such text books, the central council of Ayurvedic research when established should look after the preparation of a common set of text books as part of their literacy research programme. The council can also make a review of the existing text-books by knowledgable Ayurvedic professors and approve whatever is suitable among them.*

[††††] Sir William Osler in 'Acquianimitas', 1906

The council may also see to it that a few concise text-books on modern subjects are written up for use in integrated colleges.

Government should in general come forward to encourage the publication of recognised text-books in Ayurveda by offering financial assistance, prizes, etc.

Arrangements should also be made to revise such text-books from time to time, as science progresses.

LIBRARY

150. Although there is library of some sort in many of the Ayurvedic institutions we found that sufficient thought had not been given to the systematic upkeep of ancient text-books in Ayurveda, the comparative literature in modern medicine, timely addition of the latest publications, arrangements of medical journals, etc. Students, if they have to make good, will have to spend the maximum time in the library and the laboratory.

151. As stated by Mr. Frank Roger[‡‡‡‡], Director of the Armed Forces Medical Library, Washington D.C., "….a library is a collection of care-fully chosen material organised so as to provide efficient retrieval of the subject content on demand; it is the collective memory of die profession."

152. It is perhaps a common feature in Ayurvedic institutions in particular that students rarely get guidance from their professors as to the books they can refer to for supplementing their knowledge. Nor is there a qualified medical librarian to enthuse the students to do this extra reading. The result is that students do not actually derive the fullest advantage of libraries.

153. *It is, therefore, recommended that every Ayurveda teaching institutions should maintain proper library with a good collection of medical books and journals, under the charge of a trained medical librarian. Professors should also make it a point to induct tie students to make use of the libraries.*

PRACTICAL TRAINING

Present position :

154. We have pointed out earlier that the present system of training Ayurvedic students is woefully lacking on the practical side. Some have even gone to the extent of saying that Ayurvedic education should be given under the shade of trees as the old *Rishis* did. This is rather unfair.

***What prevailed in ancient times**:*

155. That sufficient, practical training in Ayurvirda was given even in the days when instruction was given by Rishis under the shade of trees is clear room what Vagbata says, "A man with ability, who has learned and mastered the texts from his teachers, who has attained sufficient practical experience and who has attained mental and physical purity is an ideal physician."

156. Adequate practical and field training was given to students even in the days of Takshasila and Nalanda, i.e. the second century B.C. and the 7th century A.D.

157. After the 10th century A.D., however, this aspect of practical training in Ayurvedic training seems to have declined and students were only trained in the houses of well-known Vaidyas.

Buildings

158. In order to create a suitable atmosphere in any centre of learning in modern days, it is necessary lo have proper buildings and adequate facilities for practical training. In a large majority Government Ayurvedic institutions, the buildings were hopelessly inadequate. In private institutions, a group of practitioners generally joiner together, hired a small building and began the training courses without adequate facilities. There are no hospitals or laboratories attached. We need not have big and spacious buildings, a sin certain places. Nor need not have big and specious buildings, as in

‡‡‡‡ Frank Rogers in Proceedings of the First World Conference on Medical Education, 1954. Page 522.

certain places. Nor need we emulate the modern medical colleges in building imposing structures costing crores of rupees.

159. In this connection, we may quote Dr. Henry Sigeist who says[§§§§] As a whole, University grow in width and not in depth. Millions are invested in spectacular buildings until the campus of some Universities reached the size of a small town ……The physical growth of schools created administrative problems. Presidents, Deans and Heads of Departments were no longer educators but executive officers. Many liked their new position but education suffered. Instead of producing creative ideas they products Instead of producing creative ideas they unreduced elaborate curricula Universities were anxious to increase Ike number not of their graduates but of their undergraduate student! and tried lo attract them with more buildings, luxurious dormi-tories, gymnasiums and club houses. Universities also failed in many Ways in their task in the promotion and cultivation of research. They produced the tools for research but not the men to use them."

Medicinal Plants Garden, Museum and Pharmacy:

160. For the pre-clinical stage, a good garden of medicinal plants, a museum and a first class pharmacy with facilities for doing practical), should be provided; and for the clinical training, a well-equipped Ayurvedic Ward to demonstrate the efficacy of Panchkarma and other special methods of Ayurvedic treatment.

161. A good garden of medicinal plants and herbs is an asset to every training institution, for the students can see with their own eyes the Ayurvedic plants and herbs and thus get an interest in identifying and learning their properties and use in medicine. A display of the common adulterants and colourable imitations of Ayurvedic medicines along with specimens of doubtful drugs in the museum will be very instructive. The museum should he able to give a good idea to the student of the various parts of the plants and herbs, the minerals and animal products in common use. It will also be useful to have prepared medicines in the museum.

Similarly, in the pharmacy attached to the teaching institutions, facilities should exist for practical training of students in the preparation of medicine from the herbs, minerals, etc. that they have seen in the herbarium or museum.

These facilities should be provided on a uniformly planned basis in all types of teaching institutions and only such institutions that have these facilities should be recognised.

Hospitals Attached to Teaching Institutions

164. There is a great need for setting up a standard in the matter of hospitals attached to leaching institutions. The number of beds at present varies considerably from hospital to hospital and from one State to another.

165. In the case of Shudha Ayurveda institutions, there may be a satis-factory in-door hospital to demonstrate treatment in all the eight branches of Ayurveda. The number of beds can be increased as each specialty is developed. The basic idea is that the Vaidya should be able to identify a case of major surgery, or a complicated case of confinement and to direct the patient to the proper quarter. But the out-patients department should, however, have full facilities comparable to the out-patients depart-ment of a Modern hospital. The hospital attached to an institution conduct-ing the integrated course of Ayurveda should be of the same standard as a teaching hospital in modern medicine. Full facilities for all investigations should exist.

It is worthwhile adopting the system followed in modern medical hospitals with all the usual ancillary staff.

166. The ideal to be aimed at should be to have a 250-bedded hospital attached to every teaching institution which admits 50 students per year. In case, this is nut found immediately practicable, we

[§§§§] Dr Henry Sigerist. The University at the Cross Roads. 1946. Page 7.

suggest that there should be at least a 150-beddcd hospital to begin with. Without such a facility, the practical training of the Ayurvedic student cm can never become a reality.

Practical Training in Public Health

167. One more direction in which the Ayurvedic student should get practical training in order to become a useful member of society at a future date is training in public health.

In this connection, it may be essential to give them also a series of lectures on health education so that he can do health propaganda successfully in villages. The necessary materials like pamphlets, bulletins, health films, projectors, etc. may be given to the Ayurvedic practitioners for this purpose.

Recommendations:

168. We, therefore, recommend that for better practical training of Ayurvedic students, steps should be taken to provide adequate buildings, a good golden of Medicinal Herbs and Plants, museum, a pharmacy and a subject number of hospital beds.

Recreation

169. The development of extra-curricular activities is as important as the creation of laboratories. These activities should be compulsorily provided for. Gymnasia, dramatic societies, debating societies and social activities including excursions and pleasure trips should be provided for in every institution.

Students Hostel:

170. Hostel accommodation should be provided to as many students as possible so that their comforts and health arc safeguarded and they utilise the maximum time to their education without unnecessary anxiety. Residence in a hostel ensures a systematic life, companionship and scope for mutual discussions, mental development, etc.

STUDENTS

***Present Quality of Students*:**

171. Coming to the question of the quality of students who join the Ayurvedic course of studies, die universal complaint is that the majority of them take to Ayurveda as a last resort, because they have not secured a higher class or division in be I.Sc and hence do not get admission in Medical, Engineering and other technical courses. Even the better class of intermediates prefere to join other technical courses for the simple reason that their prospects after getting any other degree except Ayurveda will not be bleak and uncertain. After all the ****text missing*** graduates is bring discussed separately. This point is of vital importance and should be looked into carefully if training in Ayurveda is to attract a proper type of students.

172. It may he relevant to point out that in the early stages of the intro-duction of modern medical education in India, it was found very difficult to get the pr»|RT students to learn modern medicine. Sri Patrick Hehir has stated[*****], "at first, there was great difficulty in finding sufficient students of educated classes. Temping facilities were offered, but Brahmin youths and other higher Hindu castes would not join. They specially objected to Anatomy classes and dissections, touching dead bodies and handling the sick of the lower castes, although both the Sushruta Samhita and the Shasthras show lesion all doubt that anatomical dissection was adopted by Hindus 2,000 years ago."

173. When we look at the basic qualifications prescribed in the various institutions in the country, there is a great deal of divergence. Sometimes it is Madhyama, sometimes it is Matriculation and somewhere else it is Intermediate with or without Sanskrit and sometimes die same basic qualifications as arc prescribed for entry into modern medical colleges. In this connection, attention is invited to Appendix II.

[*****] Sir Patrick Hehir – The Medical Profession in India, 1923. Page 11.

174. Some aspects of die basic qualifications for admission to Ayurvedic institutions have already been discussed under the head 'Curriculum.'

Recommendation:

Our objects infixing the basic qualification for admission of students should, therefore, be that (l) the student should be well-equipped to understand the subjects taught in Ayurveda, and (2) he should from the very beginning know that he is to take up Ayurveda as a profusion after his intermediate.

General Requirements:

Apart from the above, candidates should have the general qualities of culture, integrity, broad education in humanities, love for their profession, etc. Charak has described the student and the future practitioner as follows:—

**"He should be peaceful, noble in disposition, not given to mean acts free ..from … egotism, intelligent, endowed with powers of reasoning and memory, liberal minded, suited to study either by inheritance or by aptitude, devoted to truth, endowed with unimpaired sense faculties, modest, gentle endowed with character skillfulness and study, who has single-minded devotion to knowledge *both in theory* and practical work....'"

177. Needless today that the qualifications prescribed by Charak thousands of years ago for a student and future practitioner hold good even today, whether we are selecting them for training in Ayurveda or modern medical science.

178. *We have, therefore, than ensure that a candidate seeking admonish In an Ayurvedic course has interest in the ancient science and aptitude for truant and that he is not joining the institution merely as a last resort.*

Grievances of students themselves:

179. While on the subject of the proper type of student, it maybe use-ful to mention what the grievances of many of the Ayurvedic students are in regard to the existing facilities for training in Ayurvedic. They demand that—

- There should be a central body like the Indian Medical Council to inspect and recognise the various colleges of Indian medicine;
- The degrees awarded by recognised institutions should be treated as .equivalent to modern medical degrees and the same privileges and rights should be given to both;
- All colleges recognised by the Central Body should be recognized by Government;
- Sufficient facilities should be provided for undergoing post-graduate courses *in all the subjects* taught to them at the under-graduate level;
- All Ayurvedic Colleges should be affiliated to regional uni-versities so that there will be proper control over the teaching and practical training given in these colleges; and
- Better facilities for lodging, recreation, etc., should be provided to students.

The various points referred to above have been discussed separately in this chapter. We would, however, like to say that there are substantial grounds for this complaint from students and efforts should be made to remedy them as early as possible.

PROSPECTS OF THE AYURVEDIC GRADUATE

180. We next come to the question of the prospects of students graduating from Ayurvedic Colleges who either join Government institutions or set up private practice.

181. Vaidyas are the lowest paid personnel in any Government institution. In fact, they are looked down upon as ancient fossils and arc just tolerated by their colleagues in the medical profession, unmindful of the fact that they are making substantial contributions for the medical relief of the population of India, particularly in rural areas.

182. In regard to the graduates of integrated medicine, their position is neither here nor there. They know enough of modem medicine and sur-gery in addition to Ayurveda but are not allowed to have the same privileges as a modern medical man and earn a decent living or to develop their knowledge of modern science. The pay scales for these integrated graduates are very poor. Their prospects as practitioners of Ayurveda are far from blight. In the circumstances, they resort to malpractices and end up as quacks of modern medical science.

Recommendations:

183. The student joining the Ayurvedic College, who has the same basic qualifications as the student joining the Medical or Engineering college, should have an equally promising future. Otherwise it will be idle to ask him to love Ayurveda and to practice it seriously. In fact, once Government give recognition to them and give a living wage to them we will get a fairly contented set of physicians who will be willing to go to the villages where now there is no edictal relief worth the name.

184. One word more about the handicaps of the graduates of Ayurveda who settle down to practice. They are not given the same privileges in the matter of issue of certificates or in using certain modern drugs although many of them have learnt the principles of modern medicine fairly widely in their college courses. We have dealt with this in more detail in a laterchapter. *We wish to say that the practitioner of Ayurveda should be given comparable facilities in the matter of issue of certificates and use of modern drugs if Government intend to place Ayurvedic training on a good footing and to tempt students of high mental caliber to join it.*

GIRL STUDENTS

185. While discussing the ideal type of students taking to Ayurvedic studies, it may not be out of place to give an indication of the useful part that girl students can play in the proper development of Ayurveda.

186. Appendix II will show the number of male and female students in various colleges and Vidyalayas who have sent replies to the Committee's questionnaire. It is observed that a good number of girl students were undergoing training in the institutions at Bombay, Poona, Surat, Nanded, Nasik, Nadiad, Hyderabdad, Trivandrum and Shoranur. The number of such students in other institutions were very small or negligible. Girls do not take up to medical education in certain States obviously because of social conditions.

187. Another noticeable feature is that the number of girl students tends to fade away towards the end of the training period. Possibly this shows that they are cither not upto the standard or do not have the intention to settle down as practitioners. In these days of equal opportunities for men and women, we should, no doubt, encourage girl students to take to the medical profession in larger numbers. Particularly in Ayurveda where the subjects of Gynecology and Obstetrics, Pediatrics, etc. are underdeveloped due to various reasons, it is felt that women Vaidyas have a useful part to play especially in rural areas. Again from the economic point of view it may be stated that the 'home-remedies' of Ayurveda can best be practiced by a woman Vaidya, We therefore, feet that girl students should be given sufficient encouragement to join Ayurvedic institute by giving them more scholarships and other types of encouragement.

POST-GRADUATE FACILITIES

188. At present, there are not enough facilities for post-graduate studies in Ayurvedic training institutions. Post-graduate study is the solution for placing Ayurveda on a firm basis vis-a-vis modern medicine. It is this that will create an incentive in the under graduate to specialize in Ayurveda. The present position is that post-graduate faultless are avail-able only at stray centers.

189. The Ayurvedic graduate with mature mind will naturally desire to enhance his knowledge and to utilize it in his practice and unless post-graduate facilities arc easily available, he cannot satisfy his ambition. it our firm belief that every Ayurvedic teaching institution or at least one Ayurvedic college in each slate should institute post-graduate courses as part of their development programme. Apart from Ayurvedic subjects, post-graduate courses in modern subjects should also be provided in these institutions in the interest of the development of Ayurveda on proper lines.

190. Briefly, such courses should be conducted in some of the recognised Ayurvedic Colleges where facilities cither exist or can be developed without touch difficulty. These post-graduate courses can be broadly divided into two, one for the socialites in the Ayurvedic subjects and the oilier for the modern subjects. One may ask here what is the necessity of having post-graduate training in modern subjects. If we want to develop Ayurveda and make it a complete science by removing its deficiencies, we will have to develop post-graduate (raining in modern medicine also, because it is common knowledge that subjects like Surgery, Midwifery, etc. have become 'out of practice in Ayurveda and unless we train our graduates on these sub-jects according to the modern methods, our ancient science cannot make any progress. Hence a liberal view will have to be taken with regard to providing post-graduate facilities to the Ayurvedic graduates on modern medical subjects.

191. We envisage that post-graduate studies may be undertaken by (a) shudha Ayurvedic title holders, (b) Integrated Graduates, and (c) Modern Medical Graduates who have necessary qualifications in Ayurveda.

192. The Shudha Ayurveda candidates may be allowed to take post-graduate training in Ayurvedic subjects like Rasa Shaslra, Dratya Guna, Bala Roga, Stri Roga etc.

193. The integrated type of candidates may be allowed to take up post-graduate courses in all the Ayurvedic subjects and also in modern subjects like surgery, midwifery, eye, ear, nose & throat, etc. While on the latter point we would like to emphasize that science is nobody's monopoly; any candidate with a basic training of modern medical subjects has a right to enlarge his scientific knowledge provided he does not lose his bearings.

194. The modern medical type of candidates may be allowed to undergo postgraduate training in Ayurvedic subjects provided they have an aptitude and have undergone some training in Ayurveda under established preceptors and they pass a preliminary test.

195. The details of these post-graduate courses may be worked out by the proposed Council of Indian Medicine. The course should last for three years which should be only partly didactic, the remainder of the time left to the personal efforts of students. There should be equal emphasis on both theory and practice. The examination should be very strict and of a high standard. Candidates should submit a thesis, prepared on the basis of their own original work. The degrees for the post-graduate training in Ayurvedic subject is can be like Master of Ayurveda (M.Ay.) or in exceptional circumstances can even lie Doctor of Philosophy (Ph.D.).

196. The degrees for the be equal to the post-graduate students coming out of the modern medical colleges. By provid-ing these facilities, one of the most important demands of the students will be fulfilled.

Post-Graduate Training for modern doctors.

197. We may now deal with the question of the modern medical student bring given training in Ayurveda. We have already stated that the four-Post Graduate Training Centres to be established by the Government of India should inter alia admit modern medical graduates for a three years post

graduate course in Ayurveda. To encourage such a training, either the Central or the State Governments will have to give some scholarships to these candidates. Only those candidates should be admitted who have an aptitude to learn the principles of Indian medicine and who show satisfactory evidence of having learnt the basic principles of Ayurveda. In order to test the latter knowledge, a preliminary examination may be conducted and only successful candidates admitted.

198. The curriculum for the modern medical graduate admitted for a post-graduate course in Ayurveda will have to be different. We suggest that in the first year, they may be taught the Basic Principles of Ayurveda and the theoretical and practical aspects of Dravya Guna, Rasa Shastra and Baisliajya Kalpana. In the second and third years, they may be made to undertake Ayurvedic research and also given clinical training in the Ayurve-dic Wards. At the end of their successful training, they should be awarded a Degree of Doctor of Medicine in Ayurveda. We are sure, there will be good openings for such post-graduate students both as teachers in the Ayur-vedic and modern Medical Colleges and also as consultants in big cities.

Chairs in Indian Medicine:

199. It will be interesting to note that the Bhore Committee recommended the establishment of a Chair in History of Medicine in all the Universities. Through this arrangement, it was proposed to give instructions on the basic principles of Indian Medicine also to the students of all the modern medical colleges. Later in 1949, the Pandit Committee made the following remarks on the subject: " We feel that it would be premature to make any concrete suggestions for incorporating the teaching of indigenous system of medicine at any appropriate stage in the curriculum for the under-graduate medical students. The absence of suitable text-books also is a real difficulty. The paucity of trained teachers who would lie able to explain effectively the concepts of indigenous systems to the graduates of modern medical colleges has also to be considered. Thus it does not appear that the time is ripe to initiate such studies even at the post-graduate level, in existing modern medical colleges in the country.

200. Now the question is whether sufficient progress has been made during the past ten years for justifying a reconsideration of the above views. Our opinion is in the affirmative and *we feel that the time has come when every Medical College should have a chair of Indian Medicine both for the under-graduate and the post-graduate training. This question is understood to be already under consideration of the Government and we urge that this matter should be pursued vigorously. In addition to the establishing of such Chairs we urge that there should be an Ayuvedic medical ward in each of the Medical College hospitals, so that those diseases which are easily curable by Ayurvedic treatment are given due attention.* This experiment, for instance, has proved successful in the Sassoon Hospital, Poona. This will help to remove the prejudice that exists in the minds of certain medical men.

201. While giving lectures in the Principles of Indian Medicine, emphasis should be laid on the philosophical outlook of the science. Similarly, medical ethics and personnel hygiene as described in Ayurveda will suit our own culture and will greatly help the graduates of modern science to serve the people of our country more effectively. Suitable text-books on these aspects of Ayurveda can be compiled and proper teachers can be found.

202. The Pandit Committee also felt that post-graduate training could be given to modern medical graduates in a separate centre along with Ayuvedic graduates. Though these principles were adopted in the Post-Graduate Training Centre at Jamnagar, no modern graduate has so far taken advantage of the training there. It is likely that the Post-graduate Training Centre, at Jamnagar does not, at present, have enough facilities to attract modern medical students.

Jamnagar Post-Graduate Training Centre:

203. The Government of India set up the Post-graduate Training Centre at Jamnagar which started functioning in July 1956. The Centre admits every year 25 students from over India. One batch has already gone out. There are satisfactory teaching facilities in the Centre.

The subject of study in the Centre are:-

(1) Basic Principles of Ayuuveda
(2) Ayurvedic Classics
(3) History of Ayurved
(4) Sharir-Vignan
(5) Kaya-Chikitsa (including Nidan and Pachkarma)
(6) Drvyaguna Vigaan.
(7) Rasa-Shastra and Baishaijya Kalpana

204. The course is for two years at the end of which a proficiency certificate is given. The Centre is working quite satisfactory. There is a hospital of 48 beds attached to it. The professors are all attached to the hospital and this helps in teaching the students the practical aspects of the subject. But there is a great need of providing more beads to the Centre. There should at least be 100 beds for the students. In another chapter, we have suggested the amalgamation of the Centre with the Central Institute of Research in Indigenous Systems of Medicine, so that not only can the hospital facilities in both places be pooled together but the student of the Post-Graduate Training Centre will get the opportunity of seeing the work of the research centre and derive knowledge and experience from the research professors there.

205. With all this, it is felt that Jamnagar being in a corner of the country, cannot serve the needs of all the States. Although Sanskrit, English and Hindi are supposed to lie line media of teaching, practically Hindi is the only language used. This, for the purpose of post-graduate education, may not suffice.

206. In the circumstances, three more Post-Graduate Training Centers may be opened by the Government of India at other places on a Regional Basis. For the sake of convenience, these Post-Graduate centers can be combined with research centers on the model of the Central Institute of Research in Indigenous Systems of Medicine, Jamnagar.

207. Thus we will have, on the one hand, three or four model Post-Graduate Training Centre run by the Government of India quite apart from the Post-Graduate courses run in at least one Ayurvedic College in each State.

Unless this is planned on an immediate basis, the development of Ayurveda will still be hampered for want of good teachers and good students.

RESEARCH FACILITIES

208. We are aware that the Central Government have opened a separate Research Centre in Ayurveda at Jamnagar. This is bang dealt with in detail in the chapter on Research. We, however, feel that institutions fully equipped for teaching under graduate and post-graduate students arc the best centers for carrying out research also. Hence, we consider that the present tendency to separate research from teaching is not good.

209. *We have already said that a research department should become part and panel of a training institution.* When we say this we want to make it clear that the full implication of research should be understood and that a research department should not be opened merely for augmenting the funds of the training institutions, that is to say, the research department should not be a nominal one, nor should it be an easy method for escaping from other ar-duous labors or for getting financial benefits under the cloak of research. The people in charge of the research departments and the beneficiaries of the research department should have true vocation for it. We are dealing with this topic in detail in the chapter on research.

210. *We, therefore, suggest that the two problems of post-graduate studies and re-search facilities should be examined simultaneously by a central body and steps should be taken m combine in the same training institution u wing for post-graduate training and another for research work.*

READYMADE MEDICINES

211. In the old days Vaidyas prepared their own medicines. Now this is impracticable. We have dealt with this subject more elaborately in the chapter on Pharmaceutical Products. Suffice it to say here that one of the reasons why some Ayurvedic practitioners do not use Ayurvedic medicines of good quality and take to prescribing allopathic drugs and thus bring the science into disrepute is that these practitioners do not have genuine prepared medicines ready at hand to meet the large demand of the public. Quality and genuineness of medicines assure successful treatment.

212. *Is high time that preparation of medicines and practice are separated and Post-Graduate courses like B. Pharma (Ayurveda) are instituted that the pharmacy of Ayurveda is developed on prefer lines and the present handicap to the practitioner is removed.*

AFFILIATION TO UNIVERSITIES

Present Position :

213. The present low standards of education in Ayurvedic institutions can be remedied if all such institutions are affiliated to Universities, where there should be separate Faculties of Ayurveda. At present, there are only six Universities having Ayurvedic Faculties. They arc Banaras, Lucknow, Poona, Gujarat, Kerala and Saugor. There is a proposal to affiliate the Government Ayurvedic Colleges in Punjab to the Kurukshetra University. Other States may also follow this course. In certain Universities, the question of establishing separate Faculties for Ayurveda has ended in a deadlock because of the standard of modern medical subjects in the integrated colleges. Since these were separate Faculties, these Universities do not agree to depart from the standard laid down by the medical faculties is so far as modern medical subjects are concerned. Now that we have decided die continuation of the integrated system of training in Ayurveda will slightly modified standard of teaching in modern medical subjects, will be obvious that separate Ayurvedic Faculties empowered to conduct examinations both in Ayurvedic and modern medical subjects as Included in the curriculum will be necessary.

214. The advantages of affiliation to Universities are as follows:

(1) Degrees awarded by the Universities will be recognised throughout the country.
(2) The syllabus followed in the various Ayurvedic institutions will be of such a high standard as could merit recognition.
(3) Universities will be able to insist on maintenance of a high standard in regard to good building accommodation, laboratories, equipment, practical training facilities, full-time teachers on main subjects, and good status for leaching stall".
(4) There will be periodical inspections of institutions by experts from other Universities who may point out defects without the rectification of which recognition will I* withdrawn.
(5) There will be a strict standard of examination.

215. At present, the method of conducting examinations is not uniform and is very loose in the matter of standards. Politics, personal influence, etc. may carry a lot of weight in the award of degrees .and diploma. A strict examination will be a fundamental step in providing really able graduates capable of developing the science of Ayurveda properly. A University is in the best position of exercising control over examinations. While on the subject of examinations we would like to impress that the standard should be high both on the theoretical and practical sides so that only students with proper mental calibre are allowed to take up Ayurvedic courses of training and later to practice Ayurveda truly and successfully. One more point in regard to examinations is that in declar-ing the results due weight shall be given to practical's and class work. *We, therefore, recommend that attempts should be made immediately to affiliate all Ayurveda. Institute to universities with separate faculties of Ayurveda.*

CENTRAL COUNCIL OF INDIAN MEDICINE

216. We have dealt with the drawbacks in the system of training in Ayurveda and have given various suggestions for the improvement of the situation. Uniform curricula for the Integrated and Shudh Arurveda course have also been given. The faculties that are necessary to give Ayurvedic naming the much needed impetus have also been stated.

217. This brings us to the most important question viz. the agency through which the proposed reforms can be implemented on a uniform basis.

218. *We recommend that a Central Council of Indian Medicine should be set up as the very first measure.*

219. The functions of this Council shall be as follows:—

- To compile and enforce uniform syllabi for the Integrated and Shudh Ayurvedic training courses subject to suitable modifications according lo local circumstances.
- To decide the nature of degrees or titles to be awarded under the two systems of training.
- To lay down the standards in teaching institutions including standards of teachers and lo recognise such institutions.
- To withdraw such recognition if and when the standards are not kept up.
- To inspect the teaching institutions periodically regarding stall", equipment, etc.
- To inspect hospitals, herbaria, museum and laboratory. attached lo teaching institutions.
- To set up a proper standard of post-graduate training consis-tent with regional requirements.
- To inspect the post-graduate institutions belonging to (Vntial and State Governments.
- The supervise the proper maintenance of schedules of respective state Boards of Indian Medicine.

220. The Constitution of the Central Council of Indian Medicine shall be as follows:-

a) Chairman.
b) Director, Joint Director or Assistant Director of Ayurveda in State Governments.
c) Principals or Teachers in Ayurvedic institutions, one from each State to be nominated by the respective Boards of Indian Medicine.
d) Two teachers in Post-Graduate Training institutions.
e) Two Research Workers.
f) One Ayuivedic practitioner from each State to be nominated by the respective Boards of Indian Medicine.
g) One representative of the Ministry of Health.
h) Two Members of Parliament.

221. The Council shall be a statutory body. The first Council shall be nominated for a minimum period of five years. The Chariman and Directors of Ayurveda, etc. in States shall be ex-officio. The nominees referred to at (c) and (f) above shall be recommended through the Stale Governments.

222. The two Members of Parliament shall be elected from the Lok Sabha and Rajya Sabha. The members at (d) and (e) shall be nominated by the Central Government.

Executive Committee

There should be an Executive Committee of the Council of Indian Medicine consisting of eight members including the Chairman of the Council to carry out the derisions of the Council. The Chairman of the Council shall preside over the meetings of the Executive Committee.

There shall be a full-time Secretary to the Council and he shall have the necessary staff to carry on the day to day work of the Council.

FINANCIAL ASPECTS

225. For carrying out radical reforms in Ayurvedic education, or any education for that matter, adequate finance is necessary.

226. We may point out that very often it is not known that a training 'course in the integrated system of Ayurveda is as costly as modern medical education. The standard of fees in many integrated colleges of Ayurveda is the same as that of the modern medical college and the cost of maintenance of the institution is almost the same. It may be that the recurring cost of a teaching hospital in Ayurveda may be less than in the cute of a modern medical hospital. It may also be that the cost of training in a Shudh Ayurvedic institution is slightly less, because there is lesser need of elaborate laboratories, equipment, etc

227. The Yodh Committee of Bombay rightly pointed[†††††] out that "there is a misconception in the minds of the public as well as some of the Governments that the teaching of Ayurvedic System of Medicine can be made much cheaper than the modern medical science. If the status and standard of practitioners of medicine, to whatever system they may belong, is to be
1 maintained at a high standard, the mental calibre of these practitioners and the basic knowledge possessed by them will have to be of the same standard in both systems All this will, therefore, require the same facilities, the same standard of proficiency amongst the teachers, the same hospital facilities and the same post-graduate facilities as in modern medical science."

228. In this connection, the Table below may be of great interest. Apart from proving that the per capita expenditure on a student in the Integrated College of Ayurveda is almost equal to that of a student in a modern medical college, the Table will indicate that the annual expenditure for one student in the Shudh Ayurvedic institution is slightly less than half of the expenditure on the Integrated College student.

[†††††] Report of the Indian System of Medicine Enquiry Committee, Bombay 1947-48. Page 33.

TABLE IV

Appropriate Total Expenditure of the Ayurvedic Teaching Institutions and Per Capita Expenditure on Students

SI. No.	State		Number of teaching institutions from which information on expenditure is available.	Total expenditure of institutions. in Col. 3.	Total no. of students of institutions in Col. 3.	Annual per capita ex-penditure on students Col.4 Col. 5
1.	Andhra	..	3	1.37.945	359	384.25
2	Assam		1	87.085	21	4,146 90
3.	Bihar	..	J	72.425	105	689.76
4.	Bombay	..	10	19.51.415	1,965	993.09
5.	J«mmu & Kashmir	..	—	—	—	—
6.	Kerala		-3	490.498	421	1,165.08
7.	Madbya Pradesh	..	2	1,01.700	281	361.92
8	Madras					
9.	Mysore	.,	5	3.67,302	661	555.68
10.	ORISSA	..	1	1,64,388	86	1,911.49
11.	PUN jab		1	38.132	138	276.32
12.	Rajasthan	..	3	4,20,294	218	1,927.95
13.	Utter Pradesh	..	5	8,28,753	1,038	798.41
14.	West Bengal	..	4	1,71,987	20G	834.89
15.	Delhi			Not available		
	TOTAL:—	••	**40**	**48,31,924**	**5,4949**	**878.69 (Average per student)**
I.	**Number of Shudh Ayurvedic institutions.**		**12**	**4,21,607**	**1.041**	**405.00 (Average per student)**
II.	**Integrated Ayurvedic Institutions**		**28**	**44,10,317**	**4,458**	**989.30 (Average per student)**

229. Government has the main responsibility to provide adequate finances lot Ayurvedic institutions if they have any genuine desire to improve the present situation in Ayurvedic training. Apart from the proper maintenance of colleges, hospitals, practical and other facilities, Government should see to it that a sufficient number of fieeships, scholarships and other finan-cial concessions are given in order to attract the best type of students.

SUMMARY

230. To summarise what has been slated in this chapter, it may be mentioned that we have at present 76 training institutions in Ayurveda (both Government and private) of which 49 follow the integrated type of teaching and 27 the Shudh type. There arc also six Sanskrit Colleges imparting teaching in Ayurveda. The integrated colleges which have a total student strength of 1,100 about 1,100 graduates, while the Shudh Ayurvedic institutions having a total strength of 1,500 produce about 300 title holders per year.

231. In the interests of the resuscitation of Ayurveda, the first and fore-most thing to be done is an unequivocal declaration by Government that Ayurveda is also recognised as the basis for the development of the National Health Services of the county. The immediate creation of a Central Council of Indian. Medicine, who will take steps to lay down uni-form standards of syllabus, degrees, teaching, intuitions, etc. has also been recommended.

232. In regard to the types of Ayurvedic training to be given, it has been pointed out that it will be necessary in the interests of Ayurveda to conti-nue the integrated system. A training course in Shudh Ayurveda with a certain amount of modern medical subjects should, for the time being, run side by side in order that the tradition of Ayurveda may be kept up. Emphasis has been laid on the provision of practical facilities in training institutions which are woefully lacking at the present day. Remedies have been suggested for removing the various drawbacks in the existing training facilities. These are, provision for training of proper teachers, their status, revising the basic qualifications for admission of students in raising such a way that only candidates of a proper caliber get into Ayurvedic institutions, preparation of suitable text-books and addition of good post-graduate and research .departments to every teaching institution as far as possible in order to create an interest in the minds of the students.

233. Revised curricula for the integrated and Shudh Ayurveda systems have been indicated in a general manner to be followed up by the Central Council of Indian Medicine.

234. All Ayurvedic institutions should be affiliated to Universities. Governments, both Central and Stale, should provide ample finances for the improvement of Ayuiveda in all directions.

235. Our ultimate aim should be to have one unified system of Ayurvedic training where the study of the ancient science would have been supple-mented, and not supplanted, by the enormous developments in modem science.

236. It is hoped that when these recommendations are implemented by the authorities concerned, the status of Ayurvedic education will definitely improve.

CHAPTER—V

RESEARCH

"Learn all you can from the ancient Indian Medicine and Surgery—
but do not believe that the last word could have been said a thousand years ago.".

Jawaharlal Nehru

INTRODUCTORY

History shows that research in Ayurveda and its methods were well know to be the ancient scholars. In fact, all that has been written by them was the students of their close study and observation. Thus Vachaspathi Mishra, in the 9th century A.D., has said that thorough understanding of the pro-blem, correct interpretation, proper observation, detailed discussion and further confirmation by others are some of the methods by which one could knack newer discoveries on any subject. But in later years, all these valuable methods of approach have been lost sight of, with the result that the science of Ayurveda came to a standstill.

2. The Chopra Committee in Chapter X (Volume I) of their report stated that many of the old. Ayurvedic precepts can be found to accord with modern views even though put in a somewhat different form. That Committee have quoted the famous Dr. Sigerist as saying that "it would be desirable honestly to consider how far these old medical traditions can be reconciled with our own principles instead of rejecting them in a body as useless and obsolete." (.aiming has said "Any system of medicine, or for that matter, any usage or custom that has held its own for generations usually has something at the back of it, no matter how little it appears to be supported by modem science." Modern medical authorities have not denied that the basic theories of Ayurveda can be interpreted and correlated in some manner with modern knowledge.

3. Research is a scientific approach to medical problems. It is the condition precedent for the maintenance of a high standard of teaching and for developing the correct attitude of mind in students. This applies with extraordinary force in the case of Ayurveda which the country is trying to revive Research is the pivot round which the undergraduate and post-Graduate education and the future standard of medical practice will turn. In the held of Ayuiveda, we have been the recipients of many hoary traditionswith is our duty to interpret and put into faultless practice to the entire satisfaction of everyone including the modern scientific man. This we cannot do without a properly planned research.

4. It said that so far as India is concerned, even research in modern medicine has not advanced much. If with so much patronage modern medicine research still in its infancy in India, we can easily visualise the large amount of ground that we have to cover in Ayurvedic research.

5. The Central Government decided that research in Ayurveda was necessary in order to clear the science of doubtful accretions of the past and for the purpose they set up the Central Institute of Research in Ayurveda in Jamnagar. We will be reviewing the work of this research institute letter in this chapter. Suffice it to say here that one swallow will not make a summer and that the establishment of on single research institute at Jamnagar with so many limitations should not be taken as the last word on Ayurvedic Research.

6. We have already pleaded that a post-graduate department and a research department should be added to each Ayurvedic teaching institution in the interests of developing the science.

7. The fact that Governments have been financing individual research programmes in Ayurveda for the last few years will not also constitute everything to be desired in this direction. Individual efforts may produce a lopsided development which will, perhaps, harm the science and bring it into further disrepute. What is needed is the establishment of a chain of Research Centers with complete laboratory, clinical and other facilities and a Central Body to control and coordinate the work. These points are being dealt with in detail later in this chapter.

8. The history of Ayurveda shows that there were so many treatises in Ayurveda in the Samhita period that it would have taken a lifetime for any scholar to read and absorb their contents. These treatises were later condensed by authors like Charaka, Sushruia and Vagbau during the Sangraba period and they included in their books only those that they had been able to test and practice. Of

this condensed portion of Samhitas, only five or ten per cent arc ill current use. We are saying this to show that work in the field of Ayurvedic research should include the reinstatement of the balance of the theories and prescriptions in Charak, Sushruia and Vagbhata by means of literary, drug and clinical research, in addition to developing new methods of analysis capable of producing concrete results in the field of Ayurvedic research.

9. We may now consider the work done on Ayurvedic Research so far by (a) Modern Medical people, (4) by the Central Government, (c) by State Governments and institutions and (d) by individual Ayurvedic workers.

Work done by modern medical people

10. When the western system of medicine and its methods of medical research were introduced in this country, the rich material-medica of Ayurvedic medicine attracted the attention of research workers in that system. Thus in the early part of nineteenth century, several books on Indian medicinal plants were brought out by various authors, such as Sir William Jones, John Fleming, Waring, Rama Ruo, etc. Organised research work on the indigenous drugs was started under the patronage of the Government of India in 1894 on the recommendation of the Pharmacological Section of the Indian Medical Congress and a systematic study of the pharmacological and clinical uses of various indigenous drugs was made during the next twenty years. The School of Topical Medicine was established and a Chair of Pharmacology was instituted to make scientific studies of these drugs. From the year 1921 onwards, a large amount of research work was also conducted on drugs under the auspices of the Indian Research Fund Association under the guidance of Sir K.N. Chopra and others. In this connection, we may draw attention in the publication "Chopra's Indigenous Drugs of India." Mention may also be made of Nadkirni's Indian Materia Mcdica. The whole purpose of undertaking such an extensive study was to make India self-supporting, to effect economy with regard to drugs, to discover useful medicines from the large mass of Ayurvedic drugs suitable to be used by the western practitioners and even-tually to prepare an Indian Pharmacopoeia. These studies became so fruitful and useful to the modern medicine that the Indian Council of Medical Research set apart a large sum of money for indigenous drugs research. Again in 1950, a Central Drugs Research Institute was esta-blished in Lucknow for the purpose of doing research.

11. The present Committee also issued a questionnaire to the Pharmaco-logical Department of modern medical colleges to find out what they were doing by way of research on indigenous drugs and whether they would be prepared to continue such work in the cause of Ayurveda.

12. The following Table shows the various colleges, the Pharmacological Departments of which have done something appreciable in indigenous drug analysis on the pharmacognosical and pharmacological aspects:—

TABLE V

Name of State	*Name of modern medical college of Insitution*
Andhra	1) Guntur Medical College. 2) Vishakapatnara Medical College.
Bihar	I) Medical College, Patna.
Bombay	1) Haffekine Institute. Bombay. 2) H J Medical College, Poona. 3) University Department of Pharmacy, Nagpur. 4) G.S. Medical College, Bombay. 5) Medical College, Baroda.
Jammu and Kashmir	Regional Research Laboratory, Jammu.
Kerala	University of Kerala.

Madhya Pradesh	1)	Medical College, Jabalpur.
	2)	G.R. Medical College, Gwalior.
	3)	M.G.M. Medical College, Indore.
	4)	Gandhi Medical College, Bhopal
Madras	1)	Medical College, Madras.
	2)	Medical College, Madurai.
Mysore		Indian Institute of Science, Bangalore
Orissa		Medical College, Cuttack.
Punjab	1)	Medical college, Amritsar and Department of Pharmaceutics, Punjab University
	2)	Christian Medical College, Ludhiana
	3)	Government Medical College, Patiala.
Uttar Pradesh	1)	Central Drug Research Institute, Lucknow.
	2)	K.G. Medical College, Lucknow.
	3)	S.N. Medical College, Agra
West Bengal	1)	School of Tropical Medicine, Calcutta
	2)	Calcutta National Medical Institute
	3)	University College of Science Technology, Calcutta
Delhi	1)	Lady Harding Medical College
	2)	All India Institute of Medical Sciences

Work done by Central Government

13. While the efforts of the modern medical research workers enriched the western system of medicine, the traditional Ayurvedic physician felt that nothing was being done for research in Indian systems of' medicine us a whole.

We are aware of the several committees appointed by Government for the purpose of devising ways and means of improving the Ayurvedic system as a whole, including its research aspect.

Chopra Committee

14. The Chopra Committee, appointed by the Central Government, dis-cussed all aspects of research in the Indian System of Medicine. They, for the first time, classified research in Indian medicine into six possible categories, namely, (1) Research on the Fundamental Doctrine of Ayurveda ; (2) Literary Research; (3) Clinical Research ; (4) Pharmacological Re-search ; (5) Research in Dietetics ; and (6) Research in Psychological aspects of Indian Medicine.

15. In order to supervise, conduct and coordinate the kind of research mentioned above, they suggested that a Council of Research in Indian Medicine should be set up immediately, whose function would be analogous to the Indian Council of Medical Research. Under this body, one Central Institute of Research in Indian Medicine was to I established by the Central Government with facilities to carry on research on modern lines and also to impart post-graduate training in Indian Medicine for the benefit of teachers, practitioners and future research workers. The Chopra Committee also recommended that research on similar lines should be carried on in all the Provincial teaching institutions.

16. But the Central Government, while only accepting the principle of opening of a Central Institute of Research, stated that the details of the Institute should be investigated by another Committee.

Pandit Committee

17. Thus a Committee, headed by Dr. C.G. Pandit, Director of the Indian Council of Medical Research, was set up. The recommendations of the Pandit Committee were in short that a Central

Research Institute with a well-equipped hospital, run entirely on Ayurvedic lines, should be established at Jamnagar, that Clinical Research on Ayurvedic principles should generally precede any other type of investigation and that the orthodox western approach of investigating indigenous dings through isolation of their active principles may not prove fruitful as the action of the whole drug might be different from that of its components

18. Therefore, *the* Pandit Committee suggested that the Central Research Institute should be controlled not by the Council of Research in Indian Medicine, as proposed by the Chopra Committee, but by a Governing Body and by the Scientific Advisory Council.

Jamnagar Research Institute

19. In pursuance of these recommendations the Government of India started the Central Institute of Research in Indigenous Systems of Medicine, at Jamnagar in 1953. This institute mainly had two functions to perform, one to promote research in Indian medicine which could be utilized for the benefit of humanity as a whole, and second to provide facilities for the training of workers in the methods of research.

20. There is a Clinical Unit consisting of an Ayurvedic team and a modern team. The team consisting of the Ayurvedic physicians enjoy full liberty to admit, diagnose, treat and discharge all patients according to the Ayurvedic concept. This team completely follows the ancient texts and keeps a sys-tematic, though voluminous, record of the patient's condition according to the principles of Ayurveda. When the diagnosis has been made by the Ayurvedic physicians, the modern team examines the cases and makes its own notes. The modem team carries out the follow-up by laboratory test.

21. The Institute took up the study of the syndrome of Pandu Roga , (Anaemia) Grahani and Kamala group. During the last few years, they have studied Pandu Roga extensively from the clinical and literary points of view and tried various treatments according to Ayurvedic tests.

22. The modern team of Clinical Research Unit also studied the anemia's (Pandu Roga) extensively on modern lines and compared the results of var-ious types of Ayurvedic treatment.

23. In addition to the clinical research referred to above, an attempt is also being made to study extensively the analysis of "Life" according to Ayurveda. They are collecting literature on Mana (mind), Prakriti, Tridosha, etc. from all the ancient Indian Philosophical literature.

24. In the Pharmacy Unit of the Institute, the Ayurvedic Section pre-pares all the Ayurvedic medicines required for the hospital while the modern section is attempting an analysis of the various Ayurvedic products.

25. The Pharmacognosy Department is engaged in studying drugs of vegetable origin, their structural and other characteristics, their cultivation, etc. They have developed a good museum and a fairly good library.

26. There arc in all 48 in-door beds in the hospital and an out-patients department.

Post-Graduate Training Centre

27. In 1956, the Government of India also started a Post-graduate Training Centre in Ayurveda at Jamnagar as recommended by Chopra and pandit Committed. This Training Centre has an attached hospital with a bed strength of 48 patients. In addition, it has a pharmacy, museum, and a laboratory. Every year, 25 students are admitted to undergo a two-year Post-Graduate training course-. Each student has to write a thesis in addition to the didactic instructions received by them every day. All the professors are attached to hospitals where they impart practical training to the students.

28. In the college, they have four Sections namely, Kaya Chikitsa, Dravya Guna, Rasa Shastra and Fundamental principles of Ayurveda and the post-Graduate students have to work in all these sections before they can complete the course. Almost eight students are given internship training in the hospital at a time and about eight students attend the research institute to learn the methods of research. The research work at the Post-graduate Training Centre is at present mostly confined to Rasa Sinistra and Dravya Guna. The hospital facilities in the Centre are not at all adequate for the 25 post-graduate students.

Advisory Committer for Ayurvedic Research

29. In addition to the opening of the Central Institute of Research in Indigenous Systems of Medicine and the Post-Graduate Training centre Ayurveda at Jamnagar, the Government of India had also set apart a large sum of money in the First and Second Five Year Plans for encouraging research in the State-administered and private Ayurvedic institute in order to scrutinize all request sponsored by State Government and to allot necessary funds for approved schemes, an Advisory committee for Ayurveda was established sometime agro in the Ministry of Health.

