CENTRAL COUNCIL FOR RESEARCH IN INDIAN MEDICINE & HOMOEOPATHY

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ANNUAL REPORT
1975-76

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MINISTRY OF HEALTH & FAMILY WELFARE
(GOVERNMENT OF INDIA)

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CONTENTS

1.0 RESEARCH IN INDIAN SYSTEMS OF MEDICINE, YOGA AND HOMOEOPATHY

AN OVER VIEW

THE research in Indian Systems of medicine specially Ayurveda began with sporodic pharmacological studies on medicinal plants. Col. R.N Chopra initiated pioneering research in this field and carried out extensive studies on medicinal plants. For the last twenty years or so, the researches in Ayurveda have increased considerably. This has been due to generous support from the Government of India and also from certain state Governments. A large number of research workers from medical as well as from non-medical disciplines became interested in this field. It has been repeatedly emphasised that these attempts may result to the advent of certain new drugs.

The Central Council for Ayurvedic Research encouraged various research activities after its establishment. It has rendered valuable advice and service to the cause of research in Ayurveda. If we look to the recent past we find that the erstwhile Central Council for Ayurvedic Research was instrumental in the formulation of Composite Drug Research Scheme in collaboration with Indian Council of Medical Research. This Scheme for the first time envisaged active collaboration between physicians—both Ayurvedic and modern, Pharmacologists, Pharmacognosists and Chemists. The attempts made by these units is treated as an important mile stone in the scientific field of researches in Indian Systems of Medicine.

These attempts super added with the establishment of Central Council for Research in Indian Medicine and Homoeopathy in the year 1969, the research activities in the field of Indian Systems of Medicine and Homoeopathy got a new impetus for research. This heralded the advent of organised research programmes in all the sister disciplines. A number of units/enquiries and several major institutions e.g. Central Research Institutes, Regional Research Institutes etc. discipline wise have been established in different parts of the country. The work carried out under the overall charge of Council is sure to open new dimension of research in the sphere of prevention and cure of several ailments.

The present report gives a vivid account of the research activities undertaken by the Council in the year 1975–76. This period has been marked by several significant achievements in the field of clinical research and drug research.

The programmes for clinical importance on evaluation of standard therapies in Ayurveda for the cure of Switra (vitiligo), Apasmar (Epilepsy), Medoroga (lipid disorders) and also an oral contraceptive has been taken up in several Institutes/ Units. As an out come to these attempts certain clinically effective therapies for the treatment Unmada (Schizophrenia), Swasa (Bronchial-asthma), Timira (disorders of vision), Paksaghata (hemiplegia), Medoroga (lipid disorders), Twaka roga (skin disease), Parinamasula (peptic ulcer), have received paramount importance.

Special intensive Medico-botanical exploration of Arunachal Pradesh; Andaman and Nicobar islands, Ladakh and of certain tribal pockets of Nilgiris yield positive information which can be investigated in future.

During the period, survey of about 150 forest divisions were conducted for medico-botanical studies.

The chemical studies on drug have been able to bring to the lime light significant results. Several active compounds/

principles have been isolated from medicinal plants. Certain new processes have been evolved for their isolation and these are being patented.

India has been considered as home of spiritualism The ancient Riseis have been practising yoga from times immemorial to prevent illness and to maintain good health, in order to continue their spiritual pursuits. In recent years the yogic kriyas have been introduced to the benefit of the common man. It is being increasingly adopted by the elite of society and general public in the country and also become very popular abroad. The role of yogic kriyas in the prevention and cure of certain diseases have been established.

The study of scientific rationale of yoga therapy has been started. The beneficial therapeutic role of yoga in Hypertension, Diabetes, Gastro-intestinal disorders and diseases of eye, ear, nose and throat have been studied.

The Unani system has been said to be the branch of Greek Medicine, which developed during the Arab Civilisation and has been mainly prevalent in West Asian countries in good old days. Nevertheless the System flourished in our country during the mediaeval period. During this period there has been obvious exchange of important principles and drugs between Ayurveda and Unani consequently several treatises of Ayurveda were translated in Persian/Arabic language and several drugs used by Unani physicians were adopted by Ayurvedic physicians. In India the Unani system of medicine has undergone certain changes to suit the local population. This system of medicine has been in vogue since then.

A Unani remedy for the treatment of Bars (leucoderma) is being investigated seriously, cheap and effective drugs for certain common diseases—Nazla-e-Muzmin, Sailan-ur-Raham, Zaheer-e-Muzmin, Zoosantaria, Mevi', Kasrat-e-tams etc. have been worked out.

The Siddha system of medicine has been in vogue in Southern part of the country specially Tamil Nadu. The Siddhars, the founding fathers of this system have propagated knowledge for the cure and prevention of human ailments. The system is popularly practised in Tamil Nadu. Certain Siddha remidies have been found effective in the treatment of Mazal Kamalai (Jaundice) Valigunman (Peptic ulcer).

The Homoeopathic system claiming to be the "science of therapeutics" was discovered by Hehnemann in Europe at the end of eighteenth century. This system was introduced in this country by his immediate disciple Dr. Honigburger who came in 1838 and achieved spectacular success in treatment of severe diseases specially Cholera. The system gradually spread in the country.

The therapeutic value of Homoeopathic remedies in the treatment of Amoebiasis, Hypertension, Bronchial asthma, Behavaorial disorders and Dermatities etc. are being confirmed through proving.

The researches conducted under the Council have been recognised and awarded for their standard and significance. A Central Research Institute for Yoga has been established at New Delhi. A pilot project for study of Tibetan Medicine has been launched. A new project to elucidate the efficacy of Homoeopathic remedies has been initiated in collaboration with A.I.I.M.S., New Delhi recently.

Thus, the Central Council for Research in Indian Medicine and Homoeopathy has continued its efforts to promote, carry out scientific researches in different systems of medicine with the aim to find out effective remedies for the treatment of various diseases. The emphasis has been to fulfil the needs of common man and economy. The efforts have been mainly directed towards the search of therapeutic and preventive measures for diseases which are not curable by available treatments.

2.1 Governing Body

President	Dr. Karan Singh
Vice-President	Shri Gian Prakash
Official Members	Shri Prem Nath Dr. J. B. Srivastava Dr. N. Nayudamma Dr. C. Gopalan Dr. Jugal Kishore
Members of Parliament	Shri Govind Das Richharya Shri Sankta Prasad Shri Yashpal Kapoor
Non-Official Members	Pt. Shiv Sharma Shri Lalchand Prarthi Vd. Durga Prasad Sharma Shri P. Narayana Vaidyar (Since deceased) Dr. M. Shanmugavelu Hakim Abdul Ahad Hakim Abdul Hameed Swami Poornananda Tirtha Swami Vishwananda Dr. J. N. Sircar Dr. A. U. Sriram Dr. G. M. Patel Dr. V. Narayanaswami
Member-Secretary	Dr. P. N. V. Kurup

Deliberation of Governing Body :-

The Governing Body could not meet during the period under report.

2.2 Executive Committee

President	Dr. Karan Singh
Vice-President	Shri Gian Prakash
Official Members	Shri Prem Nath Dr. Jugal Kishore
Members of Parliament	Shri Yashpal Kapoor Shri Govind Das Richharya
Non-Official Members	Pt. Shiva Sharma Swami Poornananda Tirtha Hakim Abdul Ahad Dr. M. Shanmugavelu Dr. J. N. Sircar Dr. V. Narayanaswami
Member-Secretary	Dr. P. N. V. Kurup

Deliberations of Executive Committee :-

The Executive Committee could not meet during the year 75–76.

2.3 Scientific Advisory Board (Ayurveda)

Chairman	Pt. Shiva Sharma
Members	Kj. A. Majumdar Dr. L. S. Bhatnagar Shri P. Joshi Dr. R. S. Singh Dr. C. P. Shukla Vd. Pindawala Vd. Sitaram Mishra Vd. M. G. Wadalkar Vd. M. L. Dwivedi Shri A. T. Sharma

Dr. P. K. Warrier
Dr. K. S. Sharma
Dr. K. Subramanian
Dr. N. V. Subba Rao
Dr. B. B. Gaitonde

Member-Sccretary Dr. P. N. V. Kurup

Abstract of recommendations of XI meeting (14th June, 75

1. Recommended to constitute the subject-wise Sub-Committee (i. e. Clinical, Drug and Literary Research) to scrutinize and supervise the research work being carried out by the different aspects.

2. Top priority should be given to clinical research in Ayurveda and maximum budget may be allotted for this purpose and encouragement should be given to publication of clinical research.

3. The change in Clinical programmes under Institutes, Units, Enquiries have been recommended. The problems to be allotted to Central Research Institutes, Regional Research Institutes, Clinical Units of CDRS and Mobile Clinical Research Units have been suggested.

4. It was recommended that working papers of all the clinical projects shall be prepared and placed before the concerned screening sub-committee for approval.

5. Every effort should be made to place the research organisations under an Ayurvedic Officer.

6. The board recommended that there should be a uniform control for the supply of raw drugs, single and compound preparations for clinical research and these may be obtained from Survey Units and Central Research Institutes respectively.

7. A central museum may be established at Delhi.

8. Working of various research programmes was reviewed and the expertise opinions were indicated.

9. The performance of the drug research programme was reviewed and members expressed satisfaction over the performance and desired that these may be compiled and ledgerised.

10. Chemical units should also study the chemistry of those formulations of commonly used in Ayurvedic system of medicine in the country.

11. The study in pharmacology units should also include pharmacological trials of the forms i.e. fresh juice, infusion etc. in which the drugs are used in Ayurveda.

12. Substitutes and adulterant drugs may also be studied.

13. The re-orientation of Drug Standardisation Programme was recommended and it was suggested that new methods/techniques that are quick, workable and easy may be adopted.

14. Members appreciated the project, launching special broad based medico-botanical exploratory survey cum fact finding collecting programme tours in Laddak, Arunachal Pradesh, Andamans and Nicobar islands. The Board felt that the Council should periodically undertake such wide based programmes in different places including the tribal pockets.

15. Recommended for amalgamation of some of the units for easy management and to obtain better output.

16. The musk deer programme may be expanded and a unit may be established at Kufri, Himachal Pradesh.

17. The work of literary units was reviewed and the board recommended certain guide lines for literary research.

18. The work of Documentation Centre and Indian Institute of

History of Medicine was reviewed and found satisfactory. The Board recommended consideration of equipments for documentation centre on top priority.

19. The publication work of Journal of Research in Indian Medicine and Bulletin of History of Medicine may be started from Delhi.

2.4 Scientific Advisory Board (Yoga)

Chairman	Swami Poornananda Tirtha
Members	Swami Dhirendra Brahmachari Swami Shivananda Sarasvathi Swami Manuvarya Dr. Pushpa D. Shirole Shri O. V. Ramiah Shri M. L. Gharote Dr. G. S. Melkote Dr. K. N. Udupa
Member-Secretary	Dr. P. N. V. Kurup

Abstract of recommendations of IX meeting (31st July, 75)

1. The Board reiterated its earlier decision to establish a Yoga Research programme at Varanasi and Lonvala.

2. The Board has approved the progress made by the different research schemes.

2.5 Scientific Advisory Board (Unani)

Chairman	Hakim Abdul Ahad
Members	Dr. A. S. Khaleefatullah Dr. M. S. Gupta Hakim Iqbal Ahmed Hakim A. W. Zahoori

	Hakim S. G. Mohiyuddin
	Hakim S. M. Shibli
	Dr. K. Subramanian
	Dr. B. B. Gaitonde
	Dr. N. V. Subba Rao
Member-Secretary	Dr. P. N. V. Kurup

Abstract of recommendations of VII meeting (7th—9th July, 75)

1. The Board reviewed the progress of various research units and recommended observations for a better output.

2. The summaries of the research programmes to be included in the Annual Report is approved.

3. Recommended for opening of Leucoderma Research Units at Patna, Madras, Calcutta, Ahmedabad and Bombay.

4. Members recommended for the speedy implementation of the Unani Research Schemes approved by Executive Committee.

5. Recommended for the establishment of II Central Research Institute at Srinagar.

6. Recommended for the implementation of the Scheme titled "Drug dose effectively pattern of some indigenous antihelmintic and antiamebic preparation" at Aligarh Muslim University.

2.6 Scientific Advisory Board (Siddha)

Chairman	Dr. M. Shanmugavelu
Members	Dr. S. Uthamaroyan
	Dr. V. Raghupathy
	Dr. V. Vishwanathan
	Dr. E. R. Balakrishnan
	Dr. J. R. Krishnamurthy
	Dr. R. Thyagarajan

	Dr. T. S. Parthasarathy
	Dr. B. B. Gaitonde
	Dr. N. V. Subba Rao
	Dr. K. Subramanian
Member-Secretary	Dr. P. N. V. Kurup

Deliberations :-

The Board met once during the year 1975—76 and recommended the following :—

Abstract of recommendations of VII meeting (29th June, 75)

1. The Board approved the publication of six books on Siddha system of medicine by the Council or through the agencies approved by the Council.

2. The Annual Report for the year 1974-75 was approved for the inclusion in the report of the Council.

3. The Board noted the progress made by different projects and indicated certain measures to obtain better and quicker results.

4 Recommended that translation of the Journal of Research in Indian Medicine made as Ayurveda Anusandhana Patrika which is to be altered suitably as this Journal contains articles on all the systems of medicine and not only in Ayurveda.

2.7 Scientific Advisory Board (Homoeopathy)

Chairman	Dr. J. N. Sircar
Members	Dr. M. C. Batra
	Dr. A. U. Ramakrishna
	Dr. T. R. Chadda
	Dr. K. D. Gupta
	Dr. P. Shankaran
	Dr. Dilip Sarkar
	Dr. B. N. Chakravarthy
	Dr. B. B. Gaitonde

Dr. K. Subramanian
Dr. N. V. S. Rao

Member-Secretary Dr. P. N. V. Kurup

Deliberations :-

The Board met once during the period under report and recommended the following :—

Abstract of recommendations of Xth meeting (10th-11th July, 75).

1. The Regional Research Institute functioning at Nehru Homoeopathic Medical College, New Delhi may be shifted to Agra.

2. Immunological training for Homoeopathic research workers may be imparted at Medical College, Bikaner.

3. The Annual Report for the inclusion in the Council's report is approved.

4. The Board expressed the satisfaction over the progress made by different research projects.

5. The clinical research proformae drawn by the Central Research Institute were approved and appreciated.

3.0 ACKNOWLEDGEMENTS

The Council hopes to extend its field of research as well as concentrate the various activities of the research organisations of the Council. In this task the Council looks forward with confidence to the continued support and interest of the President, Vice-President, Members of various Boards, Scholars and Scientists spread all over the country directly or indirectly connected with the Council. The Council is deeply indebted to the various institutions that are connected with the programmes of the Council.

The Council conveys its profound thanks to the Government of India for their continuous financial support, helpful attitude and cooperation enabling the Council to persue satisfactorily the research activities in the various field of each disciplines.

The Council records its appreciation for the sincere services rendered by its staff in spite of increased work load due to various additional sphere of activities.

4.0 AUDITED STATEMENT OF ACCOUNTS

The statement of accounts of the Council for the year under report as audited by the Accountant General Central Revenues are annexed.

5.0 AYURVEDA

CONTENTS

5.1.0 MAJOR INSTITUTIONS

5.1.1 Central Research Institute (Ayurveda) Cheruthuruthy

The Institute is engaged in clinical research and certain aspects of drug research. The clinical research is mainly devoted to assessment of therapeutic measures/drugs of Ayurvedic system both at in-patient and out-patient level. Clinical studies on Paksaghata, Amavata, Vatarakta, Gridhrasi, Khanjatwa and Pangulya and other Vata vyadhis have been undertaken in in-patient department. Studies on short term evaluation of treatment in certain diseases like Pratishyaya, Vicarcika, Pama, Pandu, Switra have been taken up at out-patient level.

i) **Paksaghata :**

a) A pilot study on 24 cases of Paksaghata to evaluate the role of a combination of Ayurvedic remedies — Bhadradarvadi kwath, Dhanvantara taila, Ksirbala taila, Yogaraj guggulu and Gandharwahastadi taila has been undertaken. As a result of treatment 4 cases were completely relieved, 14 markedly relieved, 2 mildly relieved and only 4 did not show any improvement.

b) Another planned study on Paksaghata to evaluate the role of Pancakarma measures — Sneha, Sweda, Virecana, Vasti and Kasaya on a comparative basis has been undertaken. So far 23 cases have been studied by various combinations of the therapies. The trial is inconclusive.

ii) **Vatarakta :** The trial on 25 cases of Vatarakta has been taken in two blocks. One with a duration of illness less than 2 years and other with duration of illness between 2-5 years The trial on cases with less than 2 years duration of diseases have been undertaken on 17 cases. The patients have been given a combination of Guduchi-mishraka sneha, Guduchi kwath internally and Pinda taila for external use and Virecana/Vasti. Certain patients in this group have been observed without Vasti. Out of the 17 cases, 3 cases showed complete relief, 9 cases showed marked relief, 3 cases showed moderate relief and remaining 2 cases showed mild relief. The response to treatment without Vasti appears to be better. Further studies are in progress. The trial therapy in other group of cases has been Guggulutiktaka ghrta, Guggulutiktaka kasaya internally and Pinda taila for external use and Virecana/Vasti. Certain cases have been observed without Vasti. The

observation has been done on 8 cases. The response to treatment without Vasti appears to be better. Further studies are in progress.

iii) **Khanjatwa and Pangulya** : Clinical trial on 24 cases of Khanjatwa and Pangulya of Bhadradarvadi kwath and Masabala taila for external and internal uses respectively has been undertaken. Complete relief has been observed in 3 cases ; 3 cases showed marked relief, 4 cases showed moderate relief. 5 cases showed mild relief and 9 cases did not show any improvement. A study to evaluate the role of a combination of Sahacara, Devadaru and Sunthi in the Kasaya taila is planned. Few cases have been taken up.

iv) **Amavata** : Clinical trial in patients of Amavata for comparative assessment of two sets of Ayurvedic medicines has been planned. The efficacy of Vasti cikitsa has also been proposed to be studied. Only few cases could be taken up. Further studies are in progress.

v) **Gridhrasi** : Clinical study on Gridhrasi to evaluate the effect of Snehana/swedana along the above treatment has been taken up on few cases. The study is continuing.

vi) **Miscellaneous** : The clinical studies on Saisaveeya vata (7 cases) and Adrangagata vata (2 cases) are also taken up. The treatment based on Pancakarma therapy have been evaluated. A treatment consisting of Jivanjyoti, Sankha bhasma and Ghrta have been found to be quite effective in the patients of Rajyaksma. The trial has been done on 10 cases so far. Further studies are in progress

vii) **Short term trials** : In addition, certain short term trials on common diseases of the area have been undertaken. Visvamitra kapala taila have been found to be effective in the treatment of Pama and Vicarchika. The studies on Pratisyaya, Pandu, Tamakasvasa are also undertaken and certain remedies are being tried on them. Recently the trial of AYUSH-57 has been started in Vitiligo. 28 cases have been registered. Further studies are in progress.

viii) **Modern investigations** : The Institute is well equipped with the facilities to perform modern investigation for the diagnosis and assessment. Various types of pathological, biochemical investigations are being done at the Instiute. The photography section is also functioning at the Institute, helping in maintenance of photographic records of certain typical clinical conditions.

ix) **Pharmacy** : The Pharmacy section has prepared the medicines for use in the hospital section and also for use in other units of the Council. Ninety five formulations of different types—Curna, Gutika, Asava, kwatha—curna, ghrta, taila etc. have been prepared in the Pharmacy section during the period under report.

x) **Pharmacology section** : The section has carried out general pharmacological and toxicological studies on medicinal plants during the year. A coded drug AYUSH — 49 has been found to block the action of histamine and acetyl choline. It also produces hypothermia. Toxicological studies on another coded drug AYUSH — 46 indicate that the drug has no toxic effect upto 500 mg/kg. dose. The antifungal properties of certain single drugs and compound preparation has been done. It has been found that certain drugs if deleted from Kwatha, delay the fungus formation in prepared kwatha.

A project to study the pharmacological activity of Gandhamarjara virya (a secretion from civet cat) has been started. The cats are being maintained and the drug has been collected for study.

xi) **Mobile Clinical Research Unit :**

Special problems :

a) Study of Goksuramodaka in Sveta pradara.

b) Comparative study of Lohasava and Triphala mandura in Pandu roga.

c) Comparative study of Puskaramula (local and Punjab varieties) Cumensole (a coded drug) in Tamaka svasa.

d) Comparative study of Vidanga loha and Punarnava mandura in Krmija pandu.

e) Trial of simple remedies in case of Pratisyaya and Krmiroga, Pama, Vicarcika.

It is found that Goksura modaka is effective in Sweta pradara. 28 cases and 18 cases of Pandu roga were treated with Lohasava and Triphal amandura respectively. Remarkable improvement is found by both the drugs in the increase of Hb. % and decrease in symptoms, they were having before treatment. It is also observed that in the above cases there is a tendency in lowering the eosinophil count wherever it was found high initially. Weight of the patient is increased by both the drugs.

One patient of Tamaka svasa treated with Puskaramula (Punjab variety), the eosinophil count was remarkably reduced from 18 to 2 and Hb% was increased from 65 to 92 within 3 weeks. The symptoms of Tamaka svasa were also completely checked and afterwards the patient had not yet got the attack also. 450 patients were treated by the survey party during the tour. 8 folklore claims have been collected during the period under review.

Deshamangalam village is taken for the study of health statistics.

5.1.2 Central Research Institute (Ayurveda) Patiala

The Institute has taken up clinical research on various aspects of Tamaka svasa, Sveta pradara, Paksaghata, Krmi, Svitra and Twaka roga. The role of Ayurvedic treatment in post-operative management has also been studied.

i) **Tamaka svasa :** The studies on various aspects of Tamaka svasa have been continued. The role of two recipes of Saman cikitsa and Sodhan cikitsa have been evaluated in the treatment. The patients observed had mostly Mandagni and most of them were of vata-kaphaja prakriti.

a) *Saman cikitsa :* The Naradiya laksmi vilas with godanti bhasma and Svaskesari have been tried in 104 and 88 patients respectively. Out of the 104 patients treated with Naradiya laksmi

vilas with Godanti bhasma, 13 patients showed complete relief, 48 patients showed 75% relief, 20 patients showed 50% relief and 8 patients showed 25% relief while the remaining patients either discontinued the treatment or did not show any improvement.

b) *Sodhan cikitsa* : The Sodhan cikitsa consisting of Vaman and Virecana therapies have been tried on 17 cases. The response to therapy has been good as evidenced by observations. Complete relief was noticed in 10 patients ; 75% relief in 4 patients, 50% relief in 2 patients and only one case discontinued the treatment.

ii) **Krmi** : A clinical trial of a combination of Palasbija Sobhanjan, Marica, Nimba and Vidanga have been undertaken in the patient's of Udarkrmi (worm infestation). The observation has been completed on 36 patients of different types of worm infestations. The treatment provides relief after 3—5 weeks of therapy in the patients having round worm, hookworm and thread worm infestation. It is not effective in the treatment of tape worm infestation.

iii) **Sveta pradara** : The therapeutic efficacy of a formulation Pradararicurna along with douche of Triphala kwath with sphatica and vaginal plug of Jatyadi taila have been evaluated in 97 patients of Sveta pradara. Most of the patients responded well to treatment after 4 to 8 weeks of treatment. Complete relief has been observed in 77 patients and remaining 22 patients showed 75% relief.

iv) **Amavata** : A clinical evaluation of Yogaraj guggulu and Rasna saptak kwath has been completed on 86 patients of Amavata. Out of these 9 cases showed complete relief, 27 showed 75% relief, 15 showed 50% relief, 11 showed 25% relief and remaining 8 cases did not show any improvement.

v) **Paksaghat** : A clinical trial of two sets of medicines have been taken up on 16 cases of Paksaghata. In addition all the patients have been given Snehana and Swedana therapies. The first group con-

sisting of 11 cases have been given Rasna saptak kwath and Yogaraj guggulu. Out of 11 cases, 2 showed complete relief, 2 cases showed 75% relief ; 2 showed 50% relief ; 2 cases showed 25% relief and 2 did not show any improvement. Out of 5 cases in second group treated with CRIA 6 (a coded drug), 1 showed complete relief, 3 did not improve and one discontinued the treatment.

vi) **Tvaka roga** : Clinical trial of a combination of certain Ayurvedic remedies for internal and external use has been taken up on 30 patients of various types of skin diseases. Out of these 6 cases showed complete relief, seven showed moderate relief and the remaining 17 cases did not improve.

vii) **Ayurvedic remedies in post-operative management** :The role of Kaisore guggulu, Goksuradi guggulu and certain other medicines have been assessed in post-operative care after surgical operations/procedures. No antibiotics or other modern drugs have been given. All the 28 patients operated for varicocele, cancer penis, Lymphadenitis etc. have been successfully managed by these drugs.

viii) **Miscellaneous trials** : The clinical trial of a combination of Ayurvedic remedies have been taken up in Madhumeha. The trial of a coded drug has also been taken up in the patients of Svitra The trials are in progress.

ix) **Pharmacology section :** The pharmacology section of the Institute has prepared certain extracts from medicinal plants. The studies on their anti-arthritic anti-inflamatory and hypolipaemic effects have been planned.

x) **Special problems :**

a) *Manufacture of Ayurvedic kit* : The Institute is preparing a small kit of Ayurvedic medicines for treatment of common ailments. These medicines can be used by common man with the help of a printed brochure provided with the kit. The medicines can be replenished.

b) *Pilot study on Tibetan medicines* : A project for study of Tibetan medicine has been undertaken by the Institute. The study/interpretation of a book on Tibetan Medicine has been done. It has been noted that Tibetan medicine is similar to Ayurveda in many respects. A clinical trial of an anti-diabetic tibetan remedies has been planned.

xi) **Mobile Clinical Research Unit :**

Special problems : Lohasava in Eosinophilia, Hazimajra, Wazidpur, Pasiana, Jassowal, Hassanpur villages have been taken foi study of health statistics. 175 patients have been treated during the survey tour of the said villages.

4 folklore claims were collected. To popularise the programme of Family Planning, a regular out patient department has been conducted by the Unit in the village Jassowal, Siddhowal, Unchagram for cooperation with Family Planning Research Unit.

5.1.3 Regional Research Institute (Ayurveda) Bhubaneswar

The Institute has undertaken clinical studies on Amlapitta, Parinamasula, Paksaghat, Pangu and Amavata.

i) **Amlapitta and Parinamasula** : A clinical evaluation of Yastimadhu kwath on 27 patients of Amlapitta and Parinamasula has been undertaken. Out of these, 8 cases have been completely relieved, 14 partially relieved and 5 cases did not show any improvement.

ii) **Paksaghat and Pangu :** A regimen of therapy based on principles of Saman cikitsa and Pancakarma cikitsa has been formulated. 31 cases have undergone trial during the period under report. Out of these, 5 cases showed complete relief, 15 cases showed partial improvement and 11 cases did not show any improvement.

iii) **Amavata :** A set of Ayurvedic formulations — Yogaraj guggulu, Vatagajankusa and Maharasnadi kwath for internal use and external application of Dasanga lepa and Valuka sveda have been undertaken on 16 cases of Amavata. Complete relief has been

noted in 12 cases, 3 cases showed partial relief and one case did not show any improvement.

The pathology section attached to the Institute has taken up routine investigation on blood, stool and urine of the in-patients and out-patients.

iv) **Mobile Clinical Research Unit** : Jadupur, Bahadalpur, Kapileswar villages have been taken up for the study of health statistics. A total of 779 patients have been treated by the Mobile Clinical Research Unit.

Special problems :

1. Efficacy of Aswagandha curna on school going children.
2. Clinical study of Nityananda rasa on Slipada.
3. A controlled study of Krmi in the efficacy of Krmimudgar rasa.

While studying the health statistics in the nearby villages the unit observed the following salient points regarding the health and general living conditions of the villager.