30. In the First Five Year Plan, the Centre had set apart Rs. 37.5 lakhs. In the Second Five Year Plan, the Centre has allotted Rs. 100 lakhs for the development of Indigenous system of Medicine. Upto now, the procedure has been that research schemes sponsored by the respective considered by the Advisory Council for Ayurveda set up by Memory of Health.

(1) Ad-hoc research schemes on the merits of each case ;

(2) For research beds at the rate of Rs. 2,000 per bed annum ; and

(3) For upgrading of the College portion of existing institutions, a non-recurring grant of 75% and recurring grant of 50*. subject to the condition that the scheme had been included in the Mate Five Year Plan.

During 1958-59, a budget provision of Rs. 22.80 lakhs was made for the development of indigenous systems of medicine, out of which Rs. 20 lakhs have been allocated to the States by the Planning Commune on the basis of schemes produced by State Governments at the Working Group discussions in accordance with the latest procedure. The idea now is that States can themselves draw 1-12th of the amount allocated by the Planning Commission for approved schemes of indigenous research. Any amount that is left over at the end of the year will be treated as a loan to the State Government.

31. The total amounts so far spent by the Central Government on the development of indigenous systems of medicine during the Second Five Year Plan are as below:

Year	Research Institute, Jamnagar Rs.	Other Research Scheme in Ayurveda Rs.	Post-graduate Training Centre Rs.	Total Rs.
1956-57	4,00,000	1,79,827	1,00,000	6,79,827
1957-58	3,50,000	7,47,550	2,75,000	13,72,550
1958-59	3,56,000	50,300	2.00,000	6,06,300

32. As we are all aware, the Central Government also gives ample grants to the Indian Council of Medical Research for research purposes. No doubt a portion of this grant goes towards indigenous drug research, the nature of which has already been referred to in a previous paragraph. It will be interesting to compare the financial assistance given by Government for modern medical research *vis-a-vis* Ayurvedic research. Figure 3 is self-explanatory and will illustrate the point we have in mind.

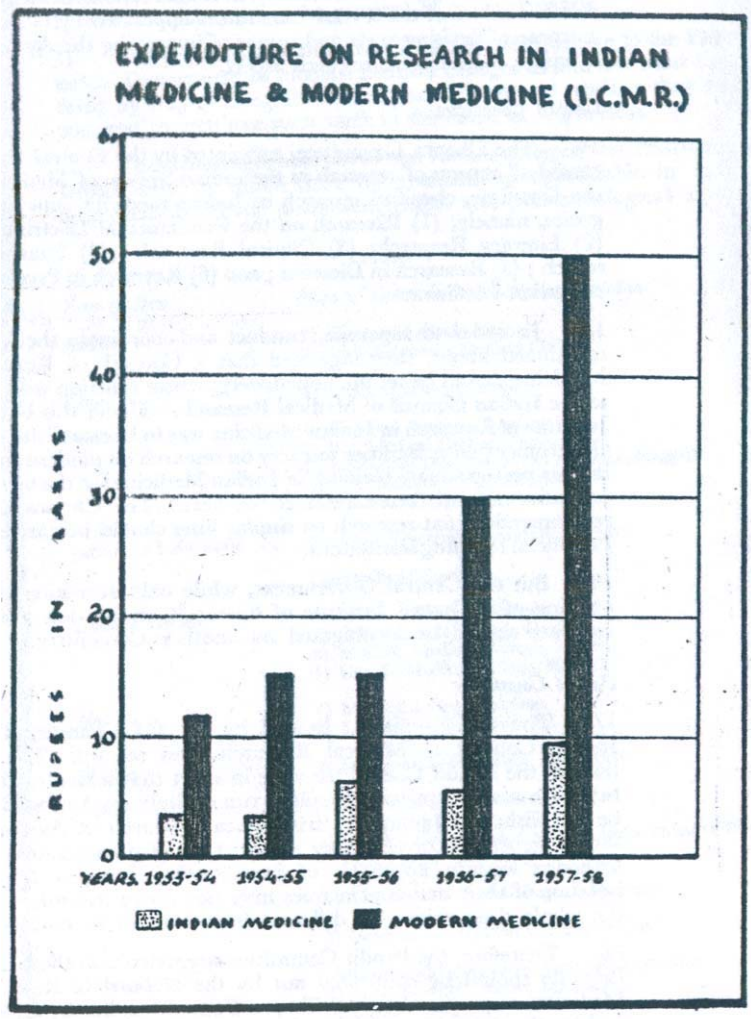


FIG. 3

33. Although the Central Government have taken all these steps to improve the status of Ayurvedic Research, it is felt that their approach to the problem is a restricted one. Research to be effective should lie many-pronged.

34. Thus Sir Edward Mellanby, the former Secretary of the British Medical Research Council says,‡‡‡‡‡ "These critics take the view that much more money should be devoted to clinical research and direct attack on the disease. The opposing school says that more money ought to be used for the support of fundamental research and that all major discoveries in medicine come from disinterested research in fundamental medical science. The fact is, however, there is no royal road to discovery in medicine…'

Actual working of the two Jamnagar Institutions

35. The Jamnagar Research Institute is the first of its kind in the country. All research activities of this Institute were started entirely on a new footing on the advice of eminent medical scientists. Therefore, in order to assess the progress made in the field of Ayurvedic research during the post five years by this Institute, it is understood that a separate assessment committee was appointed by Government recently and that Committee have admitted a report.

36. The present Committee have, however, certain observations to make. The Ayurvedic team mainly admits and diagnoses cases according to the Ayurvedic methods and also treats them according to those methods. The modern team carries out its investigations according to modern methods. These investigations are, however, made "behind the curtain." Even the Ayurvedic Research workers appear to have differences of opinion between themselves.

We feel that unless there is close collaboration between the Ayurvedic and the modern teams, at every stage of the work, there will be no material advcance in the scientific research on the Ayurvedic System of Medicine. The lack of such close collaboration at present appeared to have

‡‡‡‡‡ Sir Edward Mellanby – The State and Medical Research 1938, Page 45

resulted in an accumulation of a large amount of data on either side which have not been compared or correlated.

37. They have already done a good amount of basic work. This encourages us to suggest that now is the time for them to start other types of research such as literary, pharmacological, etc. The plan for research should, however be prepared well in advance. The research worker should be allowed a certain amount of freedom to select his own subject for doing research rather than the imposition by the advisory as is done today. The results must be accurately evaluated by statistical experts. In this connection we understand that a post of statistician is still vacant. Steps should be taken to see that this is filled up immediately. It was also felt that the Biochemical Laboratory, the Ayurvedic Pharmacy and the Pharmacognosy section should be better developed. We are happy to see that clinical research has been given due importance in this Institute. This alone, we feel will give real impetus for further expansion of research work in all other branches. Thus Sir Thomsas Lewissays,[§§§§§] "That alone is true which is proved clinically and that which is clinically proved needs no other evidence." But here is should be remembered that productive clinical research usually comes from the intense study of carefully selected cases rather than less careful studies of a large number of cases. In addition, there should be a General ward attached to the research centre from where suitable research cases can be selected. Further we also suggest that clinical research should be undertaken on chronic/endemic diseases widely prevalent in that area.

For doing such research, we must have first class clinical investigators. Unless we have a good team of research workers under a leading physician we cannot achieve good results. Thus Sir Edward Mellanby says, "If clinical research is to enter into its kingdom, success in its early enterprise must be obtained and this can only happen if first class investigators are appointed. By adopting these suggestions this Institute will not only help to revitalize and rationalize the Ayurvedic system of medicine but will also be able to train a larger number of research workers for starting similar research centres all over the country.

38. The post graduate training centre has been started only recently and it is premature to assess the work done by them. It appears that they are doing good work and are training a large number of young ones sound lines who will ultimately be the leaders of this profession.

However we feel that the admission standard for imparting such courses should be such that only institutionally trained graduates and fully qualified students will get admission, so that the general standard remains high. Further at the conclusion of their training they must be awarded a Degree or Diploma instead of a mere certificate.

39. We have mentioned elsewhere that the Central Institute of Research in Indigenous systems of Medicine and the post graduate training centre in Ayurveda should be amalgamated. It would be ideal if an undergraduate teaching institution is added to them so as to have a complete unit where the recommendation of this committee on training can be carried out by the central government. There is at present an undergraduate institution of the Gulab Kunwarba Society in the same premises as the post graduate training centre. Steps may be taken to bring in this undergraduate institution into the fold of the amalgamated research cum post graduate centre at Jamnagar.

40. We may end this discussion by quoting the views of Henry Sigerist. As he says[******] "Education becomes sterile the moment it is divorced from re-search. History has demonstrated this over and over again. What makes higher education is just the fact that young people are granted the privilege to spend a number of years at the source of learning in close touch with men whose life work is devoted to the advancement of knowledge. The research worker on the other hand who is not in touch with student loses a great deal."

Work done by state Governments.

[§§§§§] Sir Thomas Lewis – Research in Medicine 1944 Page 59
[******] Dr Henry Sigerist – University at the Cross Roads 1946. Page 62

41. The Table below will give an idea of what state governments have done and what they propose to do. The manner in which the institutions concerned have utilized the assistance from Central Government has also been indicated therein.

TABLE VI

State	Work done	Aid from Central Government	Remarks	Work proposed to be done
ANDHRA	(1) *Government Ayurvedic Hospital Hyderabad.*			
	One Research Officer) and two Research Assistants and a Pathologist have been appointed. A laboratory will be added shortly. 30 Research beds have been set up.	Rs. 70,000 in 1957-58	Grant fully utilised.	Government Ayurvedic College Hyderabad is to be upgraded.
	(2) *Arsha Rasayanasala, Muktyala.*	Rs. 20,000 in 1957-58	Grant being utilised.	Nil
	Doing research work on Cancer on Ayurvedic lines			
ASSAM	*Government Ayurvedic College, Gauhati.*			
	Upgrading of the College being implemented. Research Department has been started. Botanical investigation on medicinal herbs being carried out.	Rs. 24,770 in 1954-55 Rs. 5,400 in 1955-56	Amounts have been spent in setting up the Research Department, purchase of equipment etc.	Nil
BIHAR	*Government Ayurvedic College, Patna.*			
	Research Unit sanctioned. There are 20 research beds. Investigations undertaken on Amavisha. Case records being kept satisfactorily.	—	—	—
BOMBAY	(1) *Board of Research in Ayurveda.*			
	State Government constituted this Board in 1951 and pay a grant of Rs. 1,20,000 plus Rs. 30,000 for literary Research.	Rs. 66,300 in 1954-55	Amount fully utilised	(a) Two more units for testing of drugs.
BOMBAY (Contd.)	a) *Literary Research* 23 text books on Ayurveda will be published.			(b) Investigations on diseases described in Ayurveda and their prevention by Ayurvedic methods. Publication of school books on public health. Ayurvedic medical chest of 50 medicines for distribution to rural areas.
	(b) *Standardisation of Ayurvedic Drugs* Pharmacognosical studies and preparation of monographs of plants undertaken. Chromotographic studies on certain plants undertaken.			
	(c) *Preparation of medicines* Preparation of medicines for use in clinical research out of pre-identified and pre-tested Dravyas.			
	(d) *Clinical Research* On the whole 13 diseases have been chosen for investigation and these have been distributed between the three places referred to below: 20 beds in Sassoon Hospital, Poona. 20 beds in Civil Hospital, Ahmedabad. 20 beds in Universal Health Institute. 4 units at Sion, Nasik, Surat and Sholapur for testing drugs under different conditions.			
	(e) Creation of a literary reference unit for helping scholars who are engaged in writing text-books.			
	(2) *Indian Drugs Research Association, Poona.*			
	Pharmacognosical research on Indian medicinal plants.	Rs. 30,000 in 1956-57	Amount utilised in purchase of equipment and publication of brochures.	Proposals for further pharmacognosical and chemical research at a cost of Rs. 2,60,000 sent to the Bombay Board of Research.

State	Work done	Aid from Central Government	Remark	Work proposed to be done
BOMBAY (Contd.)	(3) *Ayurveda Mahavidyalaya, Poona.*			
	(a) Standardisation of drugs.	Rs. 11,000 in 1955-56 Rs. 63,074 in 1956-57	Standardisation of drugs being continued. Herbarium already set up.	Nil
	(b) Herbarium.	Rs. 2,06,250 in 1957-58		
	(4) *Universal Health Institute, Bombay.*			
	(a) Clinical Research on Swasa (Asthma), Shota (Oedema) and Asthi Sandi Vatha Roga (Ostero-Arthritis)	Rs. 30,000 in 1955-56 Rs. 60,000 in 1956-57 Rs. 60,000 in 1957-58	Amount completely utilised.	Nil
	(b) Panchkarma Ward with equipment.			
	(5) *Nanavati Hospital Bombay.*			
	Research on "Rudanti" and certain other indigenous medicinal plants.	—	These drugs are not mentioned in Ayurvedic books nor is the work done on Ayurvedic lines.	Nil
	(6) *Nagpur.*	—	—	New Research Hospital being constructed.
	(7) *Seth Ujamshi Pithambardas Ayurvedic Research Unit, Baroda Medical College.*	—	—	Certain pilot schemes are under consideration.
	Board of Research Bombay have allotted Rs. 36,000/- per annum to this unit. 12 beds are set apart in the Baroda Medical College Hospital. Research on Prakriti has been taken up. Systematic work is done by the Pharmacologist of the College under the guidance of eminent Ayurvedic Scholars.			
BOMBAY (Contd.)	(8) *O.H. Nazar Ayurveda Mahavidyalaya, Surat.* 10 Research beds had been set up with funds from the Bombay Board of Research and investigations are being conducted on Asthma, Rheumatism and Dropsy.	—	—	Herbarium is proposed to be developed with assistance received from the Central Government (Health Minister's Discretionary Grant)
	(9) *Committee for Standardisation of Ayurvedic Drugs & Herbs, Bombay.* The Committee was appointed in 1955 to evolve a machinery to make available standard and genuine drugs at reasonable prices for chemical research purposes. They have issued questionnaires to the Forest Departments, Ayurvedic Pharmacies, dealers in Ayurvedic Drugs and Vaidyas. Interim Report presented. They have recommended a Drug Farm and Pharmacy to be set up by Government to act as liaison between the Forest Departments & consumers, the establishment of a herbarium to act as a reference Centre for drug and plants collection and the setting up of a Pharmacognosical laboratory to serve as a testing house for drugs.	—	—	—
JAMMU AND KASHMIR	No research being done at present as there are no Ayurvedic institutions.	—	—	Literary research possible in this State as there are old manuscripts in Ladakh in local language.
KERALA	(1) *Government Ayurvedic College, Trivandrum.* 20 Research beds have been set up. Clinical research in Vatha, Amavatha, Liver diseases, Udara, Sarvangashobha.	Rs. 6,666 in 1956-57 Rs. 30,000 in 1957-58	Amount utilised for equipment and clinical research.	Proposal submitted for research in Dravya Guna, clinical and literary research, Post-graduate education etc., at a cost of Rs. 13 lakhs. Another proposal for opening a training section for outside students for Panchkarma and massage treatment.

State	Work done	Aid from Central Government	Remarks	Work proposed to be done
KERALA (Contd.)	(2) *Personal grant to Dr. Lakshmipathi ex-Principal of the Government Ayurvedic College, Trivandrum.*			
	For Ayurvedic Encyclopaedia two volumes of which have been published.	Rs. 10,000 in 1957-58	Amount utilised.	—
MADRAS	*College of Integrated Medicine, Madras.*			
	(a) Establishment of a Chair of History of Indian Medicine.			
	(b) Clinical Research 50 beds of which 10 beds are for Ayurveda, 10 for Unani and 30 for Siddha Systems.	Rs. 4,500 in 1955-56 Rs. 7,200 in 1957-58 Rs. 20,000 —do—	Amount utilised	Proposal of research costing about Rs. 1,20,000 submitted.
MADHYA PRADESH	3 research units have just been started.	—	—	1) *Government Ayurvedic College, Gwalior.* Proposals for :— a) Upgrading the College. b) Clinical Research and c) Literary Research 2) Herbal Research proposed at Dhar and Guna of old Madhya Bharat region. 3) *Ashtanga Ayurvedic College, Indore.* **Propose to do literary research.**
MYSORE	*Free Ayurvedic Dispensary, Sreerampuram*			
	No research being done.	Rs. 5,000 (Health Minister's Discretionary Fund)	Amount spent	Proposal to set up a Leprosarium where Ayurvedic treatment of leprosy will be investigated by Rao Sahib Parthanarayan ex-Medical Officer in-charge of Javachamarajendra Hospital Bangalore.
ORISSA	1. *Gopabandhu Ayurvedic Vidyapith, Puri.*			
	Clinical research 10 beds allotted for investigations on nervous diseases and drug research.	Rs. 14,200 in 1956-57	Amount utilised	—
PUNJAB	No work being done now.	—	—	*Government Ayurvedic College, Patiala.* Propose to do work on Ayurvedic Pharmacopoeia
RAJASTHAN	*Government Ayurvedic College, Udaipur.*			
	Clinical research on Guinea Worm and Infantile Paralysis.	Rs. 40,000 in 1957-58	Amount utilised	Proposal to start clinical research on Dysentery and Dietetics.
UTTAR PRADESH	1) *Banaras Hindu University.*			
	(a) Clinical research was begun on Jalodar Grihani, Diabetes and Bone T.B. Work on the last named disease since discontinued.	Rs. 1,00,000 in 1955-56 Rs. 45,000 in 1957-58	Amount utilised for buildings and equipment and also research work.	
	(b) Independent work on survey, collection and study of a large number of medicinal plants done by Shri Balwant Singh, Botanist of the University.	—	—	—

State	Work done	Aid from Central Government	Remarks	Work proposed to be done
UTTAR PRADESH (contd.)	(2) *Jhansi Ayurvedic University*			
	No details available.	Rs. 15,000 in 1955-56	—	—
	(3) *Rishikul Ayurvedic College Hardwar.*			
	For setting up a Herbarium.	Rs. 12,000 in 1957-58	Rs. 5000 utilised on non-recurring items and balance is being spent on construction and equipment.	—
	(4) *Government Ayurvedic College, Lucknow.*			
	Buildings and equipment of new college.	Rs. 1,72,800 in 1957-58	Amount utilised	Propose to start research schemes shortly.
WEST BENGAL	(1) *Jaminibhushan Ashtanga Vidyalaya, Calcutta.*			
	Clinical research on Philodara (enlargement of spleen). Ten research beds (5 male and 5 female) have been set apart.	Rs. 5,000 in 1957-58	Amount utilised	—
	(2) *Shyamadas Vaidya Shastra Pith, Calcutta.*			
	Clinical research on Sarwanga Shoba —Ten research beds set apart for this work.	Rs. 5,000 in 1957-58	Amount being utilised	West Bengal to do literary research on a number of old manuscripts.
	(3) *Vishvanath Ayurvedic College, Calcutta.*			
	Clinical research on Filariasis—Five research beds set apart for this work.	Rs. 5,000 in 1957-58	Amount being utilised.	Proposal to do literary research on a number of old manuscripts.
UNION TERRITORIES				
HIMACHAL PRADESH	*Ayurvedic Pharmacy Jogindernagar.*	Rs. 84,210 in 1955-56	Amount not fully utilised. Some equipment has been purchased.	—
JAMNAGAR	*Central Institute of Research in Indigenous Systems of Medicine, Jamnagar.*			
	Research activities spread over six sections namely Darshanas, clinical, Pharmacy, Biochemistry and Pharmacognosy.	Rs. 4,00,000 in 1956-57	—	Future programme of research on Udara Roga, Amaratha, Swasa, Krimi Roga, etc.
	Investigation on Pandu Roga and Grahani completed and report under print.	Rs. 3,50,000 in 1957-58		
	Skin diseases treatment under the Siddha system being experimented successfully.	Rs. 3,56,000 in 1958-59		
	Modern team doing independent clinical research on Ayurvedic drugs used in the treatment of Diabetes, Hypertension, Arthritis, Anaemias, etc.			
	The Bio-Chemist is doing work on Aswagandha.			

42. Figure 4 and Map 2 below will show the number of Ayurvedic Research Units in the various States :

AYURVEDIC RESEARCH UNITS IN VARIOUS STATES

Fig. 4

MAP 2

43. It will be noted that in the whole country, Bombay State it the only State where research in Ayurveda has progressed considerably under State patronage. In other States only a few leaching institutions and private agencies are engaged in doing research in Ayurveda. Some detail about the working of the Bombay Board may, therefore, be usefully included in this Report. In this connection please sec Appendix IX.

44. The Board of Ayurvedic Research, Bombay was established in the year 1951, which was later on reconstituted in the year 1955. This Board has ten members including a Chairman, a Secretary and one ex-officio member (the Director of Ayurveda). The work of the four sections under the Board may be described in some detail.

45. The work of the section for standardization of Ayurvedic drugs u carried out in three stages, namely, (a) standardization of crude drugs, (b) standardization of processes of manufacture; and (c) standardization of prepared compound medicines. So far as crude drugs are concerned, they have intensively studied nine herbs and defined a working standard for 38 others used in Ayurveda. In the study of this problem, all modern techniques including chromatographic method are used. Since this is a work of great fundamental importance, this section needs further augmentation, so that all these studies could be completed within a short time. In the standardization of the process of manufacture, work has just begun. As far as standardization of prepared medicines is concerned, the Board are trying to lay down standards for Asavas and Arishtas by utilising modern chemical technique.

46. We now come to the Literary Research Section of the Board. We have indicated in Table VI that the section of literary research have already published four text-books in Ayurveda and are preparing the outline lot another 21 text books, with the cooperation of Ayurvedic scholars. An Ayurvedic literary research unit is also being set up. The Board's work in this item of research is promising.

47. A reference to Table VI and Appendix IX will show that there are three units with 20 beds each where clinical research on thirteen diseases on purely Ayurvedic lines is being done. Besides these, there are four units where Ayurvedic drugs arc being tested under different climates and other conditions. These studies are expected to yield results leading to the expla-nation^ of the fundamentals of Ayurvedic medicine. Necessary preformed for recording the symptoms, diagnosis, progress and treatment have been prepared by the Board. A systematic case record of the patient on modern lines is also being kept and the results compared. The thirteen diseases chosen for such detailed studies are Udar Roga, Shotha, Asthma,Vata, Jwara, Atisara, Grahani, Swasa, Amalpitha, Shool, Kamala and Malavasthamba. One noteworthy feature of the clinical research done in Bombay is that the patient is examined by the modern physician before being admitted to the Ayurvedic Research Ward and the completion of his treatment is again checked by the modern physician before the patient is discharged. We found that in this way there was excellent collaboration between the Ayurvedic and modern team of workers.

48. As far as research on Ayurvedic Regimen is concerned, the Board propose to undertake investigation in dietetics, studies in Dinacharya, Ritucharya, etc. It is also proposed to publish booklets on Ayurvedic concept of diet, hygiene, etc.

49. to the Board of Research, the Chief Minister of Bombay,

TABLE VII

Table showing a number of places where various diseases are investigated on Ayurvedic lines.

Sl. No.	Name of the Disease	Name of the Place/s
1.	Ama Vata (Rheumatism)	Hyderabad, Poona Jamnagar, Patna, Trivandrum and Puri
2.	Udara Roga (Ascitis)	Trivandrum, Banaras, Jamnagar, Poona, Calcutta
3.	Shotha (General Anasarea)	Jamnagar, Trivandrum, Calcutta (Shymadas Vidyapith), Bombay (Universal Health Institute)
4.	Grahani Roga (Sprue)	Patna, Banaras and Poona
5.	Shwasa (Asthama)	Poona, Jamnagar, and Bombay
6.	Madhu Meha (Diabetes Mellitus)	Banaras and Poona
7.	Kamala (Jaundice)	Hydearabad and Trivandrum
8.	Shoola (Pain in Abdomen)	Hyderabad
9.	Pandu (Anaemia)	Jamnagar
10.	Vata Roga (Nervous Disorders)	Trivandrum, Puri and Udaipur
11.	Bone T.B.	Banaras
12.	Guinea Worm	Udaipur
13.	Filariasis	Calcutta
14.	Datu Kshaya (Debility)	Jamnagar and Bombay (University Health Institute)

54. The Committee observed, however, that adequate research facilities did not exist in all these institutions. Moreover it will be apparent that the disease chosen for research is many a time identical in various places. This is possibly because the Ayurvedic physicians have gathered experience on treating successfully particular types of cases for which lime are no special treatments in modern medicine. Unlike the system adapted by the Bombay Board of Research there is duplication of the subjects in many places. This cannot perhaps be avoided in the initial, stages. However, the time has come when the proposed Council of Auyurvedic Research should systematise this work on an uniform basis throughout the country.

Work done by individual vaidyas

55. Some very interesting research work is being done in purification of mercury by individual Vaidyas, one in Bangalore and the other in Ajmer under the supervision of certain private concerns. As we all know the glory of Indian Chemistry was at the top in the days of Nagarjun and his colleagues. They had discovered the wonderful proper- ties of mercury and its different actions. This type of research if earnestly pursued by others can contribute greatly to the development of Ayurveda.

SUGGESTIONS REGARDING THE TYPES OF RESEARCH TO DRINKING

56. Having stated the present status of Ayurvedic research in the country, we may now proceed to indicate the types of research that are immediately necessary for the improvement of the science and the other possibilities in the research field so far as Ayurveda is concerned.

57. We have already mentioned the views of the Chopra Committee in the matter. Some time back one of the members of this Committee (Dr. Kaladi Parameswaran Pillai) had prepared a scheme for doing Ayurvedic research for the Kerala State. In that, he took into consideration all the existing conditions and divided the work into botanical, chemical, clinical, pharmacy, pharmacognostic and literary research.

58. A number of Vaidyas whom this Committee met during their tour teemed to be of the view that the intention of research may not be for the purpose of finding anything new in Ayurveda, but mainly for re-searching or checking up the important things claimed for Ayurveda and to interpret them in terms of the modern scientific conception. The obvious reasons for bringing in the modern

scientific concept are that we are at present completely ignorant of the various processes that led our ancients to arrive at the different conclusions about the basic theories or about the properties and effect of the medicines and drugs used in Ayurvedic treatment^ and that we want to prove to the modern world how rational Ayurvedic science is, so that they could adopt our system and make it universal. There should always be a two-way traffic in science and research.

59. Another view was that research is necessary to make up the inadequacies of Ayurveda as at present practiced ; and one of the main causes of the inadequacies is that only one of the eight branches (angas) of the science is in vogue today. Research on the material available in the rejoining seven branches (angas) in certain Stales of India may well provide a key to the forgotten portions in the of treatment without making too many encroachments on the basic principles of the ancient science. Thus for example modern surgery may have many lessons to learn from the surgical treatises of old, provided proper research is done. Similarly Midwifery, Gynecology and diseases of Ear-Nose-Throat on Ayurvedic lines can be brought back to life. At any rate, once intense research is done we will be in a position to reconcile the past and the present and reject those things which cannot be so reconciled.

60. The basic principles of Ayurveda, *e.g.*, Tridosha, have not only to be discussed with scholars knowing both Ayurveda and modern sciences but have to be demonstrated to the students in the hospital, so that there is no confusion in their minds. The theories will have to be corroborated by clinical data, by observing the effect of drugs, diet and other treatment on patients. In collecting this clinical data there should be intimate collaboration between the learned Vaidyas and their modern counterparts who should have open minds. Once the mutual barriers of suspicion and doubt are removed progress is bound to happen.

61. After considering all these views, this committee recommends that Ayurvedic Research should in the first instance be done under the following heads. The work will have to be done simultaneously if any worthwhile advance has to be made.

1. Clinical;
2. Literary;
3. Chemical;
4. Botanical;
5. Pharmacognosical;
6. Pharmacological; and
7. Basic principles of ayurveda.

CLINICAL RESEARCH

62. Clinical research is important in any type of medical research. Generally, the success of clinical research depends upon *(a)* good team work with efficient investigators, and proper choice of a subject of study. As Dr. Albert Einstein†††††† said, "Formulation of a problem is often more essential than its solution, which may be a matter of mathematical or experimental skill. To raise new questions, new possibilities, to regard old problems from a new angle, requires creative imagination and makes a real adventure in science." The choice of a subject is thus more important. Once this is done, the investigator can construct his hypothesis and then test it by experiment and observation. Again observation can be both quantitative and qualitative. In clinical investigations, however, qualitative observation is more useful, not that quantitative analysis is less important. For the latter the investigator has to work in close liaison with a statistician. As Dr. R. Piatt, Professor of Medicine, Manchester University said‡‡‡‡‡‡, "Clinical research often consists of comparison of one group of cases with another group of cases differently treated or the comparison may be made between the group studied and the known behavior of the illness under consideration."

63. Having stated the general lines of clinical research followed in modern medicine, we may now take up the question of this aspect of research in Ayurveda. In the earlier pages, we have stated that

†††††† Cf. Methods of Medical Research by Thomas Rivers in Frontiers of Medicine
‡‡‡‡‡‡ British Medical Journal, 1-577, 1953

"that alone is true which is proved clinically", and that for doing clinical research, we should have well-qualified investigators belonging to both the Ayurvedic and modern systems of medicine.

64. *The basic principles of Ayurveda, the quality and effectiveness if drugs on patients should first be proved clinically before any other type of research is undertaken. The intention is that the other types of research are not to be independently carried out but should follow clinical research.* Where the effectiveness of a ding is proved, the other kinds of work can simultaneously be done. Particularly in Ayurveda though we know that certain drugs arc effective for certain diseases, we do not know the process of investigation that the ancient scientists followed before prescribing such drugs. It is for finding out this process and for confirming the celibacy of the drugs in modern in nut that scientific research is necessary.

65. At present, the pattern of clinical research being done is both diagnosis and treatment in accordance with the principles of Ayurvidic with the aim of proving the merit of the Ayurvedic system. There is a modern team attached to the Ayurvedic research team. In certain places the modern team works behind the curtain and no comparison of statistics is made so that a concrete conclusion is not arrived at. On the other hand, in certain places like Sassoon Hospital, Poona, there is a good amount of coordination. There can be other methods of research for achieving the same end. Before we mention these other methods, we may just do the coordinated method adopted in Poona, because this will be one U the normal types of clinical research.

66. *While on the item of clinical research, it may be pointed out that apart from doing this work in the various research centers, it will also be a great advance this is carried out in a separate wing of a modern hospital by Vaidyas in collaboration with the modern physician there.* In the past, there was a doubt whether dm will be successful. The Committee had the occasion to study the work of the Ayurvedic Research Unit in the Sassoon Hospital, Poona, and as has already been stated, they were very much impressed with the amount of cordial cooperation between the modern physician and the Vaidyas in charge of the research beds. A procedure has been evolved by which a patient coming to the Hospital is allowed to have the option of Ayurvedic or modern treatment. Once he chooses the former, he is first examined by the modern physician who keeps a separate case record. Then this is upto the Ayurvedic Research Ward. At no stage of the treatment in that ward does the modern physician interfere. Before, however, the patient is discharged, he is sent back to the modern physician who has to confirm that the patient is cured. In this way, a sort of coordination has been set up, with the result that the modern physician gets impressed with the diagnosis and treatment according to the Ayurvedic methods. In due course, the modern physician knows what kinds of diseases can have better results at the hands of Vaidyas and he of his own volition will send such patients to the Ayurved ward. In a way, this system of coordination is also prevalent in the Baroda Medical College Hospital. This kind of collaboration is really useful and has to be built up gradually and both the Vaidya and the modern physician will have to show a good deal of patience and mutual tolerance. *We suggest that this method may be followed by other research centres engaged in clinical research. In addition, we suggest that the 'modern physician should closely follow the treatment given by the Ayurvedic team end observe the condition of the patient at every stage.*

67. *In entire scheme for Clinical Research will, therefore, have to be planned in a very coordinated basis in consultation with the Ayurvedic professors, practitioners modern scientists, etc.*

68. In certain cases it may be that an Ayurvedic scholar of repute may be willing to lead his services, provided the research centre in not far removed from his place of practice. In the early stages till we are able to build up a big team of research-minded Vaidyas, we may have to make such personnel adjustments and get the best out of such scholars and practitioner.

69. In each research Centre, a joint committee of Vaidyas and Modern Scientists, should be established for this purpose. In the long run, this type of research may lead to the establishment of a sound system of medicine in this country and abroad.

New Suggestions

70. We may now deal with the other new methods of clinical research. Applying Dr. Einestin's doctrine of "regarding old problems from a new angle", we can do clinical research on diseases or syndromes in Ayurveda by treatment on modem methods. Vice versa diseases described in modern medical science can be investigated by the application of the principles of Ayurveda. This will be clear from Figure 4-A .

71. The above-mentioned idea has been further developed in the succeeding paragraphs.

72. Firstly, investigations in diagnosis of a disease on modem methods, *e.g.*, radiological laboratory examination, etc. and actual treatment of such disease by the principles of Ayurvedic treatment as described in Ayurvedic texts, will provide useful information to the modern medical man in regard to the efficacy of Ayurvedic medicines and at the same time provide the Vaidya a surer method of diagnosis under the modern system. Taking an example, say heart disease, the administration of the Ayurvedic medicine 'ARJUN(terminalia Arjuna) will show to the modern man the comparative effectiveness of this medicine over a modem drug, while the vaidya will get to know the usefulness of X-Ray, electro cardiogram, etc. in diagnosing and treating heart disease patients.

73. In the second place, the investigations for the diagnosis of a disease arc done on Ayurvedic methods, *e.g.*, Prakriti (constitution), Satva (psychological background), etc. and actual treatment of the disease so diagnosed by the administration of modern drugs. These may prove to the Vaidya the comparative effect of a modern drug in treating his patients while the modern medical man may be able to understand the place of prakriti (constitution), as described in Ayurveda, in diagnosis and treatment. We may enlarge this idea by means of an example. It is well established in modern medical science that 'liver extract' is generally good for Macrocytic Anaemias. The investigation under Ayurvedic methods which attaches greater importance to the constitution than the disease itself will show the particular patient is of the Vata Prakriti, Pitha Prakriti or Kapha Prakriti. Administration of liver extract to the three types of patients with different constitutions will prove to the medical world in which of the three constitutions liver extract will best act in comparison to others. By such means, the Vaidya can add the modern liver extract to

FIGURE 4-A

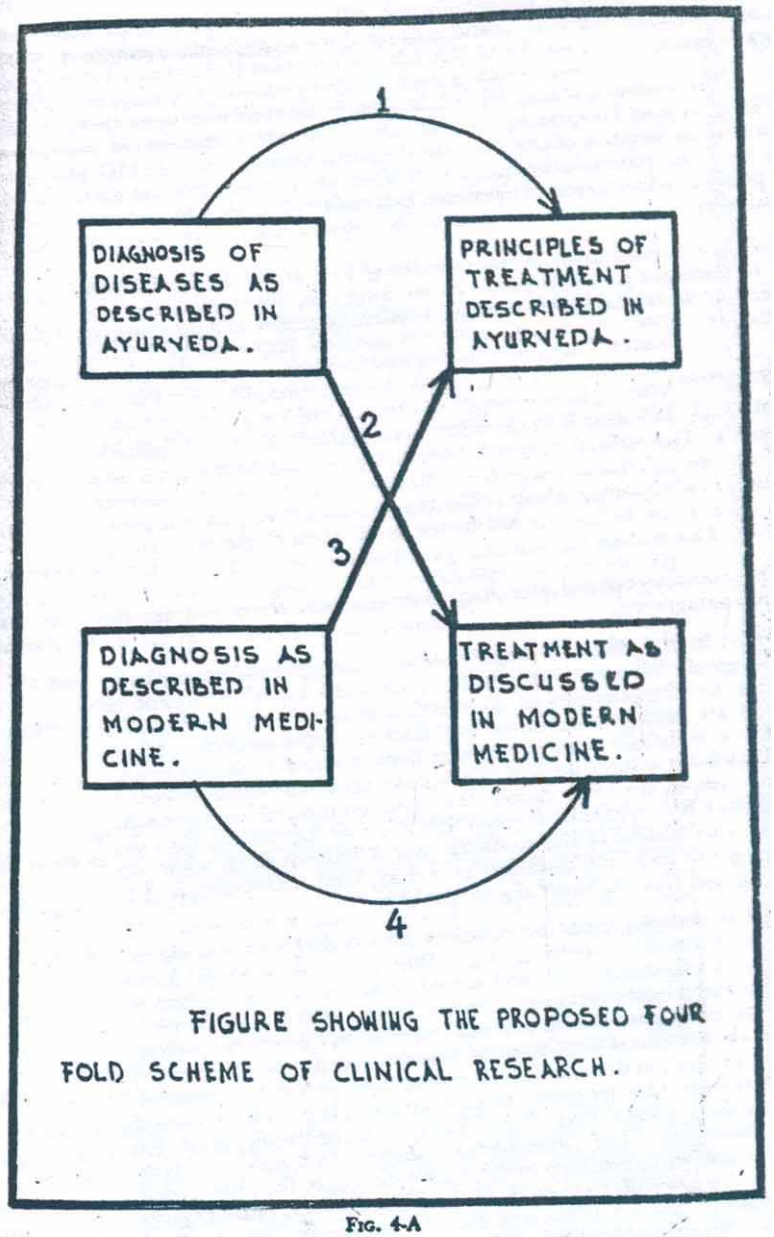


FIG. 4-A

his Material Medical, while the modern man can enlarge his knowledge of the distinctive groups of anemia patients, where liver extract is effective.

74. It may conclude by saying that Clinical Research in Ayurveda should be done in four directions, viz-—

(1) Doth diagnosis and treatment strictly under Ayurvedic Principles. At present, the Ayurvedic scientific system is not completely followed and a patient is studied in an unsystematic manner. There should a systematic diagnosis followed by the full systematic treatment and not merely the blind administration of a drug for a disease.

(2) Diagnosis under Ayurvedic principles and treatment in accordance Modern Medicine.

(3) Diagnosis under Modern Medical Principles and treatment in accordance with the Doctrine of Ayurveda.

(4) As a control measure, both diagnosis and treatment done in Modern MiJi.-il Method. This is very necessary to compare and bring out the merits and demerits of both the systems and should br carried out simultaneously in the same research centre.

75. In the end we suggest that the Central council of Ayurvedic research consider this new approach and put it into practice in suitable research centre. As already stated there is no royal road to discovery and we will have to adopt all possible measeures in the investigation of the problems on hand.

LITERARY RESEARCH

76. The importance of literary research in Ayurveda needs no emphasis. It is an essential plank in any scheme of research because we have to bring back to life many truths in our ancient literature. Work should be undertaken in the following directions:—

1. Collection and review of old manuscripts and publication of the more important ones.
2. Translation of some of the old texts into English and other regional languages.
3. Preparation of suitable text books by Ayurvedic scholars with an eye towards proper training of Ayurvedic students, and
4. The establishment of good reference libraries for use by scholars engaged in writing text books and by students.

77. Previous committees have also made recommendations on identical lines. As has been pointed out by them, the Central Council of Ayurvedic Research should appoint Sub-Committees for chalking out systematic literary research.

78. We have already indicated that the Bombay Board of Research have begun doing useful work in this item of research. Other State Governments may follow this, as early as possible.

79. Special mention may be made of the translation of Charaka into English Shri P.M. Mehta under the Gulab Kunwarba Ayurveda Society, Jamnagar. This commendable translation has become a standard reference book for all men in the world interested in Ayurveda.

80. With regard to translation of books from English or Urdu into Hindi or Sanskrit, only private agencies have done some work in this respect. Similarly, many individuals have published text books in Ayurvedic and modern medical subjects in Hindi and other languages for the use of students and practitioners of Ayurveda. The standard of such publications is in not, however, uniformly good. Cheap publications by ill informed authors only tend to create confusion in the minds of students who resort to them for want of a proper text-book, or a good translation of a learned commentary.

81. It is essential that the authors of such text-books should be specialists in the subject with some special research work to their credit and good practical experience.

82. A good library is an essential requirement for literary research. During the Committee's tours, it was noted that most of the institutions are having indifferent types of library. We have separately recommended that each teaching institution should build up a good and systematic library under a properly qualified medical librarian for the Ixnchl of students. In addition, there is a need for a Central library where, as a result of literary research conducted in the country, copies of ancient manuscripts, valuable publications, etc. can be collected and kept. This Oriental library will be best located in the premises of the Central Council of Ayurvedic Research.

83. A good Ayurvedic journal will be of immense help in the field of research. There are, at present, about 30 Ayurvedic journals in the country, mostly in regional languages. "NAGARJUN" is probably the one journal which is published in English. There is ample scope for a journal of research in Indian medicine under the auspices of the Central Council of Ayurvedic Research. This journal will publish not only the valuable papers on research carried out by the State Boards of Research with the help of Central funds, but also good articles on Indian medicine written by individual scholars and research workmen and reviews of books and publications from time to time. We, therefore, recommend that State Boards of Research should give Literary Research an important place in their programmes, establish well-equipped libraries and also start journals in which information regarding the work done, in the Research centre under them can be given for the benefit of all concerned.

The Central Council of Research should coordinate the literary research done in the various States, establish a Central Library and also start their own Journal of Research.

CHEMICAL RESEARCH

84. Chemical research on Ayurvedic drugs, is, no doubt, very important for the development of the science on modern lines. Modern Chemistry may help a great deal to explain many of the actions of the drugs on certain disease conditions. Further, it may also explain various actions of the herbs on metallic preparations. But Chemistry alone will not solve the problem. It needs a good amount of team work. Thus, Dr Mukherjee, the Director of Central Drugs Research institute, Lucknow, says[§§§§§§], "In whatever manner the investigative approach on indigenous .hugs is made, successful or satisfactory work is time consuming and requires team work of several groups of scientists, each expert in his own field of specialization, but integrated anil coordinated for solution of one or the other problem at one lime. No haphazard methods of approach by individuals or even have a single institution with inadequate resources are likely to succeed." What is required is a correct approach to the problem and not the immediate outcome, because research is a continuous process.

85. We have already explained that in the case of Ayurvedic research, council research must precede every other item of research. So chemical research on indigenous drugs should be closely intertwined with clinical research.

86. In this connection, Dr. Mukherjee again says, "A thorough and complete research into all these drugs would constitute the lifework of Innumerable chemists, pharmacologists and clinicians. From the empirical knowledge of a crude thug to its use in the rationally scientific medicine is a long way and must pass through (1) Botanical identification, (2) Chemical examination, (3) Pharmacological and Toxicological assay; and (4) Chemo-therapeutic and clinical trials. It is sometimes convenient and less time-consuming to start from clinical trials first and then proceed to further laboratory study and analysis."

87. The Pandit Committee has also emphasised this point.

88. Again Sir Thomas Lewis, one of the greatest exponents of clinical science says, "The use of animals for experiments is the chief and rightly the most valued method for the physiologist. It is equally indispensable to several branches of pathology and pharmacology to maintain a close linkage with pharmacology, *but it is equally its duty clearly to recognise that in so far as both manner and intensity are concerned the action of the drug on man is not necessarily the same as the action on animal, end that the action on the diseased is not necessarily the same as on the healthy man. The proof or disproof of a drug's efficacy rests finally on the test in patients."*

89. Ayurveda goes further to differentiate the action of the drug on man according to the constitution (Prakriti).

90. We may recall that in the case of Rauwolfia Serpentina, chemical research was first attempted and produced no results for years. Later clinical research was taken and the efficacy of the drug was established throughout the world. It was then followed by chemical research.

91. Some people may doubt the necessity for chemical research on herbal medicines, because we arc living at a time when many synthetic chemical preparations are flooding the market. In this connection. Dr. Sirsi of the Indian Institute of Science, Bangalore, has said[*******], "But the condition in our country is entirely different……We have the advantage of vast forest wealth. The clinical acumen of our ancient physicians has shown us certain leads for the utilisation of hidden wealth. An organised effort by Chemists, Pharmaceutics and Clinicians may not only bring forth to light many useful remedies which could be utilised in the crude form immediately after standardization……". Authorities on modern science are themselves of the view that it may be time-consuming to try to synthesise all natural drugs and that research for medicine in plants should continue unabated. We know that the medicinal plants in Ayurveda are not always capable of yielding active principles of the modern conception, and that the whole plant has a somewhat inexplicable action as against its isolated active principle. In the opinion of some of the Ayurvedic

[§§§§§§] Dr B. Mukherjee – Indian Indigenous Drugs – Need for Research – Bulletin of the National Institute of Science of India, No 4, 1955

[*******] Memorandum submitted to the Committee

experts, there is a latent dynamic power in the whole plant or drug which is lost in the process of analysis, thus yielding no active principle of a convincing nature. We have also heard of a single medicine being effective for several diseases with variations of components and change of mode of preparation. In such cases, chemical analysis alone may well baffle the research worker.

92. Again, chemical research may be useful in deciding the relative potency of a number of drugs used for a particular condition. It will certainly help to discover newer drugs which though not mentioned in Ayurvedic texts may have curative properties. Chemical analysis will help the Vaidya to discover better uses for certain plants or their portions which are now being discarded.

93. Recently, many foreign countries, especially the United Kingdom, the United States of America and Switzerland are actively investigating the chemistry of many Indian drugs in their laboratories. On our part, therefore, chemical research on indigenous drugs sltould not lag behind. ‘In all, about 15 well-known experts in modern chemistry in our country have taken up the study of various indigenous drugs. Briefly, their work has been mentioned in the table below.

TABLE VIII

Details of the Places where Chemical Research is being carried out on Indian Drugs.