1. Medical facilities are very meagre, no qualified physician is available. Usually unqualified practitioners are met with.
2. Staple food is rice and usually children are seen much affected by malnutrition.

Nityananda rasa has shown encouraging result in the treatment of slipada during one year trial. A detailed controlled study of the disease with the drug Nityananda rasa is under process.

The result of the study of Aswagandha curna on school going children suffering from malnutrition was most encouraging and most of them showed improvement as regards to the body built weight, mental condition. Before treatment 19% of them were infested with worms, eosinophilia, anaemia and poor mental growth. But after treatment chest measurement, height and weight increased considerably and Hb% in blood also increased in majority of cases. The stool examination showed that the drug has little effect on worm infestation. 60 patients of either sex were taken for study.

The Unit during its visit to the village in addition to the usual work of health statistics and on special problems and studies on particular disease provides health education and free medical aid.

v) **Survey of Medicinal Plants Unit** : The Survey of Medicinal Plants wing has surveyed forest areas of Bahadalpur to explore the medico-botanical wealth, collection of folklore claims and for the collection of material for supply. About 15 drug samples were collected. The harbaria has got 47 identified herbarium sheets besides about 200 unidentified sheets. 20 drugs are being cultivated in the attached garden of the Institute. 42 genuine material related to plant kingdom are maintained in the museum and has also supplied authentic plant specimen to other research organisations besides supplying the herbarium sheets.

5.1.4 Regional Research Institute (Ayurveda) Calcutta

The Institute is mainly engaged in clinical research, certain aspects of drug research are also undertaken. The Vatavyadhi, Madhumeha, Epilepsy and Vitiligo are the main problems under investigation.

i) **Vatavyadhi** : A clinical trial of Prasarini has been undertaken on 32 patients of various types of Vatavyadhi. Yogaraj guggulu has been also administered in certain cases who did not improve with above therapy. Certain external treatment in the form of massage and sponging are also given. It has been found that addition of Yogaraj guggulu in the treatment results in good response.

ii) **Madhumeha** : A clinical evaluation of two coded drugs Madhvari 'A' and Madhvari 'B' have been taken up and 30 cases have been selected for trial. With the treatment of Madhvari 'A,' reduction in blood sugar has been noted within a week. Madhvari 'B' has little effect on blood sugar but it reduces frequency and quantity of micturation.

iii) **AYUSH-56 in Epilepsy** : A coded drug AYUSH-56 has been taken up for long term trial. 33 cases of epilepsy and allied disorders have been registered and observations are in progress However, the preliminary observation showed favourable results.

iv) **AYUSH-57 in Vitiligo (Svitra) :** External application of a coded drug AYUSH-57 has been undertaken. 64 cases have started the trial. Longer treatment is required but good initial response has been noted in certain cases.

v) **Other miscellaneous trials :** Trial of certain medicines have been taken up on commonly noted skin diseases and on patients of Kasa svasa.

The Institute has undertaken routine pathological investigations and certain biochemical investigations required for diagnosis and evaluation.

The Pharmacy section of the Institute has prepared medicines required for clinical trials at the Institute.

The Institute has also manufactured certain medicines required for multicentre trials under the Council.

vi) **Mobile Clinical Research Unit :** Mandal Ganti village was taken for the study of health statistics. 839 cases were provided free medical aid to the particular village.

Special problems :

a) Trial of Anthamula curna in Tamaka svasa.

b) Trial of Vidanga curna in Krmiroga.

c) Sandhigata vata.

d) Slipada.

In case of Krmiroga, 70% cases have got relief showing clinical improvement. Anthamula curna was given primarily to 13 cases who developed complications and drug was stopped in the case of Svasa-roga. Instead of Anthamula curna Somlata curna was prescribed. The decoction of Somlata curna has showed much more effect than the powder form.

15 cases of Sandhigata vata are under trial. Slipada patients are rarely seen in the locality.

3 folklore claims have been collected.

vii) **Survey of Medicinal Plants Unit :** Medico-botanical explo ration of Mandalganti, Sonarpur, Mahisphota, Sahara, Alighora, Badu, Barsat, Belgharia, Kharadna, Dumdum areas were conducted during the period under report. This section has also been able to collect folklore claims and materials for supply to other agencies of the Council. 400 herbarium sheets were added to the existing herbaria of 2000. 288 drug samples were maintained in the museum and the drugs were arranged in the museum according to Charaka's classification and about 87 medicinal plants are being cultivated in the attached garden. This section has supplied genuine raw materials to other research organisations of the Council besides supplying herbarium sheets.

5.1.5 Regional Research Institute (Ayurveda) Jaipur

The Institute is engaged in clinical research as well as plants research. The Grahani roga, various Grahani dosa disorders, Amavata and associated Vatavyadhis have been taken up for clinical research in the in-patient department. The study of health statistics through Mobile Clinical Research Unit and researches on Family Planning are also undertaken. In plants research the Institute has carried out experimental and extensive cultivation of medicinal plants. A special projects of cultivation of Guggulu on large scale has also been under process at the Institute.

i) **Grahani roga :** A clinical evaluation of Pippali and Sunthi in the treatment of Grahani roga has been done on 32 patients. The diagnosis and assessment of results have been done mainly on clinical findings. However, certain routine investigations on blood, stool and urine have also been adopted. Out of 32 patients under trial, 19 patients have shown Swasthya labh (complete relief), 5 patients have shown Anshik labh (Partial relief) and 8 patients have discontinued the treatment. Side by side increase in body weight and haemoglobin percentage has also been noted.

ii) **Grahani dosa disorders :** Ninety seven patients of other disorders due to Grahani dosa, eg. Ajeerna, Udavarta etc. have been also treated with Pippali and Santhi. The diagnosis and assessment has been done on same lines as in the patients of Grahani

roga Out of 97 patients taken for trial, 56 patients showed complete relief, 33 patients showed partial relief and only 8 patients discontinued the treatment.

iii) **Amavata :** Studies on Amavata have been taken up to assess the role of Satavari in the treatment. For diagnosis and assessment of results, in addition to clinical parameters based on classical description, certain routine pathological investigations on blood and some functional tests have also been adopted. Out of 19 cases, 6 cases showed complete relief, 8 cases showed partial relief and 5 cases discontinued the treatment.

iv) **Vatavyadhi :** 8 cases of different types of Vatavyadhi have also been studied on similar treatment with that of Amavata. Out of 8 cases taken for trial, 3 showed complete relief, 3 showed partial relief and 2 discontinued the treatment.

v) **Extensive cultivation of Guggulu :** This work has been undertaken on an area of about 140 acres near Mangliawas village in Ajmer District of Rajasthan. The land consists of small hillocks and foot hills. The farm has been divided into 19 blocks and the blocks are connected by jeepable roads. In addition to plants growing and previously planted in various blocks, 11,240 new plants have been planted in different blocks to make up the loss due to termite and drought and to cover up new areas. An attempt has also been made to propagate the plant by planting cutting of the stem of plant. A total number of 54,000 cuttings have also been planted.

Certain other medicinal trees, eg. Eucalyptus, Melia, azadirachta, Cassia fistula and Dalbergia sissoo are also planted. In addition, there are many other plants of medicinal importance growing wild in the farm. In order to evolve a non-distructive method for extraction of gum guggulu, certain mature plants have been slightly cut. A total amount of about 10 Kg. of Guggulu have been collected.

vi) **Drug standardisation :**

a) *Organic section :* Preliminary phytochemical studies on gum resin guggulu and fruit pulp of Bilva have been taken up. The pharmacognostic studies of Ailanthus excelsa bark has

been completed. The pharmacognostic studies on gum resin of Boswellia serrata have also been done.

b) *Inorganic section* : An analysis of raw mandoor and samples of mandoor bhasma from market have been done. An attempt has been made to prepare Mandoor bhasma in non-traditional way in laboratory. The bhasmas thus prepared fulfil the Ayurvedic tests of bhasma.

vii) **Mobile Clinical Research Unit :** The work of studies on health statistics have been carried out in few villages around Mangliawas. Further continuing the work done in previous year the unit has completed initial study and follow up studies in most of the individuals in these villages. Certain follow up proformae are remaining to be filled. Pratisyaya. Kaso, Udarasula, Jwara, Raktavikara are commonly noted diseases in the area.

viii) **Survey of Medicinal Plants Unit :** The survey wing has surveyed the forest areas of Sirohi and Udaipur forest divisions to explore the medico-botanical wealth, collect the information on folklore and to collect the materials for supply. 725 plant specimens were collected and added to the Herbaria of 362 sheets besides 155 sheets required confirmatory identification. About 140 plants are being cultivated in the attached garden. About 132 varieties of seeds were maintained in the museum. About 125 specimens belonging to plant, animal and mineral kingdom were maintained in the museum. This section has also supplied raw drugs to other research organisations besides supplying herbarium sheets.

5.1.6 Regional Research Institute (Drug Research) Trivandrum

The Regional Research Institute (Drug Research) is mainly engaged in carrying out detailed study on different aspects of drug research.

i) **Survey of Medicinal Plants Unit :** The survey wing visited the forest areas of Kattoor, Kulathapuzha, Paladu to explore the medico botanical wealth and to collect folklore claims. 653 taxas were collected during the tours and mounted and preserved in the herbarium. 60 taxas are being maintained in the garden to study its growth pattern and yield

percentage. In Museum 197 specimens comprising of plant, animal and mineral kingdom are maintained. Besides supplying genuine herbarium sheets, this wing has also supplied authentic drug materials to other research organisations of the Council.

ii) **Drug Standardisation Research Unit** : Dasamool kwath curna, Astavarga curna, Hingwastak curna and Guduchi satwa has been prepared and the effect of materials of the containers has been studied. The effect of containers on 3 aristas have also been taken up for study. Study on preservation of prepared kwatha has also been done.

iii) **Chemistry (Phytochemical Research)** : The detailed chemical investigations on Trivrit, Nagkesara, Salaparni, Saptarangi, Dhataki, Jinchini and Premna latifolia have been done. The active principles/ extractives from Nimba citraka, Vidanga, etc. have been isolated for pharmacological/clinical studies.

iv) **Pharmacognosy** : The complete pharmacognostical studies on Chakramarda, Chindra, Parisha, Lasuna and Saptarangi have been done.

v) **Clinical** : Certain compound formulations and extractive principles have been tried in a variety of skin diseases. 60 cases have been taken up for I. P. D. study and 41 cases have been treated on O. P. D. level.

The sixty cases treated on O.P.D. level have been administered Patolmooladi kwath during first 3 days of hospitalisation. After three days the either Aragwadha kasaya or Povarvasu kwatha is undertaken and the patients have been given different oils for external use.

a) 34 cases have been treated with external application of Embelin oil. Cases of Pama, Pundarika, Kitibham, Sidhma. Gajacarmam, Viharchika, and Vipadika responded well. Ropana, relief in Kandu and Vahya Lakshana has been suppressed in 4—24 days of therapy depending upon the type of disease. Two cases of Pundarikam got flare up.

b) *Nimbidin oil* : has been given as external application in 14 cases. All the cases of various skin diseases (Pama, Pundarikam, Kitibham, Dadru) showed improvement and relief has been noted on an average of 18 days.

c) *Puvarasu keram* : has been tried in 21 cases as external application. Two cases did not improve even after one month of treatment. Others have been cured.

d) *M.P.D. ointment* : has been tried in two cases of Pama; both have been cured.

Out of 41 cases from O.P.D., Embelin oil, Nimbidin oil, M.P.D. ointment and Purvasu keram has been given as external application only. Most of the patients have been cured in 6—14 days of treatment. One case of Switra treated with Plumbagin showed relapse after stopping the treatment.

5.1.7 Regional Research Centre (Ayurveda) Bangalore

The Centre is constituted by Mobile Clinical Research Unit, Survey of Medicinal Plants Unit and Drug Standardisation Research Unit.

i) **Mobile Clinical Research Unit** : The Unit has done the survey in two villages. The study in second village is still in progress. In first village total number of patients were treated are 736 out of which 442 are relieved ; 225 are partially relieved, one patient was completely relieved and no response was noticed in 68 cases.

The unit has taken the study on Family Planning drug AYUSH ACII. No conclusions can be drawn because it is too early.

Along with the survey work, the unit is studying clinical trial in various diseases i. e. Amatisara, Uthanvatarakt, Kaphaj kasa and Swetapradara. The unit has also collected the basic clinical data regarding the incidence of diseases in relation to sex, age, socio-economic conditions, health etc. The study is in progress.

ii) **Survey of Medicinal Plants Unit :** Certain tribal pockets of Nilgiris have been surveyed by the section to explore the medico-botanical wealth and to enrich the folklore collection. 287 plant specimens were collected during the year and added to the existing herbaria. About 110 crude drug specimens were maintained in the museum. Supply of genuine raw drugs, identified herbarium sheets to other research organisations were also done as in the past.

iii) **Drug Standardisation Research Unit :** The unit has carried studies on single drugs, finished products and effect of packing material.

a) *Single drugs :* The physico-chemical standardisation of 13 single drugs have been completed. Out of these the detailed organic analysis of 5 drugs have also been completed.

The pharmacognostic studies on Bilwa, Vamsa, Punarnava, Haritaki and Dhataki has been performed.

b) *Finished products :* The Yogaraj guggulu has been taken up and completed during this period. Further studies on other preparations have been continued. Fatty acid content of Pinda taila, Ksirbala taila, Pancatikta ghrta has been studied. Quantitative analysis of Ananda Bairava rasa, Tribhuvan kirti rasa, Bhaskara lavana and Avipattikara curna has also been completed.

c) *Effect of packing material :* The effect of 5 types of packing material/containers has been studied for Ajamodarka, Hingvastaka curna, Lavangadi vati, Godanti bhasma and Astavarga kwath curna , Dhatri lauha and Guduchi satva.

5.1.8 Regional Research Centre (Ayurveda) Jhansi

The centre is mainly concentrating its activities on survey of medicinal plants in the Bundelkhand region. The centre is being developed for establishment of a Central Drug Depot.

i) **Survey of Medicinal Plants Unit :** During the period under report, medico-botanical exploration of the forest areas of Mandawra range, Guna range and Lalitpur range besides collection of folk-lore claims was undertaken. 133 herbarium sheets were added to the existing herbaria bringing to the total of 2,244 covering 220 species, 168 genus among 56 families. 52 plants are being cultivated to study the growth pattern and yield percentage. 335 genuine specimens belonging to plant, animal and mineral kingdom were maintained in the museum. This centre is actively co-operating in the supply of drugs to other research organisations.

5.1.9 Regional Research Centre (Ayurveda) Jogindernagar

The Centre consists of Mobile Clinical Research Unit and Survey of Medicinal Plants Unit.

i) **Mobile Clinical Research Unit :** To study the effect of 'Musta' on Atisara with particular stress on infantile diarrhoea. 6 more patients have been added in the trial of special problem allocated to the unit (total 69).

During the period under review a total of 197 patients have been treated by this unit.

18 folklore claims were collected. 15 medicinal plants are available. The work on health statistics were conducted at the village Tikkari, Chauntra, Pasal after that Ajhu.

ii) **Survey of Medicinal Plants Unit :** Satrundi, Bhairagarh, Dharwas, Kilar forest areas were surveyed by the section besides local tours to enrich the medico-botanical wealth and folklore treasure of the country. About 9000 plant specimens belonging to 1650 species were collected and maintained in the herbaria besides in a possession of 239 unidentified herbarium sheets. This wing plays an important role in supplying the raw drugs required for research which normally grows in alpine region.

5.1.10 Regional Research Centre (Ayurveda) Nagpur

The Centre consists of Mobile Clinical Research Unit and Survey of Medicinal Plants Unit.

i) **Mobile Clinical Research Unit** : Lonkhairy, Waddhamna, Peth, Panch gaon were surveyed.

1748 patients were treated in the out-patient department during the survey work.

The total number of Sandhivata patients treated during the period were six. 4 patients were completely relieved and one partially.

ii) **Survey of Medicinal Plants Unit** : Survey wing has surveyed Venna, Khuee, Sonegaon, Deolapur, Davegaon, Bazargaon, Boardharan, Navagaon, Talegaon and Chanda forest areas to explore the medico-botanical wealth and to collect folklore claims. 216 herbarium sheets were added to the existing herbaria of 800 sheets, besides is in a possession of 115 unidentified herberium sheets. About 44 green specimens were maintained in surroundings of the centre. Supply of raw drugs to other research centres of the Council has also been undertaken.

5.1.11 Regional Research Centre (Ayurveda) Vijayawada

The Centre consists of Mobile Clinical Research Unit and Survey of Medicinal Plants Unit :

i) **Mobile Clinical Research Unit** : Ramavarappadu village ; Study on Slipada.

Drugs with dosage :

a) *Bhunimbadivati* · 1 T.D.S. of 375 mg. each.

b) *Nityananda rasa* 1 pill T.D.S. of 375 mg. each.

c) *Sarsapalepa with Gomutra*	External application on the affected part.

14 cases have been taken up for study of these. 10 have developed Lymphoedema. Total 927 general cases suffering from 92 diseases were recorded and examined. Treatment was given to 575 patients. In the case of special problem of 14 patients there is no side effects of any kind or fever with rigors was observed through out the course of treatment in all these cases. 2 folklore claims were collected and 58 medicinal plants have been observed in and around the Ramavarappadu village.

ii) **Survey of Medicinal Plants Unit** : The medico-botanical survey wing explored the forest areas of North and South of Bhadrachalam, Tatigadapa, Krishna lanka, Gunnavaram Namboor, Bhimavaram to collect medicinal plants, folklore claims and other materials of scientific interest. 243 herbarium specimens were added to existing herbaria bringing a total of 2374. The herbarium has got 2650 mounted herbarium sheets besides in a possession of 848 unidentified sheets. The museum has got 380 genuine specimens and 81 plants are being maintained in the small garden attached with the centre, besides supplying genuine raw drugs and herbarium sheets to various other research organisations of the Council and ancillary bodies.

5.1.12 Dr. A. Lakshmipati Unit for Research in Indian Medicine, Madras.

Clinical studies designed to search, cure for certain diseases, promotion of health and clinical correlation of certain basic concepts of Ayurveda are being conducted by the Unit.

i) **Prakrti and disease proneness** : Study of 30 cases of Bronchial asthma revealed no significant difference between the normal persons and the persons suffering from Bronchial asthma, so no rules could be planned. The study to frame the rules on Diabetes, Peptic ulcer and Hridroga is in progress.

ii) **Studies on Rasayana :** The double blind study is being conducted to see the effect of rasayana drug (Aswagandha) in male volunteers. Total 85 cases have completed the course of one year and are on follow up study. In addition 6 cases more have also been included after the treatment of 6 months and follow up study.

iii) **Mandukaparni in mental retardation :** The effect of Mandukaparni on the general mental ability of mentally retarded children was found to be very encouraging. The drug was found to increase the I. Q., at the end of the 3 months of treatment and significant improvement was found at the end of six months treatment.

The drug was found to have no effect in the I.Q. of normal children on completion of study of 44 children.

iv) **Fraction 'A' in Medoroga :** In this group of study only 13 males and 34 females (obese) have been registered so far but only 11 males and 24 females are taking the drug regularly. No conclusion could be drawn due to less number of patients.

v) **AYUSH-57 (Swıtra—Vitiligo) :** In this group of study total 37 cases of Vitiligo have been treated with AYUSH-57 in out-patient department out of which 6 cases have discontinued and remaining are in progress.

5.1.13 Amalgamated Unit, Tarikhet.

Various drug research programmes— survey of medicinal plants, cultivation of medicinal plants specially saffron, drug standardisation research and musk deer breeding are undertaken by the unit.

i) **Survey of Medicinal Plants Unit :** The survey team surveyed Goucher, Naganath, Lake, Rasi, Kanara, Manani, Payalu, Deoliogar, Kudwara, Klean, Bandapuri, Gongriponga, Renka pulihindola, Pancheshwara, Kaprot, Bhakunda, Patherwa, Matiala, Bhatta, Simlot, Durah, Naitra, Changar, Amarua seva, Bitthwa, Uprari, Patli, Bajina, Bhujan, Jhuladevi, Chaubattia, Haldwani, Fatehpur, Kathgodam, Ranibaug Degon, Jeolikote, Birbhatti, Bhowali, Niglat, North and South Sonaripur, North and South Balrain, Nighasaum, Gola, Baralni, Hamirpur,

Deoria, Dharampur and Belaspur forest areas and collected the plant specimens, germ plasms, plant materials and folklore claims. Exploratory tours to assess the availability of Shilajithu was carried out in Chinni, Jaurasi, Satpura areas. 2154 plant specimens were added to the herberium bringing to the total of 13,548. Herbarium sheets representing 1894 species, 967 genera and 156 families besides 2,000 specimens are yet to be identified. 292 genuine materials of the plant, animal and mineral kingdom are maintained in the museum. This unit could locate the belt of much potential drug Shilajit in the Himalayan range.

ii) **Musk Deer Breeding :** Having regard to the fact that musk is a rare commodity, the Council has initiated steps to breed the musk deer (Moschus moschiferus) in captivity at the higher altitudes of Himalayas. During the period under report two musk deer youngs have been captured and their behaviour pattern, change of coat, reaction to rain and humidity hap, intake of water, grazing and heardising adaptibility, feeds and fodder dentition, growth and disease pattern were studied. These studies have paved a way to undertake successful breeding in future. It is observed that the deer has got special inclination towards the intake of tender leaves of Boenninghacesnia albiflera, Desmedium filaefolium, Helbalia augustifolia, Fragaria indica, Potentilla fulgues, Garngea raderaspatana, Polygonum amplixicaule, Skimia, laureola and Arundinaria sp. Flowers of Bergenia strachyei, Rınvardatia tnigyna, Valeriana wallichii: Rhododendron sp , tender leaves and flowers of Geranium wallichianum, Rumex nepalensis and flowering tops, tender shoots and leaves of member of graminae, Labiatae and Polypodiaceae. The successful breeding of Musk deer and obtaining the life saving drug musk for the musk deer without kılling them will have a significant role in the service of the humanity. The Council has brought a monograph titled "Pharmacodynamics of Musk" keeping in view of its therapeutic importance.

iii) **Cultivation of Medicinal Plants :** About ninety two species of herbs, shrubs, trees and climbers were maintained in the garden. Exhaustive and vigorous observation on 35 herbs, 34 shrubs, 30 trees and 5 climbers were conducted. 38 new species were introduced in the garden during the period under report. The following produce of the garden were supplied to various research projects of the Council :

1. Curcuma longa (Haridra)
2. Polygonatum verticillatum
3. Boerhaavia diffusa (Punarnava)
4. Calendula officinale
5. Acorus calamus (Vaca)
6. Asparagus racemosus (Satavari)
7. Cannabis sativa ((Vijaya)
   and seeds of other 14 species.

Extensive and experimental cultivation of much valuable drug Crocus sativus (Kumkum) has also been undertaken in the garden. 2,20,000 corms have sprouted during the year and showed significant growth and development. Good healthy mother corms bearing 20 to 25 daughter corms were also been observed besides substantial increase in size and weight. 4,550 flowers have been collected during the period under report. A remarkable increase in length and weight of stigmas was observed. Flowers with four or five stigmas were also seen whereas normally the flower contain only three stigmas. The following factors were observed as favourable for good bloom.

1. Hot days with bright sunshine.
2. Light rain before opening of the flower buds and
3. Snow fall increases the rate of sprouting while long winter tends to improve vegetative growth.

Effect of fertiliser and plant regulators were also studied to increase the yield. It is hoped that in time to come, this programme may yield a good dividend in the cultivation of Crocus sativus (Kumkum) in the country.

iv) **Drug Standardisation Research Unit :**

a) *Single drugs* : The preliminary, phytochemistry, pharmacognosy and literary work related to Akarkara, Jatipatra, Kankak, Madhurika, Murva, Puskaramula and Sahcara have been com-

pleted during the year under review. Standardisation data on the process of Arista, Avaleha and Bhasma were collected.

b) *Finished products* : Analytical study on Abhyarista, Amritarista, Dasamularista, Draksarista and Abhrak bhasma etc. have been recorded.

Effect of packing materials on the items were also initiated.

5.1.14 Jawaharlal Nehru Ayurvedic Medicinal Plants Garden and Herbarium, Poona.

The nineteen acre garden is situated in between two hillocks near Poona comprising of three major soil groups namely black cotton soil, sand and murram and rock barren area. The germ plasms were planted according to their requirements of soil conditions. The following plants were cultivated successfully and harvested : *Plantago ovata (Isabgol), Plantago indica (Ishadgol), Asparagus racemosus (Shatavari), Aloe barbedensis (Kumari), Cymbopogon citratus (Gandha thrina), Cymbopogon martini (Gandha trna), Psoralea corylifolia (Vakuci), Dodonal viscosa Solanum nigrum (Kakamaci)* and *Tylophora asthmatica (Swasagni).* Their yield percentage was recorded with and without using fertilisers.

The extensive cultivation of *Abrus precatorius (Gunja) Tylophora asthmatica (Swasagni), Spilanthes acmella, Coleus aromaticus, Cymbopogon citratus (Gandha thrina), Cymbopogon martini (Gandha thrina) Vitivera zizanoides (Usheera), Vinca rosea, Rauwolfia serpentina (Ashwagandha), Urgenia indica and Aloe barbedensis. (Kumari),* were undertaken. In addition to this about 150 medicinal plants also have been cultivated and harvested.

The following are the salient observations that are acrued from the experiments conducted :

i) The plants habitat to tropical and sub tropical climatic zone can be grown easily.

ii) About 101 species grown well in plots, varying soil textures, pH, moisture, soil, climate etc. Some mesophytes grow best in moist situation, while xerophytes thrived well in rocky ridges and on hilly slopes.

iii) Better yield was observed by the application of fertilizers in *Plantago ovata* and *P. indica (Ishadgol.)*

iv) The climate and soil of Poona suits well for the cultivation of *Asparagus racemosus (Shatavari)*, *Aloe barbedensis (Kumari)*, *Psoralia corylifolia (Vakuci)*, *Dodonia viscora*, *Cymbopogon citratus* and *C. martini (Gandha thrina)*.

Germination potentiality of 93 germ plasms obtained from Geneva is being estimated. The museum section of the Garden has 2043 herbarium sheets and a number of crude drug samples. The garden has succeeded in obtaining the Israili Trophy for the exhibits, exhibited in the exhibition at Bhartiya Vidya Bhawan held under the auspices of Bombay Horticultural Society.

5.1.15 Capt. Srinivasamurthy Research Institute Madras

The Institute is mainly engaged in working out pharmacopoeial standards of drugs. The standardisation of single drugs, finished products, method of manufacture of compound formulations and also preliminary standardisation has been undertaken. Detailed phytochemical studies of certain selected drugs has also been conducted.

i) **Single drugs :** Preliminary phytochemical standardisation of Prsniparni, Akil, Parijata, Banbheri, Dhanyaka, Vasa, Bibhitaka, Atmagupta, Pasupasi, Amlavetas, Datura, Devadaru and Guggulu have been completed. Pharmacognostic studies on Ativisa, Sunthi, Dhanyaka, Dadima, Vasa, Pippali and Citraka have also been completed.

The detailed pharmacognostic studies on *Coriandrum sativum*, *Phaseolus trilobus*, *Mucuna pruriens*, *Myristica malabarica*, *Datura metel* and *Commiphora mukul* has been undertaken.

ii) **Finished products and method of manufacture** : Cyavanaprasa has been studied and the method of manufacture of Avaleha and Arista have been done. The attempt has been made to locate the formenting microbe in Draksarista.

iii) **Preliminary standardisation :** The preliminary standardisation of Yavaksara, Cintamani caturmukha rasa, Vaikranta bhasma has been completed.

iv) **Effect of packing material :** Nine formulations have been taken up for study of the effect of various types of containers.

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5.2.0 CLINICAL RESEARCH UNITS/ENQUIRIES

5.2.1 Study of Amlapitta, Annadravasula and Parinamsula and its treatment with Ayurvedic drugs and Panca-karma therapy at A. & U. Tibbia College, New Delhi under Vd. S.K.Vyas.