Sl. No.	Name of the State	Name of the Institute	Head of the Research Team	Principal subjects of investigation
1	Andhra	Department of Pharmacy, Andhra University, Waltair.	Dr. S. Rangaswami	
2	Andhra	Department of Chemistry, Usamania University, Hyderabad.	Dr. N.V. Subba Rao	
3	Bombay	National Chemical Laboratory, Poona.	Dr. C.R. Maitra	
4	Jammu & Kashmir	Drug Research Institute, Jammu.	Dr. I.C. Chopra	
5	Kerala	Department of Applied Chemistry, University of Kerala, Trivandrum.	Dr. P.P. Pillai	
6	Madras	Department of Chemistry, Presidency College, Madras.	Dr. Govindachari	
7	Mysore	Department of Biochemistry Indian Institute of Sciences, Bangalore.	Dr. D.P. Narasimha Rao	
8	Uttar Pradesh	Central Drug Research Institute, Lucknow.	Dr. B. Mukherjee	
9	-do-	National Botanical Gardens, Lucknow.	Dr. Kaul and Dr. V.N. Sharma	
10	-do-	Pharmacology Department, Medical College, Lucknow.	Dr. M.L. Gujral	
11	West Bengal	School of Tropical Medicine, Calcutta.	Dr. R.N. Chakravarti	
12	-do-	University College of Science, Calcutta.	Dr. (Mrs.) Asima Chatterjee	
13	-do-	Bengal Immunity Research Institute, Calcutta.	Dr. U.P. Basu	
14	Delhi	Department of Chemistry, Delhi University, Delhi.	Dr. T.R. Sheshadri	

94. The scope and the result of their studies are, however, limited without lirst knowing the clinical value of the indigenous drugs from Vaidyas and scholars in Ayurveda. For example, in our tour, we have been told that the seeds of Palash tree have great “anthelmentic” value. Now this can be handed over to the chemists for analysis and then these details can be given to the pharmacologists for further study.

95. The modern scientists will, therefore, be well advised to take up Chemical Research ef a thug whose efficacy has been proved clinically, in collaboration with Vaidyas of repute. Team work is essential in such investigations. The Central Council of Ayurvedic Research should take this up on a planned basis. The subjects of such study may be allotted by them to selected chemists and necessary funds provided.

BOTANICAL RESEARCH

Survey

96. Ayurvedic practice greatly depends upon the herbs commonly available in India and hence improvement in the standard of supply of these herbs will automatically raise the standard of practice of Ayurvedic System of Medicine. Such a study will involve survey, identification, cultivation, storage and marketing of these herbs. We have dealt with these subjects in detail in a later chapter.

97. Botanical survey of the Indian medicinal plants has, no doubt, been carried out by innumerable workers, both foreigners and Indian. But very few of them took the advantage of the details of the descriptions and other characteristics mentioned in Ayurvedic texts. Because of this, the work of these eminent botanists has not been directly useful for the development of Ayurveda.

98. The Central Council of Ayurvedic Research may, therefore, take steps to see that every State carries out a proper Botanical Survey of Medicinal Plants used in the Ayurvedic system of Medicine, area-wise, in collaboration with the forest authorities and knowledgeable Vaidyas.

99. Detailed maps of each area showing quantities available should be prepared and cinutisJ amongit all the Stale governments and the institutions interested in the problem.

Cultivation

100. The next step in botanical research will be systematic cultivation of medicinal plants. The Pharmaceutical and Drugs Enquiry Committee appointed by the Government of India in 1954 had recommended that the government should take immediate steps to organise the cultivation of medicinal plants in a scientific manner. For want of information regarding the medicinal value of several plants, due attention is not being paid by forest authorities to the systematic cultivation or prevention of denudation from forests. Haphazard collection of medicinal plants by non-technical contractors is being allowed by them. For this purpose, trained Botanists who have experience in the cultivation of medicinal plants can play a great role, provided they take the help of scholars of Ayurveda. In more advanced countries like the United Kingdom, the United States of America and the Union of Soviet Socialist Republic, a large number of farms cultivating medical plants have been developed many years ago. There are three well known botanical gardens in India growing medicinal plants, namely, Lucknow, Calcutta, and Bangalore, but as has been stated before, their activities are not mainly directed towards the development of Ayurvedic medicine.

101. Hence it will be necessary to make special studies of the methods of cultivation of these drugs so that many such farms could be opened throughout the country. The proposed Council of Ayurvedic Research may get all possible cooperation and advice from the Botanical experts in the country and plan an extensive programme of cultivation on a scientific basis.

102. Our aim may not end here only. Improvement in the cultivation of these plants is a fascinating study and one can aim at the growth of better quality of these drugs. It should be remembered that our ancients were quite alive to these possibilities. There was a well-developed branch of science in Ayurveda called Vrikshayurveda, popularised by Purasara, one of the contemporaries of Agnivesa, the author of Charaka Samhita. According to him, the vegetable kingdom also possesses the same types Doshas and Dhatus as human beings and by effecting variations in and around them, one could produce a lot of change in their behaviour, both qualitative and quantitative. During our tour, we met a few knowledgeable people in this branch of Ayurveda. Therefore, while planning a Botanical Research on the Ayurvedic Drugs, this aspect of our science, namely, Vrikshayurveda should also receive due attention and encouragement for further development.

RESEARCH IN PHARMACOGNOSY

103. Efficacy of treatment depends inter alia upon efficacy of drugs. At present, we do not appear to have scientific and uniform methods of checking the authenticity of Ayurvedic drugs, plants and medicines. Different plants are known by different names in different States.

104. In the case of drugs of mineral origin also, they are sold under the different names in different places. Pharmacognosical research, therefore, is a vital necessity.

105. One of the important aspects of pharmacognosical research would be the preparation of monographs for each drug with scientific details, botanical names, sources of supply, etc. These when published will give to the practitioner of Ayurveda and pharmaceutical concerns great help in obtaining genuine raw materials for the preparation of standard medicines.

106. There is a great scope for expansion of this relatively new science of Ayurvedic Pharmacognosy. Mention may be made of the efforts of Shri K. Narayana Aiyar of the Kerala University who has done good work field in collaboration with a Vaidya, a Chemist, a Botanist, a rural Officer and others. Similar work has been done by the Indian Drug Resarch Association, Poona the Bombay Board of Research, the Ayurvedic Research Unit of the Baroda Medical College, and also the Central Research Institute of Indigenous Systems of Medicine, Jamnagar. In addition, pharmacognosical studies on indigenous drugs commonly used in the modern medicine are being

carried out at many places notably at the Drug Research Institute, Jammu, Central Drug Research Institute, Lucknow, and the Banaras Hindu University.

107. Though these studies are going on at many centers, there is no co-ordination amongst them. The work is of a laborious nature and therefore time-consuming. This item of research should, therefore, be carefully planned by the central Council of Ayurvedic Research by giving necessary financial aid the the various institutions now doing the work and by laying down a programme on a coordinated basis. The pace of such a work can be increased considerably.

108. In all, we have about 2,000 herbs described in Ayurveda and in order to study them well, one unit consisting of a Botanist, an Ayurvedist and a photo artist can complete about 12 to 15 herbs in a year. If the Council helps to establish 12 to 15 units in the country, it can possibly finish the entire work in the next ten years or so.

109. We suggest that the Pharmacognosical Units when established may have in mind the methods followed by Shri Narayana Iyer of Kerala whose work has been referred to above. In the introduction to his publication "Pharmacognosy of Drugs", Shri Narayana Aiyar[†††††††] says, "The botanical identity of the sources plant in use is and notes compiled regarding its distribution in India, its habitat and external morphology, along with suitable sketches for the purpose of correct identification. The morpholo-gical and anatomical details of the officinal part or parts have been studied in detail and described and illustrative diagrams have been given. Natural colour illustrations of the plant with special emphasis on the officinal part are also given in most cases. The descriptive accounts of the drugs and their properties as given in the Ayurvedic texts have also been taken into consideration in this investigation and included in the Pharmacognostic account of each drug…..The chemical constituents of the drugs especially when the sources of the plants differ have also been worked out to facilitate a comparative study. To ensure correct identification a complete technical description of the plant has been given in each case…. Substitutes or adulterants have also been dealt with though briefly and differential diagnosis given to distinguish the officinal part."

110 Pharmacognsical work in all States of Indian should, therefore, be co-ordinated and carried out on the lines mentioned abobe.

PHARMACOLOGICAL RESEARCH

111 The studies on the pharmacological action of Indian drugs have been carried out for more than three decades in the modern medical institutions in this country. It was initiated and developed under the able guidance of Col. K.N. Chopra in the School of Tropical Medicine and now nearly 28 medical institutions are actively engaged in studying the pharmacological aspects of one or more Indian drugs. The details of these studies are given in the Appendix VII. It will, therefore, be clear that this subject has become an integral part of the pharmacological research in many medical colleges. One of the professors of Pharmacology said that in this branch India can in due course claim to contribute something original to the rest of the world science, since we have an additional advantage of getting substantial guidance from the experiences of our ancient Indian scientists.

112. Although the present method of work gives us a basic knowledge of pharmacological action of these drugs, this alone will not serve the purpose. We will have to modify the present method in such a manner that an intensive study of a few drugs from the point of view of Ayurveda is made.

113. The existence of data regarding the proportions of Panch Maha Bhutas in individual drugs proves that our ancients conducted drug analysis The process by which these data were arrived at by them has, however been lost to us. Our aim should, therefore, be to do research and reestablish their method of study. The only way seems to be to entrust this work to modern scientists and to request

[†††††††] K Narayana Aiyar, Pharmacognosy of Ayurvedic Drugs (Kerala) 1951

them to find out the details of Rasa Virya Vipaka and Guna of all the indigenous drugs. This is one of the methods which will help in the development of Ayurvedic Pharmacology.

114. The Central Council of Ayurvedic Research should plan future Pharmacological Research on Indigenous Drugs in consultation with expert Vaidyas.

We recommend that Pharmacological Research on Indigenous Drugs should, in the first instance, be done preferably in a limited number of places where Pharmacologists having a real thirst for knowledge art already working and where special facilities are available. Provision must be made for Ayurvedic scholars, Cltemists, Botanists, Pharmacists, Statisticians, etc being attached to such Pharmacological departments. Research fellows should be provided in ample measure. The description of individual medicinal plants, their utility in medicine, the procedure for administration, etc or described in Ayurvedic texts should be taken as the basis for further investigations.

Similarly, drugs before investigation should be prepared exactly on the lines laid down in Authentic Ayurvedic Texts. The existence of different methods of preparation of the same medicine in Ayurveda should also be taken into account.

115. It is recommended that such of the Pharmacology departments in Modern Medical Colleges as are chosen for doing this kind of work should be financed by the Central Council of Ayurvedic Research.

RESEARCH IN FUNDAMENTAL PRINCIPLES OF AYURVEDA

116. This is an important aspect of research and the time and energy spent on the study of this problem will be of great help. Briefly, we can divide the subject into two, namely, (a) Fundamental Principles of Ayurveda ; and (b) Application of those principles in practice.

117. Fundamental principles of Ayurveda are based on those of the Universe. According to Ayurveda, any matter in this universe must be composed of three Doshas. These Doshas represent energy, derived from sun, moon and air.

118. Human body is described under three groups, namely, three Doshas, seven Dhatus (tissues) and three Malas (excreta). Healthy conditional the body is explained as mutual balance of these 13 components indiwdualiv and collectively. In addition to the balanced condition of these components, Ayurveda attaches more importance to senses, mind and Atma (soul). Body and mind are always interdependent and therefore Ayurveda attaches much more importance to the study of inter-relationship of these two in health and disease.

119. No two things in universe are equal and so no two patients can be alike in all respects. Though many patients may have the same disease according to Ayurveda, treatment for each one of them may differ in respect of their constitution and other conditions. This follows that the treatment for each patient should be individualised.

120. Further, according to Ayurveda, universe is full of pathogenic and non-pathogenci organisms. It is not at all possible to destroy all disease causing mircrobes alone form the universe without destroying the non-pathogenic organism also, but these microbes can thrive only in a favourable soil. Ayurveda takes human body as the soil and the bateria as seeds. While admitting the responsibility of these organisms in the causation of disease, Ayurveda attaches greater importance to the soil, ie. resistance of the body. Therefore, to prevent disease, Ayurveda recommends an enhancement of positive health by healthy habits, proper dieting and elimination of waste products wherever-necessary than trying to destroy the disease producing organism alone. Therefore, the main principle of Ayurveda is to create positive health than prevention of disease by destruction of organisms.

Research on the fundamentals of Ayurveda should comprise of a thorough probing into these doctrines.

121. In the former we will have to study and explain all about Pancha-mahabuta, Tridosha, Mind, Wisdom, Soul (Atma) etc. as mentioned in Ayurvedic texts with the help of all the other ancient Indian philosophical texts, namely, Tarka, Mimamsa, Vedanta, etc. Monograms will have to be prepared on each of these subjects. A start has been made in this respect in the Central Research Institute at Jamnagar. It is our desire that similar studies of the fundamental principles of Ayurveda should be carried out by learned Vaidyas with a good philosophical background.

122. In regard to the application of the principles in practice, Ayurveda has laid down three-fold methods for examining a patient; Five methods by which diagnosis should be made and ten methods by which treatment should be given, have been laid down. Incidentally, this will show that Ayurveda does not recommend a fixed treatment for a fixed disease.

123. Many research units like the Central Research Institute, Jamnagar, Board of Research in Ayurveda, Bombay, Universal Health Institute, Bombay, Government Ayurvedic College, Hyderabad, and the Ayurvedic College, Ilauaras Hindu University, have adopted different proformae for diagnosis and treatment of patients. Some of them have gone to such a detail that the proforma goes to more than hundred pages, whears others have made it more concise.

124. we suggest that for the sake of uniformity, a standard proforma will have to be evolved by the Central Council of Ayurvedic Research for adoption all over the country in connection with the research on the application of Fundamental Principles of Ayurveda in practice. The results of these scientific studies should be compiled and statistically evaluated so that a standard and easy method of examination of persons m health and disease may be adopted.

FURTHER POSSIBILITIES OF RESERCH

125. There are further immense possibilities in Ayurvedic research. The following subjects may be quoted as examples particularly because many of them are being practiced in certain states today under the Guru parampara system only. Any special investigation into those subjects may yield tremendous dividends :-

1. Dietetics
2. Panchkarma (Sodhana Chikitsa)
3. Bala Chikitsa (Paediatrics)
4. Treatment of mental cases (by Manthrik and Thanthrik methods).
5. Treatment of Eye diseases.
6. Manna Chikitsa (Orthopaedics).
7. Visha Chikitsa (Toxicology).
8. Dentistry.
9. Preventive Medicine, including Yogic exercises ; and
10. Oil and Massage Treatment as practised in Kerala.

126. During the Committee's tour, a number of authorities in modern medicine clearly told us that Dietitics in Ayurveda was far more advanced and that special research in this subject will be useful to all concerned. Similarly, Panchkarma (Sodhana Cliikitsa) is a speciality in Ayurveda, which is applicable both to healthy and ailing persons.

127. Again the number of mental cases is fast increasing in the world due to the tension of modern life and modern habits. Mental allocation among children is becoming common. So far as we are aware, there are a few special centers in Kerala and West Bengal where mental cases are being tackled fairly successfully. There is, therefore, ample scope for research in this direction.

128. Similarly, the Committee had occasions to see the ophthalmological treatment on Ayurvedic lines in certain States. If research were to be done in this branch of medicine, humanity will be benefitted.

129. As far as Visha Vidya (Toxicology) is concerned, we understood that in the recent past certain Ayurvedic workers had been undergoing training under the well-known Visha Vaidyas of Cochin. We had occasion to see these wards in certain Kerala hospitals and the systematic treatment given there for snake biles etc. is to be greatly appreciated. If only other States were to depute some of their candidates to Kerala, much benefit could accrue to this branch of medicine. Experience has shown that this branch of treatment has been extremely successful even in cases of bites of the most poisonous snakes, the only fatalities being due to late arrival of patients from distant villages for treatment.

130. There were two interesting instances particularly mentioned to the members of the Committee, one in Mysore State and the other in Surat, of Vaidyas who have specialised in the art of painless extraction of teeth. If this could be developed, the possibilities of Ayurvedic dental treatment would be enhanced considerably.

131. The Committee had the opportunity of seeing in Kerala the efficacy of oil treatment and massage, not only for the general health of patients but also for cases of paralysis and acute types of rheumatism. With Poliomyelitis becoming such a common scourge, it may be advantageous to study the treatment followed in Kerala.

PRIVATE ORGANISATIONS AND RESEARCH

132. Though there are many firms having big business in manufacturing and selling Ayurvedic products, very few of them have devoted any thought about setting up of a research section in their factories Nor have they contributed any money for the establishment of an independent research organisation whose work will ultimately benefit them as well as science. On the other hand, in foreign countries big pharmaceutical concerns establish and maintain such private research institutions apart from having their own research staff, testing laboratory, etc. In the West, they do not entirely depend upon Government help in such matters. Indian Pharmaceutical firms dealing with Ayurvedic medicines should, therefore emulate foreign countries in this regard and establish research institute for the common purpose of improving the status of Ayurveda.

CENTRAL COUNCIL OF AYURVEDIC RESEARCH

133. *Having indicated the various lines of research that should be tackled immediately and the further potentialities in this field, the committee strongly recommends that a Council Ayurvedic Research should be set up immediately.*

134. The Council should have a Governing Body, a Chairman, a Vice-Chairman, a Treasurer, Members and a Secretary who will be ultimately responsible for the administration of this organisation. Further, there should be a Scientific Advisory Body together with appropriate Sub-Committees for different sections under expert members. By the establishment of such a Council, we are sure that research in Ayurveda will get a great fillip and also that we will be able to explore many new things.

135. The Constitution of the Central Council of Ayurvedic Research shall be as follows:—

1. Chairman (Minister of Health, Government of India).
2. Vice-Chairman (Secretary, Ministry of Health).
3. Two eminent Ayurvedic practitioners to be nominated by the Central Government.
4. Director, Central Institute of Research in Indigenous Systems of Medicine.
5. One Pharmacologist engaged in doing research on indigenous drugs.
6. One expert Chemist who is working in drug analysis.
7. Director, Central Drug Research Institute, Lucknow.
8. Two Members of Parliament.
9. Adviser on Indigenous Systems of Medicine to the Government of India.
10. Five Members from all the State Research Boards or Bodies, to be nominated by the States.
11. Director, Indian Council of Medical Research.
12. Director, Central Council of Ayurvedic Research.

136. The first Governing Body shall be nominated by the Central Government for a period of at least five years. The intention is that at least a period of five years will be required to ensure the

satisfactory implementation of the policies of the Governing Body. Frequent changes, especially in a research council will end in frustration.

137. The Scientific Advisory Council will advise the Central Council on all matters of research. It may be empowered to appoint Sub-Committees, to co-opt members for a specific purpose etc.

138. The Director of the Council shall be a person having research experience in general and a thorough knowledge and understanding of Ayurveda. He shall be a full time officer.

139. There should be a full time active young Secretary to the Council, to look after the administration of funds, and the implementation of the decisions of the Governing Body, to ensure the proper utilisation of funds etc. There should be an office attached to the Central Council.

140. As regards the location of the Central Council of Ayurvedic Research, the committee suggest that Bombay is a most suitable place. Bombay State has peculiar advantages in so far as several eminent Vaidyas anxious to co-operate with Government in the matter of Ayurvedic research are available. Several modern medical and Ayurvedic institutions are already successfully cooperating in this work.

141. A good deal of spade work has already been done by the Board of Ayurvedic Research, Bombay, and it should be said to the credit of the Bombay Board that they have achieved a good amount of success in this direction.

142. As in the case of the Indian Council of Medical Research, the Government of India may give block grants to the Central Council of Ayurvedic Research on the basis of the Governing Body's recommendations. The Council in its turn can allot funds to State Boards of Research for approved schemes.

143. Sufficient funds should be allotted for Ayurvedic research in the Third Five Year Plan of the Centre and the States.

144. So far as the remaining period of the Second Five Year Plan is concerned, it is suggested that the unspent balance of funds under the Central Scheme for development of indigenous systems of medicine should be handed over to the Council of Ayurvedic research, which should, until such time as Research Councils for other indigenous systems of medicine like Unani etc. are formed, look after the distribution of funds for approved research schemes in such other systems.

145. With the establishment of the Central Council of Ayurvedic Research, the Advisory Committee for Ayurveda, Unani and Homeopathy at present under the Ministry of Health, may be abolished.

146. The functions of the Central Council shall generally be:—

1. Formulation of a coordinated policy of research in Ayurveda throughout India both under the Central and the State plans.
2. Stimulation of research in training institutions, Universities and State Research Boards in accordance with a Central plan.
3. Distribution of Central grants to the State Boards of Research who will in turn allot funds to institutions or individuals chosen by them for carrying out research on specific items under the Central scheme. In the case of research undertaken by the research departments of teaching institutions or by other University Research Centres, the Central Council may consider giving direct grants to them.
4. Establishment and control over the Central Institutes of Research
5. Setting up of a Scientific Advisory Committee.
6. Publication of a journal of Ayurvedic research.

CENTRAL RESEARCH INSTITUTES IN AYURVEDA

147. Earlier we have discussed the work done by the Central Institute of Research in Indigenous Systems of Medicine and the Post-Graduate Training centre of Jamnagar and and their limitations. In the chapter on "Training" have recommended that Research Departments (and post-graduate departments) should be attached to at least one training institution in Ayurveda in each State.

148. It is submitted that even all these institutions will not be enough to cope with the urgent problems of Ayurvedic Research. We may point out that earlier Committees envisaged that the Jamnagar Institute was only one of the centres of Research to be established by the Government of India. We feel that the time has come for opening more Central Research Centres and Central Post-Graduate Training Centers, so that State Governments will get an urge to act accordingly.

149. Therefore, we recommend that at least three more centres of Ayurvedic Research should be started by the Government of India on a zonal basis. For this purpose, we recommend the following places where sufficient facilities to conduct research in Ayurveda exist:—

(1) Government Ayurvedic College, Trivandrum.
(2) Ayurveda Maha Vidyalaya, Poona; and
(3) Ayurvedic College of the Banaras Hindu University.

State Boards of Research:

150. We aso recommend that Boards of Research in Ayurveda should be constituted immediately in every State. These Boards shall be financed by each State Government, apart from any allocations they may get from the Central Council of Ayurvedic Research. The State Boards shall have a Chairman, six to eight members and a full-time secretary. It will be advantageous to have as members of the Board at least one representative from the Syndicate and Senate of the University to which teaching institutions engaged in research are affiliated. The State Boards should work in collaboration with the Central Council of Ayurvedic Research so that there is no duplication of efforts.

151. The success of State Boards will depend upon the types of members of the Board and the amount of actual cooperation and help they will get from State Governments and research workers. Members of the Board need not necessarily be district wise. They should be persons capable of initiating and stimulating research.

152. State Boards should scrutinize all schemes submitted by institutions or individuals (and where necessary, submit such schemes with their recommen-dations to the Central Council) before funds are sanctioned.

Scope if the Central Council and State Boards

151. The scope and functions of the Central Council of Research should not be delimited, since primarily they are to be the custodians of the entire field of research in Ayurvedic medicine. As research in Ayurveda is a pioneer attempt, the responsibilities of the Central Council and the State Boards are very great. The Council and the Boards while cooperating with one another, will control and direct all activities of research in Ayurveda both at the Centre and the States.

154. Another function of the Central Council will be to give financial aid to research departments of teaching institutions and individual, if necessary.

155. Every teaching institution may not be able to open a full-fledged research department. But they may, with their limited resources have a research unit for studying particular problems. Such institutions or persons desirous of getting financial aid or recognition for doing research should apply to the Central Council or State Boards, as the case may be. While making grants to individuals, the Boards may ensure, as far as possible that the investigator has full freedom to carry out research work, and should be asked to submit report periodically. Under established convention such research work is usually supported for three years.

GENERAL SUGGESTIONS REGARDING RESEARCH WORKERS

156. We have said that the success of any research programme depends mostly on the personnel who carry out the research. Persons in charge of research schemes should be encouraged to train as many young men as possible so that within a short time we will have a sufficient number of trained people in the country. In order to get the proper type of research personnel, we suggest that the research bodies should arrange to grant attractive fellowships.

157. Award of attractive prizes will greatly encourage the younger generation to take to research.

158. Research workers should not be overburdened with administrative responsibilities. They should be left free to concentrate over their problems.

159. Again, research workers should not be made to submit too many reports, as is the present custom. One consolidated monogram showing the results of research will serve the purpose. It should be remembered that research work cannot always end in success.

160. It will be a wrong attitude to refuse to finance research schemes because they have not shown immediate results.

RESEARCH BY GENERAL PRACTITIONERS

161. The general practitioners should also be encouraged to keep systematic records of the case they treat. This will enable them if they are research- minded to arrive at valuable conclusions even by their own experience. It will be desirable if the various State Research Boards arrange to conduct periodical discussions where these general practitioners can be given a chance to discuss various scientific problems.

COLLABORATION WITH FOREIGN SCIENTISTS

162. The knowledge of Ayurveda is now limited to this country only. There are many cases like mental diseases which are efficiently treated by Ayurvedic methods but where Western scientists are still groping to find out proper remedies. As we all know, since the well known hypertensive drug Rauwolfia Serpentina was brought to the notice of Western scientists, great interest and enthusiasm was created to study more and more of Indian herbs.

163. By having close liaison between the Ayurvedic physician and foreign scientists all the modern scientific advancements can be utilised for the advancement of Ayurveda and the glory of Ayurveda can be brought back. Some of the foreign philauthiopic organisations may be encouraged to establish indigenous drug research laboratories or departments in this country and also train our younger generation in the techniques of doing research. We leave it to the Central Council to devise ways and means for such close liaison.

Summary

164. Reviewing what has been said in this chapter, it may be pointed out that there is enough evidence to show that research in Ayurveda should have been known to our ancients, although we do not know now their process if reasoningand the methods which enabled them to arrive at conclusions regarding the efficency of their prescriptions. Research is necessary in any science, particularly so in Ayurveda which we are trying to place on a scientific looting. We have indicated the work done by modern medical men in indigenous drug research for the last several years and in Ayurvedic research by the Central and Slate Governments recently. The research on indigenous drugs by modern men has not been of direct benefit to Ayurveda and has to far not been coordinated with the principles of the Ayurvedic science. The efforts of the Central Government to implement the recommendations of the previous committers in regard to research have been of a diffuse and limited nature; the work of the Research Centre and Post-Graduate Training Centre at Jamnagar needs some re-organisation and planning. On the whole, the collaboration of the modern team with

the Ayurvedic team has not been effective. A single research centre like Jamnagar cannot obviously cope up with the amount of work that still lies ahead. So far as the State Governments were concerned, Bombay has done well to undertake a well-planned programme of research which can be copied by other Stales.

165. After indicating the present position of research in Ayurveda, we have mentioned that as a first step this work has to be planned on the following lines. Clinical research on the known remedies of Ayurveda should precede all other types of research, v*iz.* Literary, Chemical, Botanical, Phar-macological Pharmacognosical and Basic Principles of Ayurveda. The latter lines of work are also very important, but the medicines of Ayurveda not always bring amenable to modern chemical or pharmacological tests, clinical research takes the first place.

166. In clinical research itself, the methods may be divided into four categories, *viz.* (a) both diagnosis and treatment on Ayurvedic lines ; (b) Diagnosis on Ayurvedic lines and treatment on modern methods; (c) Diag-nosis on modern methods and treatment according to Ayurvedic principles; and (d) both diagnosis and treatment on modern lines to serve as a control. The Central Council may consider the adoption of these methods together in suitable centres. The present method of clinical research, i.e. both diagnosis and treatment on the principles of Ayurveda, may profitably be done in a separate ward of modern hospital with the willing cooperation and collaboration of a modern medical team, as has been successfully attempted at the Sassoon Hospital, Poona. Clinical research should be well-planned and coordinated in consultation with Ayurvedic professors and practitioners and modern scientists and the modern team should closely follow the Ayurvedic treatment and make observations at every stage.

167. A programme of Literary Research should be undertaken by the Central Council of Ayurvedic Research for collection, review and publication of old manuscripts, for the preparation by scholars of suitable text books for Ayurvedic students, for establishing libraries and for starting an all India Ayurvedic Research Journal Apart from this, State Boards of research should pursue literary research on the same lines in collaboration with the Central Council.

168. Modern chemistry will be of great help in investigating the chemical action and relative potency of Ayurvedic drugs whose efficacy has been proved by clinical methods. This work should, however, be undertaken by modern scientists by taking the help of Vaidyas of repute.

169. The Central Council should take steps to see that botanical surveys of medicinal plants are carried out in all regions with the help of forest authorities and detailed maps prepared. Next to survey is the question of systematic and scientific cultivation of such plants.

170. Pharmacognosy research is vitally necessary for correct identification of medicinal plants and for obtaining genuine samples of same for the preparation of medicines. This work should be done on a planned manner and advantage should be taken of the valuable work done by several scientists in India. About a dozen or more units, each having a botanist, a Vaidya and an Artist, can within the next ten years cover all the herbs and drugs described in Ayurveda, prepare illustrated monograms and finally bring out a uniform Pharmacognosy of Ayurveda.

171. The pharmacological work on indigenous drugs should be entrusted by the Central Council of Ayurvedic Research to selected modern institutions having a Pharmacologist with real interest in Ayurveda and having special facilities for the work. The Pharmacologist should be assisted by expert Vaidyas, Chemists, Botanists, Pharmacists, Statisticians, Research Fellows, etc.

172. Research on the basic principles of Ayurveda is another important aspect. Studies about Panchbhuta, Tridosha, etc. the diagnostic and treatment methods described in Ayurveda are immediately called for.

173. Besides the above seven lines of research, we have touched upon the immense possibilities of research, e.g. Dietetics, Panchkarma, Bala Chikitsa, Marma Chikitsa, Visha Chikitsa, Oil and Massage treatment, etc. These branches of Ayurveda are still in practice among the traditional Vaidyas in the country and an early opportunity should be taken to bring them on to a scientific basis.

174. Ultimately, we have said that to intensify proper research work in Ayurveda throughout the country, a Central Council of Ayurvedic Research should be set up by the Government of India immediately. States should establish Boards of Research for the same purpose. Further, the Central Government should set up three more Research Centres in conjunction with the three Post-Graduate Training Centre referred to in the chapter on "Training". Training institutions in States should also have research departments attached to them. It is hoped that such a network of research centers under the general guidance of the Central Council will be able to tackle the problem of research successfully and in quick time.

CHAPTER VI
PHARMACEUTICAL PRODUCTS
HISTORICAL BACKGROUND

Pharmacutical Chemistry of Ayurveda is none of the branches of Aurveda medicine which was relatively well developed in the past. Along with the science of Ayurveda it had its period of glory and downfall since the time of Charaka, Sushruta and even Vagbata due to various historical reasons. During the period of these authors emphasis has laid on the use of drugs of Vegetable origin. Later on Nagarjun popularized metallic preparations like 'Bhasmas' which were adopted in Ayurveda. Thus Bhav Prakash, written by Bhava Mishra some time in 1550 A.D., contained not only drugs of vegetable origin, but also a large number of metallic preparations. Similarly Sharangadhara and Chakra Dutta have included in their treatises both herbal and mineral preparations. Even today in certain parts of India, like Punjab, treatment with mineral preparations are more common than herbs and in other parts like Kerala herbal preparations are more popular.

2. Till recently the practicing Physician himself used to prepare his own medicines. He was supposed to have acquired a good knowledge during the period of his training about the identification of all the raw material the preparation of the drugs and standard techniques of preparation of medicines. In view of this every Ayurvedic Physician used to depend entirely on his own prepared medicines. With the decline of education and training in Ayurveda systematic preparation of medicine also underwent a decline. In fact this has not yet been revived completely, even though many new pharmacies have recently been established for the supply of medicines to the public. But gradually as the Western systems of medicine and its methods were adopted in the country, an attempt was also made to separate the Ayurvedic Pharmacy from the practice of medicine. Thus in the latter part of the 19th century, four Ayurvedic Pharmacies were established in cities like Bombay and Calcutta. Amongst them, the Dhootapapeshwar Pharmacy, Panvel, Bombay, seems to be the oldest as it was established in the year 1872. The Committee had occasion to visit this Pharmacy during their tour and were very much interested to see the documents regarding the history of this Pharmacy. Since then, many new Ayurvedic pharmacies were started in various places by private originations and well established Vaidyas mostly in and around larger cities.

3. After the country became independent the State Governments which were till then supplying large quantities of Ayurvedic drugs to Government dispensaries by buying the same from the open market, themselves opened many new Ayurvedic pharmacies. Of these the State Ayurvedic Pharmacy, Lucknow, seems to be the biggest. Further they also encouraged co-operative bodies to establish such pharmacies in the Stale. The overall result was that the number of pharmacies after Independence considerably increased in the country—(See Map. 3). The progress of Ayurvedic pharmacies is shown in Figure-5.

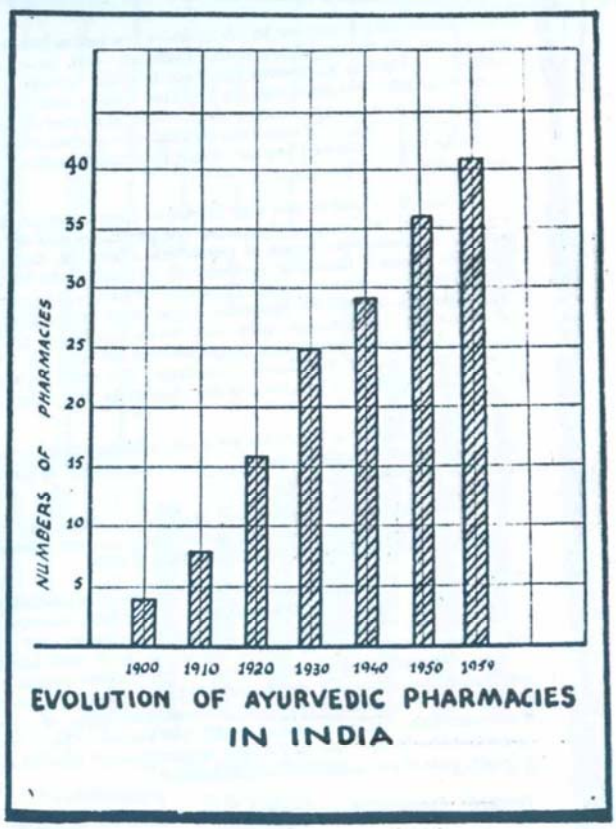
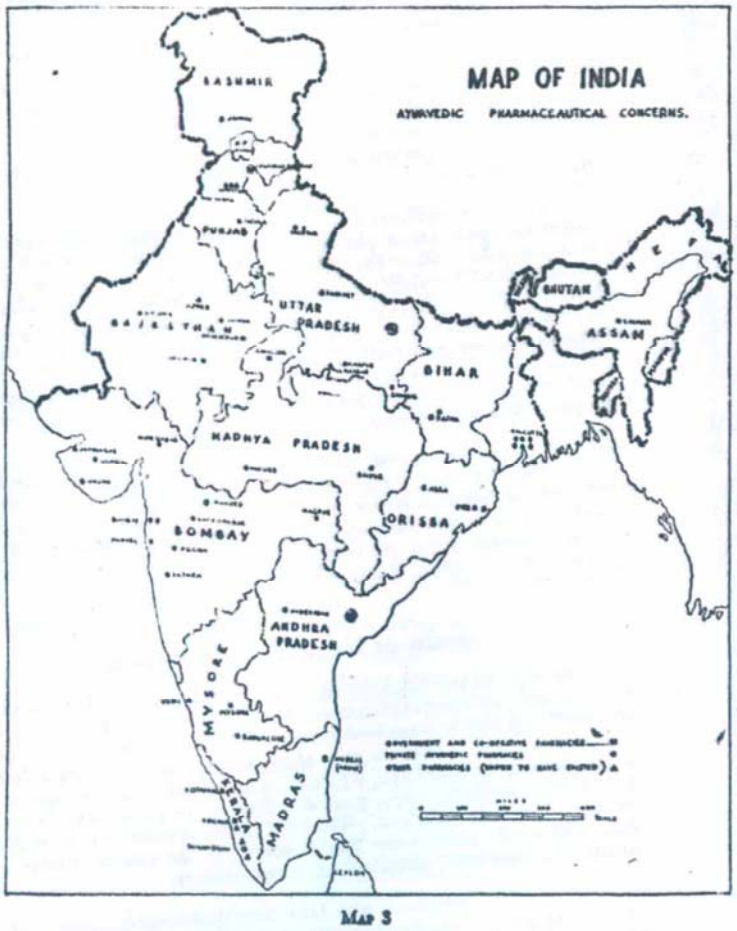


FIG. 5



MAP 3

Another important feature of the progress of Ayurvedic pharmacy in oar country is that formerly all the medicines were prepaid by manual labor, but lately manual labour has been replaced by machinery with the result that large scale manufacturing sections have been started with comparatively minimum cost and maximum production. By adopting this measure, Ayurvedic pharmacies are making satisfactory progress in the country.

TERMS OF REFERENCE TO THE COMMITTE

One of the terms of reference to the Committee was to assess the nature, volume and standards of Ayurvedic pharmaceutical products in the country. For this purpose was issued to a number of private pharmaceutical concerns and pharmacies attached to Government hospitals or run independently by Government.

It may be mentioned that there are no reliable statistics about the names and numbers of pharmaceutical concerns dealing with Ayurvedic medicines. In a State like Kerala, for instance, there an innumerable Vaidyashalas (Pharmacies) engaged in production of Ayurvedic medicines. In fact Ayurveda is so popular in that State that each Vaidya has generally got his own Vaidyashala (Pharmacy) which not only caters to his own patients but also sells such medicines to the public in large quantities. Similarly in almost all the States the traditional Vaidyas have their own small establishment where the medicines prescribed for their patients are prepared by manual labour as and when required.

6. A correct estimate of the volume of Ayurvedic medicine produced in the country, will, therefore, be difficult to arrive. Even in some of the large concerns like the Arya Vaidyashala. Kottakal or Baidyanath Ayurveda Bhawan, Patna, no records of the quantity of each medicine manufactured are readily available, although the total value of medicine sold by those Vaidyashalas or pharmacies can be had from their balance-sheets.

REVIEW OF REPLIES TO QUESTIONNAIRE

7. In reply to our questionnaire referred to above, 37 pharmaceutical concerns and Government pharmacies have given figures. These have been tabulated and may be seen in Appendix VII. As will be observed there from, the average annual quantity of medicines under the various heads, the number of staff employed, the method of manufacture, the basis of the preparations, the tests, if any, applied to find out the purity of the prepara-tions, *etc.*, have been indicated. These will enable us to arrive at an approximate idea of the present situation in regard to the volume, nature and standard of Ayurvedic preparations in the country.

8. In the 37 institutions who have furnished replies roughly four million pounds of medicines per year seem to be prepared. Taking into account the numerous pharmacies in States like Kerala and Punjab and the quantities which may be prescribed and prepared by individual Vaidyas of the traditional type in the whole country, one can perhaps double the figure and say that at least eight million pounds of Ayurvedic medicines are consumed in India per year.

9. Again the gross income of the pharmacies and pharmaceutical concerns mentioned in the appendix comes to about Rs. 2.6 crores. Allowing for the concerns unaccounted for, we can perhaps say that the annual sales of Ayurvedic medicines in the country may be of the order of Rs. 6 crores.

10. Incidentally it may not be fair to derive conclusions from a comparison of the sale figures of Ayurvedic medicines with those of modern medicines. There is an obvious difference in prices between the home-made Ayurvedic medicines and the imported modern medicine. It will be clear that a very large amount of Ayurvedic medicines are in current use by people of India. We need not emphasise the obvious conclusion that Ayurvedic treatment is very popular among the people in spite of the heavy consumption of modern drugs.

11. Another conclusion that may be drawn from the appendix is that now-a-days the majority of phaimacies and pharmaceutical concerns are resorting to mechanical means of production adapted to the needs of Ayurvedic science. Particular mention may be made of the Co-operative Pharmaceutical concern at Adyar (Madras). This is a definite advancement in the manufacture of Ayurvedic preparations, apart from helping the Ayurvedic practitioners with rcadymade medicines of a good quantity. It may be recalled that the preparation by hand by individual Vaidyas was one of the serious handicaps that made the Ayurvedic practitioner and Ayurvedic treatment less popular to the modern minded people.

Figure 6 below will indicate the steady progress made by the Adyar Pharmacy and the enormous amount of medicines supplied by them to the Ayurvedic practitioners.

12. Again Chooranas (Powders) and Asavas and Arishtas are commonly used by the entire country, while bhasmas, vatis, etc., are more popular in the North and Thailas in the South and West of India.

15. Appendix VI shows that every one of the concerns producing Ayurvedic medicines follows the Ayurvedic texts. It should, however, be re-marked that the reference books are not always the same, nor are the prescriptions mentioned in them identical. It is well known that in many Ayurvedic preparations, differences are observed even in physical appearance apart from the disparities in the components of the same medicine. It is understood the formula for the preparation of a medicine of the same name differs according to different authors. This is explained by the fact that a medicine by the same nomenclature is used for different maladies with slight variations of composition.

PRESENT POSITION OF MEDICINAL PLANTS, GARDENS, MUSEUMS, ETC

14. Closely connected with the preparation of Ayurvedic medicines is, the problem of supply of raw materials which at present are being obtained from the open market. An ideal situation would be to have huge drug farms in the various regions apart from medicinal plant gardens, museums etc. in the training institutions. The present position regarding medicinal plant gardens, museums, etc., in the various States has been indicated in the table below. We have mentioned this already in the Chapter on " Training ".

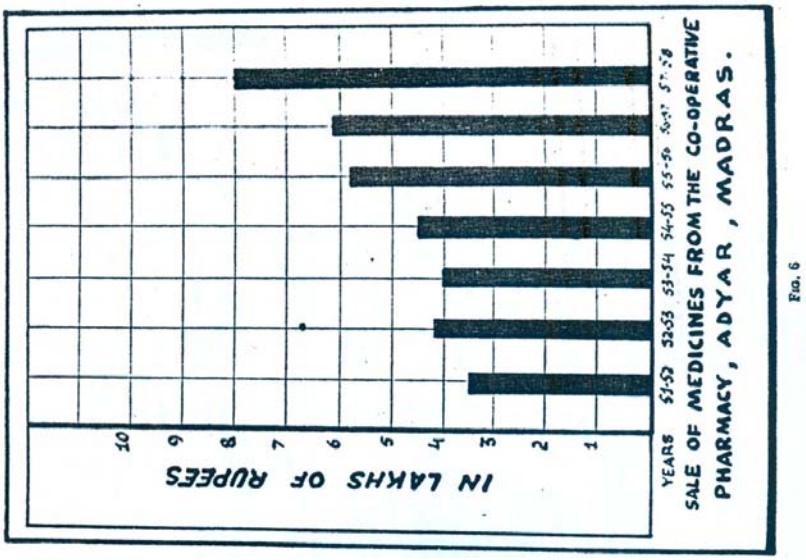


FIG. 6

TABLE IX

Name of State	Present Position
Andhra	They are developing a big plot of land for laying out a herbarium and drug farm at Hyderabad.
Assam	The Government Ayurvedic College, Gauhati, proposes to develop a herbarium in their new premises.
Bombay	The Poona Ayurveda Mahavidyataya has a well developed herbarium under the charge of an able Vaidya.
Bombay	The O.H. Nazar Ayuivedic College Sural, have already started work on a big drug farm. Thiey have a well planned museum of medicinal plants and drugs in their college.
Jammu & Kashmir	The Regional Drugs laboratory at Jammu have a big herbarium of Indian medicinal plants in their compound. They have a huge drug farm somewhere near Sialkot and five other smaller drug farms. Specimens of plants and herbs are added frequently by the staff of the laboratory who go on tour to the surrounding hills in batches along with plant collectors. A large number of monogram are under preparation and will be published in due course.
Madras	The College of Integrated Medicine, Madras, have a large drug farm.
Madhya Pradesh	The Madhya Pradesh Government propose to establish drug farms at two hill stations in the old Madhya Bharat region and drug collecting centres at Panchmarhi and Amarkantak respectively.
Orissa	The Gopabandu Ayurveda Vidyapith Puri, have made a commendable effort in

	developing an Ayurvedic garden and museum. A number monograms have been prepared.
Uttar Pradesh	The Rishikul Ayurvedic College at Hardwar are developing a herbarium.
	The Ayurvedic College at Banaras Hindu University have a good herbarium and a museum under the charge of Shri Balwant Singh, wlvo has done very useful and extensive work in the identification of Ayurvedic plants and drugs
	Special mention may be made of the great efforts made by Shn S.N. Kaul, the Director of the National Botanical Gardens at Lucknow to develop a large scale drug farm at a place called Bahusar a few miles from Lucknow. A large number of medicinal plants used in Ayurveda are being cultivated. There is a remarkable reference unit containing books in all languages. Monograms are being prepared under the supervision of the Director on scientific lines.
West Bengal	In West Bengal it was understood that there was a big Government herbarium at Mongpu which is proposed to be developed further.

15. In other states and in the various teaching institutions only sporadic efforts to establish herbaris and medicinal plants gardens have been made so far and the progress is not satisfactory

DRAWBACKS IN THE EXISTING CONDITIONS

16. The drawbacks in the present state of Ayurvedic pharmaceutics may be listed as follows:

(1) There has been no proper and full survey of Ayurvedic medicinal plants so far. No doubt the Forest Research Institute Dehra Dun and thie Botanical Survey of India have done some work in this direction but these surveys have not been particularly directed towards medicinal plants used in Ayurveda.
(2) There is no method of identification of raw herbs. At present identification of raw herbs is done by sheer experience. The scope for imitation of raw drugs and adulterations by sellers has thus increased. The absence of a standard and comprehensive Ayurvedic Pharmacognosy has led to this conclusion.
(3) Nor is there any Central or Regional herbarium containing properly identified preserved specimens of herbs and drugs.
(4) Similarly museums of drugs and herbs and other medicines both of pure variety and adulterated varieties are conspicuous by their absence.
(5) The present system of collecting Ayurvedic diugs and plants from forests and hills through non-technical contractors and local men is not at all satisfactory. One serious result of this unsystematic collection has been that forest and hills are being denuded of very valuable medicinal plants.
(6) There is at present no control on drug vendors nor is there a licensing system.
(7) As in everything else, adulteration and imitation is common in Ayurvedic Drugs and herbs. The contractors are uncontrol-led and the wholesale firms dealing in Ayurvedic drugs do as they like.
(8) There is no uniform Ayurvedic Pharmacopoeia and hence no standardisation of Ayurvedic preparations
(9) Ayurvedic medicines in the various pharnuiirs air not always prepared under the direction of Ayurvedic experts. Further there are no trained pharmacists of Ayurveda in these places. In fact enough attention has not been paid to the training of Ayurvedic Pharmacists so far.
(10) There are no standards of weights and measures.
(11) There are no definite standards in regard to the minimum number of technical personnel to be employed in a pharmacy of a particular size.
(12) Absence of legislation to control the manufacture of Ayurvedic drugs is another serious drawback.

SUGGESTIONS AND RECOMMENDATIONS

17. The above mentioned drawbacks may now be dealt with in detail and appropriate solutions suggested.

Survey of Medicinal Plants

Before identification of herbs is done, there is an urgent, necessity to conduct a fresh survey of these medicinal plants in the various regions of the country. There are certain herbs which are found in abundance in certain places whereas in other places they are non-existent. Thus, for

example, “Pashan Bhedi”, a common Ayurvedic medicine, is found in abundance in the Himalayas whereas in other places it is seen rarely. Similarly, the best quality of ‘Amla’ is found in large quantities in Madhya Pradesh on the banks of the river Narmada, whereas in other places, though found in a sufficient quantity it is not of such a good quality.

Hence a survey will have to be carried out in the whole country to assess both etuntitalmly and qualitatively the availability of all the drugs used in the Ayurvedic medicine. This can be done in cooperation with the botanical survey of India and forest authorities. A survey team will have to be constituted to survey and assess the demand and supply position of all the herbs in the country.

Since this is our natural wealth, the same team may also advise the Government to cultivate certain herbs, in case demand is greater than supply. Such cultivation will have to be carried out by taking into consideration the soil, altitude, climate and other factors required for growing.

We also suggest that just like the system of having reserve forests for certain purposes, e.g., teak reserve, reservation of areas in the forests for medicinal plants will be of great use for Ayurvedic medicine.

Since the Regional Drug Research Laboratory, Jammu has done some special studies on the problem, the proposed work can be carried out in close cooperation and collaboration with the above Laboratory.

19. In this connection it may be mentioned that sometime back the Indian Council of Medical Research, the Indian Council of Agricultural Research and the Council of Scientific and Industrial Research put their heads together and formulated a scheme for the development of Indian drugs, their cultivation, prevention of indiscriminate exploitation, standardisation and certification, correct identification etc., and for the formation of a body called the Central Indian Medicinal Plants Organisation (CIMPO). We do not know the present position in this regard. It, however appears that the CIMPO may be duplicating all the work done by the Forest Research Institute, Dehra Dun, and thus wasting valuable time. The CIMPO can perhaps take over the work where it has been left by the Forest Research Institute, Dehra Dun. The Council of Scientific and Industrial Research have plenty of funds for research and they can certainly help in regard to the survey, identification and standardisation of Ayurvedic plants and drugs.

IDENTIFICATION OF PLANTS AND HERBS

20. Valuable work had been done in the past for identification of plants and herbs by eminent men like Kirtikar and Basu and many others.

21. A great deal of work has also been done by the Forest Research Institute, Dehra Dun. In fact that Institute has already established a sub-committee under Shri Bhadwar, the Economic Botanist of the Institute. The aim of the sub-Committee was to make India as self-sufficient as possible in medicinal plants. They have prepared lists of some of the more important medicinal plants in India under the following categories:

(1) Medicinal plants growing wild.
(2) Plants growing wild as well as cultivated.
(3) Medicinal plants growing wild but which require to be cultivated.
(4) Exotic medicinal plants which are imported at present and are cultivated in a very small scale now but which could be cultivated on a large scale.
(5) Medicinal plants already being cultivated on a large scale.

These lists will show the botanical name, the trade or Indian name, the various parts of the plants useful in medicine, viz. roots, leaves, barks, etc., and the natural habitat of each plant. It is also understood that monographis of all such plants are either already prepared or are under preparation.

22. Valuable work on Pharmacognosy of Ayurvedic medicine has already been attempted under the auspices of Department of the Botany, Kerala University, who have published three monograms so far. This has already been referred to in the Chapter on Research.

23. Similar work is being attempted at the Bombay Board of Research in Ayurveda, Bombay and the Indian Drugs Research Association, Poona on scientific lines.

24. There is, however, a need for coordinating the work by various persons and institutions in regard to identification of plants and herbs in order to avoid duplication and to finalise the preparation of a uniform Ayurvedic Pharmacognosy and publication of monographs at an early date

COLLABORATION WITH FOREST AUTHORITIES

25. We are certain that if the Inspector General of Forests is approached and a conference of forest authorities. Ayurvedic scholars, research workers, etc., is held immediately, a plan could be drawn up for identification of herbs, preparation of the Ayurvedic pharmacognosy etc. This should be one of the first items of work which the Central Council of Ayurvedic Research should tackle.

26. In this connection it may be mentioned that in States like Assam where there is such an abundance of natural flora, large quantities of plants and drugs are imported from other places.
If regional centres were established in such places they could collaborate with the forest authorities and begin work on survey, identification, collection, storage, etc., of drugs, plants and herbs used in Ayurveda.

27. The Forest Departments can also help through their organisations to make correct identification of many of these drugs. In addition, they, with the help of the local tribes, can arrange to study the new herbs which might not have been described in the Ayurvedic texts and which might have been clinically used with good results by the people living in the forests. Such herbs should then be properly studied by the Vaidyas in collaboration with the drug research institutions. In case of short supply, they can also undertake or advise cultivation of these herbs so that there is a constant supply of them in good quantity and quality. Thus for correct 'identification' of known herbs and for exploring the utility of newer drugs, cooperation of the Forest Departments is of utmost importance.

28. In order to decide the correct identification of the herios, as a first step a team should be constituted including Ayurvedic experts interested in Ayurveidc herbs and Botanists who have done some work on medicinal plants. Identification of the herbs can be carried out well if a scientific approach is made to the whole problem. In Ayurveda while describing synonyms of various herbs the ancient authors gave such a name which accotded with their physical character or their clinical action. Sometimes this has caused confusion. In order to overcome this confusion we will have to take many indirect evidences or some of the important ones. After the identification is made according to the Ayurvedic methods, they will have to be sent to the Botanist who will then identify them according to the botanical terminology and describe all about the physical and microscopical character of the plant. Then coloured plates should be prepared so that it may be easier for the other persons to identify them subsquently. Work will first be done on the undisputed plants and then on the disputed ones. Once a final decision is arrived air regarding identification etc., a full description along with the preparation of coloured plates will settle the issue once for all. If funds permit, all these can be printed for the benefit of all the practitioners and students. While doing so every care should be taken to keep the view of the Ayurvedic physicians foremost.

DRUG FARMS

29. Not only should there be coloured illustrations of medicinal plants, but also a large number of drug farms for the proper identification in their living condition. We have already suggested that there should be a drug farm or medicinal plants garden in each of the teaching institutions.

We suggest that the State Governments and other agencies should start as many drug farms as possible for the purpose of educating the people on correct identification and also enable them to meet the needs of the various pharmacies.

In this connection, we would like to recall the views of our Bhoodan Leader, Shri Vinobha Bhave, who once suggested that there should be a drug farm in every village so that they can become self-sufficient so far as the medicinal plants are concerned.

30. In the past it was thought that the Botanical Gardens established by the Government in various parts would serve the purpose and no separate medicinal plant gardens will be required. We are of

the opinion that while the work of the Botanical Survey of India is of tremendous importance, in the interests of the development of Ayurveda it is every essential that separate gardens and farms of Ayurvedic plants and drugs should be established in at many regional centres as possible. We have mentioned regional centres for obvious reasons. Certain plants and drugs are peculiar to certain localities. It is also possible to cultivate in such herbaria other than local specimens, so as to reduce the dependency for such plants and drugs on other parts of India. Such herbaria should be developed by the Ayurvedic institutions and Research Departments of States in collaboration with the Forest Department and Botanists. Government should come forward with ample financial help, it should not be forgotten that apart from helping to standardise the drugs in question, a medicinal plants garden and herbarium are most essential for the practical teaching of Ayurvedic medicine in institution.

MUSEUMS

31. Similarly each teaching institution and each Research Centre should develop a museum of Ayurvedic plants, herbs, mineral drugs and so on.

The museum should, as has already been stated in this report, have both the genuine and the adulterated samples of all drugs and medicines, so that research worker and students will be helped in identifying the correct drug.

32. There should also be Drugs Museums, at least one in each State. In these, the dried medicinal herbs should be kept, especially those pans which are used in the preparation of Ayurvedic medicines along with their detailed description and uses. This will enable everybody to identify, recognise and compare the genuineness of the herbs commonly available in the market. It is surprising to note that some of the costly medicines like Saffron, Musk, etc., vary considerably in their price that there is always a doubt about their genuineness. Therefore, opening of Herbaria and Museums will greatly help to make correct identification of the fresh and preserved medicinal herbs. Necessary action should be taken to implement these schemes as soon as possible throughout the country. The Central Government should generously help the State Governments in the matter on a properly planned basis.

STANDARDISATION

33. Standardisation is the most important aspect of Ayurvedic medicine which needs the immediate attention of the Govcrnnient. This necessary in view of the recent mechanisation and the large scale production in the country, in which there is always a possibility of losing sight of quality. This is especially so, in view of the fact that there is increased demand from the public for Ayurvedic medicine. Taking advantage of this the pharmacies are attempting to increase the quantity of production without considering the quality. So far no standard has been laid down for these drugs and hence individual firms are man factoring medicines according to their own methods and standards. The overall result is that there is enormous variation in the qualities of these products manufactured by different firms. Moreover, because of the variation, there is always a possibility of getting spurious drugs in the market with the result that instead of helping to popularise Ayurvedic treatment, they may do more harm. This has also resulted in criticism by educated public. One of the indirect results of uncontrolled and large scale manufacturing is that many indigenous alcoholic preparations are sold in the market under the name of Ayurvedic medicines in the areas where prohibition had been imposed thereby defeating the very purpose of prohibition. This is another reason why immediate attention should be paid by Government for laying down standards and control over such preparations. Standardisation can be done at three levels, namely, (I) fixing standards for selection of raw materials, (2) prescribing standards for the manufacturing methods and (3) fixing standards for the testing of prepared medicines.

STANDARDISATION FOR RAW MATERIALS

34. Raw materials for manufacturing these medicines are of vegetable, mineral and animal origin. Amongst them, confusion is greatest with regard to those of vegetable origin. As regards the animal products there is greater admixture of adulterants and imitation than in other cases. These are the

most common materials included in the Ayurvedic medicines and hence every care should be taken to sec that correct materials are used while manufacturing medicines.

35. Once proper identification is done, a pharmacognosy prepared and illustrated monograms published, the standardisation of raw herbs and drugs can be achieved. The standardisation of crude drugs (medicinal herbs and drugs) by their chemical and physical characteristics has also been undertaken by the Bombay Board of Research, who have established a laboratory for this purpose. A number of drugs commonly used in Ayurvedic preparations arc being studied this way and monographs are under prepara-tion. The Hoard are using modern techniques e.g. chromatography. In this manner the Board hopes to evolve working standards of as many Ayurvedic drugs as possible.

36. As has already been mentioned in the Chapter on " Research " the (•ovcrnmrnt of Bombay has set up at Committee for the standardisation of Avorvcdic drugs and herlcs. The Committee have been studying the avail-ability of genuine medicinal drugs and herbs throughout India. (Sec Appendix X)

COLLECTION OF HERBS

37. What pan of the drugs should be collected is another aspect to be taken into consideration, since all parts of a herb are not used in medicine in view of the presence of high potency in certain parts or due to other conditions. In exceptional circumstances the entire herb is used. In' *Chilraka'* en 'Kauwollia Sriprntina' only roots are used in medicine. Leaves of Vaiaka, Ituils ol Triphala, flowers of '*Dhataki'* and bark of Kurchi are oilier examples. In Bilva roots are used for some purposes, fruits for other proposes and leaves are used for entirely different purposes. In the case of Iwdlulak, ih' fruit has entirely contrary properties in its different parts ; skin, flesh and internal pulp have high food value, while the shell of the fruit is extremely corrosive. On the whole the Ayurvedic texts have described not only the plants but have also defined the parts to be used. Thus it is not sufficient to identify the drugs only; but one will have to fix a standard as to what portion of the drug is used for the purpose of medicine. Hence this aspect will have to be considered while laying down standards.

38. The time of collection of raw drugs is an important factor in Ayurvedic medicine. In this connection, Charaka has said, 'Of them such drugs should be collected as were put forth in their proper season and have attained their fullness of growth, taste, potency and smell etc" From this one can or never that the ancients had thought over this problem and had laid down certain principles as to when one should collect the various type of herbs. However, it is now observed that no such rules we strictly followed with the results that herbs of sub-standard quality are used many a time. There-fore, even this aspect of herb collection should be standardised. Modern Pharmacists lay certain general principles on the subject which can be fol-lowed by all.

"All herbs should be gathered on a dry day, never directly after rain. Leaves should be gathered before the flowers arc fully open. Flowers are at their best when they first open fully. Roots on the other hand are best gathered in the autumn when the leaves wither away. Fruits require pick-ing when fully ripe, but not over-ripe." These are some of the general prin-ciples to be remembered while collecting the herbs. The main ideas behind laying down such rule* are that they contain maximum amount of medici-nal properties in them.

Preservation

39. Preservation is an important point to be discussed since proper colle-ction and storage will preserve their medicinal properties for a longer period. After collecting the herbs, most of llicm are dried. Only a few of them are used in medicine as green herbs. The general principle is that drugs should be used dry and new. By drying, they lose about 80 % of their weight and hence one should collect the fresh herbs on that basis only. The roots should be properly washed before drying since they contain a lot of soil adhering to them. Herbs are dried either under the sun or by giving artificial heat_ at 90°F. to 100°F. for about 24 hours or so. Some of the herbs are to be dried only by air. When these are dried, they lose entirely their water content and hence they become brittle. They arc then properly stored either by packing loosely in gunny bags or they can be stored in wooden boxes and be transported to the customers in the same container.

Storage

40. While discussing the subject of' 'Storage' it may lie mentioned that the only place where some systematic storage of medicinal plants is done is the Forest Department of Jammu and Kashmir State at Baramula. Various indigenous medical plants and drugs were stored in that Depot. There was a sample room. Sales of these medicinal plants and drugs excepting a few were made to anyone who called for them. In the past Urge quan-tities of some of these drugs have been supplied to Russia, Aiucru a -rid other places abroad. At present the god owns stock about 30 Indian medicinal drugs, although the forests of Kashmir yield a larger number of these. The collection is made by the contractors who do this actmdiug In the speci-fications laid down by the Forest authorities. The diugs and plains collec-ted are delivered at godowns of the Forcsl Department at Baiaiuuia where they are sorted, cleaned and preserved.

It is felt that similar storage depots should be planned at regional centres in Collaboration with the Forest authorities so that the Ayurvedic practitioner, the Government Pharmacies and Pharmaceutical concerns need not depend kfitn the wire-liable quality supplied by certain dealers in India at present.

41. As regards laying down of standards for mineral products, it is not so difficult since the variability is comparatively less. However, one will have to analyse physically and chemically all those raw materials commonly used for the preparation of these drugs and lay a certain standard. Thus, for example, if a raw mineral like " Mandura " is to be used for preparing some medicine, it must contain so much percentage of iron and othn inorganic materials in it. If it contains more or less than the limit prcentege it should not be used for the purpose. A systematic study will have to be carried out on all these minerals commonly used in Ayurveda for laying down standards.

42. Similarly, the organic materials used in the preparation of Ayurvedic medicines also need some standardisation. Thus honey, musk, Gorochan, etc., are some of the products in which a lot of adulteration is prevalent. In order to lay down standards one may have to adopt the latest chemical methods like Chromatography, etc., as they are trying to do in Bombay under the auspices of the Board of Research in Ayurveda.

43. Unless standards are laid down for all the components of the drugs, one cannot insist upon introduction of the standardisation of prepared drugs.

Therefore, immediate attention should be given to tackle all these problems simultaneously by entrusting some of these problems to the well established laboratories experienced in carrying out such work.

Commercial Concerns

44. So far as commercial concerns at present engaged in the supply of raw herbs and drugs, the only way to check any nefarious activities and ensure genuine supplies seems to be to license them and impose appropriate conditions for identification, collection at proper seasons, testing in laboratories where possible, preservation and storage under controlled conditions, price structure, method of packing etc. There should be a statutory provision not only to check all the above mentioned things but also to get periodical returns of such licensed firms.

45. It is also essential to have a Central Testing Laboratory for Ayurvedic drugs, whuie opinions can be obtained on controversial drugs, on drugs suspected of adulteration. This laboratory will be useful for analyzing all drugs and giving standard chemical compositions wherever necessary. Such laboratory can be established on the lines of Central Drugs Laboratory, Ctkutu The location may perhaps be at Bombay where some work is already being attempted.

46. This Central laboratory should be in addition to the properly equipped laboratories in all pharmaceutical concerns. It should be made a condition precedent that all pharmacies and pharmaceutical concerns shall have a laboratory where herbs and drugs used by them as also mineral drugs can be tested according to certain prescribed standards.

47. It is presumed that the Central Council of Ayurvedic Research will in due course I'm these standards for the raw material after pharmacognosical research has been completed.

STANDARDISATION OF PREPARATION OF AYURVEDIC MEDICINES-STANDARD PHARMACOPOEIA

48. We now come to the preparation of medicines. Every pharmacy, Government or private, says that it is following the formula contained in Ayurvedic texts. However, the texts followed for the same standard medicine are more than one and the formula sometimes differ greatly.

49. There are in all more than thirty varieties of Ayurvedic medicines commonly used by physicians. Amongst them, powders, decoctions, tablets, Kjcdu aird nils and ghees, liquid extracts, Asavas and Arishtas, Bhasmas, etc., air some of the- important groups of preparations. The methods of then in filiations are all described in the texts.

50. Two factors are inherently responsible for the great variations in the methods of preparations. These are:—
(a) Difference in the ingredients and
(b) Difference in weights and measure.

Difference in Ingredients

51. Ii is a well known fact that different ingredients are described by different authors for preparing a medicine of the tame name Thus for example, if 'Lohasav' has to be prepared according to Bhav Prakatb it might need twenty drugs, whereas if the same preparation has to be prepared according to Sharangadhar it might need only ten drugs and so on. This anamoly had been noticed by everybody. But so far there is no method by which we can identify these things distinctly. Probably both the types are good lor different purposes. At present if one goes to the market and demands Lohasav, he gets one without the name of the author according lo whose formularly the same has been prepared and the names of the diseases for which that 'Lohasav' is meant. Therefore, it should be ensured that if one prepares the medicine, he must quote the author and the names of the diseases to which they are meant in the label so that people would come 10 know about their constituents and efficacy correctly. In order lo overcoat such difficulties, ultimately one will have to adopt some uniform methods,
Every attempt should, therefore, he made la standardise the formulary for each prepared prepared medicine. Far this, the preparation of a standard pharmacopoeia of Ayuvedic is immediately needed. Allowance can be made for different formulae in certain cases if found necessary. For instance if Kutajarishta can be prepared in different ways based on ancient authorities for different disease symptoms, the manufacturer should be compelled to say on the label the name of the text followed e.g 'Kutajarishta Sarangandhra'. Here again we are aware that certain Ayurvedic experts have compiled text books on Ayurvedic Pharmacopocia. It is, however, felt that a comprehensive publication on Ayurvedic Pharms copocia covering all the text-books and the practices in all parts of the country is necessary.

52. In any case clinical tests will be necessary before any particular formula is specified. We found that the Bombay Board of Research are already working on this basis. It is hoped that the future Council of Ayurvedic Research will give due attention to this subject.

Weights and measures.

53. There is a great deal of controversy regarding the weights and measures that have been described in Ayurveda. While preparing medicines, herbs are to be taken in a certain proportion only. Hence there should be a uniform standard for weights and measures also. Though these have been mentioned in the Ayurvedic texts, varying standards are actually followed.

Efforts must, therefore, be made to lay down certain uniform standards of weights and measures to be followed throughout the country. This point should be kept in mind while preparing the new

Ayurvedic pharmacopoeia of Indian medicins so that everybody follows the same method throughout the country.

54. Already there are a few Pharmacopoeias in the country prepared by the various State Governments and institutions. Amongst them, the one prepared by the Government College of Indian Medicine. Madras, seems to be of a good standard. All these Pharmacopoeias should be taken into consideration while preparing a new Pharmacopoeia for the whole country.

Mechanisation of Ayurvedic pharmacies

55. As has been pointed out earlier in this chapter, most of the pharmacies and Pharmaceutical concerns in the country have begun using moders machinery for preparing medicines, except in certain cases (like Swarna Bhasma), where slow hand grounding is necessary to attain the required potency. In many cases, the machinery employed was so imitative of man-ual giiuding or powdering and the material used for the mortar or pestle was the same as those used in hand grinding etc., that we were assured that the character or quality of medicine will not be lost. In one of the pharmacies viz. Government Pharmacy, I'uri, even temperature control is being tried in such an ingenious way that die ideal conditions prescribed in the Ayurvedic science would not be lost. There is thus a great scope for improvement such as the use of electric power instead of firewood. These are questions to IK investigated by Pharmaceutical research units established in some of the big commercial concerns.

56. We recommend that in order to make a Ayurvidic medicine more popular and more standardized, machine manufacture should be resorted to as far as possible

At Gwalior and Indore the Vaidya in charge of the Pharmacy was, so to say, an inventive genius and had established a workshop where he was typing to manufacture machinery of all types to be used in the Aurvedic pharmaceutical indicsty. We feel that the efforts of such people will go a long way to stop many a criticism of the opponents of Ayurveda to the effect that Ayurveda insists upon a fixed number of hand movements for a specified number of days and so on. Even the problem of "Puna" which requires slow fire for specified periods will, we hope, be solved by the introduction of suitable electrical machinery with temperature control, cooling arrangements, etc. The introduction of machinery is badly needed to make the life of the Ayurvedic Practitioner less exacting and more attractive and more profitable.

57. While on this subject, the committee feel that it will be advantageous to have co-operative pharmacies of the (Madras) Adyar type, so that m-dicims of proper standards are easily available to the practitioners and the public.

58. In this connection it should be mentioned that every manufacturing concern should are the minimum essential technical staff, if it has to be recognised, and the staff ikould apait from the Ayurvedic expats, Ayurvedic pharmacists, mechanical staff, etc., have a Botanist and a chemist.

This point again should be carefully considered by the Council of Ayurvedic Research.

59. The other important thing to be insisted upon in the manufacture of Ayurvedic preparation! it that each bottle or package should hear a record of the date of prepaialuu. lime limit of potency, text followed etc., if nccery in code weeds so that the public are endured of effective medicines.

This condition will also enable the future Ayurvedic Diugs Inspectors to t»i lo ilit ilrjti in lion of time-barred medicines. The dosage and the mode of administration must also be mentioned on each phial so that the patients strictly follow the instructions accordingly. It is gratifying to note that some of the recently started Ayurvedic pharmacies on modern lines have begun to follow these methods and it is expected that all the remaining will also adopt these newer methods. .

STANDARDISATION OF PREPARED MEDICINES

60. If the raw materials to he used in a medicine and the method of preparation are both standardised, the final outcome, the prepaid medicine, will normally be expected to be of good standard. But there might still be variations in the individual technique. Another important purpose of laying

down standards for the prepared medicines is to ensure that all components are correctly put in while preparing the medicine.

We have been told that certain firms do not actually put the costly ingredients such as gold, musk, sffron, etc., in sufficient quantity with the motive of making greater profit. Such tendencies of cheating the public must be stopped as soon as possible, so that the people may not be misled regarding the efficacy of these medicines. Hence in order to get certain amount of uniformity, standards will have to be prescribed for prepared medicines thorughout the country. Apart fiom other things this will enable one to detect and eliminate spurious medicines from the market. A great deal of work needs to be done by the modem pharmaceutical chemists before such standards can be laid down.

DRUGS ACT FOR INDIAN MEDICINES

61. This leads us to the necessity of enacting a Drugs Act for Indian Medicines on the analogy of the Drugs Act of 1940 through which the rules and regulations for the preparation and sale of medicines can be strictly enforced and the defaulters punished. The total cost of the Ayurvedic medicines manufactured in the country is almost the same at the total cost of the modern medicines. There are several organisations for controlling the manufacture and sale of modern medicines. It is high time, therefore, that similar organisations are established for the Ayurvedic medicines also.

The possibility of enacting an Ayurvedic Drugs Act, of establishing a I'kaimacy Council, Drugs Adaisory Body, Drugs Controller, preparation of pharmacaoperia, a reference laboratory, etc., should be seriously considered. The earlier it is done the better for the people. Otherwise this uncontrolled growth of Ayurvedic pharmaceutical industries will lead to gross misuse of public money.

62. It may be pointed out that under Section 3 (b) of the Drugs Act, 1940, the definition of "Drug" excludes "Medicines and substances exclusively used for or prepared for use in accordance with the Ayurvedic or Unani Systems of Medicine. "As in the case of the Drugs Act, 1940, pnniiicn should be made in the Ayurvedic Drugs Act 1940 for standards of quality, proper labelling of Ayutvedic medicinal preparations, controlled import of drugs necessary in the preparation of such medicines, prevention of colourful imitations, analysis of the medicines, inspection of pharmaceutical concerns, granting or cancelling licences to firms engaged in the manufacture of medicines, proper analytical facilities in each concern, a Central Ayurvedic Drugs Laboratory, etc. It is presumed that this matter will be looked into at an early date.

63. While on the question of enacting a Drugs Act for Ayurveda, h may be mentioned that the Central Government do not at present have any technical person who has detailed knowledge of Ayurvedic Drugs There are, however, a large number of Ayurvedic scholars on the phaimaty side whose help can be taken in drafting the necessary Bill. It is suggested that an Advisor on Ayurvedic Drugs should be appointed for this purpose immediately, who should have under him an Ayurvedic Drugs Advisory Committee. This wall not only facilitate the drafting of the legislation we have in mind but will also help Government to decide disputed points about Ayurvedic drugs and medicines which arc now cropping up fre-quently.

SUMMARY

64. To summarise what has been dealt with in this chapter it may be stated that Pharmaceutical Chemistry of Ayurveda which was well-developed in the olden days fell on evil times and left the piacutioner at the mcicy of a few umeluulc collectors ol drugs and a number of Ayurvedic pharmaceuti-cal lirnu whose manufacture was in no way standardised. The Vaidya who originally prepared his own medicines could not meet the demands of his patients and had, therefore, lo rely on the open market. Barring a few good firms and cooperative concerns like the one at Adyar (Madras), there was no authentic supplier of Ayurvedic medicines. All the same nearly eight million pounds of such medicines, costing approximately Rs. 6 crores are being consumed every year in the country.

65. We have shown that the drawbacks in the present state of Ayurvedic pharmaceutices are that no systematic botanical survey of medicinal plants been conducted, that no tandard methods of identification and collection of herbs and drugs have been evolved, that medicinal plants gardens, herbaria, museums, etc, do not exist at central places to help in correct identification, that comprehensive Ayurvedic Pharmacognosy and Pliarrrutopocia have not been prepared, that there is no control over the contractors engaged in collection of raw drugs from forest areas, thus leading to adulteration and that named pharmacists and efficient Vaidyas are not employed in the manufacture of medicines.

66. We have, therefore, recommended that immediate steps should be taken to arrange for botanical surveys in the various forest regions in collaboration with forest authorities, so that an Ayurvedic Pharmacognosy can be compiled.The creation of Drug Farms and Museums by Governmrtit is the first essential step for the standardisation of crude drugs and minerals. Arrangements should be made for systematic collection and storage of raw materials through Forest authorities enabling the practitioner and manufacturing firms to get their supplies of genuine and good quality drugs for manufacturers of medicines. Efforts should be made to stadaradise the formulary of each medicine and to compile a proper Pharmacopoeia. Standards will have to be laid down for prepared medicines also in order to ensure correct admixture of components. We have in the end suggested that to implement these suggestions and to put Ayurvvedic Pharmaceutics on a sound basis the appointment by Governments of Technical Advisers and Advisory Bodies and the passing of necessary legislation by the Centre are urgently needed.

CHAPTER VII
STATUS OF PRACTICE

In ancient times, the practice of medicine in our country was controlled and patronised by the kings. This can be deduced from the saying of Sushruta:

> "Having studied the science, having fully grasped the meaning, having abilities to teach the science, having secured king's per-mission to practice, one should undertake a medical practice."

History shows that only a strong State patronage can sustain and develop the indigenous arts and sciences including medicine. Even in the recent past in our country there was strong State support for Ayurveda in certain former Indian States, such as Travancorc-Cochin, Mysore, Jaipur, I etc. During our tour, we could notice a striking difference in the position of Ayurveda in these States with that of neighboring Provinces previously administered by the Britishers.

2. In England as early as 1858, the General Medical Council was established to control the practice of medicine in that country. By adopting the same principles, various Acts were passed in this country for regulating the modern system of medicine between the years 1912-20. So fir as control of the practitioners of Indian system of medicine was concerned. Acts were passed only from 1937 onwards. At present all the States except Mysore, Orissa and Jammu and Kashmir maintain. Registers to register them through Boards of Indian Medicine. Even in the latter Stales, dlum are being made to introduce the necessary legislation for the regulation of practice so that they could fall in line with the rest of the country in the matter of Ayurvedic system of Medicine. In a way, therefore, indigenous systems of medicine by now have been legalised by State Governments.

3. It may be stated at this stage that the status of the Ayurvedic practitioner depends upon the Government administration and the facilities it affords for the practitioner, and the Boards of Indian Medicine whith are supposed to control the practitioners. We have to look into the privileges that ought to be given to it in all fairness and justice. It also dc prods upon the way the Ayurvedic practitioner is conducting himself medically and ethically. Thus for the uplift of the status of Ayurveda, action may be needed at the administrative level and also among the rank and file of the Ayurvedic practitioners themselves. We propose to discuss these points in the rest of the chapter and make appropriate suggestions.

ADMINISTRATIVE ORGANISATION

4. According to the present administrative set up almost all medical and public health subjects including Indian medicine are administered by the State Governments. The Central Government has responsibilities only to advise, coordinate and assist the State Governments in these matters. Up-till 1955, though the Central Government was actively taking part in development of Ayurvedic System of Medicine, it had no separate technical staff to carry on this work or to advise the Government. The Directorate General of Health Services was carrying on this task without any help from technical persons. In 1956, one Honorary Adviser on Indigenous Systems of Medicine was appointed under the Ministry of Health. This was a great step forward in the right direction. We would, however, suggest that the Central Government should have a team of experts to advise the Goverment in all aspects of development of Indian Systems of Medicines in the country.

5. There are separate Directors, Joint or Assistant Directors of Ayurveda in ten States. In some of them the Directors of Ayurveda deal directly with the subject without the intermediate stage of Director of Health Services. Take for example Kerala, Madhya Pradesh, Bombay, Rajasthan and Punjab. Maximum attention is being devoted to the schemes of Ayurvedic education and research in these States, while in West Bengal and Madras, the control mainly vests with Directors of the modern medicine who are naturally in-dincd to look down upon Ayurveda and to give it a step-motherly treatment. In wiine States like Bihar and Orissa the subordinates in charge if Ayuivcda arc able to carry through their schemes because of their vigour and enthusiasm in spite of the over all control of modern medical men.

6. An Auutant Director of Ayurveda who is tame and ineffective is likely to succumb to the over-riding influence of the Director of Health Services. Sometimes it is not only the lameness of the individual that is the cause but the lark of any status at all in such a person. He is not paid enough to keep up his dignity in the ranks of scientists. Very often an Assistant Doctore of Ayuivcda is found to lack drive, initiative and efficiency.

Budget

7. Take again the provision of funds in the State budgets for the develop-ment of indigenous systems of medicine. It will be seen from the table on Page 136 that this provision which varies between 0.08% and 13% is very meager and clearly reflects the treatment given to Indian Medicine.

For the puipuac of comparing the amounts provided in the budgets of Stales for Ayurveda vis a vis modern medicine, the example of the U.P. Budget may be giveu. This will show the great disparity between the budget provision for the two systems of medicine. Uttar Pradesh has been chosen because it is one of the Stales where the Indian Systems of Medicine have been in vogue continuously and where Ayurveda is supposed to have consistently been encouraged. Please see Figures 7 and 8:—

Accommodation

8. Very often we find a modern medical Institution housed in imposing structures while the Ayurvedic institution is located in hutments or out-houses ill built, ill equipped and ill-cared for. Similarly the modern hospital and dispensary is well piovided for, while the Ayurvedic hospital or dispensary u badly house and badly equipped. The man in-charge and the location of these Ayurvedic institutions can hardly impress even the illiterate villager who sees squalor side by side with grandeur.

Name of State	Population (in millions)	Number of patients treated annually in millions under Ayurveda	Modern	*BUDGET(in lakhs)*			
				Ayurveda	Modern	Total	% of Ayurveda to Total
Andhra-Pradesh	31.26	4.1	12.8	19.8	289.9	309.7	6.39
Assam	9.0	. 0.2	2.0	4.3	—	111. 5	3.86
Bihar	38.7	3.0	6.1	4.4	248.0	252.4	1.74
Bombay	48.1	N.A.	N.A.	38.8	747.7	786.5	4.93
Junmu & Kjuhmir	4.4	0.9	2.0	5.0	54.0	59.0	8.47
Kerala	13.6	3.5	6.4	26.5	199.3	247.2	10.72
Madhya Pradesh	26.1	0.2	NA.	18.3	230.9	249.2	7.34
Madrai	30.0	O.S	21.0	14.1	403.7	417.8	3.37
Mysore	19.4	4.1	NA.	12.3	257.6	270.6	4.54
Orissa	14.65	0.8	5.8	4.8	73.0	91.5	5.24
Punjab	16.1	2.4	10.1	19.0	211.4	230.4	8.25
Rajas than	16.0	8.9	NA	30.1	185.3	227.3	13.24
Uttar Pradesh	63.2	17.0	N.A.	42.4	363.7	406.1	10.44
Bengal	26.3	0.2	8.5	0.5	574.1	574 6	0.087
Delhi	1.7	—	—	—	—	—	—
Tripura	0.9	0.02	0.6S	0.06	15.82	15.88	0.37
Manipur	0.3	—	—	—	—	—	—
Himachal Pradesh	1.1	—	—	—	—	—	—

The villager in his utter simplicity falls a prey to the grandeur of the modern medical dispensary even in preference to an efficient treatment at the hands of the Ayurvedic physician. It is high time that these learned men of science are given a chance to prove their merit.

Economic Status

9. If we are to have good Vaidyas, we must ensure to them respect in society and economic security, which is only their proper due, because they have pledged themselves to fight disease and death in the service of humanity. We should also place at their disposal all possible facilities impartially.

10. Therefore, the first and foremost thing to be done is to establish an independent department of Indian medicine with a full-fledged director qualified in the indigenous system of medicine.Unless it is done, we are convinced that no real progress can be achieved.

11. Under the Directors of Indian Medicine in a few States they have Deputy or Assistant Directors to assist them in their day to day administration.In most of the States under the Directorates, there are Inspectors of

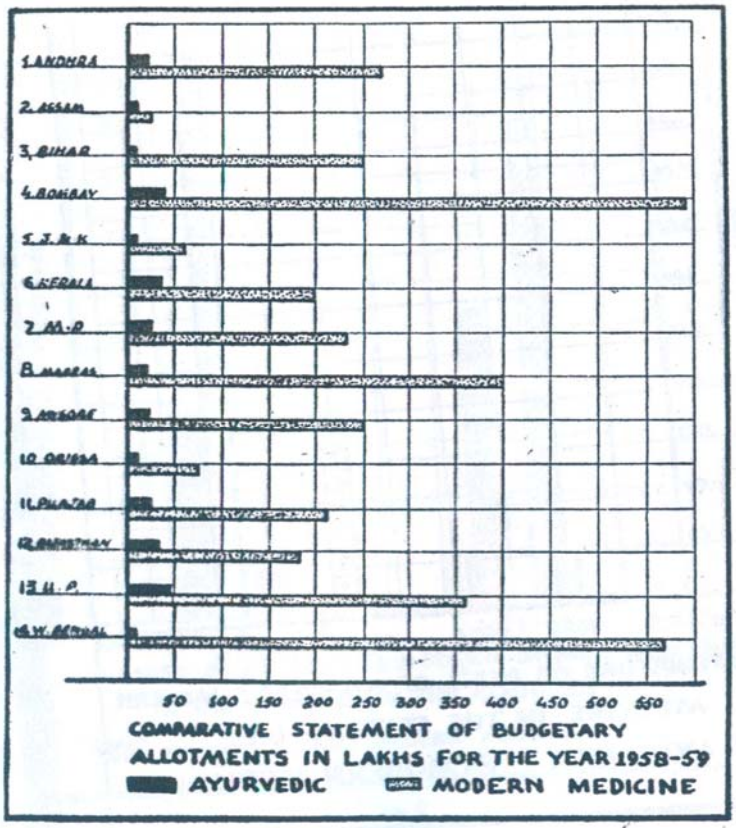


FIG. 7

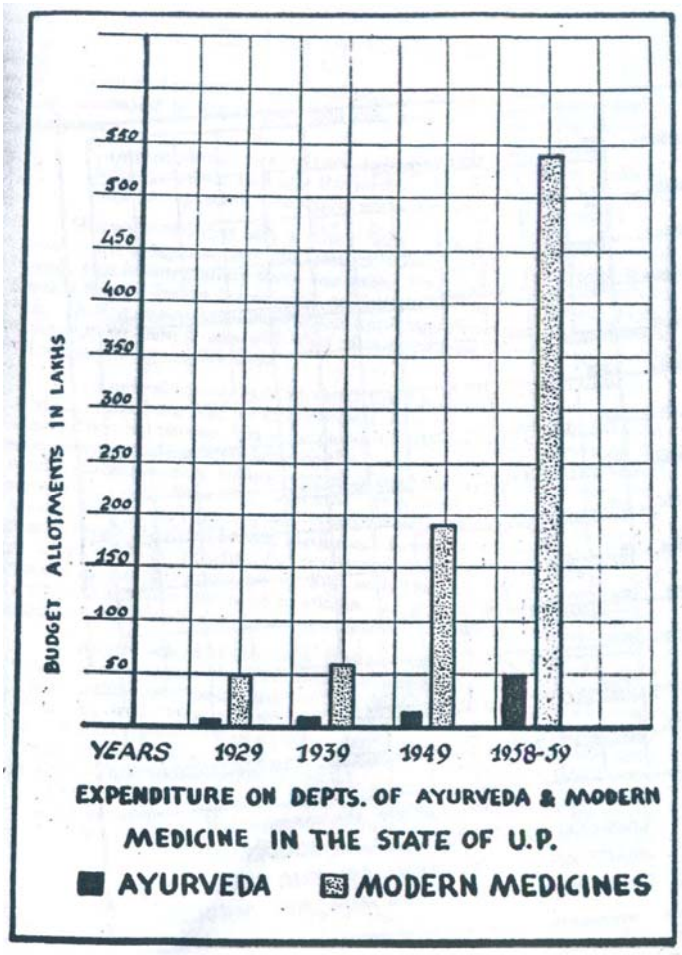


FIG. 8

Ayurveda either division-wise or district-wise who are responsible for inspecting all the hospitals and dispensaries. The administrative officer-in-charge of Indian Medicine at the district level is generally the Civil Surgeon in most of the States. There are varying numbers of Ayurvedic physicians with one compounder, one peon and one sweeper. But die number of staff varies from State to State and sometimes from dispensary to dispensary within the same State according to the volume of work involved.

Ayurvedic Hospitals and Dispensaries

12. In all, there are about 5,473 Ayurvedic Hospitals and Dispensaries in the country, the details of which arc given in the following table. It will be noticed that there are 101 Ayurvedic hospitals and 5372 rural dispensaries. In the State of Kerala, there is one Ayurvedic institution for every 100 sq. miles and in U.P. one for every 102 sq. miles. These are the two States where the number of Ayurvedic institutions is the maximum. On the other hand. West Bengal has the least number of Government Ayurvedic institutions with only one dispensary for 3765 sq. miles. This reflects the amount of State patronage that has been received by the Ayurvedic system of medicine. Similarly, population-wise also, we can say that West Bengal has the minimum with one Ayurvedic institution per 2.912 million whereas in Rajasthan they have the maximum with one Ayurvedic dispensary for bout every 25,759 people.

TABLE XI

Average Area and Population served by Hospital and Dispensary

about every [illegible]

TABLE XI

A verage Area and Population served by each Hospital and Dispensary

Name of State	Number of dispensaries in the State	Number of hospitals	Total	Average area served by each hospital and dispensary (Sq. miles)	Average population served by each hospital and dispensary
Andhra Pradesh ..	581	1	582	182	53,711
Assam ..	16	1	17	5,004	5,31,982
Bihar ..	349	3	352	191	1,10,181
Bombay ..	701	20	721	264	66,942
Jammu and Kashmir	156	—	156	550	28,269
Kerala ..	123	26	149	100	90,934
Madhya Pradesh ..	754	5	759	226	34,350
Madras ..	27	1	28	1,792	10,70,533
Mysore ..	509	6	515	145	37,672
Orissa ..	132	1	133	453	1,10,120
Punjab ..	236	2	238	198	67,794
Rajasthan ..	616	4	620	213	25,759
Uttar Pradesh ..	1,085	27	1,112	102	56,849
West Bengal ..	6	3	9	3,765	29,22,487
Delhi ..	—	—	—	—	—
Himachal Pradesh ..	80	—	80	137	—
Manipur ..	nil	nil	nil	—	—
Tripura ..	1		—	—	—
Andaman ..			—	—	—

15. If we compare the position of Ayurvedic Sospiuls and dispensaita to similar institutions in modern medicine, it will be found that there are 9833 modern hospitals and dispensaries in the whole of the country. Amongst them, area-wise, Kerala and Madras have one institution for every 62 to 63 square miles whereas in Assam, Jammu and Kashmir and Rajasthan the areas served by the individual/institution are the largest. Population-wise, Mysore, and Jammu and Kashmir have more facilities than the rest. The details of these statistics are given in the Figures 9 &10.

14. It becomes clear that the variation with regard to the modern medical institutions is minimum between the States throughout the country, but the variation with regard to the Ayurvedic institutions is enormous from one State to another. This is because of the lack of uniform policy regarding Ayurveda throughout the country.

We, therefore, suggest that some uniform policy should be adopted so that the status of Ayurveda in providing medical relief especially to the people of rural areas may he considerably enhanced.

Expenditure on medical relief

15. In the case of modern medicine the country as a whole spends Rs. 80 crores per annum (Rs. 50 crores on medical side and Rs. 30 crores on Public Health side). On the other hand, the Central and State Government* together spend about Rs. 2.5 crores only for provision of medical relief under all Indian systems of medicine which comes to about 5% of the total budget on the medical side of modern medicine.

16. It will be observed that in the whole country the per capita expenditure on modern medicine is in the neighborhood of Rs. 1.38, whereas the per capita expenditure on Ayurvedic system of medicine is about 7.78 n.p. only. Again if the expenditure figures are compared with the total number of patients treated, further light is thrown on the differential treatment given to the Indian Systems of medicine. Thus in about 10,000 modern medical institutions about 12 crores of patients arc treated every year. Surprisingly enough it was found that in about five thousand Ayurvedic institutions about six crores of patients are treated in a year. Thus the Dumber of patients who recieve the treatment in all the institutions both modern medical and Ayurvedic is proportionately the same. Another important difference to be noted is that the patients treated in the modern medical institutions include both indoor and outdoor and they belong mostly to urban areas, whereas the patients treated in the Ayurvedic dispensaries arc mostly out-door and belong to rural areas. We may add that no patient will ever go to an Ayurvedic hospital or dispensary, unless he gets relief from it. All the six crores of people cannot be deceived every year nor can they sacrifice their health for the sake of sentiment.