In the beginning this unit was allotted the work of Parinamsula and Vata Vyadhis specially Amavata and Sandhi Sula and their treatment with Kusmanda Swaras and Nirgundi Kwatha.

Later in 1974 this Unit has been allowed to study on Amlapitta, Annadravasula and Parinamsula with special reference to their treatment with well known Ayurvedic drugs and Pancakarma therapy in a principle oriented programme.

For Amlapitta the drugs Amalaki Curna and Dasang — Kwatha have been given and for Annadravasula and Parinamsula, Sambukbhasma and Samudradi curna have been allotted. In addition, to these drugs, the Pancakarma therapy will also be performed appropriately. Such types of programme will enable to establish the role of Pancakarma in cure of various diseases with or without drugs. During the report-ing period, total 100 cases have been contacted. Out of 100, 73 were related to Amlapitta, 17 were to Annadravasula and 10 cases were related to Parinamsula.

The patients suffering from Amlapitta were given single drug Amalaki and compound drug Dasangakwatha in the dose of 5 gm. and 50 ml. respectively in separate groups twice a day. Out of 73 cases of Amlapitta, 65 cases were treated in Out-Patient Department and 6 cases in In-Patient Department. Out of 65 cases treated in Out-Patient Department, 52 cases could not continue the treatment in Out-Patient Department and 7 in In-Patient Department. Further observations of their study are in process.

5.2.2 Study of Parinamsula with special reference to its treatment with Ayurvedic drugs and Pancakarma therapy at Government Ayurvedic College, Hyderabad under Dr. I. Sanjivarao.

Initially this unit was to work on the role of Amasaya Sodhan therapy in the treatment of Parinamsula. The validity of Amasaya

Sodhan has been established statistically in the disturbed secretary physiology of the gastric mucosa (the root cause of Parinamsula). Recently the programme has been modified and they are working on modified principle oriented programme. The drug selected for the purpose are Narikel Lavan and Sambukadi gutika. The Amasaya Sodhan with Varuntawak Kwatha has been taken up as an agent for Vaman Karma.

During the period under report, 50 cases have been taken up for study and four type of treatments have been provided to these patients in respective clinical groups. In addition to clinical features, bio-chemical assessment, Gastric acidity has also been adopted for evaluating the results. Out of 50 cases, 28 completed the trial. The results of trial are given hereunder separately for each group.

In the Ist group (Amasaya Sodhan with Varuntwak Kwath) 16 cases were treated and they all were given Varuna Tawak Kwath for stomach wash after laboratory investigations like blood, stool and urine exam. Most of the patients got relief after Ist wash and full relief after second wash.

In the 2nd group only one patient was treated with Narikela Lavan, for 5 to 12 days and was reported fully relieved.

The 3rd group consists of control. In this group of treatment, 7 patients are based on simple warm water for Amasaya Sondhan. Full relief was observed in the patients even in 1st wash.

In group IV only 3 patients were treated with Triphala Kwath. 25% patients reported full relief after 5 days treatment, 25% after 10 days treatment and 50% patients after 12 days treatment respectively.

5.2.3 Clinical studies on Unmada and Vataja Sirah Sula with special reference to treatment with Brahmyadiyoga at National Institute of Mental Health and Neuro Sciences, Bangalore under Dr. R.M. Verma.

Clinical studies on different types of mental disorders are being conducted by the Unit. The studies on Vataja Sirah Sula and three aspects of Unmada have been undertaken.

1. **Vataja Sirah Sula** : (Psychogenic headache) : A controlled clinical trial for the assessment of the role of Ksira bala Taila, (administered internally and external applications as Abhyanga and Nasya) in the treatment of Vataja Sirah Sula are being continued. Standard modern methods/scales are also being adopted for the assessment of the results.

32 members have been included for trial during the reporting period. The results may be analysed after completion of the trial.

2. **Study of Larksanas of Unmada** : An attempt has been made to correlate the ayurvedic diagnosis of Unmada with that of modern psychiatric conditions. The patients diagnosed as Unmada by two Ayurvedic Physicians separately have also been assessed by a modern psychiatrist. A study of 100 cases shows high agreement between ayurvedic Physicians about the symptoms and diagnosis. However, no correlation between Ayurvedic and modern psychiatric approaches could be established.

3. **Pilot study of the effect of Brahmyadiyoga on chronic Unmada (Chronic Schizophrenia)** : On the basis of the effect fo the drug in acute Schizophrenia the drug — Brahmyadi Yoga has been taken up for the pilot study on the patients of chronic schizophrenia. The drug has been given for 3 months in gradually increasing dose of 8 to 16 gms in divided doses daily. The standard scales/methods have been adopted for the assessment of the results. The preliminary study indicates that out of 10 patients, 7 showed improvement. Further controlled study is being planned.

4. **Role of Taladharana in the management of excited patients of Unmada** : A Sirolepa consisting Amalaki, Sarpagandha, Khaskhas and Gairik prepared with rose water is used as Taladharana in excited patients. Out of 231 applications given, so far 66.1% patients have shown improvement.

5.2.4 Effect of Pancakara therapy in the treatment of Vata Vyadhis at R.A. Podar Ayurvedic College, Bombay under Vd. K N. Mehta.

This Unit has been doing the work on Pancakarma therapy in various types of Vata Roga specially Paksavadha.

1. **Vamana in Paksavadha :** After the completion of Purva Karma i.e. Snehana and Svedana, all the 9 patients of Paksavadha were given Vaman therapy. Lightness in the body was observed in all patients. Out of these patients 80% showed improvement in shoulder elevation and speech.

2. **Virecana in Paksavadha :** In this group of treatment only 6 cases of Paksavadha have been treated during the reporting period. Out of 6 patients, 2 got improvement in movement of extremitis, 3 got symptomatic relief and one remained unchanged.

3. **Vasti in Paksavadha :** In this group of treatment, 9 cases of Paksavadha, 2 cases of Pangu, 5 cases of Khanja have been treated so far. They were given Vasti treatment after doing the Snehana and Svedana etc. Out of 16 patients, 15 were kept on Karmavasti and 1 on Matra Vasti. Out of 16, 3 discontinued the treatment. The 13 treated (complete) cases, 10 showed improvement of the different degrees and remaining patient did not show any improvement.

4. **Marsa Nasya in Paksavadha :** During the reporting period only 5 cases of Paksavadha were given Marsa Nasya of Masadi tail after doing Snehana Svedana once in a day. Improvement in the movement of affected parts was observed after the 5th day of the treatment.

5. **Sirovasti in Paksavadha :** In this group of treatment only 3 cases were treated with the Prasarini tail. Lightness in head and sound sleep was observed from the 4th day of the treatment.

5.2.5 The studies on role of milk diet in Udar Roga and Vrisya and Brmhan action of Masa at R.R.A. Podar Ayurvedic Research Institute Worli, Bombay under Vd. D.S. Antarkar.

1. **Study of milk-diet in patients of Udararoga (Jatodakavastha) :** During the reporting period in this study 12 cases have been registered. They were examined physically and laboratory investigation like S.G.O.T., S.G.P.T. total serum protein, serum bilirubin and serum alkaline phosphatase etc. were done on admission and repeated at weekly interval during the trial period. Examination of routine blood, stool and urine were also done.

All the patients were kept on routine diet for 1st 2 days after admission and then were subjected for control and milk diet studies. Out of 12 patients, one patient was dropped. Hence in remaining 11 cases, 9 were kept on placebo and 2 cases were given milk diet. Out of 9 cases kept on placebo (self control diet), 2 showed good response, 1 showed fair response to the control diet and 6 cases showed no response. Thereafter these sufferers were given milk diet. Thus in total 8 cases milk diet was instituted. Out of these 8 cases, one showed good response and 6 showed poor response.

2. **Study of Masa intake :** For this study 14 male volunteers were contacted and they were given masa diet for 7 days and the estimation of plasma testosterone was done before and after the treatment. Further studies are in progress.

3. **Study on Bramhantwa (anabolic activity) effect of Masa :** Total 14 male adult volunteers have been studied to see the anabolic activity of masa. These volunteers were given/masa diet for 7 days. Consequently the serum proteins were estimated. No significant change was observed in the total serum proteins, albumin and fractions of globulins after masa in take.

4. **Study of Vrsyatwa (Androgenic activity) of masa in cases of Oligospermia :** In this group 3 married male cases of Oligospermia were given masa (Cooked) in the dose of 30 gms., daily for 4 months. The counting of sperm before and after the treatment was done increase in spermatozoa counting was observed in cases who have taken masa diet for 5 months.

5.2.6 Studies on Madhumeha and Pratisyaya at Govt. Ayurvedic College, Baroda, under Vd. V.B.Mhaisker.

The Unit has undertaken work on the Madhumeha and Pratsyaya during the period under report.

1. **Madhumeha :** Sinnce inception the Unit has been working on Madhumeha and its treatment with Silajatu, Dhatrinisa Curna/ Kwatha & Nisa Swaras in Out-Patient Department and In-Patient Department. Eighty patients of Madhumeha have been treated with silajatu, 209

with Dhatri Nisa Curna, 76 cases (12 in In-Patient Department and 64 in Out-Patient Department with Dhatri Nisa Kwatha) 4 with Nisa Swaras and 5 cases with Dhatri Nisa Swaras Bhavit Vati. The clinical improvement in sufferers of Madhumeha in all the 5 groups have been noted.

2. **Pratisyaya :** Recently this unit has taken up work on pratisyaya and its treatment with Laksmi-vilasa rasa and Vyaghri taila. During the reporting period of 6 months, total 110 cases of Pratisyaya have been treated so far. They were given Laksmi Vilasa Rasa 2 vati three times a day orally and Vyaghri taila for local use as Nasya for 15 days. Out of 110, only 67 could continue the full course. In these 67 patients, 70% of them were fully relieved.

5.2.7 Study of Parinamsula with special reference to its treatment with Ayurvedic drugs and Pancakarma therapy at Arya Vidyasala Hospital, Kottakal under Dr. P.K. Warrier.

A comparative study of the efficacy of Tiladigutika and Yastimadhu curna with or without Pancakarma has been undertaken. A group of patients have been kept as control, receiving only placebo. The result of treatment in each group is given hereunder.

1. **In the Yastimadhu treated group :** Fifty three cases have been treated in this group and they were kept on 3 gms. dose of the drug mixed with madhu 3 to 4 times a day and this series of 53 patients, 36 got complete relief, 6 partial relief and 11 remained unchanged.

2. **In Tiladi Gutika treated group :** In this batch of 55 cases, the drug tiladi gutika was given in a dose of 5-10 gms., 3-4 times a day with warm water or milk. In this series 29 patients got complete relief, partial relief and 21 were unchanged.

3. **In Yasti madhu and pancakarma combined group :** Total 5 cases have been treated. Yasti curna super added with Anuvasan Vasti of 50 ml. Sahacara tail was given. Eranda tail and Dhanwantari tail were also applied locally for external use. In this group 29 got complete relief, partial relief. There was no change in the rest of the sufferers.

4. In Tiladi Gutika and Pancakarma treated group : This group consists of thirty four subject. They all were given Tiladi Gutika orally and Anuvasan, Virecana and Vahya Sveda. In this series of cases, 16 got complete relief, 5 partial relief and rest of them could not be relieved.

5. In the control drug treated group, 29 cases were given glucose powder in the dose of 2 gm. 4 times a day. In this group of 29 cases, 4 got complete relief, 2 partial relief and 23 got no relief. Thus the study reveals that the drug Madhu-yasti is effective 72% in Tridosaja Sula, 58% in Vata Pittaja Sula and 40% in Vataja Sula. Tiladi Gutika is also effective in cases of Tridosaja. Vatapittaja and Vataja Sula to the extent of 44%, 67% and 100%. The Pancakarma therapy when given in addtion to the above drugs also potentiated the effect of drugs and improved the chain of cure of the patients.

5.2.8 Aetiopathogenesis and treatment of Timira with Saptamratha lauh and Mahatriphala ghrta at Rishikul State Ayurvedic College, Hardwar under Vd. R.P.Gupta.

During the period under report, fourty three cases were taken up for study of Aetiopathogenesis and treatment of Timira. It was observed that abnormal sleep, persistant weeping, worries, excessive use of sour edibles keeping near the fire or in the sun for considerable time, working in dusty or smoky atmosphere and engagement in fine professions constantly straining eyes plays vital role in etiopathogenesis of the disease.

The patients were divided in four groups. Group A was given Saptamrta lauh in capsules in a dose of 700 mg. thrice daily with milk for 2-4 months. Group B was given Mahatriphala Ghrta in a dose of 5 gms. twice daily with milk for 2-4 months. Group C received both Saptamrta lauh and Mahatriphala Ghrta in the same dose as A and B for the same length of time. A control group was also maintained and was kept on glucose capsules and Murchita ghrta in the same dose as A & B for 2-4 months. All the patients were selected and assessed on the basis of subjective symptoms and objective test of vision.

Slight relief was observed in 100% cases of Mahatriphala Ghrita group and it was observed that Saptamrta lauh group showed 22.2% relief and 77.8% slight relief whereas in group C which received the combi-

ed therapy 10% cases showed appreciable relief, 40% cases were relieved and 50% cases showed slight relief.

5.2.9 Role of Kancanar Guggulu and Silajatu in the treatment of Galaganda at Ayurvedic College, Gurukul Kangri, Hardwar under Dr. Anantanand.

A total number of 480 patients of Galaganda have been studied. The majority of the patients were females and the disease was most common in 11-30 years of age group. The patients were mostly vegetarian and using tap water for drinking. The patients have been diagnosed according to clinical criteria discussed in Ayurveda and grouped as Vataja, Medaja and Kaphaja galaganda. A comparative clinical trial of Kancanar Guggulu Silajita and Lugol's Iodine was conducted.

The Kancanar Guggulu has shown improvement in 80% of cases whereas, lugol's Iodine showed improvement in 83% of cases and Silajit in 50% of cases. The response of Kancanar guggulu compares well with lugol's Iodine.

5.2.10 Defect of Arogyavardhani in the treatment of Medoroga at State Ayurvedic College, Lucknow under Vd. V.K. Sharma.

Medoroga is a condition characterised by deposition of Meda Dhatu. Sthalya (obesity) is one of the manifestations of Medoroga. During the period under report 61 cases were observed, out of them-31 completed the trial. In most of the cases no hereditary history of obesity either in parents or in children was present. The diagnosis of obesity was made on the basis of standard height weight chart. Blood for serum cholesterol, serum proteins, Blood-Sugar, E.S.R. and routine haematological examinations were done in every case before and after treatment.

The patients were divided in two groups. To group 'A' cases the drug Arogyavardhani was given in a dose of 720 mgs. daily with water fo r 2 to 3 weaks. No significant reduction in body weight was observed but a significant reduction in serum cholesterol was noted upto a value of 10% or more in term of pretherapy level. E.S.R. was noted reduced but no effect on serum protein and blood sugar was observed.

To group 'B' cases the drug Arogyavardhani was given in the same dose for the same length of period with the Anupan of Ghana Satva prepared from Maha Manjisthadi Kwath, in a dose of 6 gm. per day or in the liquid form in a dose of 75 ml. per-day. In this group a marked reduction to the extent of 3-4 kg. in body weight was observed.

The most significant effect of the drug is to increase the blood clotting time and decrease in serum cholesterol. The drug may find place in solving the problem of Ischaemic heart diseases.

5 2.11 Treatment of Yakrta Rogas (Liver disorders) with Daruharidra and Kumari Asava in the Department of Kaya Cikitsa, Institute of Medical Sciences, Banaras Hindu University, Varanasi under Prof. G.N.Chaturvedi.

The enquiry has completed studies on the role of Kutaki and Kutaki compound in the past. During the period under report the trial of Daruharidra and Kumari Asava have been undertaken and 20 patients of Yakrt Rogas (Liver disorders) were studied. Out of these, 9 cases were of Kosthasrta Kamala (Hepatocellular jaundice), 3 cases of Kumbha Kamala, 4 cases of Sakhasrta Kamala (Obstructive jaundice) and rest of them were of Yakrta Gata dosa (chronic hepatitis) Yakrta Vidradhi (Amoebic liver abscess) and of chronic cholecystitis and cholelithiasis. The diagnosis was confirmed by liver function tests viz. serum bilirubin, vanden bergh reaction, thymol turbidity, Alkaline phosphatase, serum protein, Serum Albumin Serum transminase as well as by urobilinogen and Bilirubin in urine and stercobiline in stool. The patients were from both the sexes and in age groups ranging from 21 to 50 years from different socio-economic strata.

Out of 20 patients one patient was given a fresh decoction prepar from 50 gms. of Daruharidra (Berberis aristata) in 2 equally divided doses and 17 patients were given Kumari-asava in a dose of 40 ml/day in two equally divided doses of 20 ml. each mixed with equal amount of water after both the major meals. Two patients were treated with modern drug prednisolone in a dose of the drug 15 mg/day as control.

Most of the patients of Kosthasrit Kamala, treated with Kumari asava were cured. The therapy did not show any effect in Sakhasrit Kamala. Patients and in other group the response has been varying. The improvement in liver function tests (enumerated above) was also noted.

The patients treated with Daruharidra and Prednisolone are too small to draw any conclusion. Further studies are in progress.

5.2.12 A study on relation of Jatharagni (Gastrointestinal enzymes) with Dhatwagni (Hormones) Department of Kayacikitsa, Institute of Medical Sciences, Banaras Hindu University, Varanasi under Dr. S.N. Tripathi.

The clinical and experimental studies are conducted for the assessment of the relationship of Dhatawagni with Jatharagni.

1. **Clinical study** : Forty cases of malabsorption syndrome (Non-tropical sprue, tropical spure and secondary malabsorption) were studied. The syndrome induces in balance on Endocrine in general and thyroid in particular. The cases were diagnosed by the estimation of D-Xylose absorption (average absorption 3.36 gm. before treatment), Serum protein level and jejunal biopsy. Study of I 131 uptake (average 29.44% in 24 hours) percentage to show the effect of malabsorption on thyroid was also done. Stool examination of all the cases showed the presence of Giardia lamblia in cystic or vegetative form. The duration of illness was ranging from 6 months to 5 years.

Patients were treated with Takrarista for one month and over all improvement was observed. The stool became negative for Giardia lamblia. Absorption power improved average D-Xylose absorption was 5.96 gms. after treatment. Symptomatic improvement and a notable improvement with the drug in Jatharagni and Dhatawagni was noted. It appears that the drug is effective against Giardia lamblia also, but this has to be further proved.

2. **Experimental study** : In experimental study it has been seen that protein deficiency causes atrophy of jejunal mucosa, loss of Zymogen granules, atrophy of the Pancreatic cells and functional as well as morphological changes in the thyroid gland. To study, this 4 experimental models were designed, on the pancrease thyroid relationship in rates.

Firstly the Wirsung's duct of the rat was ligated and as a result, malabsorption due to atrophy of jejunal mucosa and thereby decrease in D-Xylose absorption was observed. Thyriod gland showed enlargement of

follicle and flattening of the epithelial cells. In the second experimental study rats with ligated Wirsung's duct when fed on predigested proteins the thyroid gland in this group was not supressed.

In the third experimental study the rats were given tyrosine and Pot. Iodine mixture separately and in combination. Thyroid remained active and the repercussion of the pancreatic duct ligation was completely neutralized.

Lastly in further experiment no ligation was done and the rats were given raw Soyabean containing heat labile tryosin inhibitor. Hypertrophy of acinor cells with smaller zymogen granules in the pancrease were observed. Thyroid was enlarged and sequamous epithelial cells were seen.

5.2.13 Clinical and Experimental trial of Guggulu in medoroga, Deptt. of Kaya cikitsa, Institute of Medical Sciences, Banaras Hindu University, Varanasi under Dr. S.N. Tripathi.

Clinical study : A number of 75 cases of both the sexes and of different age groups with varied eticlogy and clinical manifestations of obesity were studied. Diagnosis of these cases was done with the help of height and weight chart and the serum cholesterol was estimated in the fasting blood by modified Bloor's method. Patients were divided in 3 groups (i) Control (ii) Gum Guggulu treated and (iii) Petroleum Ether extract of Gum Guggulu treated in a dose of 16 gms. per day in four equally divided doses. Control group was given Placebo. A significant reduction in body weight (average 2 kg. in 1 month) was observed in treated cases as well as the hypocholesterolemic effect of the guggulu was observed. The maximum response in the reduction of serum cholesterol was noted in those patients where the serum cholesterol was above 200 mg. P.E. extract of Gum Guggulu is capable to reduce serum cholesterol, triglyceride and phospholipids levels in human. Oleo -resin of C. mukul (Guggulu vati) reduced serum cholesterol by 25.4% and serum triglyceride by in 30.1% 3 months.

Experimental study : An experiment was performed to see the effect of Guggulu on Thyroid and its repercussion on testis of rats. Animals were acclematized for 15 days to laboratory condition and were grouped into two groups (i) Control (ii) Treated. The control group

animals received only a specific dose of Arachis oil (the solvent for P.E. extract of gum guggulu) 1 ml./100 gms. of body weight while the treated group of animals received oil Arachis and P.E. extract of the drug in a dose of 60 mg./100 gm. body weight per day. 5 rats from each group were sacrificed on 3rd, 5th, 7th, 14th and 28th day and histological studies of thyroid and testis were done.

While doing experiment on rats it was seen that the follicular cells of thyroid became evident, short, compact and columnar instead of normal cuboidal in drug treated group. In control group no such changes were seen in testis the digenerative changes were observed as a thickening of the basement membrane of the seminifarous tubules with a significant reduction in number of spermatozoa and later spermatids were also seen in drug treated group. In control group almost no changes were observed.

5.2.14 A study on treatment of wounds with special reference to Sodhana/Ropana and standardisation of Nasya Karma and Ksarasutra in Department of Salya Salakya Institute of Medical Sciences, Banaras Hindu University, Varanasi under Dr. P.J. Deshpande.

A total number of 25 cases of chronic wounds have been taken up for the study of role of Sodhana and Ropana in healing Fresh Snuhi latex was applied locally for 2-7 days till wound become Suddha. The preliminary study has shown proteolytic Enzymatic activity in Snuhi Ksara.

(b) In case of standardisation of principles and techniques of Nasya Karma : Forty nine cases of chronic headache and operated cases of hernia.have been taken up for standardisation of principles and techniques of Nasya Karma. They were treated with the Sadbindu Taila. All the cases have shown remarkable relief. The drug Sadavindu has shown effective results in the occurance tendency of disease like allergic Rhinitis and Sinusitis of long duration.

The role of various types of Ksara Sutras in different types of Bhagandara and various methods of treatment for different types of arsa have been taken up. The studies have been conducted on 126 new cases of Bhagandara and 69 cases of Arsa. The Udumbar Ksara Sutra preparation, presents a beaded appearance on thread and the same is not washed out completely by the discharge of the Fistulas and has given

sustained effect through out the week. Another effect of this Sutra has been observed that this Sutra has soothing effect and does not produce any pain to the patient. The patients of Arsa treated during the above period have also shown good results.

5.2.15 An observation of Endocrine response of Rasayana therapy and other rejuvenative measures at the Surgical Research Laboratory, of the Institute of Medical Sciences, Banaras Hindu University, Varanasi under Dr. K.N. Udupa.

The detailed clinical and experimental studies on the Madhya Rasayanas have been taken up. The drug Sankha Puspi (Convolvulus Pluricaulis choisy), Brahmi (Bacopa Monnieri), Mandukaparni (Centella asiatica Linn) and Aswagandha (Withania Somnifera) have been selected. In the present reporting period the Psychatropic effects of Sankha Puspi have been studied. The drug was tested in the form of total alcoholic extract in a dose of 50 mg./100gm. body weight suspensed in a water in rat by oral administration through a stomach tube for 10 days and the effects were evaluated in following parameters.

i) Barbiturate hypnosis potentiation effect.

ii) Effect of locomotive activity in terms of time taken & errors made during repeating a learned job in a simple T. Maize.

iii) Neurochemical changes in the brain.

The study of Sankha Puspi have shown a significant degree of barbiturate hypnosis potentiation effect. The drug notably reduces the locomotive activity and brings about certain neurochemical change such as increase in the level of 5-Hydroxytryptamine (Serotonin) and histamine in the brain as well as a depletion of Acetylecholic and Catecholamines.

Studies of Amalaki Rasayana in the form of Naimittik Rasayana in the treatment of parinam Sula and Amla Pitta (Peptic ulcer Syndrome) have been done clinically as well as experimentally, for this radiologically positive nineteen cases of duodenal ulcer, Gastric ulcer and non ulcer dyspepsia with presenting symptoms of abdominal discomfort, pain, acid, erucations, anorexia, diminished appetite, irregular bowels, flatulence,

eneral weakness etc. were taken. Out of these patients, 13 cases (10 male & 3 female) were of duodenal ulcer and 6 cases (4 male & 2 female) were f non-ulcer dyspepsia. Patients were given Amlaki Rasayana for 3 months n a dose of 3 gms. B. D. 1 hour after breakfast or principal meal.

Relief from pain has been marked in most cases during an acute attack within 3 to 10 days. Other effects in the form of relief from constipation, flatulance and belching and improved appetite have been noted to occure within a week or 10 days. Cases the follow up show normalisation of the gastric juice chemistry. Certain radiologically positive cases of duodenal ulcer showed healing of ulcers following therapy.

To study the role of stress in the form of mild electric shock as an nhancing factor for production of gastric ulceration in rates with weakened stomach by treatment with aspirin and of Amalaki Rasayana as a Prophyactic agent against the pathology.

This experimental evidence suggest that Amalaki rasayana has been able to protect the gastric mucosa against ulcer formation, keeping the gastric juice chemistry within normal limits. Amalaki rasayana act as a prophylaetic as well as a therapeutic measure against ulceration in rats.

5.2.16 Clinical evaluation of antidiabetic effects of the drug Bijayasara (Pterocarpus Marsupium Roxb.) at Government Ayurvedic College, Jammu under Prof. S.N. Tuli.

Total 24 patients were taken for study. The patient belonged to different age groups ranging from 10 to 60 years. They were from both the sexes nd spread over variant of socio-economic strata. They were diagnosed n the basis of history & clinical features and finally the diagnosis was confirmed by urine sugar and blood sugar investigations.

The patients were treated with Bijayasara Ghana-satva dried, powered and filled into capsule in a dose of 250 mg. daily in divided doses he drug could reduce the sugar percentage of urine gradually, but no satisfactory response was observed in blood sugar reduction specially in chronic ases. Significant response was observed in most of the diabetic patients

to recover the three cardinal symptoms of madhumeha i e. Prabhut Mutrata (polyurea) atipipasa (Polydipsia) and Atiksudha (Polyphagia). Patients get symptomatic relief after regular administration of the drug. The drug proved more effective in primary stages of diabetes mellitus (madhumeha say less than a year) clinically the side effects were seen on the receipiant of the drug.

The drug was found in-effective in cases having hereditary predisposition or of longer standing.

5.2.17 Evaluation of Anthelmintic activity of Ayurvedic drugs at Govt. Ayurvedic College, Gauhati under Dr. S. Bhattacharjee.

Clinical trial with Kampillaka (Mallotus Philippinensis Muell arm) and Paribhadra (Erythrina indica Lam.) have been carried out on 15 cases. The patients included in this study were diagnosed on the basis of positive stool examination for worm infestation and divided in two groups.

To group 'A' patients Kampillak powder was given in a dose of 30 mg./kg. body weight in two divided doses daily with honey for 21 days. The second group 'B' was further divided in group B_1 and B_2. To group B_1 patients, a fine powder of the stem bark of Paribhadra was given in a dose of 2 gms./day in two divided doses daily with honey for 7 days. The fresh leaves (Paribhadra) juice was given to the patients of group B_2 in 5 ml. doses twice daily with honey. In group 'A' treated with Kampillak 4 cases were studied. 3 cases took medicine for 7 days only and remained unchanged, 1 patient completed the course and was cured. In group 'B' of Paribhadra the response of Paribhadra Patra Swaras was more encouraging.