17. Again if the per capita expenditure on Indian systems of medicine in all States is compared, we will find that in Kerala and Rajasthan where the Ayurvedic system of medicine is still in the hands of progicastve people, the per capita figure is about 19 n.p. whereas in West Bengal the per capita expenditure on Indian medicine is negligible. (Vide Figure 11)

18. Area-wise Bombay, Rajasthan and Uttar Pradesh spend the maximum and West Bengal and Orissa the minimum.

19. On the whole, we come to the conclusion that even without giving much encouragement to this system, it is not only doing very useful service,

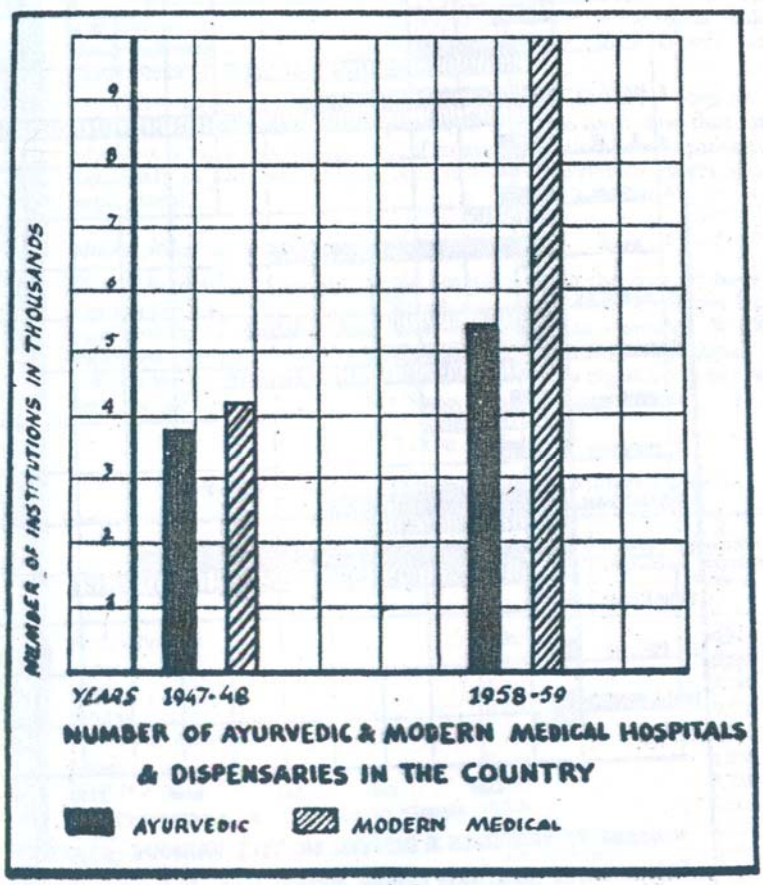


FIG. 9

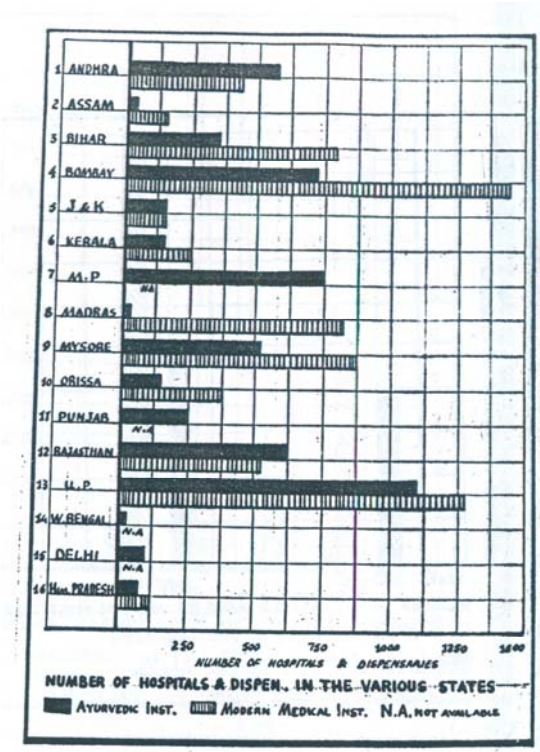


FIG. 10

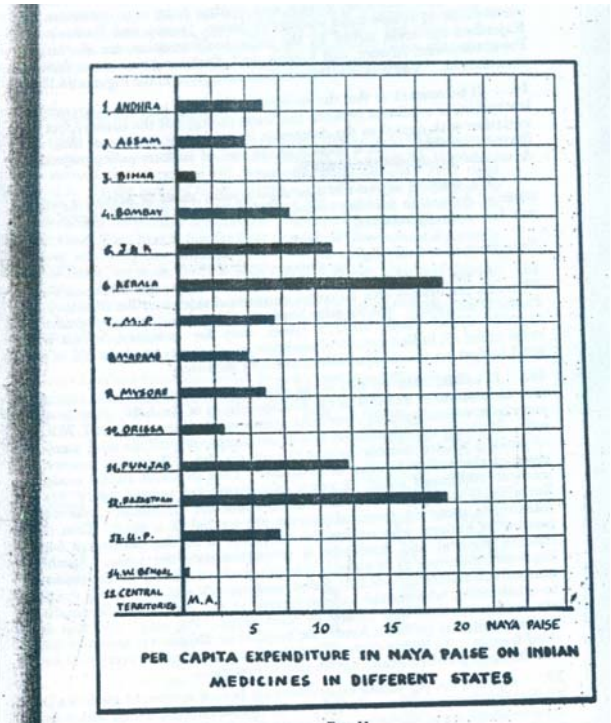


FIG. 11

but is also very popular especially in rural areas.To find out the popularity of Ayurvedic treatment, the Committee had issued a questionanire to a cross-section of the country's population, through certain social organisations. Unfortunately however, the response to litis questionnaire was not complete, first because this questionnaire was not in regional languages and next because the only replies we got was from Government employees, higher paid people, etc., residing in certain urban areas only. It is unfortunate that there arc still some medical administrators who say that no modern civilised Government ought to foster any scheme for the advancement of Indian system of medicine in our country. Some of them even feel that it is quite wrong to allot any public funds to encourage any of the Indian systems of medicine.

20. With regard to the professional standing of the Ayurvedic Practitioner, one of the Directors of Health Services remarked in a recent meeting of the Central Council of Health that "Professional knowledge of the students who come out of the college of Ayurveda was very poor. Their diagnosis which was the main thing was wrong. It would be disastrous, therefore, to post them to rural areas." Another Director of Health Services said, "There is absolutely no justification for giving a sub-standard medical assistance in the rural areas."

21. It will be apparent that the above statements are contrary to facts. More than one-third of the total patient population in our Country mostly comes from the rural areas and are still treated under the Indian system by spending only 5% of the total medical budget. Although a meager amount is allotted to Ayurvedic treatment, it is obvious that the people still resort to this treatment because they find it more beneficial and economical. We may be permitted to say that quacks may exist in all systems of medicine. There are people in all systems who have greater interest in earning more money at the cost of suffering humanity. There are also inefficient medical practitioners in all systems of medicine. We would urge, therefore, that it is unfair to attribute the personal drawbacks of the practituner to the system of medicine he represents. In this connection it wil be interesting to quote the remarks of Major-Gcncral Sir Patrick Heptr in his book on Medical Profession in India. He says, " I feel that our attitude of indifference and hostility has hitherto not been altogether wise ; it has generated much sympathy on the part of many of the people in favour of the Kavirajas and Hakims, whom they look upon as being down-trodden and repressed Were the Kaviraj or Vaid and Hakim to do harm and afford no relief, their systems would not have acquired the confidence they enjoy at present, the Hindu system could not have survived for over 2000 years nor the Arabic system many centuries if they did nothing but harm. I entertain doubts as to the political wisdom of ignoring the holds these oriental systems have on the people and I am quite sure that adopting an attitude A contempt is not the way to meet them I am not disposed assume this attitude of lofty aloofness and antagonism. I prefer endeavouring to make these systems, instruments to serve the people of India in a highly practical way From all one has seen and heard during the last few years of one's service in India, there seem to be a desire on the part of Ayurvedic and Unani practitioners to bring their system into more intimate relation with modern scientific medicines and I feel strongly that this spirit should be in every way encouraged. It is highly probable that with greater sympathy from us we shall ourselves be benefitted by acquiring the useful parts of their knowledge."
It is, therefore, futile to condemn the Ayurvedic system and to say that it is useful neither to the urban nor to the rural areas, when crores of patients are taking the benefits from it every day all over the country.

22, We do not believe, on the other hand in saying that there is no defect in the fluent practice of Indian Medicine or that the practitioners of the system are up-todate in their knowledge. But since its utility is well established, it is our duty and also the duty of the State to approach the problem with sympathy and encourage and recognise the system so that it can become more useful to the public. For carrying out alt these programmes including research, a large number of men, money and material is no doubt needed. Let us give a full-fledged support and see the results, instead of blindly following and copying the methods followed by the United Kingdom and the United States of America.

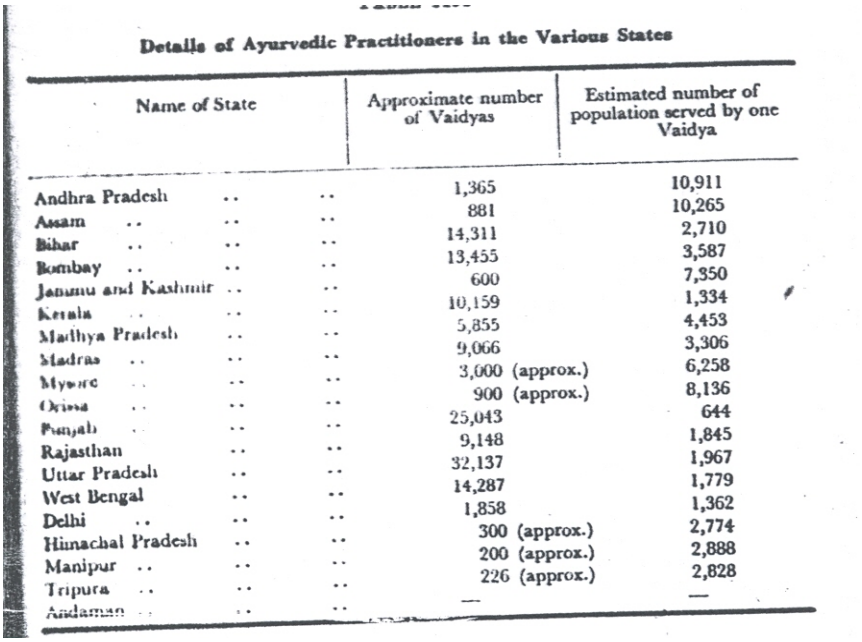
They have developed modern systems as its suits their country. Let us, therefore, develop our own system in the same spirit and thus make it suitable to the needs of our country, of course, maintaining the scientific aspects completely in tact but merging with it the humanitarian aspect also to a huge extern.

Medical Relief under the Ayurvedic System

23. The details of the Ayurvedic practitioners in the country have been given in the Table XII below. Roughly speaking, there are about 1,15,000 trgisterrd Ayurvedic practitioners in the country and another 30,000 unregistered practitioners in certain parts of the country. The latter figure is by no means accurate, since in three of the States registration has not yet been started and in another four States it is not compulsory.

Table XII

Details of Ayurvedic Practitioners in the Various States



Details of Ayurvedic Practitioners in the Various States

Name of State	Approximate number of Vaidyas	Estimated number of population served by one Vaidya
Andhra Pradesh	1,365	10,911
Assam	881	10,265
Bihar	14,311	2,710
Bombay	13,455	3,587
Jammu and Kashmir	600	7,350
Kerala	10,159	1,334
Madhya Pradesh	5,855	4,453
Madras	9,066	3,306
Mysore	3,000 (approx.)	6,258
Orissa	900 (approx.)	8,136
Punjab	25,043	644
Rajasthan	9,148	1,845
Uttar Pradesh	32,137	1,967
West Bengal	14,287	1,779
Delhi	1,858	1,362
Himachal Pradesh	300 (approx.)	2,774
Manipur	200 (approx.)	2,888
Tripura	226 (approx.)	2,828
Andaman	—	—

24. On the whole, there is roughly one Vaidya for every 2500 people in the country, compared to one modern physician for every 5000 people.

25. Among the States, Punjab has the maximum number of registered practitioners with about one practitioner for 644 people. Next comes Kerala with about one Ayurvedic Physician per 1311 people. Assam has the least number of registered Ayurvedic practioners with one per 10,911 population. We do not have correct figures in respect of Mysore and Orissa, but it is estimated that their figure is in the neighbourhood of one per 6000 to 8000 people or so. (see Map 4).

26. It will be appropriate here to mention briefly the statistical aspect of registered modern medical practitioners for the sake of comparison. In the whole of the country, there are about 75,000 registered medical practitioners in modern medicine. Please sec Figure 12

West Bengal has the maximum number of medical petitioners with 21,830 in the register; or in other words one doctor for every 1250 popu-lation. Next comes Madras and Assam with one doctor UM 3000 people. In Bombay there is one doctor for every 4000 people.

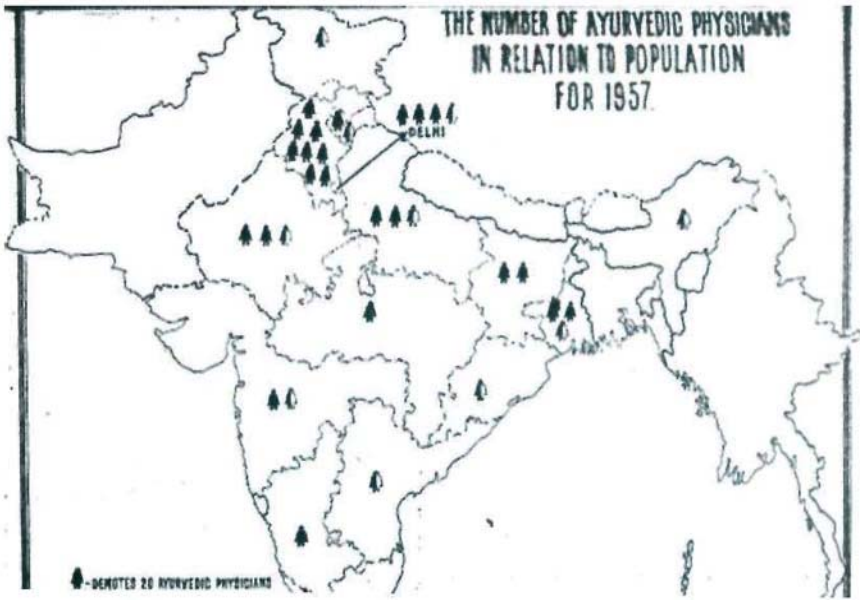
27. Another important point that we have to mention is that, while the services of modern medical practitioners are profitably utilized in ito nation building activities, the services of Vaidyas are not luring profitably utilised in many programmes for the development of rural areas like the Community Development Projects, National Extension Service Programmes etc In fact the attitude of the authorities concerned towards the registered Ayurvedic precincts is indifferent and apathetic We all know that many of these nation building activities are held up for want of trained technical personnel. We understand that this matter was inter alia discussed in one of the meetings of the Central Health Council, but was summarily rejected. Thus for example, the proceedings of the Central Council of Health held in 1957 says. " Taking into consideration the functions of the officer in-chargc of Primary Health Centre who is a keyman to develop the health services, who is to coordinate the work of other workers, the consensus of opinion at the conference was that the doctors trained at the College of Integrated Medicine should not be appointed as officers in-tharge of the Primary Health-Centres." We have, in the Chapter on "Training" said that the integrated Ayurvedic graduate has adequate training in modern medicine and is capable of contributing equally to the medical relief of the country.

There is, therefore, no reason why the Ayurvedic graduate should not be put in charge of primary health centres under the community development programme.In fact these graduates are more

competent to give medical relief in the rural areas than the modem medical men because they know the life and customs of the villager far better.

BOARD OF INDIAN MEDICINE

28. There axe at present 11 States in India having Boards of Indian Medicine for the control of the practice of Indigenous Systems of Medicine. Some of the Boards have been set up under Government orders and others constituted under an Act of the Legislature. Table XIII below will indicate the date of starting these Boards, the number of Members, number of registered practitioners, etc.



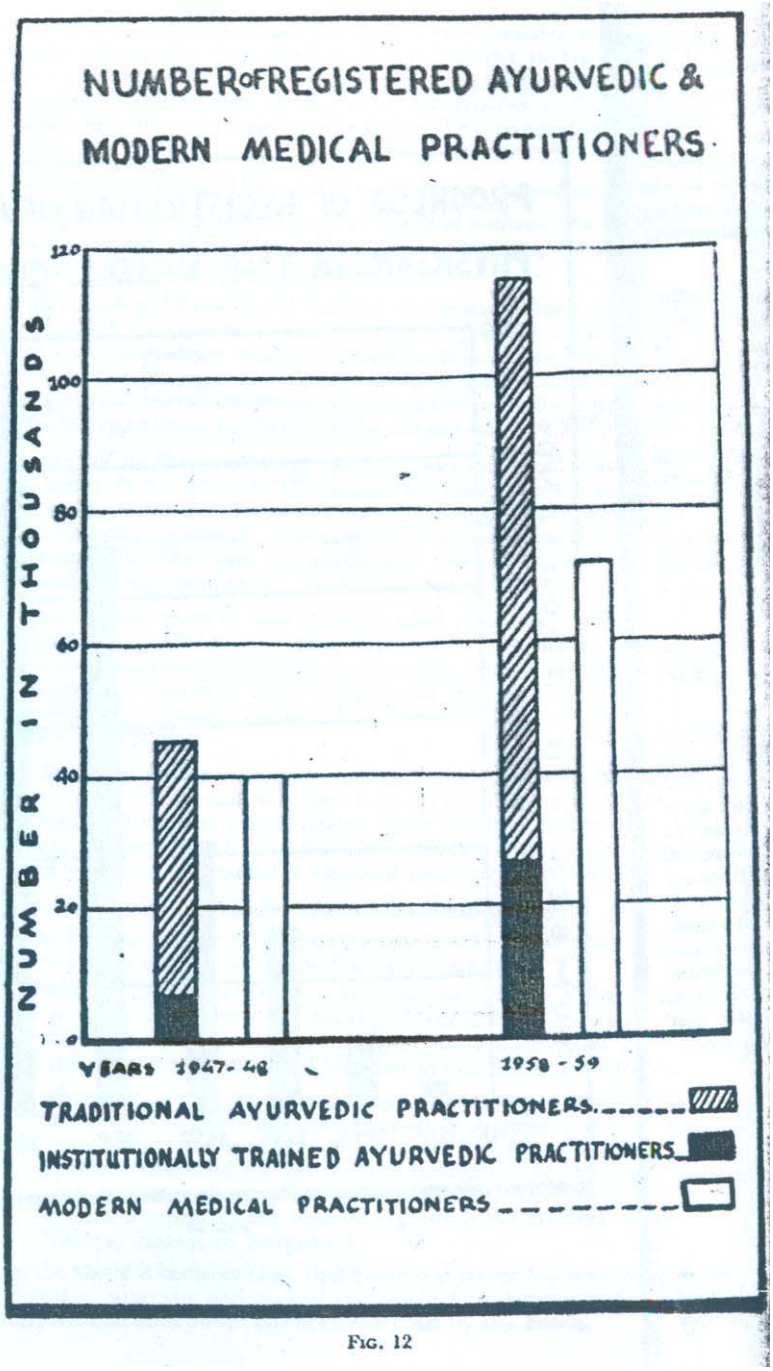

NUMBER OF REGISTERED AYURVEDIC & MODERN MEDICAL PRACTITIONERS
NUMBER IN THOUSANDS
120
100
80
60
40
20
0
YEARS 1947-48
1958-59
TRADITIONAL AYURVEDIC PRACTITIONERS
INSTITUTIONALLY TRAINED AYURVEDIC PRACTITIONERS
MODERN MEDICAL PRACTITIONERS

FIG. 12

TABLE XIIII

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TABLE XIII

Boards of Indian Medicine—Registration of Practitioners

Name of State	Date of setting up	Number of members	Number of practitioners registered	Number of practitioners un-registered	Any grouping for traditional practitioners	Is Registration compulsory ?
Andhra Pradesh ..	7-10-54	11	1,365	N.A.	No	No
Assam ..	9-9-49	11	281	600	Yes	Yes. for people seeking Govt. employment
Bihar ..	17-1-52	29	4,311	10,000	No	No
Bombay ..	1940	14	13,455	—	Yes	Yes. In urban areas
Jammu and Kashmir	—	—	—	—	—	—
Kerala ..	14-10-53	10	5,159	5,000	Yes	Yes
Madhya Pradesh ..	Not yet reorganized	—	5,855	—	—	—
Madras ..	1932	15	9,066*	—	Yes	Yes
Mysore ..		—	—	—	—	—
Orissa ..	Not yet set up	—	—	—	—	No
Punjab ..	30-10-50	11	25,043	—	Yes	Yes
Rajasthan ..	1954	11	6,648	2,500	Yes	Yes
Uttar Pradesh ..	1947	21	31,937	200	No	No
West Bengal ..	1937	7	7,287	7,000	No	No
Delhi ..	1951	11	1,658	200	Yes	Yes

(* Includes Unani & Siddha).

29. Historically speaking, the first Board of Indian Medicine was established in U.P. in 1926, by the order of the U.P. Government, though it actually started functioning in the year 1931. Later on, a Bill was passed in the year 1939, but due to political reasons, it did not take effect till 1974. The second State which constituted the Board as per orders of the Government was Madras. This State constituted the Central Board of Indian Medicine in the year 1932 with 15 elected members and a nominated President. Thereafter, the West Bengal Government also set up a Board of Indian Medicine in the year 1937 by Government order.

30. The first State which constituted a Board by means of an enactment war Bombay. This Act was known as the Bombay Medical Practitioners Act, 1938 and was put into operation in the year 1940. It is a model Act and many of the States later on followed this. The provision under this Act were very liberal and gave the registered Ayurvidir partitutioner many of the rights and privileges which were enjoyed by modern medicine practitioners. We can very well imagine the healthy ***** Of this Act on the practising Ayurvedic physicians of the Bombay State they are making good progress in Ayurveda and arc experimenting with HMiiy new Adventures HI the field of education, research and practice in that State.

31. In another seven States, viz., Assam, Andhia, Bihai, Kerala, Madhya Pradesh, Punjab and Rajas than, Boards of Indian Medicine have been constituted either by Acts of Legislature or by Government orders, after the country had become independent, mostly between the years 1949-1954.

32. At present, there are only three States, viz., Mysore, Orissa and Jammu and Kashmir which have no Boards of Indian Medumr. We were told during our tour that Mysore and Orissa are contemplating to bring forward; a comprehensive bill on the subject in their respective State Legislatures soon. Jammu and Kashmir have not finally decided about it.

33. When all these States enact legislation to control the practice of Ayurveda on a uniform pattern, there is bound to be a good future for this system of medicine. Figure 13 will illustrate the process of activities of the Boards of Indian Medicine during the last thirty years.

34. The main aim of these Acts k to improve the tutus of these practitioners and regulate their practice. Under these Acts, certain privileges are granted to qualified and registered practitioners.

35. The Boards of Indian Medicine, as at present constituted in individual States, have a nominated or elected President and members varying from 6 to 28. The administrative officer is named as either as Registrar or Secretary. The details of the composition of the council, number of members etc. are givenm in table XIII. Usually the tenure of the members is five years and in all matters of their rights and previleges the decisions of the state government is final. The board maintain a register of qualified ayurvedic practioners. The other functions of these boards are generally, supervision of Ayurvedic education, inspection of the examinations conducted by the various institutions and advising the state governments generally in all matters of Indian medicine, especially with regards to the recognition of various Ayurvedic qualification given by the different institutions in the country. In some states they also have a separate faculity of Indian Medicine to control Ayurvedic education.

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36. At this juncture the Committee feel that educational aspect of Ayurveda should be dealt with by the University authorities, who may, however, take the advice of the Boards of Indian Medicine, where necessary. On the other hand the Boards should be primarily in charge of the control of practice only.

METHOD OF REGISTRATION

37. There were a lot of initial difficulties to start the registration of Ayurvedic practitioners in the country because, this being a traditional medicine of our country, many eminent professional people though very Successful in their practice did not have recognized institutional qualification

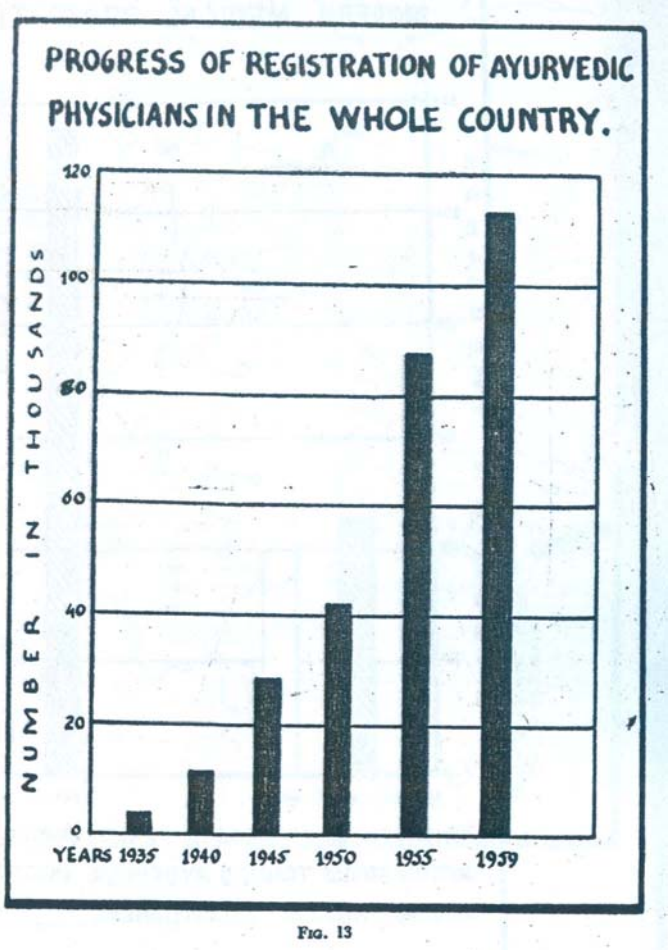

FIG. 13

Thus in order to bring all of them together under one registration the government had to take arbitrary decisions. The registers included the names of persons holding qualifications awarded by any of the Universities established by law in India and also the names on the rolls of the recognised Ayurvedic institutions in the country.

38. Incidentally each Board has its own schedule of recognised institutions.

It is high time that a comprehensive list of recognised institutions for the whole of the country is prepared and published so that a person passing out of the institutions of one state is automatically registered in the other states.

39. With regard to the traditional Vaidyas, government have adopted a measure by which the name of person who is in practice for about ten years or so and who producers satisfactory evidence from a Magistrate to this effect is entered in the register. Those who have not completed the prescribed period of practice have also their names enlisted in the register and then get the full registration certificates at the completion of the full period.

40. In many of the States, all these three categories of people have been scheduled under "A", "B" and "C" groups, for institutionally qualified, traditional and enlisted types of practitioners respectively.In certain States there is no such grouping system. The practice in ceruin Stairs of grouping the institutionally qualified and the traditional Vaidyas together in one register is causing resentment in the minds of younger generation.

41. We feel that there should be some method by which one can easily differentiate between institutionally qualified and traditional practitioners. Not only this, we also feel that there should be separate arrangements for registration for those who attend the integrated courses and those who attended the Shudha Ayurvedic courses. Only when all facilities for ayurvedic training have become unified, can there be a common register for all of them.

42. The Boards of Indian Medicine have the same powers as the State Medical Councils. Their main function is to register the names of the properly qualified Ayurvedic practitioners. They are also

entrusted with the function of removing from the Register the name of any practitioner who by reason of crime or misconduct is declared unworthy to remain on it.

43. Thus one of the Acts of the Board of Indian Medicine says,

(i) The Council may prohibit the entry in or order the removal from the register the name of any Vaidyas or Hakim or Surgeon—

(a) who has been sentenced by a criminal court in any of the States of India to imprisonment for the offence declared by the Slate Government to involve such moral turpitude as would render the entry or continuance of his name in the register undesirable;

(b) whom the Council after enquiry has found guilty of professional misconduct or other infamous conduct by a majority of at least two-thirds of the members present and voting in the meeting specially convened for the purpose provided that the Council may entrust such enquiry to a special committee which shall submit a report to the council regarding the conduct of the Vaidya, Hakim or Surgeon."

From the above it becomes clear that enormous power has been vested with the Board to supervise and control the conduct of these practitioners but we rarely see that such power has been exercised by any Board.

44. We recommended that the names of registered ayurvedic practitioners should be I and published every year and strict action taken against persons who i an guilty professional misconduct, after giving them a previous warning.

45. The Boards should insist on the proper conduct of practitioners. For instance they should impress on their registered practitioners that

(1) They ruust not issue a certificate that is misleading, untrue or improper;

(2) They should not associate professionally with any of the unregistered Ayurvedic practitioners, especially with regard to sale of certain types of poisonous drugs or issuing certain certificates;

(3) A registered practitioner may not advertise directly or indirectly for the purpose of obtaining more patients or for increasing his income unduly. In this respect, he should also see that he never associates himself with the business of manufacturing or selling of any secret remedies, the contents of which are not disclosed to the public or authorities concerned.

AYURVEDIC PRACTITIONERS

46. In reply the Committee's Questionnaire (No. 2) certain information and Miggeslions from individual practitioners of Ayurveda were irceivid. There are in all about 25000 Ayurvedic physicians in the country who are institutionally qualified. Thus only about 22% of the total number A registered Ayurvedic practitioners have received institutional training and the remaining 78% are traditionally trained Vaidyas. Most of the persons who received institutional training utilise both the modern and ancient methods that arc taught to them for the purpose of establishing the diagnosis. For the purpose of giving treatment, older graduates mostly used Ayurvedic medicines and rarely modern medicines. Recently since the emphasis during the training period has shifted more towards modern medicine in some of the colleges, the recent graduates coming out of these colleges seemed to show a preference for the practice of more of modern medicine. We have already dealt with the reasons for this lapse on the part of Ayurvedic practitioners in sufficient detail in the chapter on "Training".

47. Even amongst the traditionally trained 90,000 Vaidyas about 50% of them utilise some of the modern diagnostic facilities, such as stethoscopes, modern clinical methods of urine, stool and blood examinations. The remaining 50% use only the prescribed Ayurvedic methods of diagnosis, such as previous history, determination of "Prakriti", "Nadi' examination etc. Amongst these Vaidyas roughly 90% of them use only Ayurvedic medicines and about 10% supplement their medicines with some of the essential modern chemotherapeutic drugs in exceptional circumstances.

48. Here we might again point out that non-availability of ready-made Ayurvedic medicines is one of the causes for the lapse on the part of the practitioners. The demand on the Ayurvedic practitioner is so great that lie cannot cope it by the old method of manufacturing medicines himself. Nor are genuine medicines available from the pharmaceutical firms. This was the reason why the Cooperative Ayurvedic Pharmacy of Adyar (Madras) was started some years ago by the advocates of Ayurveda.

We urge that there is a great need for opening similar co-operative Ayurvedic Pharmacies throughout the country.

Specialisation

49. The present practice of Ayurveda is in the rim hunted only to the general practice, though in Ayurveda eight branchers of specialization have been described. The remaining seven branches of specialities are not prevalent in most of the state owing to historical and other reasons. During our tour we have found amongst the ayurvedic practitioners a gret desire to revive Ayurveda and its specialities on the basis of Ashtanga or eight branches. We have dealt with this aspect of the question in detail in the chapter on "Research". Suffice it to say here that the future of council of *Indian Medicine and council of Ayurvedic Research should take early steps for exploring and encouraging these specialised branches and foe making them subjects of post-graduate studies in training institutions.*

Secret Remedies

50. The existence of several so-called "Secret Remedies" is one important aspect of the present status of practice in Ayurveda. The subject of using certain secret remedies by some of the Ayurvedic phusicians for getting spectacular results has aroused great interest in the country recently. Not only the people in general but also the responsible people in the Government have started thinking as to how best to make use of these remedies for the welfare of the people in general and incidentally enrichment of Ayurvedic science.

51. These secret remedies are not peculiar to our country alone, though we have perhaps greater number of such secret remedies. The British Medical Association in 1909 published a booklet called "Secret Remedies", in which the results of the analysis of these remedies done on scientific lines have been brought out along with the claim of the persons prescribing it.
In our country also, it is high lime for an official or non-official organisation, to go into the question of these secret remedies immediately.

52. Professional opinion has always been adverse to the of secret remedies in the absence of analytical proof.In the United Kingdom practitioner who is interested in the manufacture or sale of' a secret iruicdy Is able after inquiry by the General Medical Council to have his name rinsed from the Medical Register.Use of such secret remedies is treated as an unethical practice, because it does not keep the interest of' the welfare of the patients in the forefront, but gives more importance to the financial and other gains of the practitioner. In India some of these secret remedies are very popular.The unethical practitioner takes advantage of the weakness in the human nature and tries to impress the patients by saying that many herbal ingredients collected from the remotest jungles of the world have secret properties and that the virtues of these remedies have been revealed to him by some sages. Again he may make the people believe that this or that drug has been discovered by chemical research and is produced by a very costly process. People suffering from chronic diseases arc anxious to get cured somehow and are caught up by such propaganda.

It is suggested that in the public interest Government should lake steps to collect all information about these remedies and encourage scientific studies thereon. They can entrust this responsibility to the proposed Ayurvedic Research Council.

This question has already been dealt with in the chapter on "Research".

AYURVEDIC PRACTITIONERS

53. Having mentioned earlier in this chapter that Government are not giving the Ayurvedic practitioners whole-hearted recognition and support and are not utilizing their services to the fullest

possible extent, we may refer to some of the other disabilities standing in the way of these practitioners proving themselves to be respectable and useful members of the society.

Reimbursement of expenses to Government servant taking Ayurvedic treatment

54. One of the important things, arising out of non-recognition of this system, is the refusal on the part of Central and certain State Governments to reimburse the money spent on Ayurvedic medicines by the Government employees. Such employees, per force, go to the modern medical practitioners, although left to themselves they would prefer Ayurvedic treatment.

55. This half-hearted support is an injustice to the Ayurvedic system of medicine and its practitioners. In fact one of the topmost practitioners criticized action of Government as "Economic Blockade" of Ayurvedic Practitioners. In our view either we recognise the system and support it completely as any other system of medicine or not recognise it and ban its practice. It may be relevant to mention that it is understood that even in some of the foreign firms located in India, Ayurvedic treatment of their employees is recognised and fully reimbursed.

Employment Statistics

56. Approximately about 6% of the registered Ayurvedic practitioners or about 7200 are in employment in either Government, Government aided or municipal etc., institutions. But during our tour it was observed that the grades of pay and status were very poor indeed. Some of the States have, however, revised these grades to bring them in a grade comparable to the grades given to the modern medical graduates. The details of scales of pay are given in Appendix V. It becomes clear therefrom that in most of the Stales the minimum starting grade varied from Rs. 60 to Rs. 80 and the maximum varied tremendously from Rs. 120 to Rs. 375. In comparison to this, the average initial pay scale of the modern medical graduate is about Rs. 200 and if he is taken up in a gazetted grade, he will be given a start of Rs. 250/- The maximum for non-gazetted is Rs. 400 and for. The gazette it varies from Rs. 500 ranging upto 1150. Apart from this differential treatment given by Government it seems that no organised attempt has been made by the members of the Ayurvedic profession themselves to approach Government to revise their status. Needless to say that if an Ayurvedic physician with the same basic qualification and with an equally long duration of medical studies as the modern medical graduate is offered a job of Rs. 60 per month, he cannot be expected to maintain himself decently and to render conscientious and efficient service,

We, therefore, recommend that the pay scales of Ayurvedic Practitioners in service should be the same as that of modern medical practitioners. The title holders or those who have undergone four years training after matriculation should be given the grade of licentiates, and those degree holders who have undergone foe years course after inter-mediate (science) should be given the same grade as that of medical graduates. Thus the diploma holders' grade should be Rs. 150-1UN and the degree holders should be given the grade of Rs. 200-10-400 and Rs. 250-550, as the cast may be. Thereafter while holding specific posts e. g. lecturers, professors, etc., their grades should be the same as those in the medical colleges.

Privileges of Ayurvedic Physicians

57. While a sending questionnaire to the State Governments, we precisely asked them to indicate the various privileges which have been given to these registered practitioners in their States. In this connection please see Appendix VIII We find that conditions in this regard duller in different States.

Use of Modern Drugs

58. Thus with regard to the question whether the Ayurveda j«ractitionem are legally allowed to keep and use the modern drugs or not, seven States, gave replies in the affirmative; two stated that they have not issued any definite orders in this regard; and the remaining five States namely, Assam, Kerala, Punjab, Rajasthan and West Bengal stated that there are definite orders against Ayurveds keeping or using any modern mediums. This has, produced a lot of agitation and dispute in the minds of the Vaidyas.

59. Here we may reproduce the quotation from British Encyclopaedia of Medical Practice Vol. 5 page 205 given by the Travancore Committee of 1956, "the medical practitioner is a freeman with right and with the duty to use whatever method of treatment he judges to be in the interests of his

patient. No code or college or council pretends to compel him to statutory or orthodox method or standard.

The needs of the bed side must be judged by the practitioner himself and he alone can conclude what these require.This he is free to do and with the freedom goes in corresponding measure and burden of responsibility."

60, The Committee was informed that except Assam, Bihar, Kerala and West Bengal, all the other States have not disallowed them to do minor surgery. But as we all know, the definition of minor surgery is itself vague and hence, those who are confident of doing any surgery in the clinic, will do so and those who do not have confidence or who are not properly qualified will not attempt it. Even in the case of modern medical men, not all the practitioners take to surgery in their everyday practice.

In our opinion, there should not be any such restriction and those who are capable of doing any surgery should be allowed to do so provided they have received adequate training in the college.

Medical Certificates

61. Unnecessary restriction on the issue of medical certificates by Ayurvedic practitioners is a great handicap and very often leads to corrupt practice. Excepting West Bengal and Orissa, all other States have permitted registered Ayurvedic practitioners to issue medical certificates for the purposes of leave, life insurance, etc. The former two States might also revise their decision soon in favour of permitting them to issue these certificates for leave and life insurance purposes only.

62. In Andhra, Bombay, Madras and Punjab, Ayurvedic practitioners are allowed to issue medico-legal certificates and attend the law courts as expert witnesses. In all other States, their certificates are not accepted.

It is our earnest hope that all these impediments will be removed soon and they will be kept at par with the modern medical practitioners.

63. There are restrictions and heavy import duties on some of the essentially required raw materials like Mercury, Vahslochan, etc. for manufacturing Ayurvedic products. Another important impediatent is the inclusion of certain Asavas and Arishtas in the list of taxable articles under the Medical and Toilet Preparations (exercise Duties) Act,1955 passed by the Central Government.There are instances in which while doing spot checks, the Exercise Department have seized the Asavas and Arishtas of many pharma-cies. Since these Asavas and Arishtas are some of the basic requirements of Ayurvedic Practitioners, the Central Government should see that such unnecessary impediments put the Ayurvedic Practitioners are removed immediately. For this purpose, the Ayurvedic Drug Advisor and Ayurvedic Drug Advisory Body as proposed by us may go into the question in detail and settle them once for all.

63. On the whole, it is our moral duty, after the recognition of the system to safeguard all their rights and privileges. Then only they will have full freedom to develop their own system of medicine for the betterment of humanity.

Suggestion and Recommendations

64. We have already discussed in the previous sections as to how to revive Ayurveda and standardise its practice. Here we propose to discuss these problems in three groups, namely, the aspects on which the action should be taken by the Government, those to be taken by the Boards of Indian Medicine and lastly those to be taken by the individual registered medical practitioners. We feel that it is the joint action of all of them which will revive Ayurveda. Thus Dr. Radhakrishnan says,* "Thus unfortunately as in many other spheres of activity our development got arrested. It came to a stand-still. People who were practicing these things were content with merely repeating what had lieen handed down to them, but were not making any progress with the result Ayurveda fell on evil days. Today we are having revived interest in tla- development of science of Ayurveda. It is good to know we are estab-lishing in different parts of our country institutions like this. The Govern-ment

will do its duty, but the practitioners of Ayurveda owe a responsibility to the country and to themselves……They must find out what is living and what is dead, discard what is dead, keep up what is alive and make Ayurveda into a live system. It is the duty which they owe to themselves and to the science which they practise. If Ayurveda is to receive due recognition, it we are to make advances in the system it will not do merely for the Govern-ment to come forward and give you some kind of patronage. There is great responsibility on those who practice the system So, if a system lias to endure it must be perpetually young, and ready to change. In other words, it must be capable of accepting new ideas, have the resilience of mind which the young have, have the openness, flexibility and spirit of adventure by which they accept what is given to them and transform it out of recognition."

Action by Government

65. Thus the first and the foremost thing for both the Central and the State Governments is to separate the departments of Indian Medicine from the rest of the Medical Departments and give adrquate and efficient staff. The head of this Department should be called Director of Ayurveda or Indian Medicine and he should have direct approach to the ' govermnent, the Central and the States. He will be in-charge of all the avtivities of the Indian medicine including all the hospitals and dispensaries in the State. Government should make an unequivocal declaration of policy in regard to the place of Ayurveda in the country's medical relief. They bshould make ample provision in the annual budgets and Five Year Developments plan for the improvement of Ayurveda in general and Ayurvedic practice in particular. Government should take steps to raise the social status of Ayurvedic practitioners e. g. eminent Ayurvedic practitioners should be nominated Id public bodies like Universities or Upper Houses of Legislatures.

Ayurvedic Hospitals end Dispensaries.

66. It is the duty of the State to provide all treatment facilities in all the places. The Government should try to open as many Ayurvedic hospital as possible at the provincial, district and tehsil level. Where this is not immediately possible, Ayurvedic wards with Out patient Department Sections should be opened in all the existing modern hospitals, where all those specific cases which are amenable to the Ayurvedic treatment will get the necessary treatment. Vaidyas should be given full cooperation by the modern medical authorities in the hospital. Such a system of working has been adopted in some of the medical college hospitals in Bombay State. Ayurvedic departments must provided with well-trained Ayurvedic physicians. Where necessary die hunufttry system may be introduced and the well-known Vaidyas of the region may be asked to serve the people for the benefit of the poor people. The number of dispensaries in the rural areas is not at all sufficient to meet the demand which should be one for 20,000 population or one per 50 sq. miles as the case may be. Whereas for opening a modern dispensary they insist on a good budding and nice furniture, for the opening of Ayurvedic dispensaries they provide small and badly-equipped hutments. We suggest that an Ayurvedic dispensary should not be made a cheap affair and that there should be up-to-date buildings and good equipment. It will be better if philanthropists are encouraged to donate buildings on a standard plan to house such rural dispensaries, such as they have done in Kajasthan, and Government provide all the up-to-date furniture and other equipments and sufficient Ayurvedic medicines of good quality. The dispensary should be provided with raw herbs wherever possible for preparing the common decoctions, powders and other medicines. If these facilities are given, they can function efficiently and meet most of the demands of the rural people. Further, the staff working in these dispensaries must be provided with a good quarter or a rent-free accommodation.

Refresher Courses

67. Ayurvedic physicians in Government hospitals and dispensaries should be given a periodical refresher or post-graduate course of short duration so that they can brush up their knowledge and make it up-to-date. It is common knowledge that a general practitioner is so busy in his work that he can hardly keep abreast with the latest ideas and techniques. Thus die Good enough Report of U.K. says,* "One of the greatest disadvantages of present day general pi act ice is that most practitioners have neither the line nor the opportunity for post-graduate study. The knowledge they once possessed grows rusty, their outlook becomes restricted, and they are unable to keep abreast of new discoveries and new techniques. What opportunities there are for post-graduate work are too few

and too centralised, the nausea do not always give the practitioner what he most needs and the instruction is frequently given by teachers who arc not experienced in general practice and lack of understanding of general practitioners' outlook and difficulties Post-graduate study should be a regular and recognised feature general practice and adequate and suitable facilities should be provided." 'I heielciir, short refresher courses should be arranged at suitable centres, either in the district or at the provincial level periodically and all the Govern-ment Aytmwdk practitioners must be sent out to attend these courses compulsorily after every five years of so. Sufficient propaganda must be given to these refresher courses. Every private practitioner may be invited to attend the courses and some concession should be given to them for this purpose.

Action by Boards of Indian Medicine

68. As has already been stated, Boards of Indian Medicine should take steps to exercise greater control over the Registered Ayurvedic practiuoners. Steps should be taken by them to prepare and publish comprehensive lists of recognised training institutions, to register all practitioners of Ayurveda according to strict rules and group them in distinct categories and to take drastic action against practitioners who are guilty of professional misconduct. Where there are separate Faculties of Ayurveda under Universities, the Board should only give them advice when required.

Action of Individual Practitioners

69. The duties and obligations of the individual practitioners in connection with the raising of the status of Ayurvedic Practice are very onerous. We have already mentioned that in the interests of the science the practitioner should strive to divulge to the technical authorities full details of any secret or proprietary remedies, and to cherish the rights and privileges accorded to them by sticking to the moral codes prescribed by our ancient authors so that he becomes a respectable member of the society capable of serving the sullering humanity. The Ayurvedic practitioner should at all times be ready to refresh his knowledge and to widen it by having an open mind and a rcsjiect for tlie scientific advancements made in allied fields.

Professional Ethics

70. A word on medical ethics may not be out of place in a chapter dealing with status of Ayurvedic practice. We have mentioned earlier that this should form part of the curriculum of studies. In their report, the Dave Committee have included a chapter on medical ethics. Stevenson's classic says,* "There are men and classes of men that stand above the common herd—the soldier, the sailor and shepherd not infrequency, the artist rarely, rarer still the clergyman, the physician almost as a rule, he is the flower of our civilization Generosity he has, such as is possible to those that practice an art, never to those who drive a trade; discretion tested by a hundred secrets; tact tried in a thousand embarrassments; and what are more important Herculean cheerfulness and courage so that he bringe air and cheer into the sick room and often enough, though not so often as he wishes, brings healing." Certain professional ethics and etiquettes have also been laid down by Chraka, Sushruta and other. Unless Ayrvedica practitioners themselves emulate these precepts and follow the correct ethical standards, no amount of Government patronage would, in any way, help to raise their status. Charak has said:

> **"Though possessed of deep knowledge, one should not boast very much of one's own knowledge. Most people are offended by the boastfulness of even those who are otherwise good and authoritative."

71. In spite of this, there is a great tendency amongst the registered Ayurvedic physicians to canvass in the press about themselves and also about their products. This is against the morel standard and ethics of this profession and should be scrupulously avoided. In U.K. this was considered as an offence by the General Medical Council. Thus it says, "Any medical practitioner who furnishes or inspires any notice, report, interview of article which refers to himself professionally and which is calculated in any way to attract patients to him renders himself liable to severe penalties by the General Medical Council. Not only should the practitioner avoid advertising but he should care that others do not advertise on his behalf." From this, it becomes clear that how important it is to follow strictly some of these principles in order to raise the status of the profession.

72. It is the moral duty of the Ayrvedic practitioner to see that the maintains a strict professional secrecy and does not discuss the ailments of his patients with a third party without the consent of the patients.

73. The practitioner should maintain a good relationship not only with the members of his own profession but also with his colleagues of other medical systems. The tendency to condemn collegues system should be stopped because this is not only uncharitable but also unethical. It does great harm to the profession. Here the advice given by Sir William ments and hopes, there is little room for 'Chauvinism' in medicine. The open mind, the free spirit of science, the ready acceptance of the best form any and every source, the attitude of rational receptionism rather than angagonism to new ideas, liberal and friendly relationship between different nations, and different sections of the same nation, the brotherly and universal guild that the race has evolved in its upward progress." Continuing on the same subject, Sir William Osler remphasised of different systems of medicine originating from different countries, there connot be any progress.