5.2.18 Effect of Virecana and Vasti in the treatment of Vata Vyadhis, Paksa-Vadha, Grdhrasi & Avabahuka at Anna Government Hospital of Indian Medicine, Madras under Dr. T. Achuthankutty Nair.

Cases of Paksavadha (Hemiplegia) Grdhrasi (Sciatica) and Avabahuka (Rigid soulder) were admitted and grouped into 3 sub- groups rande-

mly for the purpose of treatment. In Paksavadha study total 90 cases were stuided so far, 30 cases in each sub-group named as A. B. C. To graup A Samana + Snehan + Sodhana was given. To group B only Snehana and Samana were given whereas to group C only Samana was given. Snehana was done externally by Ksirabala Taila and internally by Satpala Ghrta. For Samana, therapy Gandharva Hastadi Kasaya was used. For Sodhana two methods were used (i) Vasti in this 19 matra vasti with Ksirabala taila and 5 niruha vasti were given (ii) in 2nd method of Sodhana Virecana was given in 3 mini courses in 24 days, each mini courses was of 8 days. Out of 90 cases, 53 were male and 37 were females of different age groups. The response of the treatment was almost alike in all the 3 sub-groups. In general 6.6% cases showed marked relief, 36.6% cases partially relieved and 55.5% cases showed no response.

31 cases of Grdhrasi were also treated similarly so far in 3 sub-groups and 54.8% cases showed marked relief, 16.1% cases partially improved and 22.6% cases showed no response.

9 cases of Avabahuka were also treated in 3 similar sub-groups so far. 55.5% cases showed marked improvement and 33.3% cases showed no response whereas 11.2% cases showed aggravation in the symptoms.

5.2.19 Pancakarma therapy in Ksudra Kustha at Akhandanand Govt. Ayurvedic College, Ahmedabad under Vd. D.T. Giri.

The study has been conducted on 36 hospitalised patients of Ksudra Kustha — Vicarcika, Visphota, Pama, Dadru and Carmadal. It has been noted that a course of Snehan induces remarkable changes in the signs and symptoms. The Virecana, Vaman and Raktamoksan cause further improvement within a period of 1 week. The Sodhan Cikitsa gives a quicker, better and more lasting response than Saman Cikitsa.

5.2.20 Clinical studies on Sula and Khanja & Pangu at M.A.H. Govt. Hospital, Ahmedabad under Dr. H.S. Kasture.

A) **Sula** : The work on treatment of Sula with Vasti therapy

has been taken up. During the reporting period, 12 patients of Sula have been treated. Out of 12 cases, 4 cure and 8 relieved.

B) **Khanja & Pangu** : Trials on Khanja and Pangu with special reference to its treatment with Vrhata Vata Cintamani and Abhyanga lepa etc. has also been taken up. 10 patients of Khanja and Pangu have been contracted and they were given the above drug alongwith Lepa, Svedana. Out of 10 cases, 5 patients have completed two courses and 5 patients have completed one course out of 3 courses prescribed for the complete treatment.

5.2.21 The role of Veruna, Kulatha and Goksuru in the management of Mutrasmari at the Deptt. of Salya Salakya, Institute of Medical Sciences, Banaras Hindu University, Varanasi under Dr. L.M. Singh.

During the reporting period total 175 cases of urinary tract diseases have been studied so far. In these, 45 cases of Asmari and Sarkara treated with Combination therapy of Varuna and Kwath. In which 10 cases of renal calculus got symptom free and two operated cases have not further evidence of recurrance in their follow-up. Out of 17 cases of uretric calculous, 8 cases passed their stone. In them 7 with the help of Varuna and Kulatha, one with help of Trn Panchamula. 7 cases were markedly improved and show no crystilisation. Out of 7 cases of vesical calculus, 3 cases operated and had no recurrance of the symptoms due to help of Varuna and Kulatha, 2 cases markedly improved and no crystilisation was seen on radio-logical exam. There were 7 cases of crystiliuria in them, 5 cases got cured, 1 case improved and no any crystal was observed in their urine in follow-up. 75 cases of Mutrakrch have been treated, out of them 42 improved with Varuna Kwath, 25 cases of Asthila (Enlarged Prostate) were also treated and markedly improvement was observed in 21 cases and one case cured.

The drug Varuna Kwath have also shown very good results in the management of atony bladder, haematuria and tuberculosis of kidney.

5.2.22 Prakrti and disease proneness at Tilak Ayurved Mahavidyalaya, Poona.

Concept of Dosa Prakrti has great diagnostic, prognostic and therapeutic value in Ayurveda. It also plays part in preventive and immunological aspects. The dosa prakrti is mould or pattern of the individual and governs physical, physiological, pathological and psychological aspects in individuals in health and disease.

As study in this regard has been taken in healthy individuals (students of Ayurvedic College) and in-patient from Seth Tarachand Ramnath Hospital. Simultaneously a study of Blood donor, from Red-Cross blood bank for the co-relation in their Prakrti and blood group had been done. The Prakrti Pariksana was done on the basis of physical features such as structure hair, eyes, nails, skin colour, tongue, teeth etc. physiclogical examination by prasana priksa regarding appetite, thirst, mala, Mutra, Swed, Gati, Sleep etc. and psychological examination regarding intelligence, grouping power, tolerance., fear, likings, dislikings etc.

In total 162 individuals were studied in different groups 58 healthy students, 35 patients of different diseases and 69 blood donors.

The work done reveals that there is a definite relation between dosa Prakrti and disease proneness. People of Vataja Prakrti are more prone to Vataja roga.

There is no relation between A, B, blood group system and dosa prakrti.

5.3.0 MULTI-CENTER CLINICAL TRIAL OF CODED DRUGS.

In order to have a broad based study of the effect of certain drugs/therapies, the clinical trials have been planned simultaneously at different centers of the Central Council located in various parts of the country. The advantages of such trials are obvious because the results from the patients from various parts of the country are assessed on a uniform parameter. The trials of certain drugs showing promising results in initial studies have been initiated during the period under report:—

AYUSH-55 in Hypercholesterolemic condition : The formulation is a modified from of Arogyavardhani which has shown significant hypocholesterolaemic effects in preliminary trials has been taken up at Central Research Institutes, Regional Research Institutes and certain other units. The Tamra bhasma has been excluded and Guggulu has been added in its place. The preparation of medicines for trials is under process.

AYUSH-56 in Epilepsy : The formulation consists of Marselia quadrifolia Linn. and Nardostachys jatamansi D.C. Both these drugs have been used popularly for sedative and tranquilising effect in Ayurveda. The trial of this drug has also been proposed at Central Research Institutes, Regional Research Institutes and at certain other units of the Council.

The trial of the drugs has since started at two centres, Certain patients who took medicine for few months have shown favourable results. This is a long term trial. Studies are in progress.

AYUSH-57 in Vitiligo : A classical formulation from an Ayurvedic text has been taken up for trial. The small sticks are prepared for external use. The trial has started at 4 centres. Preliminary observations show encouraging response. Further studies are in progress.

Fraction 'A' of Guggulu in Hypercholesterolaemic conditions : The fraction 'A' of Guggulu has shown significant hypolipidaemic effect in many trials. Its multi-centre trial has been planned. The preparation/extraction of drug in large quantity is in progress.

5.4.0 COMPOSITE DRUG RESEARCH SCHEME.

The necessity of scientific investigations on indigenous drugs have been felt by different committees from time to time. In persuance of these recommendations, Ministry of Health launched Composite Drug Research Scheme in the year 1964 for scientific evaluation of therapeutic potency of vegetable drug discussed in classical literature and used extensively by Ayurvedic physicians.

The scheme was formulated by Central Council of Ayurvedic Research in collaboration with Council for Scientific and Industrial Research and Indian Council of Medical Research. The implementation of scheme was entrusted to Indian Council of Medical Research. Subsequently the scheme was transferred to Central Council for Research in Indian Medicine and Homoeopathy when it was established.

The scheme envisaged active collaboration between chemists, pharmacognosists, pharmacologists and physicians of Ayurvedic as well as modern medicine. During the course of last 12 years large number of drugs have been studied. The pharmacognosy, chemistry, pharmacology and clinical efficacy of the drugs are simultaneously studied.

5.4.1 Clinical Research Unit (Ayurvedic & Modern Teams) at (Poona, Bombay, Ahmedabad, Lucknow, Varanasi, Gwalior, New Delhi and Pondicherry)

1. Sirisa (Albizzia lebbeck Benth : The bark of the drug has been clinically evaluated in 60 patients of Bronchial asthma (Tamak swasa) in the form of decoction or Avaleha. The assessment of the response has been done on the basis of clinical categorisation of disease in mild, moderate and severe stages. Certain objective tests eg. measurement of vital capacity have also been undertaken at various stages of treatment. The drug significantly controls the disease process with a treatment varying from 2 weeks to 8 weeks. The effect of the drug has been attributed to its possible anti-histaminic properties. Further trials for

the study of the effect of drug on plasmacortisol, catecholamines, histamine and histaminase levels of blood are in progress to determine its anti-histaminic properties.

2. Guggulu (Commiphora mukul) : The evaluation of Suddha guggulu in the treatment of obesity has been taken upon 24 patients of primary obesity. The drug has been administered for two months. The complete lipid profile — cholesterol, phospholipids and total lipids and measurements of weight and skin fold thickness have been adopted for assessment of response. Significant reduction in weight, skin fold thickness and blood lipids have been observed.

An experimental study on cholesterol induced hyperlipaemia in rabbits has also been taken up. The drug shows significant hypolipidaemic action and this effect is comparatively better than cholfibrate.

Clinical studies to assess the hypolipidaemic effect of Fraction 'A' of guggulu has been continued and it has been noted that drug effectively lowers the serum cholesterol and triglycerides.

The hypolipidaemic effect of the fraction has been studied on Mongolian gerbils, an animal which spontaneously develops atherosclerosis and hypercholestrolaemia. The drugs effectively prevent the hyperlipidaemia upto 48 weeks of period of observation.

3. Bibhitaka (Terminala bellerica Roxb.) : The fruits of Bhibhitaka have been clinically tried in Svaskasa (respiratory diseases). The modern methods of examination of blood, sputum and X-ray of chest has been adopted for diagnosis. Out of 21 patients who were taken up for trial, 3 got complete relief, 4 patients showed marked relief, 7 cases were satisfactorily relieved and 2 did not show any improvement. 5 cases discontinued the treatment.

4. Kantakari (Solanum xanthocarpum Schard. & Wendle.) : A trial of roots of the plant in the form of decoction has been undertaken in 14 cases of respiratory diseases (Svasakasa). Significant marginal reduction in dyspnoea has been noted in patients of chronic bronchitis. Certain amount of improvement could be noted in the patients of

tropical preliminary eosinophilia. It has not been so effective in the cases of Bronchial asthma.

5. Bimbi (Coccinia indica W. & A.) : Further trials on anti-diabetic effect of fresh juice of the plant has been continued. 31 cases have completed the trial of 3 to 6 weeks of duration. Highly significant hypoglycaemic effect of the drug has been noted. The comparative study of effect of this drug has been done with tolbutamide. The effect of Bimbi appears to be better. However, most of the patients suffered from side effects eg. anorexia, flatulance, nausea, vomiting, diarrhoea etc. of varying degree.

6. Jambu (Syzygium cumini Linn. Scheels) : The study of anti-diabetic effect of the seed powder of the drug has been taken up on 31 patients. The patients have been kept on diabetic diet to stabilize the diabetic state. The standard glucose tolerance test has been performed for diagnosis in each case. The fasting and postprandial blood sugar estimation has been adopted for assessment of results. Out of 31 cases, 24 patients showed significant hypoglycaemic effect.

7. Yastimadhu (Glycyrrhiza glabra Linn.) The trial of the powder of roots of the drug in 2 gms. four times a day has been taken up in 8 patients of duodenal ulcer. All the patients responded to the treatment and have been relieved in 14 to 35 days of treatment. However, on follow up one very chronic case reported relapse and did not improve with the drug after further treatment.

8. Kumari (Aloe vera Tourn exmill) : 8 cases of Amlapitta and Parinamsula have been taken up for trial with Kumari ghrta and Kumari putpakva svarasa. The study is double blind and is still continuing.

9. Kumariasava in Jeerna pratisyaya (Rhinitis) : Eight cases have been taken up. 3 got complete relief, 3 got partial relief and 2 did not continue the treatment.

10. Pasanabheda (Bergenia ligulata Engl.) : 11 patients of Sotha have been taken up for trial. 10 cases showed definite diuretic response; one case did not show any effect. Further studies are in progress.

11. Kakodumbara (Ficus hispida Linn. f.) : The powder of fruits of Kakodumbara has been taken up for trial in the patients of Svitra (Vitiligo). Some black patches have developed in certain cases Further studies are in progress.

12. Nagakesara (Mesua ferrea Linn.) : Four cases of Leucorrhoea have been taken up for trial, 1 patient reported complete relief in 2 months. 2 pat ents got partial relief after four weeks of therapy and one patient did not improve.

13. Haritaki (Terminalia chebula Retz.) : Further 5 cases of obesity have been taken for trial No loss in weight or any consistent change in serum lipids could be noted.

14. Kampillaka (Mallotus phillipensis Muell. Arg.): The trial has been starded in two groups of patients of Krmi in two dose schedules of 250 and 500 mg. twice daily. The preliminary observation on 3 patients in each group showed reduction in total ova count. However the response in 500 mg. dose is better.

15. Vasa (Adhatoda vasica Nees.) : A semisynthetic alkaloid from Vasa vasicinone has been evaluated for bronchodilator effect in few cases. The response has been compared with aminophyllin. Futher trial is in progress.

16. Bilva (Aegle marmelos Corr.) : Further trials of juice of leaves have been continued in diabetes mellitus. One more case has been studied. The hypoglycaemic effect has been noted. The trial of whole fruit powder has been taken up in nine cases of Krmi. 2 cases were completely relieved, 5 cases got partial relief and two cases discontinued the trial.

17. Jyotismati (Celastrus paniculatus Willd.) : The clinical trial of the seed oil has been continued in patients of hypertension. 2 cases have been taken up. The response could be noted in one case within a week.

18. Karavir (Nerium indicum Mill.) : The tincture nerium

has been tried in 4 cases of heart ailments. 2 patients have been completely relieved, 1 was partially relieved, one is continuing the treatment.

19. Tinduka (Diospyros perigriana Gurke) : Three patients of Amavata have undergone trial; one case was partially relieved; one discontinued the treatment and other one is continuing.

20. Sobhanjana (Moringa pterygosperma Gaertn.) : The trial of leaves have been taken up in 3 patients of hypertension; one case got partial relief and one discontinued the treatment; one is still under trial.

21. Anantmul (Tylophora indica Burm. f. Merr.) : The trial in 7 cases of Bronchial asthma has been taken up. Further studies are in progress.

22. Sati (Hedychium spicatum Hamex smith) : Three patients of tropical eosinophilia have been taken up for trial. Further studies are in progress.

23. Haridra (Curcuma longa Linn.) : Three cases of bronchitis have been treated with Haridra. Certain subjective improvement could be noted.

5.4.2 Pharmacological Research Unit at (Bhopal, Bombay, Calcutta, Jodhpur, Lucknow, Meerut, Trivandrum, and Varanasi)

1. Vaca (Acorus calamus Linn.) : The chloroform extract factor was studied for its effect on behavioural changes in conscious rats, rabbits, mice and monkeys. It was observed that the compound possessed dose dependant calming effect in all these animals species. It also offered protection against Terecan, Escamine, Harmine, Amphetamine and Cardiozol induced restlessness/increased locomotor activity/convulsions.

All these findings are suggestive of Cannabis indica like activity of Acorus calamus factor.

2. Vasa (Adhatoda Vasica Nees) (Compounds Vasicine and vasicinone) : It was observed that vasicinone is a potent bronchodilator both in vitro and vivo studies and is found to be as potent as theophylline. While vasicine is a bronchoconstrictor. Vasicinone was also observed to be a weak cardiac stimulant while vasicine displayed cardiac depressant activity.

These investigations offer an experimental data supporting the use of leaves of Adhatoda vasica in the treatment of respiratory disorders, however this work indicated that vasicine present in the vasaka extracts is likely to interfere with the effect of vasicinone. Thus the preparation of vasicinone may prove superior to the conventional vasaka syrup.

3. Sirisa (Albizzia lebbeck Benth) : Studies were conducted with the aqueous decoction of the stem bark and flowers. Both the extracts were significantly effective ($P<0.01$) against bronchospasm induced by microaerosals of histamine acid phosphate (1% solution) and acetycholine. Chloride (1% solution) in guinea pig bronchi. The anti-allergic effect of the decoction was studied on sensitized guinea pigs When antigen (horse serum) was injected on the 14th day, the drug treated animals had shown no symptoms of anaphylaxis as compared to control animals.

4. Anti-ulcerogenic activity of some indigenous drugs : The aetiology of human peptic ulcer is obscure till today. However, neurogenic, chemical and several other theories in its genesis have been implicated. Certain drugs of the anti-inflammatory and analgesic groups have been known to cause peptic ulcers stress of any kind could produce peptic ulcer. But no suitable drugs are known which can prevent these ulcers. Considering these facts, twelve plant extracts were evaluated for such activity in albine rats. In the first phase of the study the preventive effect of these drugs have been studied on stress (either of 2 hours or 18 hours stress) induced peptic ulcers.

It was observed that only Vithania somnifera extract, Diospyros peregrina (Petroleum ether extract), Nymphaea stellata, Altangia excelsa (ethylacetate) and Euphorbia nerifolia (ethyl acetate) showed significant protective effect against peptic ulcers, induced by 2 hours cold stress. These effective drugs were further tested against 18 hours cold stress induced peptic ulcers. Except Nymphaea stellata (efficacy to be confirmed)

all the remaining four drugs were found to possess statistically significant preventive effect. The remaining drugs showed poor response and the effects were statistically not significant.

5. Effect of certain Indigenous drugs on Carbon tetra-chloride induced liver damage and Hexobarbital sleeping time : The treatment and aetiology of many liver diseases remain a dilemma. There is no specific cure for such apprehending diseases like infective hepatitis and cirrhosis of liver in modern medicine. However, there are a number of drugs considered to be useful in these diseases.

Therefore, experimental investigations on Euphorbia nerifolia (Alcoholic extract), Moringa petrygosperma (Alcoholic extract), Cyperus rotundus (hexane extract), Leucas cephalotus (alcoholic extract), Nymphaea stellata (alcoholic extract, petroleum ether extract) were carried out to evaluate their benificial effects on liver as judged by reduction in hexobarbital sleeping time in mice after Carbon tetra-chloride (CCL_4) administration and against Carbon tetra-chloride (CCL_4) induced liver damage in rats and compared with Liv. 52 and ascorbic acid (Vitamin C).

Only Withania somnifera, Nymphaea stellata (Petroleum ether extract) showed positive protective effect statistically significant ($P<0.01$) against the liver damage as from the histopathological studies of liver slices evident and reduction in the hexabarbital sleeping time.

6. Nilkamal (Nymphaea stellata) : The alcoholic extract was found to possess analgesic activity (comparable to aceyl salicylic acid, a highly significant ($P<0.01$) antipyretic activity and anti-inflammatory activity. These observations indicate the need for isolation and characterisation of the active constituents from the alcoholic extracts.

The petroleum ether extract had shown protective effect against CCL_4 induced lever damage. It also possessed significant analgesic antipyretic and anti-inflammatory activities.

7. Matsyaksi (Alternanthera sessilis) : Pharmacological studies with aqueous extract on the frog heart were undertaken. The extract was found to cause cardiac depression with regard to the rate as well as force of contraction.

8. Pasanabheda (Bergenia ligulata) : The ethanolic extract of root-bark possessed significant analgesic anti-inflammatory activity. It produced hypotensive and diuretic effects. It decreased the heart rate and increased the force of contraction in frog's perfused heart and starts heart preparation. It also had anti-histaminic activity.

The acetone extract of root-bark also exhibited central nervous system depressant, analgesic anti-inflammatory, hypotensive, diuretic and slight anticholinergic effects.

9. Kukuradru (Blumea lacera) : The defatted alcoholic extract showed acetylcholine like activity. The acetylcholine like activity was both muscarmic and micotinic in nature which was evident from studies on blood pressure of anaesthetized cats, sialegogue effect on rabbits, isolated smooth muscles and skeletal muscles.

10. Vijaya (Cannabis indica) : Studies were undertaken to investigate the mechanism of hypothermic activity of Cannabis indica resin (petroleum ether trial) in albino rats. To investigate the role of biogenic anies drugs affecting the adrenergic or hypominergic systems were used.

It is indicated that the hypothermic action of C. indica is medicated through the adrenergic system and not through the hyptaminergic system. The action is medicated most probably through nor-adrenaline and not through Dopamine. It was indicated that the development of tolerance to the hypothermic action of annabis is most probably due to blockade in nor-adrenaline turnover.

11. Japakusum (Hibiscus rosasinensis) : Hibiscus rosasinensis has been reported to possess antifortibity activity. The petroleum ether extract showed 66.6% anti-implantation potency when given during Day 1 to Day 5 in pregnant female rats. It has no other significant pharmacological actions.

12. Bakula (Mimusops elengi) : Aqueous, petroleum ether, mathanol, benzene and chloroform extracts of this plant were screened for their pharmacological activities but no significant pharmacological actions were observed except fall in the blood pressure of the anaesthetized cats.

13. Nagkesar (Mesua ferrea) : A novel activity in the seed oil of this plant was discovered which has not been reported in the Ayurvedic literature. The seed oil was shown to potentiate bronchodilator activity of isoprenaline both in vitro and in vivo experiments. The activity was located in the phenolic compounds isolated from the seed oil. This phenolic constituent of the seed oil exhibited anti-phylactic activity.

14. Nimbidine : Nimbidine, isolated from Neem oil has been reported to show a spectorum of pharmacological activity previously. Now the antagonistic action of Nimbidine against 5—Ht. induced contractions on isolated rat rectus muscle and rat uterus was demonstrated.

15. Cangeri (Oxalis corniculata) : The petroleum ether, benzene and chloroform extracts showed significant analgesic, antipyretic and anti-inflammatory activity. None of these extracts was found to be toxic upto a dose of 100 mg/kg. orally or intraperitoneally.

The petroleum ether extract also had some diuretic effect but this was not statistically significant. Further, no hypothermic effect was demonstrated by any of the extracts.

16. Kutaki (Picrorhiza kurroa) : Experiments were conducted with pure crystalline 'Kutkin' the bitter glycoside and its constituents organic acids—cinnamic acid and vanillic acid for cholertic laxative and smooth muscles activities.

Kutakin, vanillic acid and cinnamic acid significantly increased biliary secretion, biliary flow as well as bile constituents viz bile acids, bilirubin and cholesterol in dogs. While Kutakin and vanillic acid were equipotent, cinnamic acid was slightly less potent.

Kutakin and vanillic acid produced persistent catharsis but cinnamic acid increased the fecal output only for two days in albino rats.

Kutakin and vanillic acid had relaxant action on isolated ileum of rats and rabbits duoderum only kutakin antagonised the spasmogenic action of acetylcholine. While civinamic acid itself had a mild spasmogenic action.

None of these agents showed any irritant effect on the conjunctive of rabbit of guinea pig in concentrtion of 1 to 10 mg/ml.

17. Embelin : Comparative antifertility effects of Embelin, di-acetyl Embelin and tetra-acetyl Embelin were investigated. Both di-acetyl Embelin and tetra-acetyl Embelin showed only half the antifertility potency of Embelin. This may be due to the absence of phenolic hydroxyl groups in these two compounds.

The 100% anti-fertility activity shown by Embelin (reported earlier) may be due to the presence of 2 pherrobic hydroxyl groups, quinonoid structure and undecyl side chain attached to 3rd position.

This study suggests that the reported anti-implantation effect of Embelin may be due to the overall effect of two phenolic hydroxyl groups and the guinoid structure.

18. Plumbagin : Plumbagin is chemically hydroxynapthoguin-one. It possessed a significant anti-gonodotropic and anti-ovulatory effect in rats and rabbits. Even though it is a potent antifertility drug but due to its toxic effects on the bone marrow, liver and kidney it cannot be used in human for fertility control.

Two derivatives of Plumbagin viz. Plumbagin acetate and plumbagin benzoyl derivatives were found to be comparatively less toxic and did not show LD 50 effect upto 200 mg/kg. orally.

Both these derivatives showed a highly significant anti-implantation effect. Further studies are under progress.

19. Madana (Randia dumetorum) : A separin isolated from R. dumetorum has been shown to cause marked depression of cardiac contractivity and caused constriction of the smooth muscles and both the effects were blocked by atropine.

Another fraction after chromatographic absorption of silica gel has been found to increase the amplitude of contraction of the heart.

Further fractionation and purification is under process.

20. Anantmul (Tylophora indica) : The alkaloidal fraction inhibited the broncho-constrictor action of acetylcholine, serotrin and histamine on isolated rat and guinea pig lung preparation. It also inhibited the constrictor response of acetylcholine on isolated tracheal chain preparation.

It potentiated the relaxant effect of both alpha and beta adrenergeic agents on frog intestine. It also potentiated the constrictor effect of adrenaline on frog perfused vessel preparation. It increased the glycolytic effect of adrenaline as tested on fasting blood sugar levels in rats and rabbits.

These findings are suggestive of its adrenergic type of activity.

Coded drugs :

1. AYUSH-9 : It was found to be devoid of any surface anaesthetic activity and nerve block anaesthetic activity.

Detailed pharmacological studies were carried out and it was observed that it possessed hypotensive and anti-convulsant (Metrazole induced seizure) activities.

Toxicity studies revealed that doses upto 100mg/100g. intra muscular, produced facial clonus after 5 minutes and lasted for one hour. But no mortality was seen after 24 hours. Higher doses like 0.75 mg/100 g. produced 33% mortality within 1/2 hours.

2. AYUSH - 12, 13, 14, 15 and 16 : None of these drugs possessed either any significant surface anaesthetic activity or any nerve block anaesthetic activity when studied on rabbits eye and sciatic nerve of frogs respectively.

Anti-toxicity studies of AYUSH-14 were done and the LD50 in rats by intraperitoneal route is 625 mg. with fiducial limits between 490 mg/kg. and 78 mg/kg. at 95% confident level.

3. AYUSH-17 : Neither any significant surface anaesthetic activity nor any nerve block anaesthetic activity.

However, it was found to possess significant anti-convulsant effect, as it produced against electro-shock seizure.

4. AYUSH-60 : The drug when administered orally in doses of 125 mg/kg. and 650 mg/kg. to male rabbits failed to show any hypoglycemic activity.

5. AYUSH-59 : The drug failed to show any anti-filarial activity.

6. AYUSH-49 : It showed non-specific antagonistic action against acetylcholine, histamine, 5 hydroxytoptaine, Barium chloride and synticaria in an isolated smooth muscles. Thus it produced substantial evidence in support of its activity on the respiratory system.

However, it also possessed some potentiality action on skeletal muscles.

7. AYUSH-62 : Acute toxicity was carried out in mice. The compound was administered in the suspension form with tween 80 orally.

Symptoms observed: Sedation and Death.

Post martem findings: Congested intestines.

LD50 is 680 mg/kg. with fiducial limits between 755 mg/kg. and 613 mg/kg. at 95% confidence level.

Its effect on the cardiovascular system in anaesthetized cats was studied. It caused fall in blood pressure and slight increase in the respiratory amplitude. The fall in blood pressure was blocked partially by propanol indicating that the compound possess action similar to isoprenaline.

Synthetic compounds :

1. KR/NVS/E : The detailed toxicological investigations of the compound doses at 1/10 and 1/25 of LD50 were carried out in rats for

4 weeks duration. The haemotological, biochemical studies and macroscopic examination of different organs do not revel any abnormality or toxicity. The microscopic examination of the organ is in progress.

2. Three compounds viz. KR/NVS/I, KR/NVS/J and KR/NVS/K were investigated for their anti-asthmatic activity both in vitro and in vivo of these compounds exhibited any significant anti-asthmatic effect.

3. Two compounds viz. A/June/NY/NVS and A/July/NY/NVS were evaluated for their possible local anaesthetic activity using guinea pig prick method and isolated alphrenic have diaphrogm technique. Preliminary results are encouraging and their local anaesthetic activity compares favourably with bignocaine. Further studies to coxprin these findings are under progress.

4. It exhibited promising neuromuscular blocking activity both in vitro and in vivo experiments using young conscious chicks, rat phrenic nerve diaphragn preparation and cat tibialis anterior preparation. Further studies are in processes.

5.4.3 Chemical Research Units at (Hyderabad, Delhi, Calcutta, Varanasi, Trivandrum and Lucknow)

1. **Guggulu (Commiphora mukul) :** Z-guggulusterone has been prepared by synthetic process from pregnoloneacetate. Z-guggulusterone has also been isolated from gum resin of Commiphora mukul.

2. **Pippali (Piper officinarum Linn) :** The further chemical investigations on fruits of Piper officinarum resulted in isolation of four new compounds — methyl piperate, filfitine, officinarin and S-dihydropiperine.

3. **Apamarga (Achyranthes aspera Linn.) :** Seeds yielded a mixture which was separated into two new saponins. After detailed chemical and spectral investigations these have been identified as B-D-glucophyranosyl (1-28) ester of L-rhamanopyranosyl (1-4) B-D-glucurouopyranol (1-3) oleanolicaced and B-D-glucopyranosyl (1-28) ester of

L-rhamanoyranosyl (1-4) B-D-glucopyranosyl (1-4) B-D-glucuronopyranol (1-3) oleanic acid.

4. Madhuyasti (Glycyrrhiza glabra Linn.) : Quercetin and its 3 glycosides, Liquitrigenin and isoliquitrigenin were isolated. Three novel isoflavones were also isolated and characterised along with a rare 4-coumarin.

Certain derivatives of glycyrrhetenic acid eg. methyl glycyrrhetnate, hemisunccinate of glycyrrhetenic acid and hemisuccinate of glyceterinate have bĕen prepared. Large scale extraction of glycyrrhetenic acid has also been taken up.

5. Methika (Trigonella foenum graecum Linn.) : Whole plant yielded liquitrigenin isoliquitnigenin, vitexin and isovitexin. Isolation of other compounds are in progress.

6. Gunja (Abrus precatorius Linn,) : The seed kernels yielded peptides and flavonoid glycosides. Further studies yielded B-sitosterol and stigmasterol.

7. Madyanti (Lawsonia inermis Linn.) : The whole plant yielded sitosterol and umbelliferone.

8, Brhati (Solanum indicum Linn.) : Whole plant yielded a crystalline glycoside. Further identification is under progress.

9. Mammajaka (Enicostemma littorale Blume) : The aqueous extract of aerial part of the plant yielded a mixture of glycosides. Further studies are in progress,

10. Bimbi (Coccinia indica W. & A.) : Stem of the plant yielded Bamyrin, B-amyrin acetate and lupeol.

11. Ajmoda (Apium leptaphyllam Linn.) : Seeds contained a large number of coumarin compounds-sessilin, bergapten, isopinpenillin and umbeliferone.

12. Syonaka (Oroxylum indicum Bent.) : Root bark yielded flavanoid - chrysin, baicalin, luteolin, 5, 7 dihydroxy-6-methoxy-flavone, glycosides of baicalin and oroxylin A. Leaves yielded aloe emodin.

13. Bilva (Aegle marmelos Corr.) : Leaves yielded flavanoid glycosides and a number of coumarin compounds. Root yielded a new coumarin Aeginol.

14. Patha (Cissampelos pareira Linn.) : The bark and leaves have been found to contain a quarternery alkaloid, C_{20}, H_{24}, O_4, $N+$ (mp. 206-7°C), the base chloride of this has been identified as cyclanoline chloride. A tertiary alkaloid (mp. 265-266) containing tetrahydro-isoquinoline chromophene has also been isolated.

15. Prapunnada (Cassia tora Linn.) : The seeds yielded emodine rabropisarine, B-sitosterol, and 1, 8-dihydroxy-anthroquinone.

16. Pittapapra (Fumaria indica Pugasly.) : Roots yielded alkaloid, identified as protopine and seeds yielded two alkaloidal compounds - 1 tetra-hydrocoptisine and fumariline.

17. Tejovati (Zanthoxylum alatum Roxb.) : The whole plant yielded two compounds episesamin in and fergesin.

18. Kutaja (Holarrhena antidysenterica Wall.) : Root bark of the plant yielded a new minor alkaloid of pregane series designated as Holacetin.

19. Snuhi (Euphorbia neriifolia Linn.) : The chemical examination of leaves yielded a new pentacyclic triterpenoid of geomanicol series.

20. Atavi jambu (Atlantia monophylla Corr.) : The chemical examination of roots resulted in isolation of a new acridone alkaloid - atalaphylline.

21. Tinduka (Diospyros perigrina Gurke) : The petroleum ether extract of seeds yielded two compounds on chromatography. Their complete identification is in progress.

22. Nagakesara (Mesua ferrea Linn.) : Seeds yielded four compounds. Two of them have been found similar to mesual and mammesin. The identification of other two is in progress.

23. Jatamansi (Nardostachys jatamansi D.C.) : Another method for isolation of jatamansone semicarbazone using column chromatography has been developed.

List of plant extractives supplied by chemical projects to different units for pharmacological/chemical studies

Name of the plant	Part(s) supplied
Apamarga (Achyranthes aspera Linn.)	Saponin mixture
Vaca (Acorus calamus Linn.)	Phenolic compound
Vasa (Adhatoda vasica Nees.)	Vasicine
Araluka (Ailanthus excelsa Roxb.)	Petrol ether extract Defatted ethyl acetate extract.
Mastyaksi (Alternanthera sessilis Linn.) (R. Br.)	Alcoholic and water extract.
Bilva (Aegle marmelos Corr.)	Alcoholic extract
Kumari (Aloe vera Tourn. ex mill.)	Petroleum ether extract
Sirisa (Albizzia lebbeck Benth)	Saponin
Samudraphala (Argyeria speciosa Sweet)	Different extracts
Kukuradru (Blumea lacera D.C.)	Defatted alcholic extract
Prapunnad (Cassia tora Linn.)	Emodin, Rubrofusarine
Guggulu (Commiphora mukul Engl.)	Petrol extract Chloroform extract Ethyl acetate extract
(Connaram monocarpus Linn.)	Rapanone Rapanone diacetate Rapanonetetra acetate

Tinduka (Diospyros perigrina Gurke)	Petrol ether extract Ethyl acetate extract
Vidanga (Embelia ribes Burm. f.)	Embelin. Embelin diacetate Embelin tetra acetate Iodo embelin Dibenzoyl iodo embelin Vilangin
Mamajjak (Enicostemma littorale Blume)	Alcoholic extract
Madhuyasti (Glycyrrhiza glabra Linn.)	Glycyrrhetenic acid and its derivatives
Kutaja (Holarrhena antidysenterica Wall.)	Conessine Fraction I & II
Sunisnaka (Marselia minuta Linn.)	Alcoholic extract
Nimba (Nelia azadirachta Linn.)	Nimbidine
Nagakesara (Mesua ferrea Linn.)	Mammesin Mesuol Mesuaferrone A & B Sodium salt of Mesuanic acid
Bakul (Mimusops elengi Linn.)	Different extracts
Jatamansi (Nardostachys jatamansi D.C.)	Alcoholic extracts
Parijata (Nyctanthes arbortristis Linn.)	Crude compound
Amlika (Oxalis corniculata Linn.)	Different extracts
Amlika (Oxalis pabularia)	Osthol
Citraka (Plumbago zeylanica Linn.)	Plumbagin. Plumbagin monoacetate Plumbagin triacetate Plumbagin benzoate

Manjista (Rubia cordifolia Linn.)	Petrol ether extract
Saptarangi (Salacia fruticosa Heyne)	Petrol ether extract Benzene extract
Anantmul (Tylophora indica) (Burm. F. Merr.)	Alkaloid fraction.

5.4.4 Pharmacognosy Research Units at (Poona, Ahmedabad, Lucknow, Jammu, Chandigarh and Calcutta).

1. Kakajangha (Lea aquata Linn.) : The root stem and leaf of the plant has been taken up for detailed pharmacognostical studies. The macroscopic characteristics, the microscopic details of structures, diagnostic characters, tests for purity, phytochemical tests and fluorescent analysis has been worked out for each part mentioned above.

2. Asthisamhar (Cissus quadrangularis Linn.) : The macroscopic characteristics of fresh and dry stem of the plant, microscopic characteristics of the stem diagnostic characteristics and tests for purity have been worked out.

3 Ketaki (Pandanus tectorius Soland) : Morphological characteristics, microscopic details, fluorescence analysis, ash and extractive constituents of leaf, stem and root of the plant have been worked out.

4 Canaka (Cicer arietinum Linn.) : Different parts of plant, root, stem, leaf, fruit and seed have been taken up for study. Their morphological characteristics, microscopic details, fluorescence analysis and ash and extractive values have been determined.

5. Dhava (Anogeissus latifolia Wall.) : Pharmacognostic studies on leaves of the plant have been taken up. The macroscopic characters, microscopic characters and measurements of different structures of leaf have been studied. The fluorescence analysis, reactions to chemicals, ash value and extractive samples have been studied.

6. Dravanti (Jatropha curcas Linn.): The macroscopic and microscopic characteristics of the leaf have been studied. The microscopic measurements of different structures of leaf have been recorded. Behaviour of the drug with different chemicals, fluorescence analysis, percentage, extractives and ash value has also been worked out.

7. Plaksa (Ficus lacer Buch. Ham.): Macro and microscopic characters of leaf and bark were studied. Histochemical tests and quantitative studies of structures of leaf have been performed. Behaviour of both parts of the plant to chemical reagents and fluorescence characteristics, ash and extractive values have also been worked out.

8. Priyala (Buchnania lanzen Spreng): The comparative phytochemical studies of seed oil obtained from cultivated and market samples of drug have been undertaken. The cultivated sample yielded more oil and of better quality.

9. Pundarika (Nelumbo nucifera Gaertn.): The morphological characteristics of flower, fruit and seeds have been studied. Further studies are in progress.

10. Bakul (Mimusops elengi Linn.): A complete monograph dealing with literature aspects, habit, habitat, cultivation and collection, botanical description and detailed pharmacognostic studies on bark, leaves and fruits of the plant have been furnished. The macroscopic, microscopic characters of parts and preliminary phytochemical tests have been worked out.

11. Misreya (Foeniculam vulgare Mill.): Macro and micro, morphology of the fruits with preliminary phytochemical studies of ash value, fluorescence characteristics and extractive principles have been worked out. The yield of essential oil and characteristics of Arka and decoction of the plant have also been studied. Similar studies on common substitutes of the drug - Anelhum sowa, Pun pinella, Anisum and Lakhnavi saunf has also been carried out.

12. Methika (Trigonella foenum graecum Linn.): Macro and microscopic characteristics of seeds with preliminary phytochemical

studies on ash value fluoroscence characteristics and extractive principles have been done.

13. Arjuna, Bibhitaka Haritaki (Terminalia arjuna W. & A., T. bellerica Roxb, T. chebula Letz.) : A detailed comparative pharmacognostic study of three species of Terminalia has been taken up. The detailed morphological characters of different parts of the plants, macroscopic, microscopic characters and measurements of the leaf, bark and fruits of all the three plants have been done. The physiological studies on different parts of the above plant in different stages have also been carried out.

5.5.0 DRUG STANDARDISATION RESEARCH

5.5.1 Priliminary Standardisation Research Unit

In view of the paramount importance for the standards for various types of preparations such as Asava, Arista Vati, Taila, Bhasma etc. available in the market and for the incorporation of these into the Ayurvedic formulary so that the Drugs Acts can be implemented effectively, the Council has established three preliminary standards research unit to work out preliminary standards. The details of work done by Unit at Captain Srinivasa Murti Research Institute, Madras has already been described. The work done by other Units is given herewith.

Preliminary Standardisation Research Unit, Jamnagar.

The Preliminary standardistion work on Saubhagya Sunthi avaleha, Muktapisti, Mritsan jivanisura, Swarna bhasma, Yavakshara, Manikyapisti, Swarna parpati, Muktadi mahanjana, Vataghnikumar rasa, Swarnavanga, Samerpannag rasa, Swarna sindoor, Swarnabhupati rasa, Kumariasava A, Vyakrant bhasma have been completed. The Unit has undertaken studies on effect of packing material/containers. Ten formulations have been prepared and observation on six of them have been completed. Out of fifteen preparations send by the Council, preliminary standards for eight have been worked out.

Preliminary Standardisation Research Unit, Varanasi.

Preliminary standardisation work on Narayan taila, Pramehamihir taila, Balchandanadi taila, Manjisthadi taila, Prabhakara rasa, Vatkulanthak rasa, Tarunavkarasa, Mahavatgajankusa rasa, Suchikabhuvan rasa, Chukkumtippalyadi gutika, Mritsanjivani gutika, Dantavarti, Elaneerkuzampu, Karpuradikuzampu, Kachuradi churna, Panaveeraladi bhasma have been completed during the period under report.

All the 22 drugs allotted for the effect of packing material in different containers have been studied. The observations made in this regard reveal that glass bottles are not suitable for packing of Ajamodarka and tin containers are not suitable for Chyvanaprasa.

5.5.2 Drug Standardisation Research Unit/Enquiry

The success or otherwise during treatments among others is intimately associated with genuineness and quality of drugs and drug preparations. There is an imperative need to standardise them right from the stage of procurement to stage of final product – be it use of a single drug or a recipe resultant of combination of drug through indicated pharmaceutical procedures.

The Council has taken up steps to evolve standards for raw drugs, manufacturing methods and finished products. Since the process of standardisation is expected to take fairly long period, the Council felt there is an immediate need for working standards to start with, so that the agencies and practitioners engaged in the manufacture of these preparations will be able to apply them for testing the drugs/preparations before releasing for large scale therapeutic application.

The drug standardisation research unit are mainly engaged with the aim:

1) The standardisation of single drugs.

2) Method of manufacture

3) Study of finished product

At present there are five units engaged in working out the above problem along with one enquiry at Vijayawada for the standardisation of bhasma and sindoora. The details of work done at Regional Research Centre, Bangalore, Regional Research Institute (Drug Research), Trivandrum, Captain Srinivasa Murti Research Institute, Madras, Amalgamated Units, Tarikhet have already been discussed.

Drug Standardisation Research Unit, Junagadh.

1. The pharmacognostic and preliminary phytochemical study of the following drugs have been completed during the year under review :—

Madhuka, Dhataki, Indravaruni, Danti, Mocrasa, Vatsnabha, Nagkesara, Gajpippali, Hapushpa, Kramuka, Katurohini, Haridra, Daruharidra, Kapikacchu, Punarnava, Lodhra, Kantakari, Parpata, Ativisa etc.

2. Finished products : Lakshaghatti guggulu, Yogaraj guggulu, preparation of Rasayoga, Tribhuvan kirti rasa and Anand Bhairava rasa and Swarna parpati have been completed.

3. Study of effect of packing material : Out of the 21 drugs allotted to study the effect of packing material, 12 drugs like Dhatri lauha, Dasamilarista, Dasang lepa etc. have been studied. The study on the other drugs is in progress.

Drug Standardistion Research Enquiry, Vijayawada.

The Unit is engaged in standardising the Bhasma and Sindura of the Ayurvedic system. The following work has been carried out during the year under review :—

1. Identification of 4 coded preparations i. e. AYUSH/CRIS 1, 2, 3 & 4.
2. Identification of Talak bhasma and Talak metal
3. Identification of Swarnvanga
4. Identification of Parada group of preparations and differentiation of Parada bhasma from Calomel.
5. Identification of Tamra in Mayurpicha bhasma.
6. Identification of copper metal and Tamra bhasma.

5.6.0 SURVEY OF MEDICINAL PLANTS

Realising the medico-botanical wealth of the country, the survey of medicinal plants projects of the Council have carried out the survey work as in past to enrich the medico-botanical armamentarium which will help to the estimation of medico-botanical potential of the Country. The two cultivation projects have revealed the possibility of successful cultivation of many more useful plants used in Indian Systems of Medicine and Homoeopathy. The Council has deputed special survey parties to explore the unexplored areas of Leh-Laddak, Arunachal Pradesh, Andamans Nicobar islands and certain tribal pockets of Nilgiris hills. The salient feature of these tours are indicated in this report. Besides, the Council has already published the detailed reports of these tours.

Brief activities of these projects are given here under. The details of work done by units located at Regional Research Institutes, Regional Research Centres may be seen in respective sections.

5.6.1 Survey of Medicinal Plants Units

GAUHATI

The project functioning at Government Ayurvedic College, Gauhati has surveyed Bomdilla, Tawang, Pongang, Sibne, Pykhay, Mokta, Sengro, Nuranang, Dirang, Yawang, Lispa, Sangti, Rupa, Thongree, Sissa, Tippi, Bhalukpong, Tambe, Seru, Kimey, Dwaki, Sabrecong, Pymersla and Nougjiri road forest areas. The herbarium has been enriched by 104 plant specimens to the existing strength of 476 and has 4 unidentified herbarium sheets. The Museum has got 38 genuine drug samples and about 74 plants are being maintained and in the small garden attached. They have also collected the folklore claims during their regular survey tours. This project is supplying genuine Embelia ribes (Vidanga) to the other research organisations of the Council.

GWALIOR

The survey team of the Project stationed at Government Ayurvedic College, Gwalior has visited Sivpuri, Pichhore, Kolaras, Karera, Pohri,

Satanwarha, Chanderi and Moura forest areas to explore the medico-botanical wealth and to collect folklore claims. The unit has 2,263 herbarium sheets and in possession of about 133 unidentified herbarium sheets. About 121 genuine samples of plants kingdom, animal kingdom and mineral kingdom were maintained in the museum of the project. Steps were undertaken to identify the drug Bharangi.

JAMMU

The project functioning at Government Ayurvedic College, Jammu has surveyed the forest areas of Shankara-charya Babrish, Tangmarg, Gulmarg, Khillanmarg, Harwan, Yarika, Alipatner, Rajouri, Kandi, Dangri, Dehragali, Dakhwali, Sunderbani, Naoshera, Batote, Ramnagar range, Kulwanta and Basanth gadh for plant collection and folklore. Collected about 800 species and added to the existing herbarium of 6,000 besides in a possession of 250 unidentified herbarium sheets. 95 genuine products have been maintained in the museum. 150 species of the germ plasms collected during survey tours have been planted in the garden. The experimental cultivation/acclamatisation of such drugs which are non-habitat to this region are in progress.

PATNA

The Project stationed at Government Ayurvedic College, Patna has medico-botanically explored the forest areas of Netrahat, Hundru Harhaps and Gorkha hills and also collected folklore claims. The project has enriched its herbarium by 1,000 sheets to the existing 1,042 herbarium sheets and has got about 256 unidentified herbarium sheets. Museum has got about 69 genuine materials related to plant kingdom.

RAJPIPLA

The Project functioning at Government Ayurvedic Pharmacy College, Rajpipla has surveyed Ahwa, Pimpri, Waghai, Chichingantha, Sakaipatal, Galkund, Saptara, Makgaon, Shamugakan, Kalmide forest areas and collected plant species and folklore claims. 220 herbarium sheets were added to the existing herbaria of 5,807 sheets, besides in possession of 65 unidentified sheets. 281 genuine samples are being

maintained in the museum. Experimental cultivation of Glycyrrhiza glabra (Yashtimadhu) has been undertaken in addition to many other plants.

PALAYANKOTTAI (TIRUNELVELI)

The survey team stationed at Government College of Indian Medicine, Palayankottai Tamil Nadu has explored the medico-botanical wealth of the V. M. Chaltram, Karumgulan, Arogianathpuram, Kokira-kulam, Rajagoplapuram, Swantipatti, Sivantipatti, Kariseri, Lalathoppu, Chenthiman- galam, Jawaharnagar, Komaniri, Rajapalyam, Tirunelveli, Kunukuthurai Melapalyam and Riddiyar patti areas and also collected the folklore claims. 472 herbarium sheets were added to existing herbaria of 731 sheets and in possession of 500 unidentified sheets. 350 medicinal plants were maintained in the Garden and 145 authentic medicinal plants were in the museum.

5.6.2 Special Survey Programme

Realising the potentiality of medico-botanical wealth of certain unexplored areas, the Council deputed special survey parties to Laddak region, Arunachal Pradesh, Andamans and Nicobar islands and certain tribal pockets of Nilgiris consisting of botanists, pharmacognosists and ayurvedists during the period under report. The party has surveyed the flora and fauna of the areas visited, besides collecting the information on folklore, native medicine, medical manuscripts and socio-economical status. The salient features of these tours are indicated separately.

LADHAK REGION

1) The teams covered the survey of Dras range, Kargil range, Leh range, Chumathan range and Nubra range.

2) Collected the information on food habits, social and religious ceremonies in addition to the information relevant to the native medicine, which is known as Amchi system of medicine, originated from Ayurveda and brought to Tibbet in the 7th century A. D. Eversince it is followed religiously with great care and interest.

3) Collected 1,026 plant specimens and 12 minerals.

4) Details of 87 plants used in Amchi system of medicine has also been collected.

5) Areas where some of the important medicinal plants like *Gentiana kurroa*, *Ephedra gerardiana*, *Orchis latifolia*, *Hyoscyamus niger*, *Physcohlaina praelata*, *Macrotamia benthani*, *Aconitum heterophyllum*, *Podophyllum hexandrum*, *Impatients* Sp. and *Lotus corniculatus* are abudantly available.

6) Belts of Shilajith, borax, sulphur, sodium sulphate, antimony sulphate, sodium bicarbonate and yellow arsenic have been located.

7) Another drug of vital importance commonly used in Indian systems of medicine, *Jaharmohara* is also available in some of the valleys.

8) The team visited 5 (five) gumpas and able to collect information on rare medical literature containing prescriptions for variety of ailments.

9) Ladhak like its own flora of typical plants, has its own fauna which includes Antilopes, wild yak, musk deer and number of other animals which have use in medicine and diet.

ARUNACHAL PRADESH

1) The team surveyed the Kameng district of Arunachal Pradesh.

2) Visited two Gumpas, Braham Tong Chung and Twang monastry, the latter one is claimed to be largest gumpa in Asia and collected information on 8 manuscripts which consists of advocation of medicines, preachings of Buddha and Guru Nanak.

3) About 100 folklore claims much used in the area were collected.

4) Collected about 350 plants species considered to be of medicinal value and interest.

5) Areas of availability of *Berberis aristata, Aconitum ferox, Cinnamomum camphora, Cinnamomum zeylanica, Cinnamomum tamala, Scindapsis officinalis, Mesua ferrea, Picrorhiza kurroa, Rheum emodi, Rubia cordifolia, Saxifraga ligulata, Cannabis sativa Plantago* Sp., *Acorus calamus, Artemesia vulgaris, Curculigo orchioides* and *Hedychium* Sp. have been found out.

6) It has also been observed that the musk deers are available in Zamithang area at higher altitued from Tawang and also in Thungri at higher altitude from Sngti.

7) Arunachal Pradesh like its own flora possess its own fauna.

ANDAMANS & NICOBAR ISLANDS

1) The team visited car-Nicobar islands, Little Andaman and Andaman south.

2) About 180 taxas were observed during the survey.

3) Collected about 300 species of medicinal plants out of which about half the number are of medicinal value.

4) Areas of the availability of *Ipomoea pescaprae, Euphorbia atoto, Scaevola taceada, Dodonoea viscosa, Colubrina sitatica, Desmodium umbellatum, Caesalpinia crista, Hibiscus filiaceores, Pemphis acidula, Xaminia americana, Vigna retusa, Cassytha liliformis, Barringtonia speciosa, Guetharda speciosa, Pongamia pinnata, Hermandia peltata, Terminalia chattapa Calophyllum inophyllum, Clerodendron viscosum, Premna serratifolia, Wedelia scandens, Enteda scandens, Aerva lanata, Crinum asiaticum, Pandanus* Sp., *Kyllingia monocephala* and *Cycas rumphii* etc. have been found out.

5) About 43 folklore claims have been collected.

6) About 15 drug samples were collected which are of medicinal value.

7) Belts of Ambergis, coral, OS sipiae, Cowrie shells, pearl oyster have been found out which are widely used in I.S.M.

8) Andamans like its own flora has its own fauna.

TRIBAL POCKETS OF NILGIRIS

1) The team visited Nirgachalmund, Tarachalmund, Tiruchikkady, Kollimalai, Nedugalcombay, Mavinahalla. Masinagudi, Sigur R.F. Valzhathotam, Aanaikatti, Theppakadu, Nadugani, Devala, Erumad, Cherambadi, Kayunni, Cherangodi, Kunjappanai, Doddabella, Kallar and Alderley.

2) Information of prevalent diseases among the tribal community of Toda, Kota, Iruls, Pania, Kurumlas and Katunayakas have been collected and incidental medical relief has been provided.

3) 287 field number of plants have been collected.

4) 93 folklore claims much used in the tribals have been gathered.

5) It has been observed that green leaves of *Solanum nigrum*, *Amaranthus spinosus*, *Chinnopodium album* fruits of *Plupalis pereiviana*, *Rhodomyrths tomentosa*, *Opuntia* Sp. and *Elaeocarpus oblongus*, Tubers of *Dioscorea* Sp. and *Smilax* Sp. Pods of *Cassia laevigata* and grains of *Bambusa arundinacea* are being used as edibles amongst Irula, Pania, Kurumba and Kattumajatta tribes.

6) Information of socio-religious activity of the tribes have collected.

7) Areas of availability of some of the important plants like *Rubia cordifolia*, *Mallotus philippensis*, *Tribulus terrestris*, *Santalum album*, *Strychnos potatorum*, *Dioscorea bulbifera*, *Wrightia*

tinctoria, *Stereospermum tetragonum*, *Aristalochia tagala*, *Taphrosea purpurea*, *Operculina terpethum*, *Berberis tinctoria*, *Acorus calamus*, *Valeriana arnothiana*, *Gloriosa superba*, *Dichrostachys cinerea*, *Zizyphus oenoplia*, *Sida* cordifolia and *Clerodendron serratum* have been found out.

8) Some of the raw drugs were also collected for Museum.

9) Information on the existing medical facilities have also been collected.

The pilot surveys have indicated that scope for obtaining information of potential value exists both from the angle of therapeutics and economics. These surveys, though a preliminary yet has been able to bring forth much of the available information hitherto less known to other parts of the country. It is presumed that the work in these areas have potentiality to minimise importing of drugs like Sulphur, borax, arsenic, Jaharmohara, corals, Cinnamomum camphora, Aconitum ferox are some among many others. It is also possible that in time to come in depth exploration through such a project is expected to help in saving a lot of foreign exchange and providing appropriate substitute for a number of remedies obtained from the natural products. Virtually this amounts to streamlining of the economy of the country if the areas are fully tapped. The Council has initiated to study the samples collected, pharmacognostically, chemically and isolate the active principles of the same, in turn, which may perhaps prove as potent drug for particular disease.

The soil study conducted of the different areas from where the drug specimens have been collected to have an ecological background and some of the plants collected analysed chemically to understand the chemistry of these plants.

The observations/findings of these special survey tours are of utmost importance in view of its wide usage in medical field to the growing pharmaceutical industry and also from the point of view of import substitutes and export promotion.

Significant achievements made by these tours framed a basic idea for more such tours in the current year (1976-77) to the unexplored areas like Sikkim, Lakshadweep etc.