74. One should remember that the main aim of the medical profession is the welfare of humanity and not personal gain and pieasure. No doubt the physician must live and ensure that he is adequately remunerated and so is able to maintain a suitable standard of life. But this is a purely secondary question and this aspect must be remembered all the time by every physician. Thus Charaka says:

*" He who practices medicine neither for gain nor for gratification of the senses but moved by compassion for humanity surpasses all."

Any attempt on the part of the medical man to commercialise his profession will, therefore, be unethical.

75. The physician's personal character plays a large part in his practice particularly with his relationship with women patients.

76. Whenever a patient or his relative demands or even requires another consultation he should think over the problem and if necessary he must arrange for the same. The consulting physician, under no circumstances, should criticise the family physician in the presence of the patient nor do anything by word or action which might disturb the confidence of the patient in the family physician.

77. It is the duty of every registered practitioner to see that his degrees or diploma are correctly mentioned in his clinic and in the register. Failure to do so makes hint liable to lie punished. This is an important aspect which members of Ayurvedic profession should bear in mind if the status of Ayurvedic medicine is to be raised in the eyes of the public. Certain so-called academic bodies distribute degrees in Ayurvedic system of medicine without ensuring that candidates have undergone all the training required. It is the duty of every registered Ayurvedic practitioner to see that such half-baked professional degrees are neither awarded nor received.

78, These are some of the important ethical standards by following which the Ayurvedic practitioner can attain a high status not only amongst the men of various professions but also in public Those who follow these ethical standards strictly are always found to have an exceptionally good practice throughout their career.

AIL-INDIA ORGANISATION FOR THE PROMOTION OF PROFESSIONAL STANDARDS

79. As Sir William Osier has said "a well conducted society may be of greatest help in stimulating the practitioner to keep up the habits of scientific study." One of the most effective methods by which the standard of prolosioiial activities can be raised is through a well organised represen-tative association of an all-India nature. It should have State and District branches. At present the Ayurvedic profession in the country is represented by an organisation called All-India Ayurvedic Congress. Though this is the oldest and the largest in the country, it does not include the different types of Ayurvedic practitioners, especially the modernised or integrated type of practitioners. The latter group has established quite recently a separate by an organization called the National Medical

Association of India. Similarly, there are many such separate organisations at the State level. It a high time that all these different organisations are combined to form one organisation for the common good of the Ayurvedic profession which should devote attention towards the promotion of scientific aspect of the profession rather than indulge in politics as seems to be the case now.

80. This organisation should have first class reference libraries where members of the profession can come and study the books and journals. They can also have a circulating library which can issue certain types of books and journals on loan to the practitioners.

81. The organisation can publish a first class journal containing articles on the advancements in medical science not only in Ayurveda but also in other allied sciences, the knowledge of which may help to raise the standard of the profession.

82. Arrangements can be made by this all-India organisation fur scientific lectures and clinical demonstrations. All these lectures should be properly recorded and published in the journal for the benefit of those who did not attend the lectures and demonstrations. The organization should also have a first calss museum depictig all the aspects of Ayuivcdn. Medicine.

SUMMARY

83. In this chapter we have shown how the Ayurvedic practitioner was well patronised in the olden days and under die cistwlule Indian 1'rinces and how and why his status has dec lined considerably later on. This decline has been attributed to the indifferent administrative set up, to the shortage of funds provided by Government, the lack of building and other facilities, the shortage of Ayurvedic hospitals and dispensaries and thefailure of the authorities to recognise and recompense adequately the services of the Vaidyas.

84. We have pointed out that Government should revue their present policy and utilise fully the Ayurvedic practitioners in implementing the nation building activities. The slowness on the part of the Hoards of Indian Medicine in not registering all qualified Vaidyas in the country and their failure to exercise full control over the registered practitioners has also been mentioned. It has been shown how the Vaidya himself u partly responsible for his low status, because of his secrctiveness and the adoption of unethical methods in his profession.

85. To cure all the above-mentioned defects and to irttore the practice of Ayurveda to its pristine glory, we have recommended that there should be separate and high-powered Directorates in States for Indian Medicine who should sec to it that an adequate number of hospitals and dispensaries, properly housed and well-equipped, are opened and that the Vaidyas in-charge of such institutions are properly paid. We have suggested that the Boards of Indian Medicine should register all Ayurvedic practitioners in distinct categories and exercise proper control over them. We have also said that the practitioner himself should strive to suck to the moral codes enjoined by the ancient authors of this science and also to make continuous efforts to bring his knowledge of medicine up to date. Finally we have suggested that there should be a non-official All-India Organisation of Ayurvedic Practitioners whose aim should be to promote the welfare of its members and also of the science. This organisation should initiate libraries and journals of good standard which will help the practitioners to know what is happening not only in the Ayurvedic field but also in the allied field of modern medicine.

CHAPTER VIII
FINAL RECOMMENDATIONS

For the benefit of all concerned, we may now summarise and bring out the important portions of the recommendations made at relevant places in the chapters, so that necessary action may be taken and the present position of Ayurveda in all its aspects enhanced.

TRAINING

2. In the interests of the resuscitation of the science of Ayurveda, an integration of the old and new will be necessary and as much of modern medical subject as will be necessary to explain the gaps left in Ayurveda should be taught in Ayurvedic institutions, prominence being given to the principles of Ayurveda.

3. The Shudh Ayurvedic type of training should also continue, at least lor sonic lime lo come, subject to the condition that ample provision is made in the institutions concerned for practical training.

4. The Integrated and Shudh Ayurvedic Physicians and the traditional Vaidyas have a definite place in providing the much-needed medical relief to the country, particularly in rural areas. By properly canalising the train-ing of the Shudh Ayurvedic Physicians and by encouraging all the existing Vaidyas of known reputation, medical relief can be improved considerably.

5. The Central and State Governments should make an unequivocal declaration of policy recognising the training and practice of Ayurveda.

6. A'Central Council of Indian Medicine should be set up as the very In ii measure of reform. The suggestions made in the Chapter on Training irgauling the ronstitution and functions of this Central Council may be implemented at an early date. There should be an Executive Committee of the Central Council.

7. Governments have the main responsibility for providing adequate finances to improve the present unsatisfactory position in Ayurvedic training. Apart from proper provision and maintenance of institutions. Governments should see lo it that a sufficient number of freeships, scholarships and other financial concessions are given in order to attract the proper type of students.

8. Attempts should be made immediately to affiliate all Ayurvedic training institutions to Universities with separate Faculties for Ayurvedic Medicine. This will tone up the standard of teaching, and examinations and improve the buildings, laboratories, equipment, practical facilities, etc Besides this, the status of teaching staff will improve.

9. For providing adequate number of efficient teachers at an early date, the Central Government should, in addition to the Post-Graduatc Training Centre at Jamnagar, establish three more model Post-Graduatc Training Centres to cover the Northern and Eastern, Central and Southern Zones res-pectively at Banaras, Poona and Trivandrum. In these four Post-Graduate Training Centres, a three-year training coarse should be instituted for Integrated Degree Holders, Shudh Ayurvedic Title holders and modern medical graduates. In addition there should be special training courses of one year's duration for all existing tea- hem of Ayurveda. Modern medical colleges should give facilities to suitable integrated graduates lo undergo post-graduate courses in modern subjeils so that such graduates may teach modern subjects in Ayurvedic teaching institutions. Pending such a step, only top men in the modern medical field holding M. D., M.S., etc., should be appointed as Professors in integrated teaching institutions. The Central Council of Indian Medicine should work out the details of these teachers training programmes on a uniform basis.

10. Teaching methods require a great deal of improvement. Two-fifths of the time should be devoted to lectures and three-fifths to practicals by students themselves. The philosophical aspects of Ayurveda should be emphasised throughout the under-graduate training. Greater attention than at present should be paid 10 the teaching of Ayurvedic subjects.Each group of subjects should be constituted into a separate department and one subject should be taught by one professor, who should invariably have a lecturer and a demonstrator attached to him. The suggestions made in the Training Chapter regarding teaching of individual subjects may be con-sidered by the Central Council, Universities, Boards and teaching institutions when working out the details of the curriculum of studies. The following further suggestions for improving the teaching methods may also be con-sidered, as they have been adopted with success in foreign institutions like the tutorial system, a journal club and weekly or fortnightly rounds in every teaching hospital.

11. In regard to the curriculum of studies, the present system should continue. A broad-based curriculum for a five year course excluding an appropriate period of internship has been suggested in the chapter on "Training." The Shudh Ayurvedic system should also cunliituc for some time to come, but with the addition of a certain amount of modern subjects and increased facilities for practical training. In due course it is anticipated that one uniform course of training in Ayurveda can be prescribed. Persons successfully completing the Integrated training should be given a bachelor s Degree and those successfully completing the Shudh Ayurvedic training should be awarded the Title of Ayurvedacharya or Pravina. The Degree and Title should, however, be uniform in the whole country. The Central Council of Indian Medicine should work out the details of the two curricula on the basis of the suggestions made by this Committee The curriculum should be somewhat elastic and should be adopted by authorities concerned to suit local conditions in consultation with the Central Council.

12. As regards the status of Principals, Professors, Lecturers etc. in Ayurvedic Training institutions, the Central Council of India Medicine should take appropriate steps at a very early date to bung them on a par with corresponding posts in modern medical colleges.

13. The basic qualifications for admission of students into Ayurvedic institutions should be so fixed that they will be well-equipped to understand the Ayurvedic subjects taught and that they will know from the very beginning that they will be future practitioners of Ayurveda. It should be ensured that the students admitted have interest in the ancient science and aptitude for research and that they air not joining the course merely last resort. The basic qualifications for admission to the Integrated course should be Intermediate with Physics, Chemistry and Biology and Sanskrit.
The qualifications of admission to the Sliudh Ayurvedic course should be Matriculation with Sanskrit or equivalent qualification. Some of the other conditions that will encourage students to take up Ayurveda are that they are assured of equal prospects in the- profession as their compatriots in modern medicine and that their privileges are thc same as thc modern medical practitioners. Finally Governments should encourage girl students to take up Ayurveda particularly because Gynaecology and Obstetrics, Paediatrics, etc., have still to be re-introduce scientifically in the Ayurvedic system. Scholarships and other financial help arc necessary for this purpose.

14. Immediate attention may be given to the writing up of subject-wise text books in Ayurveda on a uniform basis and annotations of original texts, as part of the Literary Research Programme. Existing text-books may be reviewed and whatever is suitable may be accepted. A few concise text-books on modern medical subjects may also prepared for use in Ayurvedic institute. Government should encourage the publication of text-books by giving financial assistance, prizes, etc. All text-books should be revised from time to time as science progresses. Every Ayurvedic institution should maintain a proper library under the charge of a trained medical librarian. Professors should induce students to make full use of libraries.

15. In order to create a suitable atmosphere in Ayurvedic studies, it is necessary to have proper buildings with adequate practical facilities like a medicinal plants garden, museum, pharmacy and

hospital (with at least 150 beds for a student strength of 50). The students of Ayurveda should also be given public health training in order to enable him to render public health services to the villagers. Students hostel and recreational facilities should be provided in ample measure in all teaching centres.

16. Every Ayurvedic teaching institution or at least one institution in each State should provide for post-graduate course in Ayurvidic as well as in modern subject, as part of the development programmes of the State concerned. The Shudh Ayurved may take up post-graduate training in Ayurvedic subjects only, whereas the Integrated Ayurved may take up both Ayurvedic and modern sunjects. The modern medical graduate can take up post-graduate courses in Ayurvedic subjects, provided he has an aptitude for it and has undergone some training under established Ayurvedic preceptors and passes a preliminary test.

17 State Governments should pursue the question of establishing Chairs of Indian Medicine in modern medical colleges, both for the under-graduate and Post-graduate. In addition there may been Ayurvedic ward in each of the medical college hospital.., so that the principles of Ayurvedic treatment are better comprehended by the modern men. This will help to remove the bias m their minds, if any.

18. Research Departments should become part and parcel of Ayurvedic teaching institutions. The two problems of post-graduate and research facilities should be examined by a central body and steps should be taken to combine in the same teaching institution a wing for post-graduate train-ing and another for research work.

19. Preparation of medicine and practice should be separated if the Ayurvedic Practitioner's status is to be improved. Special courses like B. Pharm (Ayurveda) should be instituted.

RESEARCH

20. At the Central Institute of Research in Indigenous Systems of Medicine, Jamnagar there seems to be a certain amount of lack of close collaboration between the Ayurvedic and modern teams, which has resulted in an accu-mulation of a large amount of uncompress and uncoordinated data on cither side. There should, therefore, be more cooperation between the two teams and the modem team instead of working behind the curtain should closely follow the Ayurvedic treatment at every stage. Productive clinical res-arch can be done only by intensive study of carefully selected cases, rather than the study of large number of cases. Moreover such research should be undertaken on chronic cases endemic in that area.

21. The Jamnagar Research Centre should start other types of research, e.g. literary, pharmacological, etc., on a planned basis.

22. Research work at Jamnagar will be placed on an ideal fooling if the Post-Graduate Training Centre and the under-Graduate training institution of the Gulab Kunwarba Society in the same premises are amalgamated with it in order to form one single unit.

23. As a first step for the improvement of research in Ayurveda, it is commended that a *Central Council of Ayurvedic Research* be established on the lines mentioned in the chapter on " Research."

24. The Central Government should also establish three marc Research Centres on the analogy of the Jamnagar Institute, and these should be amalgamated with the three-Post-Graduate Training Centres referred lo in the chapter on " Training".

25. State Governments should establish Boards of Research. which may follow closely the various lines of research chalked out by the Bombay Board of Research.

26. It is recommended that in the first instance research work is Ayurveda should be deific under the following seven beads ;—

(1) Clinical;
(2) Literary;
(3) Chemical;
(4) Botanical;
(5) Pharmacognosical;
(6) Pharmacological; and
(7) Basic principles of Ayurveda.

27. *Clinical Research* should precede every other type of research. The other items of work can be done simultaneously after the effectiveness of Ayurvedic drug has been clinically proved.

28. In addition to being carried out at various research centres, clinic research may be advantagenously done in a separate wing of modern hospital by Vaidyas in complete collaboration with the mock physicians there. The modern team should closely observe mid keep a record of the Ayurvedic treatment and condition of the patient at every satge.

29. The Central Council of Ayurvedic Research should set up a Joint Committee of Vaidyas and modern scientists for the purpose of planning schemes of clinical research on a uniform basis.

30. Clinical Research can be done in four directions viz.,

(1)Both diagnosb and treatment strictly according to Ayurvedic principles ;
(2)Diagnosis under Ayurvedic principles and treatment in ac-cordance with modern medicine ;
(3)Diagnosis under modern medical principles and treatment in accordance with the doctrines of Ayurveda ; and
(4) Both diagnosis and treatment in modern medical methods as a control measure.

The Central Council of Ayurvedic Research may consider this new approach lo clinical research and put it into practice at suitable centres of research.

31. Literary Research may be taken up under the following heads:—

(a) Collection and review of old manuscripts and publication of the more important ones ;
(b) Translation of old texts ;
(c) Preparation of suitable text-books ; and
(d) Establishment of reference libraries.

32. State Boards of Research should give Literary Research an important place in their programmes and establish well-equipped libraries and start Research journals.

33. The Central Council of Ayurvedic Research should plan and coordinate literary research in various Slates, establish a Central Library and also start an Indian Journal of Ayurvedic Research.

34. Modern scientists should take up Chemical Research on indigenous drugs whose efficiency has been proved clinically. Team work is essential in such investigations. So the active help of Vaidyas of repute should be taken by them. The Central Council of Ayurvedic Research should plan and allot this wort to sclct led modern scientists etc. and help them financially.

35. In the field of Botanical Research, steps should be taken by the Central Council of Ayurvedic Research to get surveys of medicinal plants in different regions in India carried out by Slate Governments in collaboration with Forest Departments. Detailed.maps of each area showing quantities available should be prepared and circulated to all State Governments and institutions. The Central Council should then plan an extensive cultiva-tion programme on a scientific basis with the

advice of the Botanical experts in list country. In this connection the treatises on Vrikshayurveda may be studied with advantage.

36. *Pharmacognosical Research* on plants and herbs used in Ayurveda is going on in many centres, but the work is of a time consuming nature and also requires careful coordination. The Central Council of Ayurvedic Research should impure a plan for carrying out these studies by 12 to 15 separate units, each consisting of a Botanist, a Vaidya and Photo Artist, and should aim at completing the work on the known herbs and plants in about ten year's time.

37. *Pharmacological Research* on indigenous drugs should be planned and financed by the Central Council of Ayurvedic "'search in consultation with expert Vaidyas. This work should be allocated to a limited number of places where there are Pharmacologist* with real interest in Ayurveda and where special facilities (or the work are available. To these pharmacologist should be attached Ayurvedic scholars, chemists, botanists, pharmacists, statisticians and research fellows to the cxicnt necessary. It is very essential that in all this work the basic principles and recognised practice of Ayurveda should be adhered to.

38. As far as *Research in Basic Principle of Ayurveda* is concerned, it is re-commended that the theories about Panchabhuta, Tridosha, Mind, Wisdom, Atma, etc should be investigated by learned Ayurvedic scholars. Similarly research on the various methods of diagnosis and treatment mentioned in Ayurveda should be studied and adopted. For this purpose a suitable standard proforma-may be evolved by the Central Council. The results of these scientific studies should be compiled and statistically evaluated, so that a standard and easy method of examination of persons in health and in disease may be adopted.

39. It is also recommended that the Central Council may plan research in the following branches of Ayurveda, which arc now in vogue among traditional Vaidyas:—

(a) Dietetics ;
(b) Panchkarma ;
(c) Bala Chikitsa (Paediatrics) ;
(d) Treatment of Mental Diseases ;
(e) Treatment of eye diseases ;
(f) Marmachikitsa (Orthopaedics) ;
(g) Visha Chikitsa (Toxicology) ;
(h) Dentistry ;
(i) Preventive medicine, including Yoga ;
(j) Oil and massage treatment

40. The present methods of research followed in teaching institutions and by individuals under the Central or State schemes are not very systematic Adequate facilities do not exist in many places. There is a duplication in the diseases chosen for investigation. The time has come when the Central Council of Ayurvedic Research should systematize the work of these institutions and individuals on a planned basis.

PHARMACEUTICAL PRODUCTS

41. A survey will have to be carried out in all the forest regions of the country, in collaboration with the Forest Department and the Botanical Survey of India, to assess both quantitatively and qualitatively the availa-bility of raw herbs and drugs used in Ayurvedic medicine.

42. Forest authorities should keep certain areas in hills reserved lor improving the cultivation and preservation of medicinal plants etc.

43. The Central Council of Ayurvedic Research should coordinate the work of various persons and institutions in regard to the identification of plants and drugs and to the preparation of a uniform Pharmacology and publication of reliable monographs

44. A team of expert Vaidyas, modem botanists who have done work on medicinal plants, and research workers should be established for this purpose.

45. Correct identification of plants and drugs will be helped if State Governments and other agencies including teaching institutions and research centres Mart as many drug farms as possible. These drug farms will meet the needs of pharmacies, practitioners, etc. apart from helping in the training of Ayurvedic students.

46. In addition to drug faints, teaching institutions and research centres should develop museums of plants, drugs, etc., where both the genuine and adulterated specimens should be kept for helping in correct identification.

47. Central Government should give financial assistance for the setting up of such ding farms and museums.

48. Standardisation of raw materials, mineral drugs and other organic materials lor preparation of Ayurvedic medicine should be undertaken by the Central Council of Ayurvedic Research. Modern techniques like Chromatography may be used if necessary. The part or parts of raw herbs to be used in medicine and the time of collection should be taken into consideration in such standardisation.

49. Standardisation of the process of manufacture is urgently needed. For this purpose the compilation of a standard Ayurvedic Pharmacopoeia should be taken up immediately. A uniform formulary for each standard medicine should be laid down.

50. Efforts should be made to lay down uniform weights and measures for preparation of Ayuvedic medicines in accordance with Ayurvedic tests.

51. Standards for prepared medicines should be laid down in order to avoid variations in individual techniques and to ensure that all the ingredients in a medicinal preparation, particularly the costly ones like gold, saffron, musk, etc., ate added in correct proportions.

52. Storage depots on the model of the Forest Department Depot at Baramulla (Jammu and Kashmir State) should be opened on a regional basis in collaboration with Forest authorities, so that government Pharmacies, Pharmaccutial concerns and individual Ayurvedic practitioners may place there demands on them and get genuine material.

53. There should be a Central Laboratory on the analogy of the Central Drugs Laboratory, Calcutta, testing Ayurvedic drugs and medicines, for deciding the standard chemical composition for prepared medicines where 1Kn.ultle and for giving their opinion in disputed cases. This Central Laboratory should preferably be located at Bombay where facilities appear to exist.

54. Apart from this Central Laboratory, every pharmaceutical concern and every recogniscd pharmacy should have a well-equipped laboratory where the raw herbs, mineral drugs and oilier ingredients used in the pre-paration of Ayurvedic medicines can be tested according to standards pre-scribed.

55. In order to make Ayurvedic medicines more popular and more standardised, manual labour in pharmacies and pharmaceutical concerns should be replaced by modern machinery adapted to medicine of Ayurvedic lenience.

56. It will be advantageous to have in every State Co-operative Pharmacies of the Adyar (Madras) type so that medicines of recognised suudards are readily available to practitioners and the public.

57. Every recognised pharmacy or pharmaceutical concern should have a specified minimum essential technical staff. This should include Ayurvedic experts, Ayurvedic Pharmacists, mechanical stall, modern botanists and chemists.

58. Governments should start training courses for Ayurvedic Pharmacists immediately.

59. A Drugs Act for Ayurvedic Medicine on the analogy of the Drugs Act, 1940 should be passed at an early date in order to enforce the various suggestions for standardisation mentioned in the above paragraphs.

60. The Central Government should immediately appoint an Ayurvedic Drugs Adviser and also set up a Drugs Advisory Body (Ayurveda) and Pharmacy Council (Ayurveda).

STATUS OF PRACTICE

61. The Central Government should in addition to the Adviser in Indigenous Systems of Medicines, have a team of experts to advise them in all aspects of the development of Indian systems of medicine in the country.

62 A uniform policy should be adopted so that the provision of medical relief under the modern medical and Ayurvedic systems, especially in the rural areas of the country, may be considerably augmented.

63. The utility of Ayurveda having been established, it is the duty of Government to approach the problem with sympathy and to unequivocally recognise and encourage the system.

64. The Ayurvedic Degree Holders should be put in charge of primary health centres under the Community Development Programme. In fad, they are better fitted than the modern medical men to give medical relief in rural areas, because they know the life and customs of the villagers for better.

65. The first and foremost thing to be done is for State Governments to establish an independent department of Indian Medicine, where this has not already been done, with a full-fledged Director of Indian Medicine.

66. The Central and State Governments should recognise Ayurvedic treatment for purposes of reimbursement of medical charges incurred by their employees.

67. The pay scales of Ayurvedic Practitioners in Government or Semi-Government service should be the same as those applicable to modern medical practitioners, the Degree Holders being paid the same grade as medical graduate, *viz.*, Rs. 200—500 p.m. and the Diploma and Holders being paid the same grade as Licentiates of Modern Met *viz.*, 150—300 p.m. Ayurvedic Graduates should lie paid llic same allowance as their compatriots in modern medicine when they hold posts like Principals, Professors, Lecturers, etc., in Ayurvedic teaching institutions.

68. Governments should open as many more Ayurvedic hospitals and dispensaries us possible at the Slate, District and Tehsil levels. Where this is not possible, wards with Ayurvedic Out-Patient departments should be setup in modern hospitals and the modern medical authorities in such hospitals should give full and willing cooperation to the Vaidyas in charge of these wards.

69. For popularising Ayurvedic treatment and giving medical relief to a larges section of people than at present, philanthropists should be encouraged to donate hospital or dispensary buildings (as is done in Kajasthan), Governments bearing the other non-recurring and recurring expenditure of such institutions.

70. Governments should arrange Refresher Courses of short duration to Ayurvedic physicians under their control so that their knowledge is brought up-to-date.

71. There should be no restriction on Ayurvedic practitioners under-taking surgical, obstetrical or medico-legal cases provided they have had adequate training in their collegiate courses.

72. Ayurvedic practitioners should be given the same privileges as die modern medical practitioners in die matter of issuing medical certificates of all types.

73. The imposition of heavy import duties on some of the essential re-quirements of Ayurvedic practitioners like mercury, Vanshlochan and the taxing of Asavas and Aristas, which are basically needed for die prepara-tion of Ayurvedic medicines, under the Medicinal and Toilet Preparations (Excise Duties) Act of 1955, are putting serious impediments in die practice of Ayurveda. These impediments should be removed by Government at an early date.

74. Boards of Indian Medicine should be established in the remaining three States viz., Mysore, Orissa and Jammu & Kashmir.

75. Boards of Indian Medicine should be primarily in charge of the control of practice only, the educational aspect of Ayurveda being dealt with by Universities, who may, if necessary, take die advice of these Boards.

76. A comprehensive list of recognised Ayurvedic institutions and practitioners is in die whole country, should be prepared and published by the Central Council of Indian Medicine in consultation with the various Boards of Indian Medicine so that a person passing out of the institutions in one Slate u automatically registered in the other States.

77. Registration of Ayurvedic Practitioners should be enforced and completed in all States. The registration should be done category-wiseviz. Institutionally qualified, traditional and others. Among

the institutionally a distinction should be made between the Integrated and shudh types of practitioners.

78. Boards of Indian Medicine should publish the names of Registered Ayurvedic Practitioners regularly every year and use die powers vested in them to remove from the lists those who are guilty of professional misconducted, after giving them due warning.

79. For improving the status of Ayurvedic practice, steps should be taken to encourage the practice of all the eight branches of Ayurveda and to make them subjects of post-graduate study.

80. The so-called "Secret remedies" prevalent among some of the traditional Vaidyas should be scientifically investigated in the interest of Ayurvedic practice and in the interest of the public.

81. Aurvedic practitioners should strive to keep up the dignity of the profession by strict observance of the ethical codes prescribed by the ancient authorities in Ayurveda.

82. An all-India Ayurvedic Organisation, representing all types of Ayurvedic practitioners should be formed with the object of safeguarding the rights and obligations of the professionals and thus enhancing the status of practice. This organistion should have a first class library of Ayurvedic books and should initiate the publication of a technical journal for the propagation of scientific ideas.

CHAPTER—IX

CONCLUDING REMARKS

In the earlier chapters we have tried to probe into the present status of Aruvedic Training, Research, Pharniaceutical Products and Practition-ers and also to indicate the possible steps to improve the existing unsatisfactory conditions. In Chapter VIII we have summarised our suggestions and recommendations.

2.In all this task we have taken into consideration only the information furnished to us on paper but also the views expressed to us during personnel discussions. No evidence was to be collected by the Committee and so we only had informal conversations with a cross section of the people handling the various aspects of the question. It may be that at some places we may have exceeded the terms of reference, but we feel that an appraisal of the present position will not lie complete if the remedies are not suggested, as otherwise it will only be a drab statement of facts.

3. We will be failing in our duty if we did not acknowledge that a number of the suggestions and recommendations we have made, have already been covered by the conclusions arrived at by the previous Committees set up by the Central or State Governments. In the process of studying the various problems involved, however, certain new ideas have come to our mind which we have frankly expressed. We have also tried to give more informative statistics, figures and tables, which we feel will be useful to the Government and to others in any future action they may wish to take.

4. As has been stated earlier our task was to enquire why the previous recommendations had not been put into effect. In this connection we feel that the authorities concerned have not tackled the problem in its entirely and viewed the previous suggestions as a comprehensive whole, thus leaving the deadlock in the development of indigenous systems of medicine unsolved. We now hope that earnest and sincere efforts will be made by all concerned to implement our suggestions to the full extent. The Central Government, the State Governments, the Boards of Indian Medicine and the practitioners themselves should squarely face the huge task ahead of them and make honest attempts to recognise the Ayurvedic system of medicine and to raise it to the high status it deserves.

5. Our aim has been to find out ways and means of' resuscitating the ancient system of medicine in order that it may benefit not only science but also the suffering humanity. In this task we have expressed our views very frankly, the ipirit of which, we hope, will be appreciated.

6. We arc confident that an Independent India striving to revive all our ancient culture will not fall behind in restoring Ayurveda to its pristine glory and by trying to absorb the best in other systems of medicine will produce one integrated system of Indian Medicine as early as possible.

7 Our remarks about the ways and means of improving the method of training etc., in Ayurveda will apply generally to other indigeneous system of medicine like Siddha and Unani also.

8. Our grateful thanks are due to the Ministers of Health in States, the State Government authorities, some of the Principlals and Professors in modern medical college and the scholars of Ayurveda both in teaching institutions and outside who have shown grat sympathy in the work under taken by us and helped us considerably with their wisdom.

9. We are very thankful to the Directorate General of Health Services for allowing us to use their Library and for helping us to get a good many references in connection with the writing of our Report.

10. We are also thankful to the staff attached to us namely, Sarvashri K.D. Nair (Statistician), V. Goplalakrishan, A.K. Bhatia and O.P. Malhotra for their untiring work in seeing to the successful completion of our report.

K.N. UDUPA (Chairman)

K. PARAMESHWARAN PILLAI (Member)

R. NARASIMHAN (Member-Secretary)

APPENDICES

Appendix I	-Questionnaires
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Appendix III	-Staff and other facilities in Ayurveda Colleges
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Appendix V	-Grades of pay of Government Ayurvedic Physicians, etc.
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APPENDIX I

QUESTIONNAIRE No. I

FOR EDUCATIONAL INSTITUTIONS

Part A-College

Note: If the spare allotted for replies is insufficient, kindly write on a separate sheet of paper and then attach to this.

Questions		Answers
1. Name and Location of the Institute	---	1.
2. Year when it was started	---	2.
3. Run by Government, by Governmentaid or privately run	---	3.
4. Building accommodation :	---	4.
(a) Please give details of-		(a)
(i) Lecture rooms -- ---		(i)
(ii) Laboratory facilities ---		(ii)
(iii) Equipment --	--	(iii)
(iv) Furniture --	--	(iv)
(b) Is the building accommodation sufficient?		(b)
(c) Details of programme, if any, for further expansion	---	(c)
5. Has a Pharmacy been attached to the College?	--	5.
6. Is there a garden for growing Ayurvedic berbs? If so what berbs are grown there	---	6.
7. Is there a Herbarial Museum? If so Give details		
8. Is there separate Department of Pharmacognosy? What is its get set up?		
9. Course of Study:		
(i) What is the duration of the course?		(i)
(ii) When does the academic year commence and when does it end?		(ii)

10. Subjects of Study: 10.

Subjects	Teaching in years	Practical Year of Exam.	Remarks
(a) Pre-medical			
Physics --	--	--	
Chemistry	--	--	
Biology --	--	--	
Sanskrit --	--	--	
(b) Pre-clinical :			
Anatomy	---	---	
Physiology	---	---	
(c) Clinical:			
Medicine	---	---	
Pathology	---	---	
Surgery	---	---	
Midwifery & Gyaecology		---	
Eye, Ear, Nose & Throat		--	
Medical Jurisprudence		--	
Hygiene --	--	--	

11. Details of any arrangement for imparting Post-graduate training --- 11.

Duration of the course of study-

(a) for Ayurvedic graduates of diploma holders --- --

(b) for graduates for modern medicine

N.B.- Place attach the curriculum.

12. Staff of the College:	--	--	12.
(a) No. of Ayurvedic practitioners		--	(a)
(b) No. of allopathic doctors		--	(b)
(c) No. with both training		--	(c)
(d) Professors of Science having M.Sc. or D.Sc. etc.		--	(d)
(e) No. of Sanskrit Teachers		--	(e)
(f) No. of other instuctors		--	(f)

13. Students:

Year	Man	Women	Total
Ist year	--	--	--
2nd year	--	--	--
3rd year	--	--	--
4th year	--	--	--
5th year	--	--	--
6th year	--	--	--

Any other type of students

_____

_____

14. Basic requirements for Admission : 14.

	Men	Women	Total
(a) Matriculation.			
(b) Intermediate with Science & Arts.			
(c) Any Sanskrit Examination.			

_____

_____

15. Test Books prescribed: 15.

(a) For Ayurvedic Subjects:		(a)	
(i) Standard Ayurvedic Books			(i)
(ii) Other Books			(ii)
(b) Allopathic subject	--	--	(b)
(i) Standard Text Books		--	(i)
(ii) Any other books		--	(ii)

16. Medium of Instruction: 16.

Sanskrit, English, Hindi, etc.

17. Total No. of Graduates passed out each year during the past five years. From 1953 to 1958. --- 17

18. Financial Position. -- -- 18.

(a) The amout of fees levied -- (a)

(b) Other sources of income -- (b)

(c) Annual expenditure -- (c)

(d) No. of Scholarships given and the amount and duration -- (d)

19. Details of Degree of Diploma awarded 19.

20. Facilities for Internship and its duration 20.

21. Details of Hostel accommodation -- 21.

22. Research -- -- -- 22.

Do you have facility to do Research in the Following :

(a) Literary & Text Book research (a)

(b) Herbarium & Collection of rate Herbs

(c) Pharmacological Research to improve The quality of preparation (c)

(d) Pharmacological Research (d)

(e) Clinical Research (e)

23. Name and Qualification of the head of the Institution 23.

QUESTIONNAIRE No. 1

Note: If the space allotted for replies is insufficient, kindly write on a separate sheet of paper and then attach it to this.

Questions	Answers
1. (a) Name of the Hospital -- -- --	1. (a)
(b) Ran by Government, Government aid or Private-aid	(b)
2. (a) Particulars of Building accommodation	2. (a)
(b) Is it sufficient ? If not what additional accommodation is required?	(b)
3. Details of Departments functioning --	3.
(a) O.P.D.	**Ayurvedic** / **Allopathic**
(i) Medical	-- / --
(ii) Surgical	-- / --
(iii) Gynaecological	-- / --
(iv) Eye & E.N.T.	-- / --
(v) Dental	-- / --
(vi) Radiology	-- / --
(vii) Pathology	-- / --
(viii) Bacteriology	-- / --
(ix) Biochemistry	-- / --
(x) Other Departments, if any	--
(b) Indoor Department	
	No. of Ayurvedic Beds / No. of Allopathic Both Beds
(i) Male Medical	-- / --
(ii) Female Medical	-- / --
(iii) Male Surgical	-- / --
(iv) Female Surgical	-- / --
(v) Gynaecological	-- / --
(vi) Midwifery	-- / --
(vii) T.B.	-- / --
(viii) E.N.T.	-- / --
(ix) Children	-- / --
(x) Any other	-- / --

4. Staff	--	--	--	4.
(a) No. of Ayurvedic Graduates			--	(a)
(b) No. of Allopathic Graduates			--	(b)
(c) No. of Graduates of Combined course			--	(c)
(d) Total No. of Medical Staff			--	(d)
5. No. of Nursing Staff		--	--	5.
(a) Ayurvedic trained		--	--	(a)
(b) Allopathic trained		--	--	(b)
(c) Nurses with mixed training			--	(c)
(d) Total	--	--		(d)
6. No. of Compounders: Technicians etc.			6.	
(a) Ayurvedic	--	--		(a)
(b) Allopathic	--	--		(b)
(c) With mixed training		--		(c)
(d) Total	--	--		(d)
7. Qualification of Staff	--	--	7.	
(a) Ayurvedic	--	--		(a)
(b) Allopathic	--	--		(b)
(c) Mixed	--	--		(c)
8. Students	--	--		8.
(a) How many years of their training they work in the Hospital?				(a)
(b) How many hours per day?		--		(b)
(c) Is internship compulsory? If yes, for how long.				(c)
(d) How many clinical demonstration and lectures are given to students in the following subjects:				(d)
(i) Surgery				
(ii) Medicine				
(iii) Gynecology				
(iv) E.N.T & Eye				
(v) Kaya chikitsa				
(vi)				
(vii)				

9. Annual Total Expenditure of the Hospital:

(a) Approximately on Allopathic medicine (a)

(b) Approximately on Ayurvedic medicine (b)

10. Do you have facilities for giving postgraduate training in the Hospital 10.

11. Do you have facilities for doing Clinical Research in Aurvedic medicine. 11.

12. Any other information useful for the promotion of Ayurveda 12.

13. Do you have any facilities for the research in Ayurvedic Dietetic management. 13.

14. Name of the Superintendent 14.

QUESTIONNAIRE No. 2.

FOR THE USE OF AYURVEDIC MEDICAL PRACTITIONERS

Question	Answers
1. Name and Full Address -- --	1.
2. Year in which you have started your practice --	2.
3. Full Qualification -- --	3.
(a) Basic qualification -- --	(a)
(b) Ayurvedic degree of diploma --	(b)
(c) Name of the institution from where you graduated	(c)
(d) Year in which you have passed --	(d)
4. Details of dispensary accommodation and practice chambers.	4.
5. Method of examination of patients: --	5.
(a) According to Aurvedic texts- History of case, Symptoms, pulse reading etc.	(a)
(b) According to modern methods- History, Physical examination, Laboratory Examination (by using stethoscope, Blood Pressure apparatus, etc.)	(b)
(c) Use both the methods ---	(c)
6. What types of Medicine you use ---	6.
(a) Only Ayurvedic Medicine State source from which such medicines are obtained	(a)
(i) by own preparation --	(i)
(ii) from Ayurvedic Pharmacies, if so details of particular pharmacies from which purchased.	(ii)
(iii) both, if so, approximate percentage of medicines purchased from pharmacie to those prepared by you.	(iii)

(b) Modern medicine -- (b)

(c) Both; then give proportion. Give details regarding required at (a) above. (c)

7. Details of branches of Medicine in which specialized. 7.

(a) What special medicine you use in those cases and with what result. (a)

(b) Are these medicines prepared according to the Standard Ayurvedic Text Books. If so give particulars of the texts. (b)

(c) Any other useful information with regard to your speciality. (c)

8. How many people, Technical & Nontechnical personnel, do you employ as

(a) compounders -- -- (a)

(b) dispensers -- -- (b)

(c) attendants -- -- (c)

(d) nurses -- -- (d)

(e) other personnel -- -- (e)

9. Are you prepared to impart training in your speciality to a small number of Vidyars for the welfare of the suffering humanity? If yes, how many can you tain at a time and for how long?

Do you expect any remuneration for imparting such training and if so, state approximate amount expected.

10 (a) What is the approximate monthly income from the profession? 10. (a)

(b) What is the total expenditure of your clinic. (b)

11. Have you done any research in any branches of Ayurvedic medicine? 11.

12. Do you have any suggestion to make to improve the status of practicing Ayurvedic physicians? 12.

13. Are you a member of any Ayurvedic Society? 13.

QUESTIONNAIRE No. 3-A

FOR THE BOARDS OF INDIAN MEDICINES IN THE STATES

Note:- If the space allotted for replies is insufficient kindly write on a separate sheet of paper then attach it to this.

Questions	Answers
1. Name of the State -- --	1.
2. (a) Date of starting of the Board -- --	2. (a)
(b) No. of members -- --	(b)
(c) Name of the Chairman -- --	(c)
(d) Name of the Registrar -- --	(d)
3. Total Number of Practitioners registered	3.
4. Please give the number of practitioners registered year-wise from its inception.	4. Year No. / Already registered / Newly registered
5. Are all the registered practitioners grouped together or separately.	5.
6. If registered separately please give the numbers of institutionally trained Vaidyas and traditional Vaidyas.	6.
7. Is registration compulsory in your State for doing Practice?	7.
8. If not how many approximately are not registered and also ratio between registered to non-registered ones.	8.
9. How many registered practitioners are in the services of Government or local bodies and how many are in private proactive.	9.
10. What percentage of the practitioners manufacture their own drugs, and how many of them buy from the manufacturing concerns.	10.
11. Are they legally allowed to keep and use modern chemotherapeutic and poisonous drugs?	11.
12. Have you receive any grievances from the the Ayurvedic Practitioner with regard to the operation of Legislatures on board of Indian Medicine?	12.
13. If so. Do you contemplate in the near future to introduce any amendments in the existing Act.	13.
14. Any other suggestion to improve the efficiency in the efficiency in the working of these parishioners.	14

QUESTIONNAIRE No. 3-B

FOR ALL THE STATE GOVERNMENTS (ADMINISTRATIVE HEADS OF MEDICAL DEPTT.)

Note :- If the space allotted for replies is insufficient kindly write on a separate sheet of paper and then attach it to this.

Questions	Answers
1. Name of the State	1.
2. Total Population … …	2.
3. Total No. of Ayurvedic Medical Practioners	3.
(a) Registration (institutionally trained)	(a)
(b) Registered (Traditional Vaidyas)	(b)
(c) Non-Registered Vaidyas, if any ….	(c)
(d) What type of legislation you have for Regulation of their practice?	(d)
4. Total No. of Medical Practitioners registered in Modern medicine	4.
5. Total No. of Ayurvedic Colleges in the State	5.
(a) Government … ..	(a)
(b) Government –aided ..	(b)
(c) Private … …	(c)
6. Total No. of Ayurvedic Hospitals and dispensaries in the State	6.
(a) Hospitals with Indoor beds (Government (Private	(a)
(b) Ayurvedic Dispensaries (Government (Private	(b)
7. What are the staff given to Government Ayurvedic Dispensaries and what are their grades?	7.
8. Are they allowed to do private practice? If yes, what are the fees they are officially Allowed to charge from patients ?	8.

9. Total No. of patients treated in this modern Allopathic Hospitals and Dispensaries in the State. 9.

10. Total No. of patients treated in the Ayurvedic Hospitals and Dispenaris in the State. 10.

11. Are these Ayurvedic physicians of the Government Dispensaries allowed to keep and use modern Drugs like Sulphaxanides, Antibiotics, Vitamins? 11.

12. (a) Are they allowed to do minor surgery ? 12. (a)

(b) If so, are they provided with the necessary Equipments : (b)

13. Are they officially allowed to issue Medical Certificates for Government servants for leave etc ? 13.

14. Are they allowed to give certificates for Medico legal purposes ? 14.

15. From where they get their supplies of Ayurvedic Medicines ? 15.

16. How do you ensure that they are standarised pure Medicines ? 16.

17. (a) What is the total medical budget of State ? 17. (a)

(b) How much has been allotted for modern Medical institutions ? (b)

(c) How much for Ayurvedic institutions ? (c)

18. Do you have any programme for starting or improving the status of the following : 18.

(a) Teaching of Ayurvedic Medicine

(b) Practice of Ayurvedic Medicine

(c) Reserch in Ayurvedic Medicine

19. Any other information or suggestion relevant to the subject. 19.

QUESTIONNAIRE No. 4-A

FOR AYURVEDIC INSTITUTIONS

Note :- If the speace allotted is insufficient kindly write on a separate sheet of paper and then attach it to this.

Questions	Answers

LITERART RESEARCH :

1. Do you have Library in your institution ? 1.

2. How many books in all - 2.

   (a) Modern Medicine … ….. (a)

   (b) Ayurvedic Medicine … ….. (b)

   (i) Sanskrit – Printed ---- (i)

   (ii) Manuscript in Sanskrit …. (ii)

   (iii) Regional Language ….. (iii)

   (iv) In English ….. (iv)

3. Have you collected any rare Ayurvedic books Recently ? If yes, please give their names 3.

   (a) Printed publications … ….. (a)

   (b) Manuscripts … ….. (b)

4. Has any of the members of the staff written, Translated or edited any Ayurvedic books ? If yes, please give the names of the books, Author and Publisher 4.

5. How many medical journals you receive in Your institute ? 5.

   (a) Foreign – Modern medicine … (a)

   (b) Indian - Modern medicine … (b)

   (c) Indian in Ayurvedic Medicine … (c)

   Please give the name of these journals

6. Has any member of the staff written any articles on Ayurvedic medicine? If yes, please give the reference. If possible, please attach a reprint of the same. 6.

7.	Please give your suggestions with regard to Literary research by way of writing Test books for Ayurvedic students and also writing books on Ayurvedic Principles for the modern medical practitioners.	7.

QUESTIONNAIRE No. 4-B

FOR PHARMACEUTICAL CONCERNS

Note :- If the space allotted for replies is insufficient kindly write on a separate sheet of Paper and then attach it to this.

Questions	Answers
1. Name of the institution … ….	1.
2. The date when it was started … ….	2.
3. Government, Government aided or Private ….	3.
4. What is the total budget ? …	4.
(a) Income … … …	(a)
(i) By sale of medicine …	(i)
(ii) Other sources … …	(ii)
(b) Expenditure … …	(b)
(i) For the staff … …	(i)
(ii) Equipments … …	(ii)
(iii) For preparing medicines …	(iii)
5. The total quantity of Ayurvedic drugs prepared during the last five years (Please give them in pounds).	5.

Year	Others
1953 .. … … ….	
1954 … … … ….	
1955 …. …. … …..	
1956 …. …. …. …..	
1957 …. …. …. ….	

6. Can you meet all the demands made on you? If not, how do you propose to meet the demands ? 6.

7. Are you preparing these drugs with the help of manual Labours alone, or with meachanical means or both ? 7.

8. No. of staff you have employed .. 8.

(a) Trained Technicians .. (a)

(b) Unskilled labourers … (b)

9. Do you have any proposal for standarition of these drugs? 9.

10. What Ayurvedic Texts you usually follow for the preparation of these medicine ? 10.

1.
2.
3.
4.

11. From where do you get all the raw materials required? 11.

12. How can you judge that the particular raw materials supplied are pure and of correct type ? 12.

13. Do you think it will be necessary to have a few approved firms for the supply of Ayurvedic herbs etc. ? 13.

14. Do you have any suggestion to improve the identification, Collection, storage of these drugs ? 14.

15. Please give all suggestions relevant to the subject. 15.

QUESTIONNAIRE No. 4-C

FOR THE PHARMACOLOGY & OTHER RESEARCH DEPARTMENTS

Note:- If the pace allotted for replies to insufficient kindly write on a separate sheet of paper and then attach it to this.