The following genuine raw drugs are supplied by the Survey of Medicinal Plants Projects to various research organisations in varying quantities beside supplying the herbarium sheets :

1. *Abrus precatorius* (*Gunja*)
2. *Abutilon indicum* (*Atibala*)
3. *Acacia arebica* (*Babbula*)
4. *Acorus calamus* (*Vacha*)
5. *Adhatoda vasika* (*Vasa*)
6. *Aegle marmelos* (*Bilva*)
7. *Albizzia lebbeck* (*Sirtisa*)
8. *Aloe barbedensis* (*Kumari*)
9. *Alternanthera salvifolium* (*Matsyaksi*)
10. *Alternanthera sessilis* (*Matsyaksi*)
11. *Amaranthus spinosus* (*Tandulaka*)
12. *Ammi majus* (*Atrilal*)
13. *Anogeissus latifolia* (*Dhava*)
14. *Artemesia vulgaris*
15. *Ballospermum montanum* (*Danti*)
16. *Berberis aristata* (*Daruharidra*)
17. *Bergenia ligulata* (*Pasanabhed* ?)
18. *Betula utilis* (*Bhurja*)
19. *Boerhaavia diffusa* (*Punarnava*)
20. *Boswella serrata* (*Kunduru*)
21. *Buchanania lanzan* (*Priyala*)
22. *Butea monosperma* (*Palasa*)
23. *Caesalpinia crista* (*Lata karanja*)
24. *Cajanus cajan* (*Adhaki*)
25. *Calandula officinalis*
26. *Calotropis gigantea* (*Arka*)
27. *Calotropis procera* (*Arka* ?)
28. *Cannabis indica* (*Vijaya*)
29. *Cannabis sativa* (*Vijaya*)
30. *Ceissampelos pareira* (*Patha*)
31. *Cedrus deodara* (*Devadaru*)

32. *Centella asiatica* (*Mandukaparni* ?)
33. *Cicer ariatinum* (*Chanaka*)
34. *Cinnamomum tamala* (*Tamalpatra*)
35. *Clitoria ternatea* (*Aparajita*)
36. *Commiphora mukul* (*Guggulu*)
37. *Crataeva nurvala* (*Varuna*)
38. *Cryptolapis buchanani* (*Krisna sariva*)
39. *Curculigo orchioids* (*Talamuli*)
40. *Curcuma longa* (*Haridra*)
41. *Cynodon dactylon* (*Durva*)
42. *Dalbergia sissoo* (*Simshipa*)
43. *Datura metal* (*Dhatura*)
44. *Desmodium gangeticum* (*Salaparni*)
45. *Diospyros progerina*
46. *Dioscorea bulbifera* (*Varahi* ?)
47. *Dolichos biflorus* (*Kulatha*)
48. *Embelia ribes* (*Vidanga*)
49. *Ehicostemma littorale* (*Mammajak*)
50. *Ephedra gerardiana*
51. *Erythrina indica* (*Paribhadra*)
52. *Euphorbia hirta*
53. *Euphorbia tirucalli*
54. *Evovulus alsinoides* (*Visnukranta*)
55. *Glycyrrhiza glabra* (*Yastimadhu*)
56. *Grewia asiatica* (*Parusaka*)
57. *Hibiscus rosasinensis* (*Japa*)
58. *Hordium vulgare* (*Yava*)
59. *Indigofera tinctoria* (*Nili*)
60. *Jatropha curcas*
61. *Mesua ferrea* (*Nagakesara*)
62. *Mimusops elengi* (*Bakula*)
63. *Nardostachys jatamansi* (*Jatamansi*)
64. *Nyctanthes arbortristis* (*Parijata*)
65. *Nymphaea stellata* (*Kamala*)
66. *Ocimum sanctum* (*Tulasi*)
67. *Paederia quadrifida* (*Prasarini*)
68. *Pandanus tinctorium* (*Ketaki*)
69. *Pentatropis microphylla* (*Kakamasaka*)
70. *Picrorhiza kurroa* (*Katuki*)

71. *Plumbago zeylanica* (*Chitraka*)
72. *Pongamia glabra* (*Karanja*)
73. *Pongamia pinnata* (*Karanja* ?)
74. *Portulaca quadrifida*
75. *Prunus avium* (*Elavaluka*)
76. *Prunus puddam*
77. *Ptereospermum marsupium* (*Asana*)
78. *Randia dumetorum* (*Madanphal*)
79. *Rubia cordifolia* (*Manjista*)
80. *Rubia parviflora* (*Tintiduka*)
81. *Salmalia malabarica* (*Salmali*)
82. *Shilajitku*
83. *Solanum indicum* (*Brihati*)
84. *Solanum nigrum* (*Kakamaci*)
85. *Solanum torvum*
86. *Solanum xanthocarpum* (*Kantakari*)
87. *Spharanthus amaranthoides* (*Mundi* ?)
88. *Spharanthus indicus* (*Mundi*)
89. *Symplocos racemosa* (*Lodhra*)
90. *Tephrosea purpurea* (*Sarapunkha*)
91. *Terminalia belerica* (*Bibhitaka*)
92. *Terminalia chebula* (*Abhaya*)
93. *Tinospora cordifolia* (*Amrta*)
94. *Vitex negundo* (*Nirgundi*)
95. *Zizyphus jujuba* (*Badara*)
96. *Zanthoxylum alatum* (*Tejavati*)

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5.7.0 MOBILE CLINICAL RESEARCH UNIT

The object of the science of Ayurveda has described as primarily, it is for the preservation of good health and prolongation of life, this may be gained by proper living, by right regulation of diet, exercise and habits all of which are possible for reach individual provided they possess the necessary enlightenment and education. Secondarily, the combating of disease, for which simple hygienic methods and principles are described in the text books. They could be followed by individual to cure/check the minor complaints himself without having to report to outside help. As said in the text— "*Swasthasya swasthya rakshanam, aturasya vikara-prashamanamcha*" *(Charaka)*.

and its precepts/rules would ensure the smooth running of the intricate mechanism of the human body without hitch or hindrance. With the attainment of this hygienic and medical self sufficiency the state gets relieved of a large part of the burden. This was the actual state of affairs prevailing in ancient India.

Ayurveda's field of observation and application extends to all these aspects of man. Its hygiene and philosophy known as Swasthavritta is supplemented by Sadvritta or the right life which inculcates the discipline of the senses and the regulation of the moral life so as to accord with the happiness and good, not of the individual merely but of society as a whole. It is an entire way of life that Ayurveda expounds embodying philosophy, ethics and healing.

The aim of Ayurveda is to study man as a whole and as such with all the paraphernalia of social, seasonal, climatic and regional environments. It would indeed be an ordeal for a man to go through the same daily routine through out the year. Not only this, it would indeed adversely affect him if he does not maintain his life according to the varying seasons. Nature has bestowed an India a variety of seasons as the shivering cold of the winter, the scorching heat of the summer, the welcome downpour of the monsoon and the three chief seasonal varieties by the intermediate seasons of (i) Sarad or the season of transition from the monsoon to the winter characterised by harvest festivals, placid atmosphere and clear nights, (ii) the Vasant or the spring—the season of flowers and colour feasts, the season of joyous youth and temperate air and

(iii) 'Pravrit' the premonsoon season of hard toil and high expectations. These have been advocated in our treatise which are helpful for human being to be a healthy. These principles are being followed by man since long.

Historical record shows that the ancient history of medicine in India is beyond the time of 'Buddha', it reveals that the great medical teachers 'Bhardwaj' Atrey, Divodas and Susruta are much anterior to the Buddha and even the time of Mahabharata. The exeavations of the Indus valley reveal the possibility of a long and rich period of civilization before the entry of the vedic Aryans into India. Thus there is a prevedic period of Indian civilization and consequently of Indian medicine which must have inevitably resulted from and enriched that civilization. As a consequence of the sacrifice, the discussions, assemblies and discourse associated with it during its long performance, it emerged as a systematic method of exposition of philosophy and medicine. This may justly be called the scientific era of medicine in India. Ayurveda then attained its age of maturity and expounded science of health and disease and a systematic practice of remedies related to dose, time and constitution. This lasted from the time of Atreya upto the end of the seventh century almost till the beginning of the Mohammedan invasion of India. This was the heyday of Ayurveda the golden era in the medical history of India. This was followed suddenly by dark centuries of stagnation, neglect and decay when the original texts fell into disuse and the noble professions of the surgeon and the physician fell into even disrepute. The Smritis and the codes of social observances stigmatized these professions by making their members unworthy of attendance the gathering/function. The later editors and commentators like Madhava, Chakrapani, Sarangadhara, Bhavmisra and others helped merely to keep alive the ancient works and their lore from being totally lost. They were evidently aware of the decadent condition of the science. They could not have done better.

In spite of the various onslaughts of foreign invasions and religions India has survived only due to her thousand people putting their life according to the principles of Ayurveda. Further this peaceful living and healthy development of the villages was due to knowledge/practice of herbal medicines prevalent in the areas which are known as folklore.

With the attainment of full independence, India found herself at

the cross roads and has to make her choice now. There is the commanding call of the science in every heart desiring advancement and having good/cheap medical aid for people. At the call of the people, India has desired to improve the Indian systems of medicine prevailing among the villages, on scientific way, so as to provide cheap medical aid to more people. This science had moreover, been obliviated but to bring to limelight of the people, the Council has included this work in the research programme through Mobile Clinical Research Unit, since any research programme invariably must be closely connected to national development and needs. Research has also to take into account the interests and needs of the common man. In these circumstances, to find out the hidden wealth from the village folk in the form of folklore and to provide the refined medical/hygienic ways to them, the research/project has been undertaken. Human being has to adjust and acquaint itself towards the everchanging environment and the medicine which is also passing through changes. The State of environment has definite relation to individulas physical and mental health. In view of the above facts and to boost the moral and physical health of the individuals, the Council has established the Mobile Clinical Research Units in the different parts of the country. These units propose to carry out a fact finding and information gathering programme related to various/health aspects and traditional treatment methods adopted by village folk. Keeping in view that there is scope for availability of vast information of prevailing diseases like seasonal due to habits, diet, living traditions etc. In this connection it has been considered that some of the good information regarding folklore also may be available with the village folk.

The fact finding Ayurvedic Mobile Clinical Research Units among other aspects also study the environmental influence on the individual and suggest remedial measures. These units also study the relation between diet and habits to disease. The knowledge collected forms the basic research material helpful for planning national health programme consistent with the habits and requirements of the nation.

Keeping in view the above, it was felt desirable to make a comprehensive survey of selected villages of states to collect the statistical data. A proforma is designed according to the aims and objects to assist the survey work, our unit officials contact the village folk during visit of the

village and fill up the proformae, 1st initial and 5/6th follow-up respectively to complete the study as such they cover the adequate population of the area surveyed. Units are also engaged with the work of special problems allotted to them. They are also collecting the folklore claims that are prevalent in the zone during their visit to village and catering incidental medical relief to the needy people. They have to make a general survey of medicinal plants available in the areas visited.

The report of the work done during 1975-76 by units is given hereunder. The report of work done by units located at Regional Research Institutes and Central Research Institutes and Regional Research Centres have already been discussed.

KURUKSHETRA

During the period, the unit has seen 457 patients and out of them 290 patients were treated.

83 cases have been recorded in the register on special problem.

Survey work was carried out at the villages (1) Dhurala, (2) Chiba and (3) Govinda Majra.

VIDISHA

522 patients of different types of diseases were treated. Harukheri, Paho, Lashkarpur, Mirzapur, Badagaon and Ahmadpur were surveyed for health statistical work. 12 folklore claims were collected.

JAMNAGAR

Dared, Chela, Vijarkhri, Madpur and Mota thavaria villages were surveyed for the collection of health statistical data. A total number of 567 patients have been treated pathological investigations has also been carried out.

31 folklore claims have been collected. Out of these, Gorakh tumba eaves may cure cancer, 5 Krmi patients have been treated as special

problem allocated to the unit. Previously the unit was allotted the special problem 'skin disease' but the special problem has been changed and "Trial on Krmikuthar rasa on Krmi roga" have been provided.

VARANASI

During the said period, Amara, Chandpur was surveyed to carry out the work for the study of health statistics. 901 patients were treated by the Mobile Clinical Research Unit, Varanasi.

Special problem: Kutajadi Vishesh yoga in Diarrhoea and dysentry cases. 123 cases of Diarrhoea and dysentry were enrolled for drug trial. After 3 weeks treatment 50.9% complete cure found in dysentry cases and about 47% complete relief found in diarrhoea cases and other partial relieved (25.46%) and a very few number not relieved (14.54%) in cases of dysentry and 32.33% partial relieved and 4.41% not relieved have been recorded.

Statement showing statistical work done from March 1975 to February, 1976 in the Mobile Clinical Research Units (Unit wise)

S. No.	Location of the Unit	No. of proformae filled	
		Initial study	Follow-up study
1.	Bhubaneswar	1210	7682
2.	Cheruthuruthy	1044	3333
3.	Calcutta	413	1734
4.	Jamnagar	1112	3121
5.	Jogindernagar	598	1599
6.	Nagpur	1246	5700
7.	Patiala	423	129
8.	Varanasi	874	3896
9.	Bangalore	2028	9623
10.	Kurukshetra	413	3310
11.	Vidisha	1615	—
12.	Vijayawada	2102	16468
13.	Jaipur	—	—

5.8.0 LITERARY RESEARCH

Methodical, critical and exhaustive investigations of literature published/unpublished/Manuscripts with the aim of discoveries of new facts and their correct inter-pretations, and revisions of accepted conclusions/concepts/theories, is essential for the development of any science. Research on Ayurvedic literature is a basic need for all fields of research activities in Ayurveda. There is also wide scope for the same. Literary Research can discover so many possibilities, regarding good health, new experiments/aspects etc.

To serve the purpose of literary research, Council from its inception is trying by starting various activities in this field. Five units for collection of source material and three units for Literary Research were started in 1970 under guidance of eminent persons in Ayurvedic field. However, after continuing these units for a period of nearly three years, five units of C.S.M. and two of literary research were discontinued. The work done by these closed units is brought to the Documentation Centre of the Council, and detailed indecies of work are prepared as per decision of S.A.B. (Ay.) the indices were circulated among the members of Literary Research committee of S.A.B. Council has received comments from some of them, and work is under further process.

Scientific Advisory Board (Ay.) of the Council, in its 11th meeting has approved some outlines for Literary Research vis.

1. Search, Collection, compilation and editing of rare books manuscripts on Ayurveda.

2. Translation of selected treatises which have not been attempted so far either in English or Hindi.

3. Literature on Ayurveda from south east Asian Countries to be collected with the help of Embassies located in Delhi and other recognised bodies.

4. Subjectwise bibliography of the research work done of Indian Systems of medicine has to be prepared and should be published.

High Commissions/Embassies in Delhi were contacted and Council has received a photo-copy of eleven pages manuscripts, on the research done by Dr. Brahama Mohit, on drugs regarding family planning, also Council has received a book named "Abortion". Both the documents are received from the Embassy of IRAN.

5.8.1 Literary Research Unit at T.M.S.S.M. Library Building, Thanjavur.

Sarabhendra Vaidya Ratnavali : (Sanskrit Translation) Recorded metric weights and measures in 992 Yogas out of 1,160 Yogas. Prepared Press copy for 684 yogas.

All the 1,160 yogas of this work were compared with the original Marathi text of Sarabhendra Vaidya Ratnavali and 18 volumes of Sarabhendra Vaidya Muraigal. Notes were given for 1,186 yogas from Marathi edition and 114 variations from Sarabhendra Vaidya Muraigal and suggested dosages in brackets for 160 yogas. Recorded variation of weight, quantity, extra drugs, dosage, mode of preparation, reg imen etc. Kalpana Prakara is modified in 178 yogas in Ghrta Varga and Taila Varga. All the yogas were put in alphabatical order. After careful study 20 yogas were put in most appropriate Vargas. 20 yogas were deleted as they were found to be repetition.

Corrected typed matter of Press matter of the above 684 yogas.

5.8.2 Documentation Centre

(a) Technical Section : The section is enagaged in compilation of research information on 325 medicinal plants approved by A.P.C. References are being collected further from 8 books in order of synonyms, Therapeutic, Botany, Pharmacognosy, Chemistry, Pharmacology, Clinical trial and Drug standardisation. In addition to this the bibliographical details of scientific research articles published in various journals are

being collected. So far ten Ayurvedic journals, sixteen Modern, seven Homoeopathic and one Yoga journal were referred to from 1960 to 1975 and 5,406 articles have been covered. The technical record section was established at Documentation Centre to process the research material in a documented form. Reports of various period of 29 research Units/ Enquiries have been screened and classified according to subject wise. Preparation of draft proceeding of scientific seminar, of the Council maintenance of herbarium having 3,000 specimen and a drug museum of 300 drugs samples are other works of this section. Bio-data of eminent scientists members of Governing Body and Scientific Advisory Boards were collected for preparation of bio-bibliographical record, side by side miscellaneous enquiries of scientific nature are processed and replied.

(b) Library : A special reference library is being developed in the Centre. It contains 4,600 books. During the period under report 950 books were classified and 350 catalogued. 110 journals are being mailed regularly under purchase, exchange and complimentary programme. Medical news items from four standard newspaper are clipped regularly covering all possible topics of medical importance. In total 7,000 news cutting have been collected. 753 cuttings have been classified and 527 catalogued so far.

(c) Photography : One man potography section is attached to the Centre for visual documentation of scientific matter. This unit of the Centre has developed microfilming preparation, black & white photographs, Projection slides, colour exposing. Photomicrography drawing work etc. During the period under report, 9,349 pages have been microfilmed. 172 printing of photographs and 29 black & white photographs were prepared. Charts, diagrams & subject headings are other work of this Unit. 7 charts & 44 subjects headings were prepared.

5.8.3 Indian Institute of History of Medicine

The Indian Institute of History of Medicine is engaged in the research in medical Histiriography related to Indian System of Medicine and Homoeopathy and also on western medicine.

The aims of the Institute, decided by the Council are as follows :

1. To elucidate, conduct, co-ordinate and collaborate research on historical aspect of the Indian Systems of Medicine, Homoeopathy in particular and modern medicine in general.

2. Extracting useful bits of medical history from non-historical works like Vedas, Brahmanas, Upanishadas, Buddhist pitikas, Jain canonical works etc., and so called historical literature i.e. Ramayan, Mahabharat, Puranas, Harsa Carita etc.

3. To search and work for presentation of the source material useful for history of medicine i.e. Archaeological or monumental in nature.

4. Formulate and prescribe norms for the critical studies in history of medicine from pre-vedie period down to the modern age.

5. To collect preserve and circulate information on history of all medical systems condusive to the overall programme of Central Council.

To fulfil these aims the Instiute has done the following work during the period under report.

i) Biographical survey of the commentator on Brihatrayi - Bhattaraharischandra, Swamikumar, Jejjata and Gadadhar were completed, study on other commentators is also taken up. Names of Parahita, Nityanatha, Madanpala, Kayyadeva and medical men associated with Vijayanagar empire also figure during this period.

ii) Study of skandapurana and padmapurana has been started.

iii) Study on non-medical literature in Telugu language is taken up; a few non-medical inter-pretations incidental to the original study of various volumes of inscriptions of Audhra region, were gathered and have been sent for publication in the Journal

of oriental Institute, Baroda in view of the historical interest, the present under the title "Re-examination of K.B. Museum Inscription".

iv) The study of various volumes of inscriptions of Andhra region is taken in hand; to bring in light the historical aspects of health and medical conditions in Andhra region. A paper entitled 'Medical allusions in some inscriptions of Andhra Pradesh' based on the information collected has been sent for publication in the Bulletin of the Indian Institute of History of Medicine. The Institute also worked on a sanskrit medical manuscript in Telugu script attributed to Bharadvaja and the findings were published in the Institute Bulletin.

v) With a view to have critical in sight into the different periods; efforts were made to collect details of Unani Hakeems to prepare a historical note by studying thirty one books like Tebequtul-Atibba of Usaybia (Arabic) Hakeema-a-Akm (Urdu), Tareech-a-Firistra (Persian) etc. on Unani system of medicine. An article titled 'Brief biographies of eminent Unani Hakeems of India' and another on 'Abu Sayed Sinam Bin Sabit Bin Qurre' were published to provide wealth of information on their life and on the contemporary society. Twenty volumes of al-Hawi were studied, 133 names of physicians were met in this study. Biographical notes are proposed to be collected after completion of the study. The summary of 14th volume of al-Hawi will be ready shortly.

Biographies of seventeen Unani Hakeems who lived in India during hilji Tuglak and Lody dynastics and their works were collected from arious sources.

Descriptive notes on eleven Arabic Medical manuscripts available i the Indian Institute of History of Medicine were studied and published. hey provide a glimpse of the contents of the manuscripts.

Steps have been initiated to have similar studies in Homoeopathy nd other systems of medicine.

5.8.4 Publications

Council is publishing two quarterly journals/bulletins.

1. "Journal of Research in Indian Medicine and Homoeopathy" : 30 issues of the Journal have been published covering 508 articles, since 1965 to December 1975 vol. XI, Nos. 1 and 2 (March, June, 1976) issues are in the press and are expected to be released in the 2nd week of the August, 1976.

2. "Bulletin of the Indian Institute of History of Medicine" : The bulletin of the I.I.H.M. acted as forum for release of medico-historical articles that appeared in other languages and periodicals in addition to accounts and events of national and international importance in the field.

3. Since its inception Council has published 23 books/monograms (Appendix I).

List of Publications

1. Peruvoside and cardiotonic Glycosides from Thevetia neerifolia (English)

2. Medicinal flora of certain districts of Uttar Pradesh-I (English)

3. Medicinal flora of certain districts of Uttar Pradesh—II (English)

4. Medicinal flora of certain districts of Uttar Pradesh—III (English)

5. Charucharya (Sanskrit)

6. A check—list of Sanskrit Medical Manuscripts in India (English)

7. Provings of *Abroma Augusta* folia (English)

8. Provings of *Kalimuriaticum* (English)

9. Hand book of Common Remedies in Siddha System of medicine (English)

10. Thriyarkappiyam (Tamil)

11. Pharmacognosy and Phyto—Chemistry of *Withania somnifera* (English)

12. Pharmacodynamics of Musk (English)

13. A Hand book of Home Remedies in Homoeopathy (English)

14. Pharmacopoial Standards of Ayurvedic Formulations

15. Syllabus for Yoga Education for Schools and Colleges (Hindi or English)

16. Seminar on Yoga, Science and Man (English)

17. Glimpses of Health & Medicine in Mauryan Empire (English)

18. Western Epitomes of Indian Medicine (English)

19. Union Catalogue of Arabic and Persian Medical Manuscripts in the Libraries of Hyderabad (English)

20. Library Catalogue Part-I—Author Catalogue (English)

21. Museum Guide Part-I (World Medicine) (English)

22. Museum Guide Part—II (Indian „) (English)

23. Risala-e-Joodia (Urdu)

6.0 YOGA

CONTENTS

6.0 YOGA

In yogic classics like Hathayogapradipika, Gheranda Samhita, Sivasvarodhya etc. elaborate claims have been made regarding the disease-preventive, curative and health-promotive values of yogic practices. The Council has taken up research study in Yoga with a view to assess and establish their true therapeutic value on scientific lines and as such the sphere of its study is limited upto the causation, mechanism, prevention and cure of certain diseases with predominant psychosomatic disturbances through yogic parameters. In spite of the limitations of properly equipped laboratories and in-depth technical training, the results of these investigations have been successful in providing the necessary impetus to the professional scientists attached to various leading medical organisations of the country.

At present, six research units which are scattered in different parts of the country are conducting therapeutic research on the different problems/diseases allotted to them. The activities of Vishwayatan Yogashram New Delhi have been directed to the study of the effect of yogic therapy in the treatment of diabetes, asthma, rheumatoid arthritis, gastro-intestinal disorders and sinusitis. The Indian Institute of Yoga and Allied Sciences, Tirupati are studying the curative effects of yogic techniques particularly pranayama on diseases like psoriasis, idiopathic epilepsy, hypertension, diabetes and respiratory allergies. Workers at Delhi Yoga Sabha are investigating into the efficacy of Yoga against refractive errors of eyes, ears, nose and throat problems. Yogic treatment-cum-research centre, Jaipur has been allotted the evaluation of Yoga Therapy in bronchial asthma and chronic colitis. Workers at Shivananda Math, Gauhati have been studying the respiratory, cardiovascular, gastro-intestinal and metabolic ailments. Yoga Centre at Institute of Medical Sciences, Varanasi has taken up the study of the scientific basis of Yoga.

6.1.0 VISHWAYATAN YOGASHRAM

The Vishwayatan Yogashram has been conducting research on the diabetes, asthma, sinusitis, gastro-intestinal disorders and rheumatoid arthritis. During the current financial year, 13 cases of diabetes, 39 of asthma, 51 of gastro-intestinal disorder and 18 of arthritis were treated. After investigation, it was observed that 89% of the diabetes cases, 97% of the asthma cases, 92% of the gastro-intestinal disorders and 50% of arthrities cases were significantly improved. In all instances, the response has been encouraging. The kriyas adopted to cure the diseases are as below :—

DISEASE :

1. Diabetes :	Kunjala, Sankhapraksalana, Vastra Dhauti, Baghi, Jala Varsti, Nauli, Sarvangapusti, Hrdgati, all the Udarasakti Vikasaka exercises, Uddiyana Bandha, Tadagi Mudra, Surya Namaskar, Matsyendrasana, Ardha-matsyendrasana, Mayura-sana, Baddhapadmasana, Ustra-sana and Cakrasana.

Once a week Sankhapraksalana is done, no morning exercise is taken on that day and in the evening only asanas and mudras are performed for less than one hour. Patients in this group having secondary complication of either hypertension and or cardiac problems are advised to do only Jal Neti and Bhastrika.

2. Asthma :	Kunjala, Bhastrika, Neti, Sankha-praksalana, Udara-Sakti, Vikasaka Kati Sakti vikasaka, Jangha sakti, vikasaka, Pindalisakti-vikasaka, padamulasakti-vikasaka, Sarvanga pusti, rekha gati, gomukhasana Suryanamaskara, Bhujangasana Makarasana, Urdhvapadahasttotta nasana and Asvatthasana.

3.	Rheumatoid Arthritis :	Kunjala, Baghi, Sankhapraksalana, Anguli-sakti-vikasaka, Karatala-sakti-vikasaka, Purnabhuja-sakti-vikasaka, Jangha-sakti-vikasaka, Sarvangapusti, Rekha-gati, Surya-namaskara, Vajrasana Suptavajra-sana, Makarasana, Naukasana Salabhasana, Bhunjangasana, Ust-rasana, Cakrasana, Matsyasana, Yogasana and Yogamudra.
4.	Gastro-intestional : Disorders.	Sankhapraksalana, Kunjala, Baghi Bhastrika, Udarasakti-vikasaka and Kati-sakti-vikasaka exercises Bad-dhapadmasana, Ustrasana, Mayura-sana Urdhvasarvangasana, Dhanu-rasana and Suptapavanamuktasana.

Effect of yoga therapy on biochemical and functional values.

The laboratory forms are essential part of the research programme or the purpose of assessment and evaluation of progress. To make the study specific various parameters are chosen for the study of various diseases such as :

Diabetes Mellitus :

The various metabolic changes observed in human diabetes mellitus may be summarized as follows :—

1) The blood sugar increases to hyper-glycemic levels which results in glucosuria. The hyper-glycemia and glucosuria may persist during fasting.

2) The rate of tissue protein break down is markedly enhanced.

3) In severe uncontrolled diabetes large quantities of ketone bodies are formed causing ketonesia and ketosuria.

4) Glucose tolerance test is observed to confirm the diagnosis. Other investigations carried out are blood urea following diacetyle monoxime and for quick estimation of albumin and albumin glubulin ratio (A.G.) keyser procedures are used. The data may be seen at Table No. 1.

Rheumatoid Arthritis :

The pathological process of rheumatoid arthritis is inflammatory in nature and is marked with an increase in erythrocytes sedimentation rate (ESR). It has been observed that albumin: globulin ratio in the serum is altered.

Gastro-intestinal disorders :

The stool specimens are examined for parasites alongwith the complete urine test and haemogram. Certain specific liver function tests such as glutamic oxaloacetic transminase and alkaline phosphatase activities are also measured. Other specific tests carried out are 17 ketosteroid excretion in urine,

Asthma :

The assessment of improvement of asthmatic subject is done by pulmonary function test such as vital capacity (VC) Forced Expiratory Volume (FEV) and peak flow rate (PER) etc., employing spirometeric techniques. Also blood haemogram absolute eosinophil count is done alongwith stool examination for parasite and sputum. The Table No. II bearing the research data may also be seen.

TABLE NO-I

Metabolic Changes Mediated by Yoga

Observation	Control intial	Diabetic subjects intial	Control after month or more	Diabetic subjects one month or more
Fasting blood Sugar mg%	70.4±6.1	189±12.8	63.1±7.3	135±7.4
Post parendial blood sugar Lg%	135±7.3	240±7.3	124±5.4	164±8.4
Total Protein in grms%	6.4±0.9	5.9±0.74	6.1±0.7	6.0±0.34
Total serum albumingm%	62,5±0.6%	58±0.7	68.4±0.6	64.7±0.8
Serum alpha globulin	14.2±0.2	18±0.9	12.4±0.6	13±0.8
Beta globulin	11.3±0.4	14±0.7	10±0.8	14.5±0.8
Serum Cholestrol	163±38	212±41	150±14	185± 17

TABLE NO-II

Results of the Pulmonary Function Test

Sl. No.	Pulmonary Function Test	Intial	Final S. D. P.
1.	Vital capacity (VC) % of normal	73.4	9.25 — 14.35 <0.01
2.	Forced experation	52.98	60.90 — 15.66 <0.05
3.	Maximum vol. ventilation (MVV)	66 42	84.00 — 24.32 <0.05

During this year, 1,599 out-door patients were treated. Among them patients of diabetes, obesity, thyroid disease, hypertension, kidney disease, gastro-intestinal-disorders, asthma, arthritis, paralysis, sciatica, epilepsy etc. The results of out-door patients were encouraging.

This unit has been upgraded into a Central Research Institute for Yoga as a separate autnomous organisation under the Council with the following aims and objects :—

1) To conduct, co-ordinate and collaborate education, research, training in the ancient science of Yoga with a view to popularise its importance for wider understanding, acceptance and application.

2) To educate people in theory and practice of yogic sciences like Sadhana, Satkarma, Yogic Suksma-Vyayama. Mudra, Pranayama etc. for preservation and promotion of physical, mental and spiritual well-being and also for treatment of diseases.

3) To collect, preserve and widely propagate yogic literature.

4) To encourage, rejuvenate and conduct all such acts as are incidental to and necessary for carrying out all or any of the objects mentioned above.

The Institute has come into existence on 1st January, 1976. It will be provided with the facilities of Education, Training and Research in Yoga. The Institute will have the following sections :—

i) Administrative section.

ii) Department of Yoga Therapy

iii) Mobile Clinical Section

iv) Central Laboratory Section, (Pathology, Bio-chemistry and applied physiology).

v) Literary Research Section

vi) Library Section

vii) Photographic Unit

viii) Hospital Section

The work of the Institute is still at establishment stage and so far it has been awfully busy in miscellaneous activities like [illegible], development of laboratories and library section and workingout the blueprint for future programme.

6.2.0 THE INDIAN INSTITUTE OF RESEARCH IN YOGA AND ALLIED SCIENCES, TIRUPATI (A.P.)

The Indian Institute of Research in Yoga and Allied Sciences at Tirupati has taken up the investigation in the curative aspect of Psoriasis, Idiopathic-Epilepsy, Hypertension, Diabetes Mellitus, Respiratory Allergy etc , by the practice of Yoga techniques, particularly Asthma and Pranayama and assessment of promotional health and efficiency in the socalled healthy individuals performing Yoga. The treatment has been adopted by the Institute having in view the acute conditions in diabetes respiratory allergy and hypertension. Dietic restriction also plays an important role in all cases. The practices of Asanas, Pranayama and a regular daily dicipline is preserved quite individually. For the treatment of Hypertension the unit has adopted Recaka and Puraka (without kumbhaka), meditation in supine position, Savasana and Gajakarani. For diabetes mellitus all the asanas and pranayama are prescribed with particular stress on Mayurasana. For respiratory allergies, Kapalabhati, Uddiyana, Gajakarni, Sankhapraksalana and Jalneti for Psoriasis much stresses is laid on different types of Kumbhakas and for Epilepsy Sirsasana is stressed. For fatty people asanas like Trikonasana, Dhanurasana are taught with particular care whereas for the patients of chronic constipation and indigestion kriyas like Bhastrika, Sarvangasana, Gajakarni, Dhanurasana, Bhujangasana, Salabhasana, Matyasana, Yoga Mudra and Yoga Nidra are prescribed.

As the Institute has received a great set-back of shifting from Hyderabad to Tirupati, subsequent setting up a new place and organising the basic facilities it could treat only 200 out-door and 25 in-door patients suffering from Psosiasis, Diabetes, Asthma etc.

6.3.0 DELHI YOGA SABHA, DELHI.

Delhi Yoga Sabha, Delhi has taken up problems of refractive errors of the eye and common disordrs of ear, nose, throat. In most of the cases, patients were suggested to have five grams of almond oil dropped in nostrils followed by Neti, Jalakriya, Gajakarani and gazing at flame lit of mustard oil in the morning. Asanas like Ardhajivanatantra, Sirsasana, etc., were administered to the patients.

During this year four Yoga cure-cum-research camps were carried out (each camp being of three months duration). During the Yoga cure-cum-research camp patients 45 cases of myopia, 6 cases of hyper-metropia, 11 cases of tonsilitis and 29 cases of rhinitis and hard-hearing were treated.

The results were as follows :

91.11% of the myopia cases were improved, 8.88% were cured, 66 66% of hypermetropia cases were improved, 33.33% were cured, of consilitis 9.09% were improved 90.91% were cured, of rhinitis and hard hearing 13.79% were improved, 86.21% were cured.

6.4.0 YOGIC TREATMENT-CUM-RESEARCH CENTRE, JAIPUR.

Yogic Treatment-cum-Research Centre, Jaipur has taken up bronchial asthma and chronic colitis which are very common diseases of the country. The Kriyas administered for the cure of bronchial asthma are Vastra dhauti, Kunjala, Sutra-neti, Kapalabhati, Nauli, Bhujangasana with breathing, Gomukhasana and Sarvangasana whereas for chronic colitis kriyas like Kunjala, Sankhapraksalana, Nauli, all the breathing and stomach exercises of Suksma Vyayama, Bhujangasana, Vajrasana, Ustrasana, Cakrasana, Matsyasana, Pavana-muktasana and Yoga Mudra are prescribed.

The unit has treated 25 cases of Bronchial Asthma and 27 cases of Chronic Colitis. During the course of treatment it was observed that 57.87% cases of Bronchial Asthma and 52.2% cases of Chronic Colitis improved.

6.5.0 SHIVANANDA MATH, GAUHATI.

The Shivananda Math, Gauhati has taken up respiratory ailments, cardiovascular disease, gastro-intestinal disease and metabolic diseases. This unit has evolved a therapeutic regimen for each cases. During this year total 439 cases were studied, out of them 113 were of Bronchial Asthma, 26 of cardiovascular disease, 60 of Hypertention, 215 of gastro-intestinal disorders, 25 diabetes mellitus patients were treated. Their results have been encouraging. Bhramana pranayama has showed good results in the cure of asthma patients within 15 to 30 days of duration. In heart disease Sahaja Viparitakarani Mudra, Yoga Mudra, Pavanamuktasana, Ardha-Salabhasana, Ardha-Kurmasana, Janu-Sirsasana, Sahajapranayama, Bhramana-pranayam, Sahaja-agnisar, Agnisar-dhauti and asanas have shown encouraging results. The patients of gastro-intestinal disorders are advised these asanas i.e. Sahaja agnisara, Agnisara dhauti, Uddiyana and breathing exercise.

The total number of out-door patients treated by this unit were as under :—

Sinusitis 24, dysentry 20, constipation 449, leucoderma 21, gout, arthritis 101, tonsilitis, cold, cough 376, piles 35, fistula 9, hernia 5, anaemia 146, leucorrohoea 9, nervous debility 29, paralysis 18 prostute enlargement, pyorrhoea 209, other disease 928.

6.6.0 RESEARCH UNIT AT INSTITUTE OF MEDICAL SCIENCES, B.H.U., VARANASI.

The Research Centre has started functioning only in 1976-77 under Dr. K. N. Udupa, Director, Institute of Medical Sciences, Banaras Hindu University, Varanasi. The unit has taken study of thyrotoxicosis, hypertension, diabetes mellitus, bronchial asthma, nervous dyspepsia, rheumatic disease, ischaemic heart disease, chronic sinusitis. The unit has adopted following parameters to cure the disease, ischaemic heart disease, chronic sinusitis. This unit has adopted following parameters to cure the diseases which are given below :—

Sl. No.	Name of the disease	Yogic Asanas
1.	Thyrotoxicosis	Sarvangasana, Matsyendrasana.
2.	Hypertension	Bhujangasana, Salabhasana, Matsyasana, Breathing with left nostrill, Savasana.
3.	Diabetes Mellitus	Halasana, Sarvangasana, Matsyendrasana, Maha-Mudra, Cakrasana, Kapalabhati.
4.	Bronchial Asthma	Neti, Dhauti, Sirsasana, Bhujangasana, Maha-Mudra, Cakrasana, Kapalabhati.
5.	Nervous dispesia	Sarvangasana, Halasana, Sirsasana, Cakrasana, Uddiyana, Matsyendrasana.

6.	Rheumatic disease	Akarna Dhanurasana, Bhujangasana, Salabhasana, Konasana, Vajrasana.
7.	Isamic heart disease	Ardha-lolasana, Ardha-salabhasana, Bhujangasana, Savasana.
8	Chronic sinusitis	Neti, Dhauti, Kapalabhati, Uddiyana.

According to a report for the period from 10th December, 1975 to 10th June, 1976 a total of 49 cases have investigated, out of them 17 Hypertension cases have shown subjective improvement. The cases improved in other diseases are as under thyrotoxicosis 4, anxiety neurosis 3, rheumatic disease of spine 6. 5 cases were relieved before their full treatment for some or the other reason. 4 cases of diabetes, 5 of chronic dyspepsia and 1 case of bronchial asthma is still under observation.

In March, 1975, a Seminar on "Yoga, Science and Man" sponsored by the Ministry of Health and Family Planning and several other leading Institutions of Science, Education and Yoga of the country was organised by this Council in which nearly four hundred yogis, scientists, educationists and philosophers participated. The three principal subjects discussed in the Seminar were Yoga and Education, Yoga and Health and Research in Yoga. Every paper presented at the Seminar was followed by fruitful discussion. The major recommendations of the Seminar were the introduction of Yoga in academic curricula at various grade-levels of education, establishment of a Centre for conducting Research in various aspects of Yoga, production of trained man-power for education and research and organisation of in depth Seminars on Yoga in education, therapeutics and consciousness.

For introduction of Yoga in School and College education, a syllabus committee consisting of outstanding experts in the field of Yoga and Education was constituted. The committee after thorough deliberation of the contents finalised a graded syllabus on Yoga from first grade to graduation level. The syllabus has already been printed both in Hindi and

English. Another committee of medical experts have framed a Yoga Syllabus for professional colleges of medicine.

In view of the general interest of the papers presented at the Seminar it was decided to bring out the publication of Seminar proceedings first in English and thereafter in Hindi of which English edition has already been printed. Necessary details for holding of three in depth Seminars in Yoga have also been prepared.

7.0 UNANI

CONTENTS

7.1.0 Central Research Institute, Hyderabad.

The Institute is engaged in clinical study of the following problems :-

a) Bars *(Leucoderma)*

b) Sailan-al-Reham *(Leucorrhoea)*

c) Warm-al-Kuliya *(Nephritis)*

d) Nazla-al-Muzmin *(Sinusitis)*

e) Yarqan *(Jaundice)*

The study may broadly be categorised as follows :—

1. Clinical : The cases of Bars dominated in attendance in comparison to the cases of other problems. Bars cases attending O.P.D. were examined and followed up on specific days allotted to them. Similarly the cases coming from other states like Assam, Bihar, Karnataka etc. were examined and their follow up records were maintained separately. The drugs under trial for Bars were same i.e. Z_1, Z_2, SF_{1A}, SF_{1B} and ZL_1. Munzij and Mushil treatments was tried extensively in I.P.D. Some new medicines were also introduced as KZ, both for internal and external use, CH and S for external use only. RH is given only in I.P.D. while the three others were given both in O.P.D. and I.P.D. in some of the selected cases.

Percentage of cure of Bars cases is displayed as below :—

Showing response in treatment of Bars.

I. **IN-PATIENTS :**

S. No.	Response	No. of patients
1.	100% (complete cure)	—
2.	91-99%	4
3.	71-90%	12
4.	51-70%	13
5.	Below 50%	40
6.	No response	4
7.	Discontinued against medical advice	—
8.	Other categories (such a progressive, repigmentation started, remained absent at the time of follow-up etc.)	22
	Total	95

II. **OUT-PATIENTS :**

1.	100% (complete cure)	13
2.	91-99%	18
3.	71-90%	77
4.	51-70%	17
5.	Below 50%	452
6.	No response	85
7.	Discontinued against medical advice	309
8.	Other categories	371
	Total	1376

The cases of Bars who attended the Institute belonged to different places. Out of 1,376 O P.D. cases 921 were local, 186 were from different places in Andhra Pradesh, 268 from other states of India and one case was from a foreign country.

There was low attendance of patients under other problems in comparison to Bars. 55 cases of Nazla-al-Muzmin, 91 cases of Sailan-al-Reham, 15 cases of Warm-al-Kuliya and 19 cases of Yarqan were studied and treated with the allotted drugs. Case-histories according to prescribed proformae were recorded and relevant data collected.

2. Pathology Department : The Pathology Department carried out the Clinical Pathology investigations in all the cases referred to this department for the diseases under study. 4,366 routine investigations were carr ed out which included complete blood picture, E.S.R., Urine, faeces and bacteriological examinations.

The following studies were carried out in collaboration with other departments :

1) Study of blood group and its relation to vitiligo.

2) Study of gastric juice analysis in vitiligo patients.

3. Bio-Chemistry Department : All routine clinical investigations were carried out for the diseases under study during the period under report.

The number of such investigations was 716 and included S.G.O.T., S.G.P.T. Serum Protein, A/G ratio, Bilirubin, Blood Urea, Thymol turbidity test, Zinc-sulphate test, Uric acid, Alkaline-Phosphatase, Fibrinogen and Vandenbergh tests.

The following studies were carried out :—

1) Association of ABO blood grouping on vitiligo.

2) Study of Serum copper level estimation in vitiligo patients and control.

3) The toxic effect of the drug on liver function.

4. Pharmacology Department : The following studies were carried out :-

1) Toxicity studies on Psoralea Corylifolia Linn (Babchi).

2) Studies on the Mode of Psoralea Corylifolia Linn (Babchi) in vitiligo.

5. Pharmacy Section :

a) *Main Pharmacy Section :* The Institute has a small pharmacy having equipments for production of compound medicines, majoon, sufoof, tablets etc. This Pharmacy prepares medicines for the requirements of Central Research Institute and Clinical Research Unit, Delhi.

b) *Dispensing Section :* Dispensing of medicine received from Main Pharmacy Section to I.P.D. and O.P.D. Departments.

6. Photographic Section : Photograph of 336 new patients with Leucoderma from out-patients and in-patients have been taken and developed. Besides this the follow up photographs of 67 patients has been taken.

7. Library : Study of Bars being the main activity in the Institute the salient aspects of the work done are as follows :-

1) Clinical classification of Bars with new findings.

2) New Clinical findings regarding the pulse and the blood pressure.

3) Study of etiological factors of Bars.

4) Variations found in ESR and Blood pressure.

5) Collection of Bars prescriptions from authentic books.

6) Discussion on drugs allotted for trial.

The other important features of the activities are :-

1) ESR was found high in the Bars patients.

2) Heridity plays a role in the pathogensis of Bars.

3) A.G. ratio changed in Bars patients instead of 2:1, it is 1.33:1.

4) Study of Zulal Zimad and Sufoof (ZI, ZI, Z3, Z6, SFI, SFIA, SFIB) in the treatment of Bars.

5) Study of Bars patches of hands, palms, soles and lips respond slowly to the treatment.

6) Congenital Bars is observed in 7 cases out of which one was born completely albine. After 20 days sparsely normal colour patches appeared.

7) Study of Blood group and its relation to Bars.

8) Study of gastric juice analysis in Bars.

9) Toxicity studies of Babchi.

10) Toxic effect of the drugs in liver function.

7.2.0 CLINICAL RESEARCH UNIT NEW DELHI

Work on three problems i.e. 1. Kathrat-al-tamth (Menorrhagia), 2. Zahir al-muzmin wa Dhusantariya Me'vi (Chronic dysentery) and 3. Bars (Leucoderma) was continued during the year.

KATHRAT AL-TAMTH

In case of Kathrat al-tamth (Menorrhagia). Tukhm-e-Bartang (Plantago-Major-Linn) was given orally in doses of 3 grams twice daily, patients according to their individual conditions were advised the medicine either in the form of 'SHIRA' or in a roasted form'. In the case of excessive bleeding vaginal douche was also given with the decoction of Tukhm-e-Bartang.

The drug is reported to be astringent, styptic tonic and inflammatory and checks bleeding within a very short period.

Total number of patients of Kathrat al-tamth during the period under report was 41. The results of the trial were quite promising, as is evident from the following table :-

Total No. of patients treated	Cured	Marked relief	Improved	Worsened	Discontinued
41	7	17	5	Nil	12

ZAHIR AL-MUZMIN WA DHUSANTARIYA ME 'VI'

In cases of Zahir al-Muzmin wa Dhusantariya Me'vi, Madar has been tried. The powder of the Post Bekh-e-Madar was administered in dosage of 250 mg. twice a day, after meals with curd or butter. The drug is reported to give strength to the muscular layer of the stomach and intestines. It also has a soothing effect. Side effects such as headache and burning in micturition were noted in few cases.

Total number of patients treated for the above disease during the period under report was 145 and the results were as per the following table.

Total No. of patients	Cured	Marked relief	Worsened	DAMA
145	86	44	Nil	15

BARS

Patients of Bars were divided into different groups. Sufoof, Zulal, Zimad and Mundij-Mushil were used either in combination or only one of them according to prescribed methodology. The results were assessed and follow up done. During the period under report, total 416 patients were taken. Percentage of cure is displayed as below :-

Table : Showing response in treatment of Bars.

S. No.	Response	No. of patients
1.	100%	1
2.	Upto 99%	5
3.	Upto 80%	24
4.	Upto 60%	23
5.	Upto 40%	124
6.	Upto 20%	98
7.	Discontinued	141
		416

All relevent data of the cases being tried on the above problem have been recorded in detail.

The documentation and compilation work from anthentic texts of Unani system of Medicine related to the allied problems is in progress. Various etiological aspects of the three problems were recorded and studied.

Clinical Research Unit
Madras

The unit has been studying the problems of Vaja al-Mafasil (Rheumatoid Arthritis) and Diq al-Nafas (Bronchial Asthma). The problem of Yarqan (*Jaundice*) has been taken recently and admission of cases has commenced from 10.9.1975.

The cases of Vaja al-Mafasil were classified in Group 'X' with Majoon Barg Sambhalu (Leaf Vitex Nagunda) and Group 'Y' with Majoon Post Sambhalu (Bark Vitex Negundu). Total 60 cases were allotted for study in the first series i.e. 30 in each group comprising 15 male and 15 females. 10 gms. of the prescribed medicine was given to the patients twice a day for 21 days in first series and 10 gms. three times a day for 14 days in the second series. The second series of Vaja al-Mafasil in both groups in respect of Female cases has been completed and in respect of Males is under completion.

The cases of Diq al-Nafas were divided in three groups i.e. 'A' with Majoon Maghz Gajga (Kernal Ceselpine bonducella) 'B' with Majoon Maghz Karanj (Kernal of Pongamia glabra) and 'C' with Majoon Zeeq (Research Formula). Total 90 cases were allotted for study in the first series i.e. 30 in each group comprising 15 males and 15 females cases. 10 gms. of the prescribed medicine was given to the patients twice a day for 21 days in first series and 10 gms. three times a day for 14 days in the second series. The second series of Diq al-Nafas in Male cases has been completed and in Female cases is under completion.

The cases of Yarqan have been divided in three groups i.e. 'A' with Majoon Tukhm Kasni, 'B' Majoon Gul e-Babool and 'C' with Majoon Sumbul ut-tib. 300 cases have been allotted for study in first series comprising 50 males and 55 female cases in each group. The study has been started.

The detail of cases studied during the period under report is as under :-

Diq al-Nafas (Male) II series :

	Group A	Group B	Group C
Complete relief	3	6	14
Partial relief	5	3	3
No. relief	1	1	Nil
DAMA	6	6	3
	15	16	20

Diq al-Nafas (Female) I Series :

	Gr. A	Gr. B	Gr. C	Gr. A	Gr. B	Gr. C
Complete relief	Nil	Nil	3	2	1	1
Partial relief	2	Nil	2	Nil	Nil	Nil
No. relief	Nil	Nil	2	Nil	Nil	1
DAMA	4	Nil	2	1	1	Nil
	6	Nil	9	3	2	2

Vaja al-Mafasil. II Series :

	Male		Female	
	Gr. X	Y	Gr. X	Y
Complete relief	7	3	3	4
Partial relief	1	2	2	1
No. relief	3	x	2	3
DAMA	3	7	6	4
	14	12	13	12

Yarqan-e-Asfar :

	Male			Female		
	Gr. A	Gr. B	Gr. C	Gr. A	Gr. B	Gr. C
Cured	5	Nil	3	2	1	Nil
Relieved	–	–	–	–	–	–
No. relief	Nil	Nil	Nil	Nil	Nil	Nil
Otherwise	5	Nil	1	3	1	1
	10	Nil	4	5	2	1

Monthly average of out-patient was as follows :

Problems	New cases (both male & female)	Old cases (both male & female)
a) Vaja al-Mufasil	200	350
b) Diq al-Nafas	150	250
c) Yarqan	60	40
	410	640

Results shown above were assessed according to the para meters already laid down keeping in view the Unani as well as modern symptomatology.

The pilot study of the efficacy of the drugs in Diq al-Nafas (Bronchial Asthma) namely (i) Mjoon Maghz e-Gajga (anti-eosinophillic drug) (ii) Majoon e-Maghz-e-Karanj (anti spasmodic) & (iii) Majoon-e-Zeeq (Research formula) on 90 patients i.e. 45 males and 45 females was completed in the period under report.

Similarly the study on the efficacy of the drug in Vaja al-Mafasil namely (i) Majoon Barg-e-Sambhalu (ii) Majoon Post e-Sambhalu has been completed or 60 patients (30 males and 30 females). The results are very encouraging varying from 66.7% to 86.7%.

7.3.0 DRUG STANDARDISATION RESEARCH UNIT DELHI

Some drugs were selected out of the priority list of Drugs and some other important were taken up for the pharmacognostical and chemical studies.

—Pharmacognostical studies of Post Bekh-e-Madar- (Calotrpis procera (Ait) R. Br. Root Bark) — Pharmacognostical & Chemical work has been completed.

—Pharmacognostical and Chemical investigation of the drug Ghungchi Sufaid (Abrus precatorious) has been done.

—Chemical study of the flowers of Calotrphis ginantea (Unani-Madar) has been done.

—Study of the Chemical components of Badaward (Centaurea phyllecephala Boiss) completed.

—Chemical analysis work on the commercial sample of the drug Nagar-motha (Cyperus-pangorei Rottb) was completed.

—Studies on the drug 'Nagdaun' snake bite antidote were also completed.

—Studies on the botanical indentification of the commercial sample of 'Zufa' have also been done.

Alongwith the above work, the following work was also continued.

i) The studies on 'Sambhalu',

ii) Pharmacognostical studies on 'Tukhm-e-Bartang'.

iii) Pharmacognostical studies of *Ustukhuddoos*.

Unani Documentation Studies : The literature on the following Unani drugs have been documented.

(i) Ustukhuddoos (ii) Tukhm-e-Bartang (iii) Post-e-Bekh-e-Madar (iv) Babchi (v) Gandhak Amla Sar. (vi) Gulnar (vii) Geru (viii) Ghungchi (ix) Barg e-Sambhalu (x) Post-e-Sambhalu (xi) Maghz e-Karanjawa (Gajga) (xii) Maghz e-Karanj (xiii) Abresham (xiv) Anabus-Salab (xv) Aftimoon (xvi) Khar-e-Khasak (Khurd).

7.4.0 COMPOSITE DRUG, RESEARCH SCHEME, ALIGARH

Clinical Screening Unit (Unani & Allopathy)

The Clinical trial of drug Ustukhuddoos (Lavendula stoechas, Linn) was tried in 59 cases of Iltihab Khaish um-Muzmin (Chronic sinusitis) during the period under report. The result of therapy showed that the drug gives encouraging results in this condition without any disabling side effects. There was no difference in the response of the drug in male or female patients. The longer duration of treatment gives more sustained relief. The duration of illness had inverse relationship with the Clinical response to the drug. There was a group of patients (13.55%), however who did not respond.

The above drug was given in tablet from (0.75 gm. each) made from micropulverised powder of the drug. 2 tablets were given twice or thrice a day. The duration of therapy varied from 17 days to 92 days (average 30 days) depending upon the response of the therapy. Assessment of result was made on (a) subjective basis, i.e. the statement of the patients, as to the feeling of well being and amelioration of symptoms previously present (b) objective basis i.e. no tender sinuses and x-ray clearing. The results were categorised as Cured, Improved, No change or Worse, according to the effect on the symptoms, signs and X-ray examination Criveria laid down as earlier.

Table : Showing results of therapy of *Ustukdhuddoos* in-cases of Iltihab Khaish um-Muzmin :

Results	No. of cases	Percentage
Cured	1	1.7
Improved	47	79.67
No. change	8	13.55
Worse	—	—
DAMA	3	5.08
Total	**59**	**100.00**

No side effects were noted except constipation in two patients only.

Artilal (*Ammi majus* Linn) was tried in 89 cases. The results of trial showed that the drug was effective in 70 cases. (78.65 %) of Bars 15, cases (16.86%) did not respond to the treatment. The 'No change' group of cases had longer vitiliginous area, vitiligo on the lips and longer duration of illness. The drug was administered in the form of tablets made from Micropulverised powder. 2 tablets (0.75 gms. each) were given twice daily to be taken after food. The powder of the drug was also used for local application after mixing it with vineger (1 part of powder in 2 parts of vineger) with advice to apply over the vitiliginous part and to expose to sun for 5 minutes, 1½ hours after having taken the tablets in the morning. The colour and size of the patches etc. were recorded from time to time and the results of the treatment were graded as :-

GOOD : Repigmentation of more than 50% of vitiliginous Area.

FAIR : Repigmentation of less than 50% of Vitiliginous area.

NO CHANGE : No repigmentation.

Table : Showing the results of treatment of Bars with Atrilal

Results	No. of patients	Percentage
Good	14	15.73
Fair	56	62.92
No Change	15	16.86
DAMA	4	4.49
Total	89	100.00

The side effects such as Vesiculation at the site of local application, Nausea and vomitting, Giddiness and itching were noted in 11 cases (12.4%) only.

These side effects were not disabling to the patients. The vesiculation at the site of application responded to the discontinuation of local therapy for short period and local medicated cream.

Diagnosis of the cases was made according to the standard methods in Unani as well as modern system of medicines.

Pharmacognosy Research Unit

The fruit of *Ammi majus* Linn. and the leaves of *Lavendula stoechas* Linn. which are respectively known as 'Atrilal' and Ustukhuddoos' in the Unani System of Medicine have been Pharmacognostically studied. The preliminary pharmacognostic investigation of the fruit of *Ammi majus* Linn. has already been completed. The cultivation of *Ammi majus* locally has been done with successful result. The detailed microscopic investigation on the fruit of *Ammi majus* Linn. is under investigation.