Questions	Answers
1. Name of the Institution or Deptt : …..	1.
2. Name of the Head of the Institution or Department	2.
3. No. of other staff …. ….	3.
(a) Seniors with Post-graduate qualifications	
(b) Juniors with or without Post-graduate qualifications	
(c) Technicians … …	
4. No. of Research Fellows or Post-graduate students actually working.	4.
5. Undergraduate teaching Facilities ; for how many students ?	5.
6. Do you have all facilities to do Pharmacological Research of all types ?	6.
7. Have you got experience in doing research in Indigenous drugs ?	7.
8. If yes, please give briefly … …	8.
(a) The names and number of drugs you have investigated.	(a)
(b) No. of papers you have published on these subjects. Please give the reference of these papers. If available please attach the reprints.	(b)
9. Can you supervise and direct the Pharmacological research in indigenous drugs if the funds and Personnel are kept at your disposal ?	9.
10. If yes, please inform how many research fellows can engage, and how much money is needed for Each Research Fellow ?	10.

11. Do you have facilities for carrying on clinical trials on the drugs proved useful by the Pharmacological investigation ? 11.

12. If yes, how many beds you can set apart for this purpose . 12.

13. Can you provide more Clinical beds for the purpose, if all the incidental charges are borne by the Government by way of allotting funds for the staff and medicine ? 13.

14. Do you think there is any need for starting a separate Research body to control and co-ordinate all the research work in Ayurvedic medicines ? 14.

15. Do you think there is any need for starting one or more separate Research institutions for this purposes ? 15.

16. In order to compile all such materials together do you feel there is any necessity of starting a separate journal. 16.

17. What will be your suggestions for doing the research on 17.

(1) Pure Single Herbs .. .. (1)

(2) Compound Ayurvedic Herbal preparation (2)

(3) Bhasmas … … (3)

(4) Compound Bhasmic preparations … (4)

(5) Oils and other preparations … ` (5)

(6) The rest of the medicines … (6)

18. Have you found any necessity of a reference book which will give you the scientific details of all the important Ayurvedic preparations ? 18.

19. Do you think that there is any necessity of starting Post-Graduate training for Modern Medical graduates in Ayurveda ? 19.

If yes, give your suggestions with regard to duration etc.

20. Will it be feasible to attach an Ayurvedic Clinic in all the large teaching and non-teaching Hospitals of the country ? 20.

21. Please give your opinion regarding giving a few voluntary lectures in Ayurvedic Medicine to all the medical graduates of the country in the final year. 21.

22. Any other suggestions to promote the scientific Studies of Ayurvedic Medicine. 22.

QUESTIONNAIRE – 5

TO NON- TECHNICAL PERSONS

Note :- The Questionnaire duly filled in may please be sent to the Chairman, Ayurvedic Research Evaluation Committee, Ministry of Health, New Delhi.

Questions	Answers
1. Name of the person with full permanent address	1.
2. The type of physician consulted for ordinary ailments – Ayurvedic Allopathic Unani Homoeopathic Any other system	2.
3. Have you found such consultations --	3.
(a) Beneficial … ..	(a)
(b) Satisfactory … …	(b)
(c) If unsatisfactory what improvements would you recommend.	(c)
4. If consulting physician other than Allopathic, did you have an occasion to consult Allopathic doctors for –	4.
(a) Physical ailments … …	(a)
(b) Surgical cases … …	(b)
(c) No. of occasions in a year .. …	(c)
5. If consulting Ayurvedic doctors, do you obtain the medicines.	5.
(a) From Ayurvedic Doctors	(a)
(b) From recognized Ayurvedic Pharmacist	(b)
6. Are you satisfied with the standard of Ayurvedic medicines obtained by you ? If not have you any Suggestions to offer to improve the standards.	6.
7. Why have you preferred the particulars system for treatment of your ailments ?	7.

APPENDIX

DETAILS OF DEGREE AWARDED ETC.

S. No.	Name of the College	Date of starting	Degree/Diploma awarded	
			Administered by	Academic control
	ANDHRA (5)			
1.	Government Ayurvedic College, Hyderabad.	1941	Govt.	Board of Indian Medicine.
2.	Venkateswara Ayurvedic Kalasala, Vijayawada.			
3.	Anantha Lakshmi Ayurvedic, College, Warangal.	1956	Private	,,
4.	Ram Mohan Ayurvedic College, Guntur.	1936		
5.	Mrs. Radhabhai Palnitakar Medical School, Hyderabad.	N.A.	,,	,,
	ASSAM (1)			
6.	Government Ayurvedic College, Gauhati.	1948	Govt.	,,
	BIHAR (5)			
7.	Govt. Ayurvedic College, Patna	1926	,,	,,
8.	Shivaganga Ayurved Mahavidyalaya, Madhubani, Dharbanga.	1948	Private	,,
9.	Ayodhya Shivakumari Ayurvedic College, Begusarai.	1946	,,	,,
10.	S.Y.N. Ayurvedic College, Bhagalpur.	N.A.	,,	,,
11.	Ayurvedic College, Motihari.	N.A.	,,	,,
	BOMBAY (18)			
12.	R.A. Podar Medical College, Worli	1942	Govt.	Faculty of Ayurvedic & Unani System of medicine
13.	Govt. Ayurvedic College, Nanded.	1958	,,	N.A.
14.	Ayurved Mahavidyalaya, Poona	1933	Private	Poona University
15.	Ayurved Mahavidyalaya, Ahmednagar	1917	,,	Faculty of Ay. & Unani System of Med.
16.	O.H. Nazar Ayurved Mahavidyalaya, Surat	1946	,,	,,

IN AYURVEDIC COLLEGES

Title of Degree or Diploma	Duration of the course	Minimum qualification for admission	Annual admission	Total strength of the College			Number of students passed out during 1957
				Male	*Female*	*Total*	
Ayurved Visharad.	4	Matric	65	186	47	233	19
-do-	4	Matric	29	75	—	75	—
Ayurveda Praveena	4	SSLC	17	50	1	51	N.A.
N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
D.A.M.S.	4	Matric	9	21	—	21	2
G.A.M.S.	5	Matric	43	187	14	201	17
Diploma.	3	,,	23	37	1	38	N.A.
G.A.M.S.	5	,,	10	62	—	62	12
N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
G.F.A.M.	4½	Int. Science	60	230	109	339	N.A.
Ayurved Visharad.	4	Matric	40	N.A.	N.A.	N.A.	N.A.
B.A.M.S.	4½	Int. Science	60	361	73	434	86
G.F.A.M.	4½	Int. Science (B)	30	47	5	152	14
G.F.A.M.	4½	Int. Science	40	211	61	272	45

S. No.	Name of the College	Date of starting	Degree/Diploma awarded: Administered by	Degree/Diploma awarded: Academic control	Title of Degree or Diploma	Duration of the course	Minimum qualification for admission	Annual admission	Total strength of the College: Male	Total strength of the College: Female	Total strength of the College: Total	Number of students passed out during 1957
17.	Shuddha Ayurved Mahavidyalaya, Baroda	1956	"	Committee for Shuddha Ayurvedic Course	Ayurved Pravin.	4	Matric	20	69	4	73	N.A.
18.	Ayurved Mahavidyalaya, Nagpur	N.A.	"	Board of Indian Medicine.	B.A.M.S.	4	Matric	39	164	6	170	N.A.
19.	Punarvasu Ayurved Mahavidyalaya, Bombay.	1954	"	Committee for Shuddha Ayurvedic Course	Ay. Pravin.	4	Matric	20	59	15	74	N.A.
20.	Shuddha Ayurved Mahavidyalaya, Nasik.	1954	"	"	Ay. Pravin.	4	Matric	20	81	15	96	N.A.
21.	Vidharbha Ayurved Mahavidyalaya, Amravati.	1931	"	Board of Indian Medicine.	B.A.M.S.	4	Matric	40	190	8	198	29
22.	J.S.M.J. Ayurvedic Medical College, Nadiad.	1938	"	Faculty of Ayurvedic & Unani System of Medicine	G.F.A.M.	4½	Int. Science	40	202	30	232	N.A.
23.	Radha Krishna Toshnival Ayurved Mahavidyalaya, Akola.	1955	"	Board of Indian Medicine.	B.A.M.S.	4	Matric	40	79	10	89	N.A.
24.	Marathwada Shuddha Ayurved Mahavidyalaya, Jalna.	1957	"	Committee for Shuddha Ayurvedic Course.	Ayurved Pravin.	4	Matric	25	38	2	40	N.A.
25.	Aryangala Vaidyak Mahavidyalaya, Satara.	N.A.	"	Faculty of Ayurvedic & Unani System of Medicine.	G.F.A.M.	4½	Int. Sc.	30	128	8	136	7
26.	Ashtang Ayurved Mahavidyalaya, Poona.	N.A.	"	Committee for Shuddha Ayurvedic Course.	Ayurved Pravin.	4	Matric	20	N.A.	N.A.	N.A.	N.A.
27.	Shuddha Ayurved Mahavidyalaya, Sion.	N.A.	"	-do-	-do-	4	Matric	50	N.A.	N.A.	N.A.	N.A.
28.	Ayurved Mahavidyalaya, Jamnagar.	N.A.	"	Gujrat University.	B.A.M.S.	4½	Int. Sc.	50	N.A.	N.A.	N.A.	N.A.
29.	Seth J.P. Ayurved Mahavidyalaya, Bhavanagar.	N.A.	"	Indian Medicine.	Diploma.	3½	Matric	20	N.A.	N.A.	N.A.	N.A.
	KERALA (4)											
30.	Ayurvedic College, Trivandrum.	1889	Govt.	Kerala University.	B.A.M. & D.A.M.	6 years	Int. Sc.	73	243	56	299	26
31.	Keraleeya Ayurveda Vidyalaya, Shoranur.	1946	Private	Managing Board.	Vaidya Padan.	4½ yrs.	Matric	21	54	7	61	N.A.
32.	Madhava Memorial Ayurvedic College, Cannanore.	1943	"	"	Vaidya Vibhooshana.	4½		14	60	1	51	10
33.	Arya Vaidya Patasala, Kottakal.	1917	"	"	Arya Vaidyan.	4	N.A	56	160	8	168	32
	MADHYA PRADESH (4)											
34.	N.P. Avasti Govt. Ayur. College, Raipur.	1955	Govt.	Sagar University	G.A.M.S.	5	N.A.	33	166	7	173	15
35.	Govt. Ayurvedic College, Gwalior.	1916	Govt.	Board of Indian Medicine.	Ayurved Vigyanacharya A.M.S.	5	Inter Sci.	5	—	—	70	N.A.

S.No.	Name of the College	Date of starting	Degree/Diploma awarded		Date of Degree or Diploma	Duration of the course	Minimum qualification for admission	Annual admission	Total strength of the College			Number & students passed out during 1957
			Administered by	Academic control					*Male*	*Female*	*Total*	
36.	Rajkumar Singh Ayurvedic College, Indore	1933	Private	,,	Ayurved Vigyanacharya, A.M.B.S.	5	Inter Sci.	6	105	3	108	17
37.	Ashtang Ayurvedic College, Indore.	N.A.	,,	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	MADRAS (2)											
38.	Govt. College of Integrated Medicine, Madras.	1947 (upgraded)	Govt.	Board of Indian Medicine.	G.C.I.M.	4½	Int. Science	120	592	55	647	N.A.
39.	Venkataramana Ayurvedic College, Mylapore.	1905	Private	Madras University.	Ayurved Siromani	4	Matric or Sanskrit entrance examination	4	11	—	11	N.A.
	MYSORE (8)											
40.	Govt. College of Indian Medicine, Mysore.	1908	Govt.	Faculty of Indian Medicine.	L.A.M.S. G.C.A.M.	4 5	Matric (Int. Science (or Pre-University)	50	230	17	247	42
41.	Shuddha Ayurved Vidyalaya. Bijapur.	1955	Private	Committee for Shuddha Ayurvedic Course.	Ayurved Pravin.	4	Matric or Madhyama	40	65	8	73	N.A.
42.	Suddha Ayurved Vidyalaya, Hubli.	1954	,,	-do-	D.S.A.C.	4	-do-	19	51	6	57	7
43.	Kankanwadi Ayurvedic Mahavidyalaya, Belgaum.	1954	,,	-do-	Ayurved Pravin.	4	-do-	45	116	7	123	3
44.	Taranath Ayurved Vidya Peeth, Bellary.	1947	,,		L.A.M.S. G.C.A.M.	4 5	Matric Int. Science	36	146	5	151	27
45.	Ayurvedic College, Padigar, Udipi.	1958	,,	-do-	D.S.A.C.	4	Matric	N.A.	N.A.	N.A.	N.A.	N.A.
46.	Ayurvedic College, Kustagi.	1958	,,	-do-	Ayurved Pravin	4	Matric	N.A.	N.A.	N.A.	N.A.	N.A.
47.	Shuddha Ayurvedic College, Bangalore.	N.A.	N.A.	N.A.	N.A.	4	Matric	N.A.	N.A.	N.A.	N.A.	N.A.
	ORISSA (1)											
48.	Gopa-bandhu Ayurved Vidya Peeth, Puri.											
	PUNJAB (3)											
49.	Govt. Ayurvedic College, Patiala.	N.A.	Govt.	Board of Indian Medicine.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
50.	Dayanand Ayurvedic College, Jullundur.	N.A.	Private	-do-	Vaidya Vachaspati.	4	Matric	60	130	8	138	11
51.	Mastanath Ayurvedic College, Rohtak.	1957	,,	-do-	G.A.M.S.	5	Matric	73	153	9	162	N.A.
	RAJASTHAN (7)											
52.	Govt. Ayurvedic College, Jaipur	1946	Govt.	Board of Indian Medicine	Bishagwar Bishagacharya	3 5	Madhyama or Prathama	65	75	37	112	17
53.	Govt. Ayurvedic College, Udaipur	1933	Govt.	,,	N.A.	5	Upashiya or Madhyama	13	53	2	55	10

S. No.	Name of the College	Date of starting	Degree/Diploma awarded by		Title of Degree or Diploma	Duration of the course	Minimum qualification for admission	Annual admission	Total strength of the College			Number of students passed out during 1957.	
		Administered by	Academic control					Male	Female	Total		
54.	Shri Sanatan Dharm Ayurved Mahavidyalaya, Bikaner.	1945	Private	,,	N.A.	5	Prathma or Madhyama	10	28	2	30	N.A.
55.	Shri Parasu Rampuriya Ayurvedic College, Sikar.	1942	,,	,,	Bhishagacharya	3	Matric	5	32	—	32	N.A.
56.	Ayurved Viswa Bharati Gram Jyoti, Kundra (Sardarshahar).	1956	,,	,,	-do-	3	,,	13	23	—	23	N.A.
57.	Birla Sanskrit Ayurved College, Pilani	1935	,,	N.A.	Acharya	6	N.A.	10	21	—	21	N.A.
58.	Ayurvedic College, Ratangarh	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	UTTAR PRADESH (12)											
59.	Government Ayurvedic College, Lucknow	,,		N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
60.	Banaras University Ayurved College, Banaras.	1927	Govt.	Banaras University	A.B.M.S.	N.A.	Int. or Madhyama	N.A.	N.A.	N.A.	N.A.	N.A.
61.	Arjun Darshananad Ayurved College, Varanasi.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
62.	Arjun Ayurvedic College, Varanasi	1917		Private Board of Indian Medicine	Ayurvedacharya	5	N.A.	7	15	11	26	2
63.	Baldev Ayurvedic College, Varanasi	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
64.	Lalit Hari Ayurvedic College, Pilibhit	1899		Private Board of Indian Medicine	Ayurvedacharya	5	N.A.	28	222	10	232	28
65.	Rishikul Ayurvedic College, Hardwar	1919		-do-	A.M.B.S.	5	Int. or Madhyama	23	309	5	314	35
66.	Gurukul Ayurvedic College, Hardwar	1922		-do-	-do-	5	-do-	11	117	—	117	N.A.
67.	Bundelkhand Ayurvedic College, Jhansi	1934		-do-	-do-	5	-do-	14	240	14	254	23
68.	Ayurvedic College, Meerut	N.A.		N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
69.	Ayurvedic College, Dehradun	N.A.		N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
70.	Ayurvedic College, Atara Bandca	1958		Private Board of Indian Medicine.	A.M.B.S.	5	Int. or Madhyama	2	25	—	25	N.A.
	WEST BENGAL (5)											
71.	Jamini Bhushan Ashtang Ayurved Vidyalaya, Calcutta.	1916	Private	,,	Ayurved Tirth M.A.S.F.	4 5	Matric	8	134	12	146	N.A.
72.	Shyamadas Vaidya Shastra Pitha Parishad, Calcutta.	1921		-do-	-do-	-do-	-do-	17	30	1	31	8
73.	Viswanath Ayurved Mahavidyalaya, Calcutta.	1931		-do-	-do-	-do-	-do-	2	8	—	8	2
74.	Arya Vaidya Prati stan, Calcutta-26	1935		-do-	Ayurved Tirth	4	Matric	1	3	—	3	N.A.
75.	Vaidyak Pathshala, Midnapore	1949		-do-	-do-	4	-do-	4	21	—	21	3
	DELHI				N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

APPENDIX

STAFF AND OTHER FACILITIES

S. No.	Colleges	Pure Ayurvedic and integrated lecturers	Allopathic lecturers	Other lecturers
	ANDHRA (5)			
1.	Government Ayurvedic College, Hyderabad ..	15	8	2
2.	Venkateswara Ayurvedic Kalasala, Vijayawada ..	—	—	—
3.	Ram Mohan Ayurvedic College, Guntur ..	6	2	2
4.	Anantha Lakshmi Ayurvedic College, Warrangal ..	4	2	1
5.	Mrs. Radhabhai Palnitkar Medical School, Hyderabad	—	—	—
	ASSAM (1)			
6.	Government Ayurvedic College, Guahati	4	3	1
	BIHAR (5)			
7.	Government Ayurvedic College, Patna	6	1	2
8.	Shivaganga Ayurveda Mahavidyalaya, Madhubani, Dharbanga	6	1	—
9.	Ayodhya Shivakumari Ayurvedic College, Begusarai ..	7	2	—
10.	S.Y.N. Ayurvedic College, Bhagalpur	—	—	—
11.	Ayurvedic College, Motihari	—	—	—
	BOMBAY (18)			
12.	R.A. Podar Medical College, Worli	16	13	2
13.	Government Ayurvedic College, Nanded	17	3	1
14.	Ayurvedic Mahavidyalaya, Poona	17	23	3
15.	Ayurved Mahavidyalaya, Ahmednagar	11	10	2
16.	O.H. Nazar Ayurved Mahavidyalaya, Surat ..	14	20	1
17.	Shuddha Ayurved Mahavidyalaya, Baroda	16	—	3
18.	Ayurved Mahavidyalaya, Nagpur	10	1	1
19.	Punarvasu Ayurved Mahavidyalaya, Bombay ..	17	—	1
20.	Shuddha Ayurved Mahavidyalaya, Nasik .. .	17	—	1
21.	Vidarbha Ayurved Mahavidyalaya, Amravati ..	20	4	—

IN AYURVEDIC COLLEGES

Total	Number of Hospital beds available	Facilities for dissection	Other Laboratory facilities sufficient	Pharmacy exists	Medicinal garden attached	Harbarium exists	Library facilities sufficient	Facilities for Clinical Research	Hostel accommodation
25	94	Yes	Yes	Yes	Yes	No	Yes	Yes	No
—	—	—	—	—	—	—	—	—	—
10	6	No	,,	,,	,,	Yes	No	No	No
7	15	Yes	,,	,,	,,	,,	Yes	No	No
—	—	—	—	—	—	—	—	—	—
8	5	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
9	44	,,	,,	,,	,,	,,	,,	Yes	,,
7	,,	,,	,,	,,	No	No	No	No	No
9	16	,,	,,	,,	Yes	Yes	,,	Yes	Yes
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
31	90	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
21	50	,,	,,	,,	No	,,	No	No	No
43	175	,,	,,	,,	Yes	Yes	Yes	Yes	Yes
23	91	,,	,,	,,	No	No	No	No	,,
35	60	,,	,,	,,	Yes	Yes	Yes	Yes	,,
21	40	No	—	,,	,,	No	No	—	,,
12	20	Yes	Yes	,,	,,	Yes	,,	No	No
18	—	No	,,	,,	,,	,,	—	—	—
18	30	,,	No	,,	No	No	Yes	No	No
24	23	Yes	Yes	,,	Yes	Yes	No	No	Yes

S.No.	Colleges	Pure Ayurvedic and integrated lecturers	Allopathic lecturers	Other lecturers	Total	Number of Hospital beds available	Facilities for dissection	Other Laboratory facilities sufficient	Pharmacy exists	Medicinal garden attached	Harbarium exists	Library facilities sufficient	Facilities for Clinical Research	Hostel accommodation
22.	J.S.M.J. Ayurvedic Medical College, Nadiad ..	12	14	1	27	120	,,	,,	,,	,,	,,	,,	,,	,,
23.	Radhakrishna Toshnival Ayurved Mahavidyalaya, Akola	8	8	5	21	27	,,	No	No	No	No	,,	,,	No
24.	Marathwada Shudha Ayurved Mahavidyalaya, Jalna ..	14		1	15	6	No	Yes	Yes	,,	Yes	,,	,,	Yes
25.	Aryangala Vaidyak Mahavidyalaya, Satara ..	9	13	2	24	77	Yes	,,	,,	Yes	,,	—	—	,,
26.	Ashtang Ayurved Mahavidyalaya, Poona	—	—	—	—	—	—	—	—	—	—	—	—	—
27.	Suddha Ayurved Mahavidyalaya, Sion	—	—	—	—	—	—	—	—	—	—	—	—	—
28.	Ayurved Mahavidyalaya, Jamnagar	—	—	—	—	—	—	—	—	—	—	—	—	—
29.	Sheth J.P. Ayurved Vidyalaya, Bhavanagar ..	—	—	—	—	—	—	—	—	—	—	—	—	—
	KERALA (4)													
30.	Ayurvedic College, Trivandrum	21	19	2	42	60	Yes	Yes	Yes	Yes	—	No	Yes	Yes
31.	Keraleeya Ayurveda Vidyalaya, Shornoor	4	—	—	4	24	No	No	,,	No	No	—	—	—
32.	Madhava Memorial Ayurvedic College, Cannanore ..	6	—	9	15	10	,,	Yes	,,	Yes	Yes	No	No	Yes
33.	Arya Vaidya Patasala, Kottakal	4	1	3	8	60	,,	No	—	,,	,,	—	—	—
	MADHYA PRADESH (4)													
34.	N.P. Avasti Government Ayurvedic College, Raipur ..	8	2	2	12	15	Yes	Yes	Yes	Yes	Yes	No	No	Yes
35.	Government Ayurvedic College, Gwalior ..	20	3	3	26	16	—	,,	,,	No	,,	,,	,,	,,
36.	Raj Kumar Singh Ayurvedic College, Indore ..	12	7	9	28	—	Yes	,,	,,	Yes	,,	Yes	Yes	,,
37.	Ashtang Ayurvedic College, Indore	—	—	—	—	—	—	—	—	—	—	—	—	—
	MADRAS (2)													
38.	Government College of Integrated Medicine, Madras	21	30	10	61	260	Yes	Yes	Yes	Yes	—	—	—	Yes
39.	Venkataramana Ayurvedic College, Mylapore ..	8	1	2	11	—	No	No	,,	,,	Yes	No	No	,,
	MYSORE (8)													
40.	Government College of Indian Medicine, Mysore ..	4	13	8	25	100	Yes	Yes	,,	,,	No	No	No	,,
41.	Shuddha Ayurved Vidyalaya, Bijapur	11	—	1	12	20	No	,,	,,	No	,,	Yes	,,	,,
42.	Shuddha Ayurved Vidyalaya, Hubli	7	—	2	9	20	,,	No	,,	,,	,,	,,	Yes	,,
43.	Kankanwadi Ayurvedic Mahavidyalaya, Belgaum ..	12	3	1	16	61	,,	Yes	,,	Yes	Yes	No	,,	No
44.	Saranath Ayurved Vidya Peeth, Bellary	10	6	1	17	10	Yes	,,	,,	No	,,	,,	No	,,
45.	Ayurvedic College, Padigar, Udipi	—	—	—	—	—	No	—	,,	Yes	,,	Yes	,,	Yes
46.	Ayurvedic College, Kustagi	—	—	—	—	—	—	—	—	—	—	—	—	—
47.	Shuddha Ayurvedic College, Bangalore	—	—	—	—	—	—	—	—	—	—	—	—	—

S.No.	Colleges	Pure Ayurvedic and integrated lecturers	Allopathic lecturers	Other lecturers	Total	Number of Hospital beds available	Facilities for dissection	Other Laboratory facilities sufficient	Pharmacy exists	Medicinal garden attached	Harbarium exists	Library facilities sufficient	Facilities for Clinical Research	Hostel accommodation
	ORISSA (1)													
48.	Gopabandhu Ayurved Vidyapeeth, Puri	—	—	—	—	—	—	—	—	—	—	—	—	—
	PUNJAB (3)													
49.	Government Ayurvedic College, Patiala	—	—	—	—	—	—	—	—	—	—	—	—	—
50.	Dayanand Ayurvedic College, Jullundur	4	2	2	8	10	Yes	No	Yes	Yes	Yes	No	Yes	Yes
51.	Mastanath Ayurvedic College, Rohtak	8	1	2	11	200	—	Yes	,,	No	,,	,,	No	,,
	RAJASTHAN (7)													
52.	Government Ayurvedic College, Jaipur	14	3	1	18	70	Yes	,,	,,	Yes	,,	Yes	Yes	,,
53.	Government Ayurvedic College, Udaipur	15	3	10	28	30	—	,,	,,	,,	,,	,,	,,	,,
54.	Shri Sanatan Dharm Ayurved Mahavidyalaya, Bikaner	8	2	7	17	25	Yes	,,	,,	No	,,	,,	No	,,
55.	Shri Parasu Rampuriya Ayurvedic College, Sikar ..	—	—	—	—	10	No	,,	,,	,,	,,	No	,,	,,
56.	Ayurved Viswa Bharati Gram Jyoti Kendra, Sardarshar	7	1	2	10	15	—	—	,,	—	,,	Yes	Yes	,,
57.	Birla Sanskrit Ayurved College, Pilani	6	2	3	11	—	—	Yes	,,	Yes	,,	No	No	,,
58.	Ayurvedic College, Ratangarh	—	—	—	—	—	—	—	—	—	—	—	—	—
	UTTAR PRADESH (12)													
59.	Government Ayurvedic College, Lucknow	—	—	—	—	—	—	—	—	—	—	—	—	—
60.	Banaras University Ayurvedic College, Banaras ..	18	15	5	38	175	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
61.	Arjun Darshanand Ayurvedic College, Varanasi ..	—	—	—	—	—	—	—	—	—	—	—	—	—
62.	Arjun Ayurvedic College, Varanasi	16	—	20	36	32	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
63.	Baldev Ayurvedic College, Varanasi	—	—	—	—	—	—	—	—	—	—	—	—	—
64.	Lalit Hari Ayurvedic College, Pilibhit	12	1	2	15	66	Yes	Yes	Yes	Yes	Yes	No	No	Yes
65.	Rishikul Ayurvedic College, Hardwar	13	3	8	24	43	,,	,,	,,	,,	,,	,,	,,	,,
66.	Gurukul Ayurvedic College, Hardwar	9	3	8	20	56	—	,,	,,	,,	,,	Yes	Yes	,,
67.	Bundelkhand Ayurvedic College, Jhansi	21	7	1	29	85	Yes	,,	,,	,,	,,	,,	,,	,,
68.	Ayurvedic College, Meerut	—	—	—	—	—	—	—	—	—	—	—	—	—
69.	Ayurvedic College, Dehradun	—	—	—	—	—	—	—	—	—	—	—	—	—
70.	Ayurvedic College, Attara Banda ..	3	—	4	7	—	Yes	Yes	No	Yes	Yes	No	No	Yes
	WEST BENGAL (5)													
71.	Jamanibhushan Ashtang Ayurved Vidyalaya, Calcutta	11	6	15	32	202	Yes	Yes	Yes	No	Yes	No	No	No

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S. No.	Colleges	Pure Ayurvedic and integrated lecturers	Allopathic lecturers	Other lecturers
72.	Shyam Das Vaidya Shastra Pitha Parishad, Calcutta ..	23	5	9
73.	Vishwa Nath Ayurved Mahavidyalaya, Calcutta ..	18	10	7
74.	Arya Vaidya Pratisthan, Calcutta-26	6	—	3
75.	Vaidyak Pathshala, Midnapore	3	2	4
	DELHI (1)			
76.	Tibbia Ayurved and Unani College, Delhi ..	—	—	—

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Total	Number of Hospital beds available	Facilities for dissection	Other Laboratory facilities sufficient	Pharmacy exists	Medicinal garden attached	Harbarium exists	Library facilities sufficient	Facilities for Clinical Research	Hostel accommodation
37	75	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
35	59	—	—	"	No	"	"	"	"
"	—	No	—	"	Yes	"	"	"	"
"	—	"	—	"	"	"	"	"	"
—	—	—	—	—	—	—	—	—	—

APPENDIX IV

SANSKRIT COLLEGES TEACHING AYURVEDA

No.	Name of the College	Date of starting	Government aided or Private	Details of Degree or Diploma awarded	Duration of course Years	Total strength of College		
						Male	*Female*	*Total*
1	Shrimad Bhuvanendra Sanskrit College, Karkala, Mysore. ..	1927	Aided	Ayurveda Siromani	4	2	—	2
2	Sanskrit College, Puri, Orissa. ..	1918	Government	Acharya	4	33	—	33
3	Sanskrit College, Bolangir, Orissa. ..	1948	Government	Acharya	4	8	—	8
4	Sanskrit College, Parlakimedi, Orissa. ..	1915	Aided	Acharya	4	53	—	53
5	Dharma Samaj Sanskrit College Musafarpur, Bihar			—Information not available				
6	Government Sanskrit College, Tripunithura, Kerala.			—Information not available				

APPENDIX V

Grades of pay of Government Ayurvedic Physicians, source of supply of Ayurvedic medicines to Government dispensaries (including aided and number of patients treated in all the Ayurvedic Hospitals and Dispensaries

No.	STATE	Grades of Pay of Ayurvedic Physicians (in Rs.)		Number of patients treated	Source of supply of Ayurvedic medicines
1.	ANDHRA	(*i*) 176—375	in all city dispensaries and some district dispensaries	41,15,491	Government Ayurvedic Pharmacy Hyderabad, Central Ayurvedic Pharmacies at Guntur, Vijayawada District Board drug and Medical Stores at Nellore and from Adayar Pharmacy.
		(*ii*) 130—202	in other district dispensaries.		
2.	ASSAM	Rs. 80 p.m. subsidy plus Rs. 500 annual grant for medicines.	(For Government subsidised Ayurvedic dispensaries)	20,00,000	Partly from Government Ayurvedic Pharmacy-Mostly self-preparation by Vaidyas.
3.	BIHAR	60—2—80—EB—2—100		1,56,196	Partly manufactured by Vaidyas themselves and partly purchased from market.
4.	BOMBAY *Old Bombay State*	(*i*) 80—5—100—EB—6—160 EB—8—240 for D.A.S.F. or Equivalent qualification (*ii*) 55—3—85—EB—4—125—5—130 for others		Not available	Mostly from Private Pharmacies. In Marathwada one government Ayurvedic Pharmacy has been stated which will be supplying medicines in that area from this year.
	Marathwada	Three Grades (*i*) 105—140 (*ii*) 130—202 (*iii*) 176—375			
	Saurashtra	(*i*) 90—220 for qualified Vaidyas. (*ii*) 60—120 for others.			

S. N.	STATE		Grades of Pay of Ayurvedic Physicians (in Rs.)	Number of patients treated	Source of supply of Ayurvedic medicines
5.	**KERALA**		80—180	35,33,050	Government Pharmacy Trichur.
6.	**MADHYA PRADESH**				
		Madhya Bharat Region	(*i*) 80—200 (*ii*) 60—100 100—200	Not available	Government Ayurvedic Pharmacy.
		Bhopal Region			
		Vindhya Pradesh Region	(*i*) 100—200 (*ii*) 75—100 (*iii*) 40—50		
7.	**MADRAS**		100—5—200	46,00,000	Partly manufactured by themselves and partly obtained from standard Pharmacies like the one at Adayar.
8.	**MYSORE**	*Old Hyderabad Region*	(*i*) 215—415 (*ii*) 176—375 (*iii*) 130—202	40,96,754	Subsidised Medical Practitioners Centres and Rural Medical Practitioner Centres obtain medicines from Private pharmacies and two Government institutions at Mysore and Bangalore prepare themselves.
		Old Bombay Region	80—5—100—6—160—8—240		
		Old Mysore State	100—5—150—10—250		
9.	**ORISSA**	for D.A.M.S.	(*i*) 120—250		
		for graduates of Banaras University and other degrees.	(*ii*) 100—180	8,07,420	Government Pharmcies and open market.
		for Ayurvedacharya	(*iii*) 60—110		
10.	**PUNJAB**	For Vaidyas	80—5—105/5—137/7—170	24,43,248	Govt. Central Pharmacy and open market.
		For up-Vaidyas	55—3—70/4—90		

S. N.	STATE		Grades of pay of Ayurvedic Physicians (in Rs.)	Number of patients treated	Source of supply of Ayurvedic medicines
11.	**UTTAR PRADESH**		120—4—160—EB—8—200	1,70,66,082	Government Ayurvedic Pharmacy.
12.	**RAJASTHAN**	for Class A Practitioners	(*i*) 150—300	89,63,496	Government Ayurvedic Pharmacy.
		for Class B ,,	(*ii*) 110—225		
		for Class C ,,	(*iii*) 60—140		
13.	**WEST BENGAL**		No Government Dispensary in the State.		
14.	**JAMMU & KASHMIR**		(*i*) *70—6—130 for qualified from recognised (*ii*) @ 50—4—82 and non-recognised Universities.	9,00,000	Drug Research Laboratory.
15.	**HIMACHAL PRADESH**		80—170	Not available	
16.	**MANIPUR**		No Government dispensary		
17.	**TRIPURA**		100—5—120—8—200	20,802	From reputed firms.

APPENDIX VII

Pharmaceutical Concerns

Name of concern	Date of Establishment	Nature of Ayurvedic medicines manufactured per year and average Qnty in lbs.							Total	Machine or Manual Labour	Staff Skilled	Employed Unskilled	Whether Ayurvedic Texts followed	Sources of raw material	Are they tested & standard	Remarks
		Churna	Asavarist	Avracha	Thail	Bhasm	Vatti	Other								
1. Calcutta Chemical Co. Ltd.	1916	293	1597	619	119	—	7	—	2635	Both	2	21	Tes	Local market	Tested in Lab.	
2. Govt. Ayurvedic Pharmacy, Hyderabad	1948	2691	4063	45	956	367	327	537	8986	Both	5	26	Yes	By calling tenders	Yes	Should have approved firms or rawmaterials
3. Govt. Ayurvedic College, Gauhati	1948	Valued at Rs. 42,355/-										10	Yes	Local market	Yes	
4. State Pharmacy, Patna	1947	400	1361	241	165	66	91	1345	3670	Manual	5	10	Yes	—do—	Yes	Two pharmacopia Committees appointed by Government
5. Dhootapapeshwar Industries Ltd. Panwal, Bombay	1872	15643	312,786	65582	14185	1789	1027	20555	431067	Both	7	265	Yes	Raw but collection from round about places. Purchase from other sources in India	Yes	Physical chemical & occasionally microscopic tests
6. Rasashala Aushadashram Gondol	1910	1054	—	4910	970	493	1172	1950	10549	Mostly manual labour	23	30	Yes	Collection from forests & hills		Physical verification according to Shastras
7. Zandu Pharmaceutical works, Bombay	1910	166726	401580	99007	32861	2082	39566	55142	796964	Both	39	439	Yes	Local purchase & imports	Laboratory Test	
8. Ayurvedashia Pharmacy, Ahmednagar	1933	12731	283653	28671	14188	1532	1954	15456	358185	Both	10	234	Yes	Collection and local purchase		
9. Ayurveda Rasashala, Poona	1935	6917	67462	6258	1272	1108	1145	26561	110723	Both	3	63	Yes	Local purchase and imports	Own methods of judging purity	
10. Gujerat Ayurvedic Pharmacy, Ahmednagar	1890	2381	375	2740	267	2276	500	1615	10154	Both	4	24	Yes	Collection from jungles	By experience	
11. Kerala Varma Govt. Ayurveda Pharmacy, Trichur	1942	9432	8702	4915	20929	33	100	3320	47431	Both	3	37	Yes	By competitive tenders		Supervising personnel able to identify
12. Arya Vaidya Sala, Kottakkal	1902	Not available							—	Both	18	237	Yes	Purchase & collection	Experience	
13. Govt. Ayurvedic Pharmacy, Gwalior	1920	34637	1353	267	213	6134	4315	5385	52304	Machines	17	58	Yes	By tenders		Committee approved & purchased
14. Baidyanath Ayurved Bhavan, Nagpur	1942-43	9916	177620	13404	5942	1142	3420	27903	239397	Both	8	57	Yes	Local Purchase	By Experience	
15. Govt. Ayurvedic College Pharmacy, Raipur	1953	2499	7272	—	1005	585	563	1447	13371	Manual Labour	3	29	Yes	By tenders	X	Committee approve
16. Indian Medical Practitioner Coop. Pharmacy, Adyar	1944	21974	89150	19934	19080	1579	1651	6511	159879	mostly Both	15	150	Yes	By purchase	Committee of Inspection	
17. Nikhila Karnetika Ay. Pharmacy, Adyar	1942	437	6719	1910	978	196 Tolas	1202 Tolas	—	11378	Manual Labour	2	12	Yes	Purchase and collection from hills	Experience	

	lishment	Churna	Asav-arist	Ava-lcha	Thail	Bhasm	Vatti	Other
3. Utkal Ayurvedic Corp. Pharmacy, Aska, Orissa	1952	7118	11601	7296	3025	166	12490	1253
9. Govt. Ayurvedic Pharmacy, Jogindernagar	1953	2921	1630	818	406	248	904	3550
). Punjab Ayurvedic Pharmacy Amritsar	1919	872	2704	304	168	712	432	768
. Ramkrishna Rajputana Aushadhalaya Jinchra (Rajasthan)	1930							
. Govt. Ayurvedic Pharmacy, Udaipur	1944							
. Krishan Gopal Aushadhalaya Ajmer	1930	663	823	1143	408	327	354	601
. Dhanwantari Sewa Samiti, Jaipur	1922							
. Govt. Ayurvedic Pharmacy, Jodhpur	1946	10400	1180	1712	2688	528	1600	—
Govt. Ayurvedic Pharmacy, Jaipur	1945	7339	1187	1026	374	295	2403	1424
Rajkiya Ayurved Rasayansala, Bharatpur	1921	1921	3644	936	24	339	723	843
Gurukul Kangri Pharmacy, Hardwar								
B.H.U. Ayurvedic Pharmacy	1925	Rs. 3 lakhs worth						
Rishikul Ayurvedic College, Hardwar	1919	716	5818	2212	533	100	357	—
Coop. Drugs Factory, Ranikhet	1954	6988	289	—	2635	1896	5227	3363
Paharpur Aushadhalaya, Calcutta	1927	517	13406	3402	2212	116	177	3580
Sadhana Aushadhalaya, Calcutta	1917	Rs. 6 to 7 lakhs worth						
Baidyanath Ayurved Pharmacy, Calcutta	1918	not available						
Arya Aushadhalaya, Calcutta	1900	1595 lbs						
K.A. Samajan Pharmacy, Shoranur Kerala	1916	not available						
Dabur (S.K. Burman) & W Calcutta	1884	46571	639811	51636	16337	1380	3313	24697

Total	Manual Labour	led	Texts follow-ed				
42949	Manual labour only	72	76*	Yes	Local purchase	Tested expert* Ayurveds	Excluding daily wages
10477	Both	3	40	Yes	Local herbs purchase from markets	Experience	
	Both	4	5	Yes	Market	Experience	
	Manual labour only	2	62	Yes	By tenders	Experience stores purchase committee	For 5 No. 22
4319	Both	79	37	Yes	Purchase	Experience	
18108	Both	1	40	Yes	Tender		
14008	Both						
2239	Manual Labour						
	Both	5	73	Yes	Market		
	Both	4	14	Yes	Market	Experience	
	Both	4	20	Yes	Local market	Experts test	
20398	Both	8	38	Yes	Collection from hills	Trained Supervisions	
23410	Mainly manual labour	24	38	Yes	Market	Experience	
	Both	40	123	Yes	Market	Experience	
	Both	101	450	Yes	Market also collection from various places		
1595	Both	1	2	Yes	Local market	Experience	
	Both	2	28	Yes	Local hills and market	Experience	
783745	Both	7	232	Yes	Market	Experience	

APPENDIX VII

PHARMACOLOGY AND OTHER RESEARCH DEPARTMENTS

S. No.	Name of the Institute	Name of the Head of the Department	STAFF				Under graduates	Pharmacological Research facilities Yes/No	Experience in Indiginous drug Research Yes/No	Number of Drugs investigated	Number of papers published	Willing to undertake Pharmacological Research in indiginous drugs available Yes/No	Number of Research fellows	Facilities for Clinical trials Yes/No	If yes number of beds that can be set a part
			Seniors with post graduates qualifications	Juniors	Tech.	Research of Post graduates students									
1.	Department of Pharmacology Guntur, Medical College.	Dr. V.S. Venkatasubbon M.B.B.S., M.Sc.	1	1	1	2	105	Yes	Yes	2	7 Can other to pics	Yes	2	Yes	10 or more
2.	Department of Pharmacology Andhra, Medical College, Visakhapatnam.	Dr. A.V. Ramaliagam M.D.	—	2	—	1	130	No	Yes	—	6	Yes	2	No	
3.	Deptt. of Pha : Assam Medical College, Dibrugarh.	Dr. R. Goswani, M.B.B.S. Ph. D.	2	5	2	—	100	Yes	Limited	2	1	Yes	1	No	
4.	Deptt. of Pharmacology, Patna University.	Dr. G. Achari.	1	1	—	4		Yes	Yes	2	4	Yes	3	No	
5.	Seth U.P. R. Unit Medical College, Baroda Department of Pharmacies.	Dr. Gopal K. Kharandikar, M.B.B.S. M.S. Ph.D.	—	(Not classified)		5	60	Yes	Yes	6	1	Yes	2 (with background in Pharmacology)	Yes	6-12
6.	University Department of Pharmacies, Nagpur														
7.	Dept. of Pharma. Haffkine, Institute, Bombay.	Dr. K. Dutta M.B.B.S. D. Phil (Oxon).	4	8	13	4	—	Yes	Yes	10	15	Yes	1 MBBS	No	
8.	Dept. of Pharmacology, H.P. Shah Medical College, Jamnagar.	Dr. N.V. Rajapurkar M.B. M.Sc.	1	1	1	—	60	Yes	No			Yes	2	No	
9.	Pharmacology Department, B.J. Medical College, Poona.	Dr. Ranita Aiman	1	4	1	3	100	Yes	Yes	11	2	Yes	1	Yes	
10.	Seth G.S. Medical College Pharmacology Dept.	Dr. N.K. Seth. M.D.	3	5	2	6	70	Yes	Yes	6	51	Yes	3	Yes	No definite beds attached.
11.	Dept. of Pharmacology, Gandhi Medical College, Bhopal.	Dr. S.S. Gupta M.D.	3	2	2	2	100	Yes	Yes	11	7	Yes	2	Yes	10
12.	Department of Pharmacology & Therapeulico, Medical College, Jabalpur.	Dr. S.L. Goswami M.D.	1	2	2	1	75	Yes	Yes	5	3	Yes	5	Yes	15
13.	Department of Pharmacology, G.H. Medical College, Gwalior.	Dr. S.L. Agarwal M.D.	2	2	1	2	100	Yes	Yes	4	4	Yes	2	No	
14.	M.G.M. Medical College, Indore Department of Pharmacology.	Dr. B.C. Bose M.D. D.Sc.	2	3	4	2	100	Yes	Yes		30	Yes	2	Yes	10

S. No.	Name of Institute	Name of the Head of the Department	STAFF				Under graduates	Pharmacological Research facilities Yes/No	Experience in Indigenous drug Research	Number of Drugs investigated	Number of papers published	Willing to undertake Pharmacological Research in indigenous drugs available Yes/No	Number of Research fellows	Facilities for Clinical trials Yes/No	If yes number of beds that can be set a part
			Seniors with post graduates qualifications	Juniors	Tech.	Research of Post graduates students									
15.	Madras Medical College Madras-3.	Dr. A.V. Govinda Rao M.B.B.S. M.S. (Yale).	1	5	3	3	100	Yes	Yes		4	Yes	5	No	There is proposal upgrading the Unit.
16.	Madurai Medical College, Madurai Madras.	Dr. M.N. Govinda Swami.	—	1	1	1	100	Yes	Yes	3	2	Yes	2		In co-operation with Hosp. Madras.
17.	Indian Institute of Science, Bangalore, Mysore.	Dr. M. Sirsi.	1	1	3	6	—	Yes	Yes	7	32	Yes	6	No	
18.	S.C.B. Medical College, Cuttack.	Dr. K.N. Ojha M.D. Ph.D.	2	2	3	1	75—100	Yes	Yes	4		Yes	3 (incl. one chemist)	Yes	
19.	Dept. of Pharmacology Amritsar.	Dr. Mohan Singh Sethi.	1	1	6	4	100	Yes	Yes	7	8	Yes	3	Yes	10
20.	Dept. of Pharmacology Christian Medical College, Ludhiana.	Dr. K.N. Sinha.	3	2	1	—	50	to some extent.	Yes			Yes	1	No	
21.	Government Medical College, Patiala, Punjab.	Dr. Mohinder Singh Grewal.	1	4	6	3	50	Yes	Yes	1	1	Yes	3	Yes	
22.	Central Drug Research Institute, Lucknow.	Dr. B. Mukerji.	40	40	—	6		Yes	Yes	45	36	Yes if C.S.I.R. approves 4 Juniors 4 Seniors	4 Jun: 4 Senior	No can be done in collaboration with local hospitals.	
23.	Pharmacology & Therapeutics, Deptt. Lucknow, University.	Dr. M.L. Gujral.	6	4	9	9	100	Yes	Yes	124	16	Yes	5	No can be carried out with collaboration with department of Medicine.	
24.	Dept. of Pharmacology, S.N. Medical College, Agra.	Dr. N.K. Chaudhry.	2	3	3	3	75	Yes	to some extent		2	Yes	1	No	
25.	School of Tropical Medicine, Dept. of Pharmacology and Chem. Calcutta.	Dr. M.L. Chatterji.	—	—	—	—		Yes	Yes	73		Yes	2	Yes	
26.	Dept. of Pharmacology & Therapeutics, Cal. National Medical Institute.	Dr. P.K. Chakravarty, M.D.D.PH.	—	3	1	—	100	No	Yes	4	—	Yes	2	No	
27.	Regional Research Laboratory Jammu & Kashmir.	Dr. I.C. Chopra.	2	4	3	—	— (More apparatus required)	Yes	Yes	15	11	Yes	2	No	No
28.	Pharmacology Department A.I.I.M,S. New Delhi.	Dr. R.S. Arora M.D. (Pharm) M.D. (Med)	2	5	9	6	50	Yes	Yes	7		Yes	2 to 3	Yes	

APPENDIX VIII
Rights and Privilleges
of
Registered Ayurvedic Practitioners

Name of State		Permission to us modern drugs	Permission to do minor surgery	Medical certificates for leave etc.	Medico-Legal certificates	Remarks
Andhra Pradesh	..	Yes	Yes	Yes	Yes	
Assam	..	No	No	Yes	No	
Bihar	..	Not Clarified	No	Yes	---	
Bombay	..	Yes	Yes	Yes	Yes	
Jammu & Kashmir	..	Yes	Yes	Yes	No	
Kerala	..	No	No	Yes	No	
Madhya Pradesh	..	Not Clarified	Yes	Yes	No	
Madras	..	Yes	Yes	Yes (for A Class only)	Yes	
Mysore	..	Yes	Yes	Yes	No	
Orissa	..	Yes	Yes	No	No	
Punjab	..	No	Yes	Yes	Yes	
Rajasthan	..	No	Yes	Yes	No	
Uttar Pradesh	..	yes	Yes	Yes	No	
West Bengal	..	No	No	No	No	
Delhi	…	___	___	__	__	
Himachal Pradesh	…	___	___	__	__	
Manipur	…	___	__	__	__	
Tripura	…	___	__	__	__	
Andaman		___	___	___	__	

APPENDIX IX

BOARD OF RESEARCH IN AYURVED, BOMBAY.

T' Phone: 253750
T' Gram: 'RESAYURVED'

Mustafa Building, 4th Floor,
Sir Pherozshah Mehta Road,
Fort, Bombay-1.

Ref. No.18/1485-87/58.

Date: 19th September, 1958.

MEMORANDUM

Memorandum submitted by the Board of Research in Ayurved, to the Chairman, Ayurvedic Research evaluation Committee, Government of India, Ministry of Health, New Delhi at Bombay.

To,

The Chairman
Ayurvedic Research Evaluation Committee
Ministry of Health
Government of India
New Delhi.

Dear Sir,

We, the members of the Board of Research in Ayurved, take this opportunity to welcome the appointment of your Committee as it shows a been desire on the part of Government to acquaint themselves to the fullest possible measure with the Research in Ayurveda going on in our country at present.

2. The appointment of your Committee also indicates the increasing attention the Central Ministry of Health is Paying in the improvement of conditions for Ayurvedic Research and consequently the practice of Ayurveda in general.

3. We arealso happy to find that the members entrusted with this responsible work are known in their field and we are confident that under the able guidance of a person like you, who has had the fortune to learn Ayurved as also the modern Medical Science, the Committee would be able to stimulate by its recommendations Ayurvedic Research all over the country and make it a better organized and useful feature.

4. As your Committee has been entrusted with an important work of evaluation of the research work in Ayurveda conducted all over the country, your recommendations will have a far-reaching importance, of historical significance in the progress and development of the Science of Ayurved.

5. We have, therefore, pleasure in placing before you, in a comprehensive manner, our views on the subject of Research in Ayurved.

THE BOARD AND ITS CONSTITUTION

6. Before placing the views of the Board on the question of Ayurvedic Reseach, we would like to give a brief introduction of our Board and its activities.

7. The Board of Research in Ayurveda, Bombay, was first constituted in 1951 as per Government Resolution, Local Self-Government and Public Health Department, No. 6238/33 dated 8th August, 1951 and subsequently reconstituted as per Government Resolution, Local Self-Government and Public Health Department, No.ADR-1155 dated 29th September, 1955and Government Resolution, Local Self-Government and Public Health Department,No.ADR-1155/H, dated 30tth July, 1958. The Board consists of the following 9 members:

1.	Vd.G.V. Purnakik,	Chairman,
2.	Sh. A.N. Namjoshi,	M.Sc. (Chemistry), M.Sc. (Botany), Secretary
3.	Vd. N.H. Joshi,	Ayurved- Visharad,
4.	Vd. R.N. Desai,	Ayurvedacharya, Ayurvedalankar,
5.	Vd. R.S. Dwivedi,	Ayurvedacharya,
6.	Vd. N.V.Joshi, B.A.,	Ayurveda- Visharad,
7.	The Director of Ayurved, Bombay, State,	Bombay (ex-officio)
8.	Vd. G.M. Vaidya,	Ayurvedteerth,
9.	Vd. V.B. Joshi,	Ayurvedacharya,

The Board while its reconstitution was provided with an Advisory Committee consisting of Vaidya- Bhushan Ganeshashastri Joshi, Rajvaidya Jeevaram Kalidas Shastri, and Vaidya Hari Datt Shastri, Director of Ayurved Bombay, of which the last one has now been nominated an ex-officio member of the Board.

The Board has four Sections for the convenience of work with two members being allotted to each Section as follows :-

I. Section for standardization of Ayurvedic Drugs.

1. Vd. G.V. Puranik, M.Sc. (Chemistry),
2. Shri A.N. Namjoshi, M.Sc. (Botany).

II Section of Ayurvedic Literary Research and Preparation of Ayurvedic Text-Books.

3. Vd. N.H. Joshi, Ayurved-Visharad,
4. Vd. R.N. Desai, Ayurvedacharya, Ayurvedalankar,

III. Section for Ayurvedic Clinical Reseach.

5. Vd. R.S. Dwivedi, Ayurvedacharya,
6. Vd. N.V. Joshi, B.A., Ayurvedya-Visharad,

IV. Section for Research in Ayurvedic Regimen and Prevention of Diseases by Ayurvedic methods.

7. Vd. G.M. Vaidya, Ayurvedteerth,
8. Vd. V.B. Joshi, Ayurvedacharya,

The fourth section was added only recently. The Director of Ayurved is not attached to any particular Section.

THE ACTIVITIES OF THE BAORD

A note on the activities of the Board in a Sectionwise manner explaining the different points in their proper context and scquence would enable you to get an idea of the working plan of the Board and its views on the subject of Ayurvedic Research on the difficult points.

1. Section for Standardization of Ayurvedic Drugs.

The work of standardization of Ayurvedic Drugs has a two fold importance. One is the academic and the other as a pre-requisitefor clinical research. Standardization of drugs again has to be considered at three stages :

(i) Standardization of the crude drugs (the raw drugs);
(ii) Standardiszation of the processes of manufacture ; and
(iii) Standardization of the prepared or compound medicines.

The first work includes the removal of controversy about the identify of Ayurvedic herbs and drugs. Their pharmacognosical study, laying down of their physical, chemical and in short, their pharmacognosical specifications. This work has been first undertaken by this Section of the Board. The Board has its Research Laboratory Unit housed at the R.A. Podar Medical College, Worli, and has taken up the studies in the pharmacognosy of Ayurvedic drugs. So far, monographs of the following Ayurvedic drugs have been prepared and the same are under print.

STUDIES IN THE PHARMACOGNOSY OF AYURVEDIC DRUG PLANTS

List of Monographs

(i) Tinospora cordifolia, Miers --Menispermaceae
(ii) Crateeva religiosa, Forst -- Capparidaceae
(iii) Pistacia integerrima, Stew -- Anacardiaceae
(iv) Tephrosia purpurca, Pers. -- Papilionaceae
(v) Holarrhena antidysenterica, Wall -- Apocynaceae
(vi) Solarnum Xanthocarpum, Schl. -- Solanaceae
(vii) Splanum indicum, L. -- Solanaceae
(viii) Withania somnifera, Dun. -- Solanaceae
(ix) Gmelina arborea, R. -- Verbenaceae

2. The section has undertaken the study of the following commonly used Ayurvedic drugs (and also their

Adulteramts where they are known) with a view to evolve their so to say, working standards which are of immediate use to the Vaidya in the selection anduse of his drugs. It is expected that the same would be of considerable use in Ayurvedic pharmacy to the individual vaidya as also to the commercial Ayurvedic pharmacies who do manufacture on a large scale.

3. In this pursuit, we are trying to use all available modern appliances and techniques that could be applied with advantage. The chromatographic technique for example, has been developed for this purpose with great success in case of certain drugs like Saffron, etc. The work is in progress.

4. Considering the huge bulk of work facing us and the resources at our disposal, it appears it would take a number of years to complete the work of evolving the working standards of all the Ayurvedic drugs. And the earlier the work is completed, the better it is for the other branches of research to progress. It is therefore felt that the work need be expanded considerably by making available to the Board larger grants for extending the same.

5. This section is also conducting an Ayurvedic Pharmacy Unit.. This unit is meant to cater Ayurvedic medicines to the Ayurvedic Clinical Research units working under the Board. Here, the raw drugs are first examined by the Research Laboratory Unit and then subjected to a uniform process of manufacture so as to result into a medicine of uniform constitution and quality. This is, so to say, an intermediary stage, before our standardization work is finalized and ensures that at the different Ayurvedic clinical Research units working under the Board, we use medicines prepared from pre-examined Ayurvedic crude drugs subjected to a uniform process of manufacture and hence, possessing a uniform compositon.

6. The second stage of standardization viz. the standardization of the processes of manufacture has been started under a joint effort of the Research Laboratory Unit and the Ayurvedic Pharmacy Unit and the process of Shuddhi of opium and Cannabis arein progress. Here also is a case for expansion of the work held up for want of greater funds.

7. The third stage of standaridization is logically a later stage and should be taken up when the first two are fully on their way. Yet a beginning has been made in this direction also. For the present, some of the Asawas and Arishtas have been taken up for their investigation by a specialized chromatographic technique and the results have been found to be encouraging. There is scope for expansion of this branch of research in future, especially from the point of view of regulation of the manufacture and trade of Ayurvedic medicines on a commercial scale.

II- Section for Ayurvedic Literary Research & for Preparation of Ayurvedi Text-Books

8. With a change-over from the old traditional method of teaching of Ayurveda, to the modern method of subject-wise teaching by expert and specialists of each subject in colleges, the necessity of text-books written in subject-wise manner and giving all important information from the old authentic texts arranged in a logical scquence and intelligently explained, was very acutely felt. The Board therefore decided to publish Ayurvedic Text-Books on the following subject :-

1. Ayurveda Darshana.
2. Ayurvedeeya Shareeram.
3. Pratyaksha Rachana Shareer.

4. Dosha-Dhatu-Mal Vidnyana.
5. Rasadi Vidnyana.
6. Pratidravya Vidnyana
7. Bheshaja Nirmana.
8. Rasa-Shastra.
9. Vyadhividnyana.
10. Roga Pareeksha.
11. Kayachikitsa.
12. Rasayana Vajikarana.
13. Shalya-Shalakya Tantra.
14. Koumar-Bhritya.
15. Stree Roga Vidnyana.
16. Manovidnyana tatha Masasaroga.
17. Vyavaharayurved.
18. Ayurvedaka Itihasa.
19. Agadatantra.
20. Ayurvediya Yogasangraha (Ayurediya Pharmacopoeia)
21. Swastha Vritta.

In addition, the Board has decided to publish the following books useful to Ayurvedic students.

22. Ayurvediya Shabdakosha.
23. Sanskrit Pathyapustaka (Ayurvedopayogi).

16. The previous Board had published two books: (1) Ayurvediya Padarth-Vidnyan and (2) Swastha-Vrittam Vol. I & II. After reconsititution the Board has published the third viz. "Ayurvediya Sharirum". Out of these the first and the third books have been recognized as text books for students undergoing courses of training under the Faculty of Ayurvedic and Unani Systems of Medicine, Bombay, and the Shuddha Ayurvedic Course Committee of the Government of Bombay. The second book has been recommended bythe said two examining bodies as a reference book. The reconstituted Board however, feels that in the second edition of these books some radical changes are necessary and attempts are being made towards this end. The Section has prepared its own outlines for the proposed 23 book, and has published the intention of the Board to get these books written in a subject-wise manner by Ayurvedic scholars and invited applications for the same.

17. From among the eminent scholars of Ayurveda all over India, the Board has selected some competent Vaidyas who have been requested to prepare their specimen chapters of their respective subject and submit them to the Board. On approval of these specimen chapters the work of writing of the whole books, on the plan of the Board and in a manner in which the Board wants, would be entrusted to the author or authors finally selected for each subject. Some of these authors have startedwriting the manuscripts and the Section is examining the same, chapter, and the work is in progress. The subject of writing books is one which takes a longer initial time and considering the far-reaching influence, the text booksare going to have on the future Ayurvedic education, the Board has been taking every care to make them as comprehensive and useful as possible.. It is expected that the Board would be able to bring forth a good number of books for students by 1960.

18. The question of uniform Ayurvedic Terminology to be used in the books by the authors, and by the teachers and the taught, has been the chronic difficulty in the publication of

Ayurvedic Text-books all these years. The Board had called a 'Sharir-Samdnya-Parishad' of *ome of the prominent Ayurvedic scholars from all over India, specifically to standardize the Sharir Terminology and the same has taken decisions which would be of immense use in the writing of Ayurvedic text-books.

Ayurvedic Literary Reference Unit

19. The Board of Research in Ayurveda has realized that research in every branch of Ayurveda is considerably affected if not totally held up, due to the time taken in the collection of relevant references.

20. The sources of information for Ayurvedic Research are varied. They are scattered not only in the Ayurvedic books but in the Vedas, Samhitas, Puranas, Jyotish-Grantha, the Scriptures of Hindus, Budhas and Jains and in the scientific and literary works in Sanskrit, Pali, Ardha-Magadhi etc.

21. It becomes extremely difficult therefore for a single Ayurvedic scholar go through all the Voluminous literature. In fact most of his time is consumed in searching out the references leading to his research and very little time is left out for him to pursue his main problem of research. This becomes ironically true especially when he is conducting clinical research or research in drugs or in dietetics etc. In the present times, the specialization in scholarship has gone to such an extent that it is always found academically and economically desirable to allot the different works, connected with each problem to different units of experts one complementary to the other. So that,under ideal condition, for example, a scholar specialized in Clinical Research need focus his attention on the clinical work itself. He should be able to get all the references he wants, collected and supplied to him by a unit, specialized for collection of references only. He would then be able to work upon the reference material supplied to him in the shortest possible time and more efficiently and effectively.

22. It is therefore desirable to establish an "Ayurvedic Literary Reference Unit" with the Board. When a research worker individually takes to collection of references pertaining tohis own subject he has to go through all the 50 books, let us say for example, just to pick out a page pager or 2 in each. While doing so be might come across a thousand other important references not connected with his problem and he leaves them.

23. Another research worker goes through the same 50 books for example, for his own subject of Research leaving all the references unwanted for him. Thus each research worker, goes through a full ordeal of scanning 50 books. If, instead, the Ayurvedic Literary Reference Unit allots a books in turn to each of its staff members and prepares cards for references on each topic described therein soon a card index of all the topics in all the books would get ready, which would save the wasteful labour of a generation of specialized scholars and add to the actual output of research work on the principle of division of labour. The aforesaid card-index would be ever-growing and becoming wider, more mature and consequency more useful. This is the ultimate aim of the proposed unit.

24. The Board has submitted a scheme to the State Government for creation of this unit, which is so cost about Rs.33,000/- per year on an average.

25. Considering the unfathomable literary resources in the Indian literature, there is sufficient work for this unit of the size proposed, for a period of some 15 years at least. But this being a work of primary necessity and urgency, should be expedited in as short a time as possible by increasing the staff many fold so that by the end of 5 years, the whole work scheduled to be completed 15 years hence would be ready. This means our scholars and publications made by them would get the benefit of the references so collected by the Unit in the first or second edition, which they would otherwise have perhaps in the fifth or sixth edition.

26. It is therefore necessary to liberally finance this scheme and implement the whole plan of 15 years in the next 5 years. It is gratifying to note that the Government of Bombay has approved of the scheme and the Unit may start in a very near future, though on a small scale.

III- The Ayurvedic Clinical Research Section

27. This Section has been entrusted with 20 beds at each of the following Ayurvedic Clinical Research Units, viz :

1. Universal Health Institute, Bombay. (20 beds).
2. Sassoon Hospital Poona (20 beds).
3. Civil Hospital, Ahmedabad. (20 beds).

The Board has also established the following 10 beds Ayurvedic Clinical Research Units out of the grants from the Government of India :

1. Ayurvedya Prasarak Mandal, Sion.
2. Ayurved Seva Sangh, Nasik.
3. Shree O.H. Nazar Ayurvedic Hospital, Surat.
4. Seth Sakharam Nemchand Ayurvedic Rungnalaya, Sholapur.

Two more centres are to be started soon, viz :

1. Tarachand Ramnath Ayurvedic Hospital, Poona.
2. Jorabhai Shankerbhai Maha-Gujrat Ayurvedic Medical College at Nadiad.

28. The conducting of Ayurvedic Clinical Research Units at different places with different Climatic and other peculiarities has also a significance from the Ayurvedic point of view which could be explained when sufficient comparative data would be available.

According to Ayurveda, the human body is made of the Doshas, Dhatus and Malas.( ) A study of their inter-relations and inter-dependence is important. The physiology and pathology of Ayurveda could only be explained if the inter-relations are properly understood.

29. The basic ideas underlying the plan of Ayurvedic Clinical Research could be explained as follows :-

(i) Due to certain known causesthe Doshas get abnormally unbalanced ( ) and a stage called Dosha-Prakopa ( ) is reached.

ii) These abnormally imbalanced Doshas affect some of the specific paths of circulation of the Dosha-Dhatu and Malas called the Srotas, distributed all over the body which cease to function partly or wholly and result in a stage called the " Sroto-Vaignum". ( )

(iii) These abnormally imbalanced Doshas affect the Dusyyas viz the Dhatus and Malas and a stage of Dosha- Dushya-Sammurchand is set in.

(iv) The abnormally imbalanced Doshas and Dushyas which are in circulation throughout the body through their specific Srotas find their abode in the organs which are physiologically weak or defective. This is called Viguna-Sthana-Samsraya- and become manifest by specific symptoms.

(v) Thus the abnormal imbalance of Doshas (Vikrit Doshas), affecting the Dushyas viz, Dhatus and Malas and manifesting itself in the deranged functions of the specific Srotas and the deranged organs constitutes a full picture of a disease according to Ayurved.

(vi) The purpose of the Ayurvedic Clinical Research is to check up the units of the claim of causative factors of a disease and trace them back to the proportionate share of responsibility (Ausshamsh Kalpana) of individual Doshas as the ultimate primary cause of disease.

30. Thus having got a correct insight into the causative factors of the disease, to select and give a treatment consisting of Shodana and/or Shamana based on the consideration of Rasa, Guna, Virya, Vipak and Prabhav and to ascertain from the results thereof the correctness of the finer details of diagnosis is the main work before the clinician.

31. From the study of a number of cases of the different diseases in this manner it is proposed to verify and rationally understand the fundamentals of Ayurveda and to explain the same. It is also intended to systematize the Ayurvedic treatment on the basis of the above knowledge and results.

32. The subject for research selected by the Board is the accurate understanding and interpretation of the fundamental conceptions of Ayurveda by the study of clinical data collected purely on the basis of Ayurvedic diagnosisand treatment and also their interpretation in modern terminology, if possible, based on modern observations. This being the goal of research, the Board has decided to collect Ayurvedic Clinical Research data on hospitalized patients who are diagnosed and treated exclusively according to Ayurvedic procedure. It is intended that the patients being diagnosed on the basis of the fundamental conceptions of Ayurveda, like Tridosha taking into accounts its Aumshamsha stage and then treated as indicated according to the Ayurvedic concepts the data so collected would give a clear insight into the chain of factors according to the Ayurvedic conceptions that results into the disease. Side of side, when the Research patient is under Ayurvedic diagnosis and strict Ayurvedic treatment, a systematic case record of the patient according to moren methods is kept, “behind the curtain” so as not to prejudice the Ayurvedic physicians in their diagnosis etc. After sufficient results have been collected and compiled, it would make a very useful material for study.

33. For this purpose, the Board has selected the following 13 diseases out of which patients are chosen for the Ayurvedic Clinical Research.

1 -- Udar Roga (Vatodara, Pittodara, Kaphodara, Sannipatodara, Plihodara, Vakridudara, Jalodara).
2 -- Shotha (Bataja Shotha, Pittaja Shotha, Kaphaja Shotha, Sannipataja Shotha).
3 -- Aan Vat.
4-- Asthi-Majjagata-Vata.
5 -- Sandhi-gat-vata.

6 -- Jwara (Eddoshaja, Dwidoshaja, Sannipataja, Vishama-Jwara, Santatajwara).
7 -- Atisara, Prevahika.
8 -- Grahani Roga.
9 -- Shwasa Roga.
10- Amlapitta.
11-- Shool (Annadravashool, Parinamshool, Hrudayashool, Parshwashool).
12-- Kamala (Ruddapathakamala, Koshthasha-khashrit-kamala, kumbhakamala).
13 -- Malavashthambha.

34. This has been done with a view to give maximum choice of diseases to the Research units and ensure the availability of patients for Clinical Research. However, in actual practice, each Ayurvedic Clinical Research Unit selects some 2-3 diseases of its specialization out of the above ones and attends to them intensively.

35. With a view to maintain uniformity in diagnosis, recording of symptoms, progress and treatment of the patients, the Board has prepared the following forms and literature which are uniformly used at all the Ayurvedic Clinical Research Centres under the Boards :-

1 -- Rugna-Patrakas;
2 - Dainik Lakshana Sarani for all the diseases.
3 -- Dosha-Dhatu-Mala Lakshap
4 – Case- Record (Modern)/
5 – Clinical Research Mathodology.
6 – Rogopakrama –Vivarana -Patraka.
7 -- Rugna Santapadi Patraka.

These have been given at the end as Appendix ‘A’.

36. Recently, there has been experienced a growing tendency especially among the new graduates to take recourse to drug-wise treatment and lose insight of the disease-wise aspect of the same, whereas the whole emphasis of Ayurveda has been on the disease-wise study, and understanding of the subject. On the other hand, the students’ difficulty has been that they neither get training nor are provided with facilities for a disease-wise study of each casein most of the teaching institutions. The work undertaken by the Board in this field would go a long way in removing the difficulty of the students and graduates of Ayurved.

37. It should however be made clear that the Board does not under-estimate the importance of drug-wise research. This method has its own scope of work and would make its own contribution to human knowledge. But so far as the immediate necessity of the Ayurvedists for the proper understanding and proper teaching of Ayurveda, and for the general advancement of Ayurveda, is concerned, primary place has to be given to the disease-wise research and next the drug-wise one.

38. The Board is aware of the importance of drug-wise research in Ayurveda and has already moved in this matter and proposes to start in unit or tow for drug-wise Clinical Research as soon as necessary funds become available.

IV- Section for Research in Ayurvedic Regimen and Prevention of Diseases by Ayruvedic Methods.

39. This section has been only recently added to the Board and proposes to undertake investigation on the subjects of dietetics, the balanced diet according to Ayurveda, its relation with the constitution of individuals (Prakriti), the effects or certain diets on the constitution of individuals, the conceptions of metabolism of different diets according to Ayurveda, and Dinacharya and Rhytucharya ; its importance in maintenance of public health, the epidemic diseases and their prevention by Ayurvedic methods.

This Board also proposes to take up the study of Prakriti Vinischaya, for which a detailed scheme called “Research on Prakriti Vinischaya or Swasthya Pariksha” has been submitted to Government and included herein in Appendix . “C”.

The Board also proposes to publish booklet of some 25-30 pages each written in simple popular language for the masses including the school-going children on subjects of public interest like Ayurvedic conception of diet, Ayurvedic hygiene, Ayurvedic conception of diseases and how to prevent them, the Ayruvedic Regimen according to individual constitution, the history of Ayurveda the common ailment and their treatment, constipation and its cure by Ayurvedic treatment according to individual constitution and so on. There could be translated and published in different languages of the State and if centre aided into different languages required by them and freely distributed among the masses and the schools. This spread of Ayurvedic ideas and thoughts in the masses and their inculcation in the younger minds would go a long way in removing the prejudices about Ayurved in the educated class of the public, and help in creating an atmosphere congenial for the progress of Ayurved in all its aspects,. This work has also been entrusted to this section.

40. The general outline of Ayurvedic research, entitled. “The Ayurvedic Research-a Blue-Print” was written by Shri. A.N. Namjoshi in 1955 and the same was adopted by the Board to laydown the general principle on which Ayurvedic Research be conducted. The same has been appended as Appendix “B”.

41. The Board has visualized great many fields for Ayurvedic research for future and has therefore prepared schemes for covering the same.

(i) The Board has submitted a novel plan of construction of a 100-bed Ayurvedic Research Hospital at Nagpur, in which there are separate buildings for the Kapha Ward, the Pitta Ward and the Vata Ward constructed with the requirements of each in mind having its own plan of structural and environmental peculiarities. The same has been appended as Appendix “C”.

(ii) The following are the schemes so far prepared by the Board and submitted to the Government of Bombay.

BOARD OF RESEARCH IN AYURVED, BOMBAY

A list of Schemes of Research submitted by the Board of Research In Ayurved to Government.

Scheme No.	Subjects of the Scheme	Period of the scheme in years	Estimated expenditure for the period
1.	Ayurvedic Literary Reference Unit	Five	1,64,008
2.	Research on Prakriti Vinishaya or Swasthya Pariksha	Five	2,66,292
3.	Compilation of Ayurvedic Pharmacopoeia of India	Five	7,06,0977
4.	Drug-wise Ayurvedic Clinical Research on a few selected medicines with high therapeutic claims	Three	2,60,118
5.	Study of the Ayurvedic Regimen.	Five	4,77,540
6.	Treatment of Insane by Ayurvedic methods.	Five	10,49,000
7.	Prevention and cure of epidemic diseases by Ayurvedic methods.	Three	2,50,536
8.	Study of secret remedies in possession of persons and their collection.	Five	5,60,000
9.	Studies in Arista Lakshanas	Two	30,344
10.	Scheme for starting of an Ayurvedic Drug Farm and Pharmacy	Seven	15,64,220
11.	Scheme for expansion of Shuddha Ayurvedic Clinical Research	Five	7,81,440
12.	Collection of data for Prakriti Vinischaya	Two	25,520
13.	Scheme of Pharmacy Storage of Ayurvedic Herbs and Drugs	Five	61,990

With a view to give a fuller idea of the significance and financial implications of the schemes, they have been appended herewith as Appendix “D”.

42. Sir, after acquainting you with the present activities and future plans of the Board, together with the scientific and academic background of the same, we would turn to the question of planning and developing of Ayurvedic Research all over the country.

PLANNING AND DEVELOPMENT OF AYURVEDIC RESEARCH

43. There is a general awakening in the Governmental as well as public circles for the revival of Ayurveda which has suffered from neglect in the pre-independence period. The revival of Ayurveda presents a peculiar case in as much as the three aspects, education, practice and research, are inter-woven and inter-dependent. So, any attempt to receive this Science need take a grip of them altogether and find ways and means to improve one inclusive of the other and not exclusive of others Research activity in Ayurvedida shouls form an indispensable compliment in the improvement of Ayurvedic education and Ayurvedic practice. Looking to the many problems in the teaching and practice of Ayurveda, the Board had reasons to believe that at least for many years to come, Ayurvedic Research should form the hub of any scheme of teaching and development of Ayurveda.

44. The present set-up of Ayurvedic Research in the country is not an outcome of uniform planning and co-ordinated endeavour. Individual States have sponsored Ayurvedic Research out of their own interest in Ayurveda and the Central Government has been doing the same on its own, without sufficient planning and directive. This has resulted in a lob-sided development without corresponding turn-over of research work. We take this opportunity to suggest that the time has come when research in Ayurveda should be started in a broad-based manner with a clear-phased plan for 10 years to come in the first instance.

45. While planning reseach, it should be seen that advantage is taken of the existing scholarly talent in the different States and it should be planned at the State level and co-ordinated centrally. This implies the creation of a network of research centres in all the States to be organically connected with the Central Research organization which is to co-ordinate the work done in the States, in different ways. With this conception of promotion of research actively in the country, we have to make the following suggestions:-

1) There should be a Central Directorate of Ayurveda which may be located in a suitable place and the Director should be a very able Vaidya.
2) All central schemes of Ayurved should be implemented by him.
3) Each State should have a Board of Research in Ayurveda on the lines we have one for the State of Bombay.
4) There should be a Central Council of Ayurvedic Research on which each State Board should be able to send two representatives and of which the Central Director of Ayurveda should be the Chairman. This Council should also have some persons nominated by Government so as to ensure the co-operation of scientists in particular.
5) The functions of the Council in general shall be :-
   (i) To chalk out an all-India plan for research in Ayurveda.
   (ii) To distribute the different plans of research to the State Boards.
   (iii) To supervise the research work in the States as well as in its own institutions.
   (iv) To evaluate research work done and by other agencies and encourage the guide for further research.
   (v) To co-ordinate the research work at different levels.
   (vi) To advise the Central Government in the distribution of grants for Ayurvedic research.
   (vii) To establish a journal of Ayurvedic Research giving the plans and results of Ayurvedic research work so as to acquaint the workers themselves as well as scientists all over.
   (viii) To encourage and advice the State Boards to run the following activities :-
   (a) Establishment of gardens of genuine drug plans for teaching institutions.

(b) To run Ayurvedic drug farms at State level which would grow drug plants on commercial scale, and exploit the drug resources of local forests so as to increase the availability of genuine Ayurvedic drugs.
(c) To establish State Ayurvedic Pharmacies which would provide genuine Ayurvedic medicines for research for the S.M.P. Centres as well as for the State insurance schemes or the like.

46. Such a network of Ayurvedic Research Boards with a number of active centres under each, with proper direction and co-ordination from the Centre would really simplify the task, avoid duplication of labour, and economically utilize all the available resources for a greater turnover of research work.
47. This leads us to the consideration of grants for Ayurvedic Research set aside by the States as well as the Central Government. It is a discouraging picture that even in those States like Bombay where research activity has been started, sufficient grants have not been provided for. In the same way, the grants available for distribution to the States at the Centre are not adequate. Considering the fact that Ayurvedic Research is just beginning to grow, more initial grants need be made available to the States, irrespective of the fact whether the States are in a position to provide matching grants or not. As stated in paragraph No. 41 the Board of Research in Ayurveda has in mind to implement the following 13 schemes as part of its research activity, and has submitted the same to the Government of Bombay but the finances at its disposal are too meager to implement even one scheme immediately.

1. Ayurvedic Literary Reference Unit.
2. Research on Prakriti Vinischaya or Swasthya Pariksha.
3. Compilation of Ayurvedic Pharmacopoeia of India.
4. Drug-wise Ayurvedic Clinical Research on a few selected medicines with high therapeutic claims.
5. Study of the Ayurvedic Regimen.
6. Treatment of insane by Ayurvedic methods.
7. Prevention and cure of epidemic diseases by Ayurvedic methods.
8. Study of secret remedies in possession of persons and their collection.
9. Studies in Arista Lakshanas.
10. Scheme for Ayurvedic Drug Farm and Pharmacy.
11. Scheme for expansion of Shuddha Ayurvedic Clinical Research.
12. Scheme for collection of data for Prakriti Vinischaya from Ayurvedic Teaching Institutions.
13. Scheme for Pharmacy Storage of Ayurvedic Herbs and Drugs.

This becomes a discouraging handicap to the enthusiastic research workers and we are taking this opportunity to point out that no useful scheme of research activity should be allowed to be delayed in implementation for want of financial assistance.
48. In the end, we wish to suggest that if the Central Directorate of Ayurved is to be established, Bombay is one of the best suited cities which, we believe, would provide a suitable venue for the same. Bombay has the unique position in this respect on account of the fact that in this City, we have 3 Ayurvedic Colleges viz :

(i) R.A. odar Medical College, (Ayurvedic) Worli, Bombay.
(ii) Shuddha Ayurvedic Vidyalaya, Sion, Bombay.
(iii)The Punarvasu Ayurved Mahavidyalaya at Gowalia Tank Bombay-26.

There are some 5 Ayurvedic Hospitals including the :-

(i) M.A. Podar Hospital, Bombay.
(ii) Ayurveda Prasarak Mandal's Hospital, Sion, Bombay.
(iii) Universal Health Institute, Bombay and
(iv) Panchkarma Chikitsalaya, Bombay.

There are the following Ayurvedic Libraries :-

1. The Research Library of the Board of Research in Ayurved.
2. The Library of the Shuddha Ayurvedic Course Committee.
3. The Library of the R.A. Podar Medical College.
4. The Library of the Podar Ayurvedic Research Institute.
5. The Library of the Shuddha Ayurvedic Vidyalaya, Sion.

In addition, there are the personal collections of rare books possessed by:

1. The late Vd, Hariprapannaji.
2. The late Vd, Jadavji Tricumji Acharya.

Then there are the libraries rich in Sanskrit literature like:

1. The Library of the Bharatiya Vidya Bhawan.
2. The Asiatic Society's Library.
3. The Library of the University of Bombay.

Further, there are very useful libraries possessing scientific books and literature including the following ;-

(i) The Library of the Department of Chemical Technology of the University of Bombay.
(ii) The Library of the Haffkine Institute of Science.
(iii) The Library of the Institute of Science. In Bombay, the co-operation of the following research institutions is available :-
(iv) The Haffkine Institute, Bombay.
(v) The Tata Cancer Research Institute.
(vi) The Department of Chemical Technology, of the University of Bombay.
(vii) The Tate Institute of Fundamental Research.
(viii) The Research Department of the Institute of Science.
(ix) Podar Ayurvedic Reseach Institute, Worli, (Under construction0.

Also the co-operation of the Bio-Chemistry and the Pharmacology Departments of the three Medical Colleges is available. In addition to the five Ayurvedic Hospitals mentioned above, there are over a dozen most modern general hospitals including :-

1-The J.J. Group of Hospitals,
2-The K.E.M. Hospital,
3-The Nair Hospital,
4-The G.T. Hospital,
5-The St. George's Hospital,
6-The Bhatia General Hospital,
7-The Bombay Hospital,
8-The Nanavati Hospital,
9-The Sion General Hospital,
10-The Arthur Road Hospital,
11-The Masina Hospital,
12-The T.B. Hospital at Sewri,
13-The Cama Hospital for women and Children.

There are two Dental Colleges and Dental Hospitals and a Mental Hospital, a Leper Asylum and a Veterinary Hospital. Further there are facilities available for research in dietetics etc. at the different jails, hostels etc. All these above-mentioned institions and many others would be always ready to co-operate in tackling the research problems in so far as it is within their powers to do. In addition to this, there is a considerable number of research talent in Ayurved, modern medicine and science available and taking interest in Ayurveda. Further thee are the best Herbaria including the Father Blatter Herbarium and the Herbarium of the Institute of Science.

And above all, it may be mentioned that the four important Ayurvedic organizations of the Government of Bombay directly or indirectly concerned with Ayurvedic Research, viz.

1-Board of Research in Ayurved.
2-Podar Ayurvedic Research Institute which is under construction.
3-Committee for Standard Ayurvedic Herbs and Drug.
4-Ayurvedic Pharmacopoeia Committee,

have been working in Bombay and they constitute a team of enthusiastic and sincere research workers and scholars with adequately trained administrative and technical staff which could lend all their co-operation to the proposed Central Directorate of Ayurved and the Central Council of Ayurvedic Research, if venued at Bombay.

49. Under the Government of Bombay scheme, a clinical research unit exists at the Universal Health Institute and under the Central Government Scheme, a clinical research unit has been started at the Ayurvedya Prasarak Mandal's Hospital, Sion. In addition, research ward i.e., an Ayurvedic Clinical Research ward, is soon to be startedat the M.A. Podar Ayurvedic Hospital.

50. All these potentialities of the City may be taken into consideration while deciding the venue for the establishment of the Central Directorate of Ayurveda and the Central Council of Ayurvedic Research suggested by us.

51. Before concluding the Memorandum, we wish to suggest also that with a view to create a liking for research, and an incentive to the young research talents there should be some provision for Post-Graduate Degree in Ayurved by research for the students of Ayurved undergoing training in the different Ayurvedic courses.

52. While submitting this Memorandum, Sir, we believe, the suggestions we have made therein, and we would be making in the personal discussion with you, would be helpful to you in making your recommendations to Government. The recommendations of your Committee, we trust, are going to very largely influence and shape the future of Ayurved in general and Ayurvedic Research in particular. We therefore hope that the ideas and spirit of our suggestions may find place in your report and recommendations.

Thanking you,
Yours faithfully,
G.V. Puranik, -Chairman
N.H. Joshi, -Member
R.N. Desai, -Member
R.S. Dwivedi, -Member
N.V. Joshi, -Member
Hari Dutt Shastri, -Member
G.M. Vaidya, -Member
V.B. Joshi, -Member
A.M. Namjoshi -Member-Secretary.

APPENDIX X

REPORT OF THE COMMITTEE FOR STANDARD AND GENUINE AYURVEDIC HERBS AND DRUGS APPOINTED BY THE GOVERNMENT OF BOMBAY AS PER GOVERNMENT RESOLUTION, LOCAL SELF-GOVERNMENT AND PUBLIC HEALTH DEPARTMENT

NO. ADR/1053 DATED 2-5-1955.

RECOMMENDATIONS OF THE COMMITTEE

During the tenure of the Committee it considered the replies received from the various questionnaires issued by it and studied the situation by conducting the survey tours in the Forests of the State. It also had opportunities to study most of the replies to the questionnaires and of the resources of Ayurvedic Drugs in the State as also some outside the State.

After making a comprehensive study of the replies to the questionnaires and of the resources of Aurvedic Drugs and demand for the genuine drugs the Committee desires to make the following recommendations to Government.

A BOOK OF COLOURED PLATES OF AYURVEDIC PLANTS

1. The Committee has realized that a lot of ignorance about the identity of Ayurvedic plants prevails among the Vaidyas as well as the students of Ayurveda except a few senior Vaidyas, most of the rest of them who belong to the generation under 40, who had no opportunity to be practically introducted to the plants with a scientific approach of recognizing them. Further, perhaps due to lack of enthusiasm among the, they have not got acquainted with drug plants from different part of the country and find greatly handicapped when plants know under different names in different parts of the land, happens to be supplied to them.

The difficulty of he students who have undergone or are undergoing training in the modern Ayurvedic Colleges is in no way different from that of the elders mentioned above. The Committee therefore thought it fit to suggest to Government that they should publish a volume of coloured plates of Ayurvedic Drug plants in popular use as well as the controversial drug plants for which the Committee has arrived at a deicison. The total number of such three coloured plates should be about 250 and each plate should be accompanied by a page giving a short description of each with identifying characteristics and references from Ayurvedic texts as regards their properties and uses.

The Committee has already submitted this recommendation in the form of an interim report. This proposal has been greatly appreciated by all including the Vaidyas the pharmacies the Pharmacists as well as teachers and students of Ayurveda.

AYURVEDIC DRUG FARM

2. The Committee feels that the supply of Ayurvedic Drugs are not all satisfactory and in the absences of any of the drugs, it is necessary to make available to the Vaidyas, the public and the commercial Pharmacies, genuine Ayurvedic herbs and drugs.

For this purpose, the Committee recommends that Government should establish an Ayurvedic Drugs Farm and Pharmacy at a suitable central place which would undertake the following activities :-

(i) To cultivate on a commercial farming scale such plants which are in short supply, such as some of the Dash Moolas etc. and other plats which are difficult to procure in the genuine form and still those which are required in large quantities in fresh condition.

(ii) To cultivate at more than more place, according to suitability of soil, altitude, climate and rainfall Ayurvedic Drug plants, reap their crop in the proper maturing season and mad them available in a fresh or dried and preserved from under hygienic conditions, to the Vaidyas and Pharmacies.

(iii) To exploit the existing forest resources for the collection of drug plants through the forest contractors and collectors and make the Ayurvedic forest products available to the Vaidyas and Pharmacies and Dealers as in No. (ii).

(iv) To advise the Forest Department in intensive cultivation of some of the suitable and successful species of medicinal plants so as to enrich the forest resources mentioned in No. (iii).

(v) To encourage the public in general, the farmers and gardeners in particular and the private suppliers to grow more forest plants by supplying them seeds, seedlings, cuttings, etc. at the proper season.

UTILIZATION OF FOREST RESOURCES OF AYURVEDIC DRUG PLANTS

3. The Committee in convinced that large resources of Ayurvedic Drugs do exist with the Forest Department which are not exploited at present. The reasons being firstly that most of the forests are looked upon as sources of timber and fuel alone. Some minor products like myrambolam etc. mentioned in Appendix “D” are being collected but that is in the form of a side activities. Secondly, most of the collection work is being done through the contractors who are not interested in the drug plants as they are not in the know of an immediate buyer. The Committee has noted with regret that most of the drug plants are at present being collected as fuel wood and lost. Thirdly, good number of the drug plants are herbs and shrubs and are totally neglected.

The Committee therefore, recommends that Government should set up a machinery like the one suggested in recommendation No. 2 viz. the Ayurvedic Drugs Farm which should act as an agency between the Forest Department and the consumers and undertake to store and distribute the Drugs. Then the Forest Department should be told as to the specific Drugs plants (and their parts) that they should arrange to collect through their staff or through the contractors or by auction for collection as the case may be and direct their collections to the Drug Farm, which should undertake to test the same and process it for storage and distribute to the consumers and suitable packing and form as necessary.

ESTABLISHMENT OF A PERMANENT MUSEUM OF AYURVEDIC DRUGS AND HERBARIUM OF AYURVEDIC PLANTS

4. While discussing with several Vaidyas and Dealers and Pharmacists the Committee realized that there is an acute necessity of an Ayurvedic Drug Museum and a Herbarium of Ayurvedic Plants. Th dealers in particular seem to be eager to know for their own knowledge

whether a particular drug they were buying, was genuine or not. For this purpose they need a Museum and Herbarium of Ayurvedic Drugs. The students of the Ayurvedic Colleges in particular are likely to derive an immense benefit if such a Museum were established. The Museum can also supply genuine samples to other Museum and private Institutions and Colleges.

The Committee, therefore, recommends to Government that they should take steps to establish a Museum of Ayurvedic Drugs and a Herbarium of Ayurvedic Plants which would serve as a reference centre for collectors, dealers, teachers and students of Ayurvedic Drugs for purposes of identification of drugs and drug plants.

ESTABLILSHMENT OF AN AYURVEDIC PHARMACOGNOSICAL LABORATORY

The Committee made a study of the conditions prevailing in the trade of the crude Ayurvedic Drugs and in the Ayurvedic Pharmacies so far as arrangements for the detection of adulteration in the Ayurvedic Drugs was concerned. The Committee found that in general none of the dealers or pharmacies in Ayurveda had any such arrangement. This was due to two reasons. One was that very little pharmacognosical data of Ayurvedic Drugs was available today and secondly the individual concern were not big enough to maintain a separate department for the same. In these circumstances the Committee felt it unjustifiable to recommend that each concern should have its own laboratory for the pharmacognosical work. The Committee however, cannot under-estimate the importance of this useful technique in the field of pharmacy and therefore recommends that Government should establish a Pharmacognsical laboratory in a place like Bombay which should carry on the work of pharmacognsical investigation of Ayurvedic Drugs and its main work and make the data available to the public, at the same time this laboratory should serve as a central testing house for Ayurvedic Drugs. The dealers in Ayurvedic Drugs as well as the Ayurvedic Pharmacies and Vaidyas in general who intend to take advantage of this laboratory can send their samples for testing and report. The laboratory would provide all facilities for the testing work, advise the clients as regards the extent of purity and adulterations of the drugs referred to them on payment of certain charges.

SIMILAR WORK BE UNDERTAKEN BY THE GOVERNMENT OF INDIAON AN ALL INDIA SCALE

During its tours and discussions which have ultimately led the Committee to certain conclusions which have been presented to the State Government in the form of a Report, the Committee always felt that a major part of the subject entrusted to the Committee deserves to be tackle on an all India basis so as to give fuller picture of the resources than what could be done on a State-wise scale which would always suffer from limitations of the boundaries of the State. This is subject of an all India character and unless it is investigated in the wider context that data so collected would not yield the real fruit which it is otherwise capable of giving.

The Committee, therefore, recommends that the work undertaken by the Committee within the limitations of the State deserves to be handled on an all India scale and the Central Government be moved to appoint a similar Committee to collect data on a country-wide basis and submit its recommendations so that they could be implemented in different States simultaneously.

The experience of this Committee, the data collected and the recommendations would be of use to such a Central Committee.