Another drug namely *Lavendula stoechas* Linn. was also taken up for study. The trichomes epidermal cells in surface view, stomatal studies, fluorescence analysis and extractive values are completed. The drug Chawal ki Bhaji supplied from Family Planning Research Unit (Unani), Hyderabad was identified provisionally as *Portulaca qudrifida*.

The important fact to high light the working of the Unit is the successful experimental cultivation of *Ammi majus* Linn. in a local garden of Aligarh. This will help solving the problem of shortage of this drug.

Chemical Research Unit

The Council had referred to this department a list of some 101 drugs for chemical investigation during the last year. During the preceeding year, literature survey including botanical identification was done. This year a number of active principals have been isolated but the pharmacological screening has still to be conducted.

This year the work was carried out on Afsanteen (Artemesia Absenthium) Tukhm-e-Bartang (Plantago lanceolata) and Gauj (Milletia auricucata). Noval compounds have been isolated from Gauj.

7.5.0 LITERARY RESEARCH UNIT
AJMAL KHAN TIBBIYA COLLEGE
ALIGARH MUSLIM UNIVERSITY
ALIGARH

1. Work on Amrad al-Qalb-wa al-Riyah (Diseases of hearand lungs) was continued.

Material on the subject has been collected from medical treatises composed by Rhaze's successors.

A. *Amrad-al-Qalb (Heart diseases) :* Work on preparation of chapter wise book of heart diseases was done and during the period under report, the following chapters have been completed.

i) Khafqan including Qadhf al-Qalb.

ii) Ghashi (with allied diseases such as Suqutal-Quwah Baghtatan, (collapse) and almaut al-fija.

iii) Zubha-al-Sadriyah

B. *Amrade-Riya (Puimonory disease):* Chapters on the following diseases have been written.

1. Rabw
2. Sual
3. Khar Khara
4. Dhat al-Riyah
5. Awram al-barida al-Riyah
6. Ijtima al-ma fi-al-Riyah
7. Duthurat al-Riyah
8. Nafth al-middah
9. Nafth al-Dam
10. Zof'-al-Riyah
11. Sil
12. Jumud al-Sadr.
13. Dhat al-Janb.

II. **Edition & Translation of Kitab Al-Taisir :** Edition and translation is done as proposed. The edition of Arabic text and its Urdu translation is being done simultaneously and side by side.

The following parts of the book have been edited and translated.

1. Dibachah
2. Hifz-al-Sehat
3. Ilal al-Ras .
4. Amrad al-Qalb
5. Amrad al-Kabid

Takhmil-ut-Tibb Institution, Lucknow

1. **Kitab al-Kulliyat (by Ibnal-Rushd).**

a) 120 pages of the transcribed text of the 5th chapter Kitab al-Adwiyah wa al-Aghdhiyah have been translated from Arbic into Urdu which covers 155 pages (foolscape size) of Urdu translation.

b) 18 pages of the transcribed text of the 6th chapter 'Kitab al-Hifz-al-Sehat' have been translated from Arabic to Urdu in about 20 foolscap size pages.

II. **Kitab al-Jame-li-Mufradat al-Adwiyah wa al-Aghdhiyah (by Ibn-al-Baitar) :** 62 pages from 52 to page 115 have been translated in Urdu. The translation work has been revised upto page 52. After revision and modification, the above translation has been written fairly in about 152 pages.

III. Survey for collecting necessary information concerning the work has been done. The report of Indian Institute of History of medicine, on (page No. 95) includes the research activities and work done in the Unani Section of the Institute.

7.6.0 FAMILY PLANNING CLINICAL RESEARCH UNIT (UNANI) HYDERABAD

The Unani oral contraceptive given during this period in research clinic were white Ghungchi & Chob-e-Toohar'. Altogether 1,590 females were approached to give them detailed information about the needs of planning their family and the methods of administration of the Unani contraceptives given in the clinic during this period.

The medicine was given to 231 cases in all, Chob-e-Toohar was given to those cases only who lived closer to the clinic and who could easily be contacted. Also it was given to younger and more fertile female in order to assess its efficacy within a shorter period. It was thus given to 98 cases. The remaining 133 cases were given white ghungchi.

Month wise number of cases contacted :

Months	No. of cases conta-cted	No. of cases given the drug	No. of cases discon-tinued	No. of active cases	Clinic atten-dance	House visited
1975						
April	120	20	7	13	117	15
May	100	20	3	17	74	—
June	120	16	1	15	112	40
July	150	30	5	25	179	56
Aug.	150	21	5	16	165	58
Sept.	120	18	4	14	165	47
Oct.	120	17	3	14	135	—
Nov.	150	24	3	21	175	60
Dec.	130	77	2	15	180	4

1976						
Jan.	130	20	1	19	174	30
Feb.	150	15	–	15	170	84
Mar.	150	13	–	13	180	46
Total	1590	291	34	197	1826	440

Very few side effects, such as Nausea, giddiness, excessive bleeding, shortened menstrual cycle, spotted, bleeding were noted in P.M.H. (White Ghungchi) and nausea diarrhoea, burning in micturation and burning in chest in Chob-e-Toohar.

The total number of cases were divided into lactating and non-lactating groups as follows :-

Lactating	158
Non-lactaing	73
	231

All active cases were divided into following age groups :-

Upto 20 yrs.	21-25 yrs.	26-30 yrs.	31-35 yrs.	Above 36 yrs.	Total
8	87	57	54	25	231

Distribution of cases included into the study from 1.4.1975 to 31.3.1976

Cycle completed		1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	Continuing
I.	52	17	—	4	3	1	3	1	6	2	2	—	—		13
II.	27	8	—	1		1	1	—	1			—	—		15
III.	30	8	1	1			1	—	—			1	—		18
IV.	26	10						1	1				1		13
V.	24	9													15
VI.	12	3													9
VII.	10	2													8
VIII.	10														10
IX.	15														15
X.	9														9
XI.	7														7
XII	7														7
XIII.	2														2
	231	57	1	6	3	2	5	2	8	2	2	1	1	Nil	141

1. Unplanned pregnancy; 2. Side effects; 3. Wrong address; 4. Left town; 5. House changed; 6. In-Laws objection; 7. Taking other contraceptive 8. Reluctant & careless; 9. Pregnant before coming to the clinic; 10. Went out of station and became pregnant; 11. Illness; 12. No faith; 13. Other reasons.

8.0 SIDDHA

CONTENTS

8.0 SIDDHA

8.1.0 CENTRAL RESEARCH INSTITUTE MADRAS

The Central Research Institute for Siddha functioning at Madras was established in the year 1971. In-patient department, Out-patient department, Pharmacy section, Bio-chemistry section and Pharmacological section are functioning at present in the Institute. The Institute has taken up the study on the following problems in order to assess the efficacy of the Siddha medicines and find out cheap remedies for the ailments.

I— **Manjal Kamalai (Infective Hepatities) :** The problems has been taken up for study the effect of *Sangu Barpam* and *Keezhanelli Kudineer* (Phylanthus nermi). A detailed proforma was prepared consisting of all the possible sings and symptoms is being adopted for selection of the cases 52 cases were taken up for trial, after conducting *Envagai Thervu* (i.e. Nadi, Na, Niram, Mozhee, Veezhee, Malam, Multiram, Veyarvai), laboratory investigations such as urine, stool blood and Bio-chemical studies like serum bilirubin, Icteric index and thymol turbidity and serum cholesterol estimations were done before treatment and at the end of first, second and third weeks of the treatment, with the drug to aid the diganosis and to assess the extent of cure.

Out of 42 cases, 15 cases who received Sangu Barpam and Keezhanelli Kudineer showed almost normal in respect of Serum Billirubin level Icteric index and thymol turbidity at the end of the 2nd week (i.e. 15 days) of the treatment, where as 5 cases, out of 10 cases who were administered Keezhanelli Kudineer have reported normal at the end of the third week (i.e. 21 days) of the treatment. The drugs cut short the duration, course and severity of the attack and the patient showed remarkable improvement. No toxic side effects were observed in any of the treated cases.

II— **Valigunmam (Peptic ulcer) :** 40 new cases were taken up for study during the reporting year.

Thambrachenduram prepared by four different processes were taken up for trial into following five different groups :

Group I	Karunthulasi
Group II	Manjal Karisalai
Group III	Mullangi
Group IV	Kadugu
Group V	Kadugu and Mullangi.

The diagnosis was establised by Barium meal X-ray, F.T.M. studies and investigation for Occult-blood in the stool and also the other clinical Parameters laid down according to Siddha.

Four cases were discharged due to unsuitability for further trials. The Kadugu and Mullangi process of Thambra Chenduram given in the ratio of 8:5 was observed to be significantly successful in the cases of moderate hyperacidity and Partial duodenal *obstruction* with acute epigastric Pain. The follow up study of the remaining cases is under progress.

III— **Putrunoi (Cancer) :** During the period under review, 14 In-patient and 20 Out-patient cases were reported. The putrunoi affected different parts of the body in the patient under observation such as Nahil (Breast), Kannam (Cheek), Yoni (Uterus) Thondai (Throat), Na (Tongue) and Asanavai (Rectum), Rasagandhi Mezhugu, Chandrasa Baspam, Lingarasa Baspam and Vanga Baspam were administered in suitable doses on the selected cases after conducting the routine laboratory investigations such as Blood picture including E.S.R. etc. Most of the cases taken up for trial have been chronic cases and have been treated previously with the treatment by the other systems of medicine. Some improvement is noted and further studies are to be continued for definite conclusions.

IV— **Grahni (Mal-absorbtion Syndrome) :** The study of the effect of Naga Barpam on 'grahni' is taken up by the Institute. A protocal was prepared and is being finalised. The trials will be conducted on the basis of the protocal.

V— **Miscellaneous trials :** Kuppaimani Kudineer (Acalypha indica) was tried on Erippu Erumal (Swasakasam) on out-patient level. 17 cases were reported, 5 of them showed completely relieved from the ailments without recurrance, the rest showed response to the treatment.

Yogini Chavu thabitham (Caterhal conjuctivites) a seasonal attack was taken up for trial to assess the effect of Padiga Panner, a eye drops, 18 cases out of 22 were completely cured in the duration of 3 to 6 days. The remaining cases were discontinued.

The choornam of Sirukurinjan leaves are being tried as an antidiabetic agent and the results are being observed.

31,552 cases were recorded at Out-patient department under the reporting year. Out of which 528 cases were selected for study.

VI— **Pharmacy :** The Pharmacy section has been established in the Institute to fulfil the medicinal requirements of the Institute. Further, it also extends its co-operation to meet the requirements of the other units (Siddha) of the Council. 54 preparations of different types such as Chenduram, Barpam, Chunnam Churanam, Thailam, etc. have been prepared during the reporting year.

VII— **Bio-chemical Section :** The routine bio-chemical investigations such as blood sugar, blood urea and other bio-chemical and pathological investigations related to the problems taken up for trial by the Institute. It is also engaged with the bio-chemical investigations such as fractional test meal analysis, investigations on blood for haemoclobin, total white blood corpuscles, E.S.P. Blood grouping, stool for presence of ova, cyst and occult blood and urine for albomin, sugar and deposits were examined in the cases of the allotted problems to the Institute.

Further, it also helps the pharmacological section functioning at the Institute to ensure its evaluations. In addition to this, it also extends its

co-operations to investigate the blood bio-chemical and pathological investigations related to the problems taken up for trial by the Units functioning at A. A. Hospital, Madras.

VIII– **Pharmacological Section :** The pharmacological section has been engaged with the following research projects during the period under review :

a) *Studies on antipyretic and hypothermic activities of Linga chenduram :* The test drug at 100 mg. 1 kg dose showed marked antipyretic activity in Brewer's yeast induced pyrexia in albinorats. This activity has been compared with that of acctyl salicylic acid and Paracetamol. The Preliminary analysis studies and acute toxicity trials are in progress. The drug did not possess any hypothermic activity when tested in rats.

b) *In vitro study of antifungal activity of various extracts of the leaves of C. alata :* Aqucous extracts has shown significant activity against the common dermatophytes responsible for ring warm infection in man. Comparative study was also made using Griscofulvin.

c) *Evaluation of the diuretic effect of Mimosa pudica and Vediuppu Chunnam :* The study was carried out in female mongrel dogs by the method of Traverse etal (1962), Hydrocholorothizide was used as a standard drug for comparison. The trials are in progress.

d) *Study of Hypoglycamic activity of Sirukurinjan :* Preliminary investigations, Sirumurinjan (Gymnema Sylvestre) as decoction orally administered in doses of 1 and 2 gms:/kg. B. wt. has showed marked hypoglycaemic activity in fasting mongrel dogs of both sex.

e) *Pharmacodynamics of Thambra Chendum :* Three different convesional experimental models inducing ulcers in animals was found to be effective and also the drug has shown to possess marked antacid activity as erineed in invitro and invivo experiments. It reduced apparantly the fastric recretion in rats at dose of 40 mg. 1 kg. further studies on its effect on Ibctrolytes and peptic activity in gastric juice has been planned.

f) *Preliminary acute toxicity studies on AM-I, AM-II and STG :* The experiment carried out on mice. The following dose levels of each compound was found to be toxic or lethal in mice. There are only approximate in the cases of AMI and STG, but with regard to AM-II aprecise LD 50 is being worked out by Miller and Taintor method :-

1.	AM-I	4000 mg/kg.	–	P.O.
		800 mg/kg.		I.P.
2.	AM-II	1250 mg/kg.	–	P.O.
		400 mg/kg.	–	I.P.
3.	STG	6000 mg/kg.	–	P.O.
		500 mg/kg.	–	I.P.
		500 mg/kg.	–	S.C.

g) *Experimental evaluation of antifertility of DG-I & RDG-I :* Antifertility activity of DG-I, RDG compounds Anti-implantation activity, anti-oestrogenic activity. Effect of male fertility, Precoital or Pre-ovulatory anti oestrogenic toxicity. Effect of oestrous cycle and mating behavious in rats, abortifacient activity of RDG-I were studied. The following observations were made :-

i) D.G.I. at the dose level tested did not show significant antiimplantations activity when administered on days 1–5 postcoitum.

ii) In a preliminary study DC-I showed 100% activity when administered on D–I postcoitum at 100 mg./kg. (P.O.)

iii) DG-I did not show antioestrogenic property in immediate rats.

iv) RDG-I at 100 mg./kg. dose level shows 100% anti-implantation activity in rats, when administered orally on days 1–5 Postcoitum.

v) RDG-I showed marked antioestrogenicity in imature female rats.

8.2.0 SURVEY OF MEDICINAL PLANTS UNITS, PALAYAMKOTTAI.

The Survey of Medicinal Plants Unit functioning at Government College of Indian Systems of Medicine, Palayamkottai conducted 19 local tours for collection of drugs and 377 kgs. of the different parts of the 53 plants were collected.

91 plants were also collected and added to the Herbarium making the total to 1,200 specimens. 11 plants were identified & mounted in the Herbarium sheets and thus the Unit has a total of 700 identified Herbarium sheets. About 160 herbarium sheets of different plants were supplied by the Unit to other units and Documentation Centre of Central Council for Research in Indian Medicine and Homoeopathy.

Herb garden consisting of 300 different species is maintained.

More than 150 specimens of plants and animal origins were collected and presumed in the museum.

About 69 folk-lore claims were collected during the reporting year.

The unit has also participated in the Special Survey Programme to Andaman and Nicobar Islands. 12 Botanical and Zoological samples brought to the Unit to strengthen the Museum.

8.3.0 DRUG STANDARDISATION RESEARCH UNIT AT CAPTAIN SRINIVASA MURTI RESEARCH INSTITUTE, MADRAS

Drug Standardisation Research Unit (Siddha) functioning at Captain Srinivasa Murti Research Institute, Madras is conducting single drug standardisation on the selected Siddha drugs. The following single drugs were completed during the period under review :-

1.	Nuna	*Morindatinctoria* Roxb.
2.	Nathai Churi (Seeds)	*Barreria hispida* Linn.
3.	Kodaga salai (?)	*Asystasia gangetica*
4.	Peymiratti	*Anisomeles malabarica* R. Br.

The Chemical analysis of the following prepared medicines received from Central Research Institute (Siddha) Madras was done :-

1. Thambra Chenduram (Batch A)
2. Thambra Chenduram (Batch B)
3. Gandhaga Darpam
4. Rasa Barpam
5. Thutha naga Barpam
6. Thambra Barpam

8.4.0 CLINICAL RESEARCH UNIT MADRAS

The Unit functioning at A.A. Government Hospital for Indian Medicine, Madras has taken up the problems, to assess the efficacy of *Amber Mezhguon Sandivatha soolai* (Rhumatoid arthritis) and 2. The role of *Rasagandhi Mezhugu* on *Kalanja Padai* (Psoriosis).

Both these diseases having the tendancy of chronicety are most common among the poor persons specially belong to the unhygenic areas. The treatment is proposed to be conducted for six weeks. The diagnosis was established by routine bio-chemical investigations such as blood T.C., D.C. and E.S.R. urine-albomin, Sugar and deposits and stools - ova and cysts etc. were also carried out alongwith the clinical parmeters laid down according to Siddha, before and after the treatment.

Amber Mezhugu was administered in Sandhivatha soolai (Rhumatoid arthritis) in 53 cases. 18 cases showed complete relief. 13 cases showed partial relief and remaining cases did not respond to the treatment. In the course of the treatment external aplications like myneathylam. 112 oil, Musambrappattru were also resorted to.

17 cases of Kalanja Padai (Pscriasis) had received Rasagandhimezhugu during the period under review. 8 cases showed complete relief and the remaining cases showed response to the treatment. Further studies in this direction are in progress.

8.5.0 LITERARY RESEARCH UNIT PALAYAMKOTTAI

208 Cudjjan manuscripts and 8 printed rare Siddha books have been procured in 94 survey tours conducted by Literary Research Unit (s) Palayamkottai. Out of this 23 Cudjjan manuscripts and 4 printed rare Siddha books were collected during the reporting year.

The work on *Bala sasthiram, Jeeva Bakshamirtham Pothigasalapathi Kalaikiyam-1,200, Maruthuva Nigandu, Sangamuni Vaithiy* as-100 has been taken up and coping work has been completed. The pros order is also made in some cases and the remaining are under progress. In Boganathar Kayakarpam-360 is taken for coping and 278 Stanzus were completed.

The Unit has prepared Descriptive Catalogue consisting of 208 collected Cudjjan manuscripts and made up to date.

The unit is also engaged in comparing the available manuscripts at the unit, with other centres so as to ascertain the value of the collection made by the unit as per the recommendation of the Scientific Advisory Board (Siddha).

The collected Cudjjan manuscripts were classified under 16 heads like *Fundamental principle* and *nadi sasthiram, Saranool, Sarakku vaippu Kayakarpam Balavadakam, Nigandu, Varmam* etc.

The editing work of Bogar Nigandu-1,200 was completed.

8.6.0 SIDDHA SECTION

S. No.	Name of the Project.	Programme
1	Central Research Institute for Siddha Madras.	1. To assess the efficacy of Tambra Chenduram prepared by different process on Valigunman (Peptic Ulcer). 2. To study the effect of Sangu Baspam and Keezhanelli Kundi near (*Phylanthus neruri*) on Manjal Kamalai. (Infection Hepatities). 3. The role of Chanda rasa Baspam, Vanga, Baspam, Rasa gandhi Mezhugu in the cases of Putrunoi (Cancer). 4. To study the effect of Naga Baspam in *grahani* (Mal-absorbtion Syndrome) 5. To study the effect of Kuppaimeni Kudinur Padigapanneer and Chiru Kuainjan on the following ailments: 1. Swasakasam. 2. Yogini Chavvu thabitham. 3. Mathu Megam. 6. Chemical and Pharmacological investigations on: 1. Thambra Chenduram. 2. Vediyuppu Chunnam 3. Thottal wadi (*Mimosa Pudica*).

		7. To prove the claim made on Seemai agathi (Cassia alata) Linn as a Ring Worm cure and antifungal activity by conducting in Vitro and in Vivo Studies.
		8. Studies on Anti-pyretic and analgesic activities of Linga chenduram a Siddha drug and Hypoglycaemic activity of chiru kurinjan (*Cymnema sylvestra*)
		9. Antifertility activity of EMB, DG-I and RBG.
		10. Toxicity studies on AM-I, AM-II and STG - a potencial *anticancer* agents.
		11. Screening of Siddha drugs in imduced Hepato-toxicity in experimental animals.
2.	Survey of Medicinal Plants Unit, Palayamkottai.	1. Medico Botanical Survey, Drug Collection, Cultivation and supply.
		2. To collect folklore claims during the Survey tours.
3.	Drug Standardisation Research Unit at CSMRI, Madras.	1. Evolving working standards for the following single drugs.
		1. Paimiratti.
		2. Thuthi (all varieties).
		3. Ponnan gani
		4 Musumusukkai.
		5. Mutchangam.
		6. Vaikal Chandaskai.

		7. Pomi chakkari Kizhungu. 8. Nilappan Kizhangu 9. Siru Saruppadai. 10. Aathi 11. Nuna. 12. Kanjan Korai. 13. Vethupadakki. 14. Seerusenkazhuneer. 15. Kalthamari. 16. Amara Sanjeevinielai. 17. Sirumani Sanjeevinielai.
		2. Chemical analysis of the prepared medicines (Siddha) supplied by CRIS and Headquarters of Council from time to time.
4.	Clinical Research Unit (Siddha), Madras.	1. To assess the effect of the drug *Amber Mezhugu on* Sandhivatha-soolai. (Rheumatoid arthritis). 2. The role of Rasagandhi Mezhugu on Kalanja Padai (Psoriasis).
5.	Literary Research Unit (Siddha), Palayamkottai.	1. To conduct survey tours for collection of Cudjjan manuscripts. 2. To edit and publish the rare works of Siddha System of medicine. 3. To collect folklore claims during survey tour.

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9.0 HOMOEOPATHY

CONTENTS

HOMOEOPATHY

The research programmes in Homoeopathy under the Council are carried out through its three major institutions and six research units established in several Homoeopathic Medical Institutions, University Departments etc. in the country.

In brief, outline of the research programmes undertaken in Homoeopathy during the year is presented in the successive paragraphs.

MAJOR INSTITUTIONS

9.1.0 Central Research Institute, Calcutta.

The activities of the Institute can be broadly classified as Clinical Research, Drug Standardisation and Literary pursuits

A— CLINICAL RESEARCH :

The Institute is engaged in the study of clinico-therapeutic profile of some of the common diseases.

AMOEBIASIS

Earlier studies with three indigenous drugs, namely *Cynodon dactylon*, *Holarrhena antidysenterica* and *Glycosmis pentaphylla* on symptom-complex related to gastro-intestinal manifestations in amoebiasis have shown that they are capable of effectively controlling this disease. The present results clearly indicate that *Cynodon dactylon* can be very useful drug for this condition, though for a short spell. The project is in concluding stage and it will soon be possible to draw final conclusion.

During the reporting year, 120 cases were screened and 97 cases were selected for the study on the basis of known symptom-complex, 47 patients were prescribed *Cynodon dactylon*, 33 cases were treated with the help of *Holarrhena antidysenterica* and the remaining 17 patients were kept on *Glycosmis pentaphylla.*

TABLE I

Showing the break-up of cases under trial, remedywise and sex and age-groupwise :

	C. dactylon	H. antidysenterica	G. pantaphylla
Male	24	15	9
Female	23	18	8
Age-Groups (in years)	(7-59)	(7-67)	(10-60)

TABLE II

Showing the types of cases under trial, disease-wise and remedy-wise :

	Colitis	Cylitis with Hepatitis
C. dactylon	15	37
H. antidysenterica	6	27
G. pentaphylla	8	9

TABLE III

Showing the improvement index :

	Total	Improv.	Stat.	Worse	App. improvement in %
C. dactylon	47	38	8	1	88.8
H. antidysenterica	33	22	11	–	66.7
G. pentaphylla	17	13	4	–	76.5

PAROXYSMAL DYSPONEA

Three drugs which are emperically used by the Profession on the basis of fragmentary data available, were put to clinical trial in order to confirm scientifically their utility in the treatment of paroxysmal dysponea. These drugs are *Cassia sophora. Grindelia robusta* and *Tylophora indica.*

800 cases of respiratory disorders were screened and 47 cases of paroxysmal dysponea were selected for the study. 33 patients were prescribed *Cassia sophora*, 7 cases were treated with *Grindelia robusta*, another 5 were prescribed *Tylophora indica* and remaining 3 patients who did not correspond to any of the above groups, were kept on placebo.

Out of 33 cases of *Cassia sophora*, 26 cases improved, 5 cases remained stationery and 2 cases did not report.

Out of 7 cases of *Grindelia robusta*, 6 cases were improved, 1 case became worse.

Out of 5 cases of *Tylophora indica*, 4 cases were improved and 1 cases remained stationery.

From the study it was noticed that the patients responded considerably to these three drugs. It is observed that the *Cassia sophora* was useful in Psoric and Pseudopsoric patients mostly males and of early age-groups; accompanied by acute respiratory troubles associated with or without skin lesions but suffering from sensation of heat all over; demanding warm water; aggravated in cold weather and during day time.

Tylophora indica was found useful in mixed miasmatics, particularly with Sycosis, who were accompanied by gastro-intestinal complaints, alternating with skin troubles; demanding cold water; aggravated in warm seasons and at various timings of day and night.

Grindelia robusta was found useful in mixed miasms particularly with Syphilis; of advanced age-group, mostly in males who had accompanied cardiac and urinary complications; sensation of heat and dryness, with H/o skin troubles, aggravated in cold season and in midst of sleep.

The above studies will have to be extended on large number of cases with sufficient follow-up study to draw final conclusion.

HYPERTENSION

The action of two preparations of *Fagopyrum aesculantum* available in the market were tried, to find their efficiency in the cases of essential hypertension and also to bring out the symptomatology. Only such patients were selected where there was no gross renal or cardiac pathology present.

During the current year 11 more cases were added to the trial. It was noted in this group that while this drug removed the subjective spmptoms, manometric level remained unchanged. The trial, however is inconclusive so far, for want of larger cross-sectional study. The work is in progress.

Additional clinical projects launched during the year 1975-76 are as follows :-

FILARIASIS

Effect of biochemic compound on the symptom-complex of Filariasis is being studied since last year. Calcutta is not an endemic region and hence the inflow of cases is less.

Five cases, which were screened showed the presence of microfilariae have been kept under observation. These cases have favourably responded to the compound. The trial is still under progress to collect a large sample for more concrete results.

VIRAL CONJUNCTIVITIES

Cases of viral conjunctivitis were collected from the O.P.D. during the epidemic in the month of July, 1975 to study 'genus epidemicus' and to observe the effect of Homoeopathic drugs on course of the disease.

In all 38 cases were selected and kept under observation. Of 38 cases, 20 were kept on *Argentum nitricum*, 10 cases on *Rhus toxicodendron*, 5 cases on *Euphrasia* and 3 cases of *Belladonna*.

It was observed that the symptomatology of this epidemic by and large corresponded to drug *Argentum nitricum*, which turned out almost a genus epidemicus. However, if more cases could have kept under observation more specific answer could have been possible.

HELMINTHIASIS

Clinical trials of two lesser known drugs, namely *Filix mas* and *Granatum* on Helminthiasis, are being investigated since last year.

Out of 140 cases, 56 cases were considered for trial but only 31 cases continued. During the course of trial varieties of symptoms have been noticed. These will be useful for portraiting the drug-picture of these two remedies.

The improvement is markedly seen in cases which were prescribed 3 X and 6 X potencies. The work is in progress.

MALARIA

(Investigation of therapeutic potentiality of Homoeopathic drugs in the treatment of Malarial fever)

The disease which was completely eradicated earlier has become the problem of the country again. During the year, few cases of malarial fever were detected in the Out-patient department of the Institute.

In all 16 cases were selected and brought under the clinical observations. Out of these 12 were improved

B— STANDARDISATION OF DRUGS :

Standardisation of the drug material used in the Clinical trials is also simultaneously undertaken in the Institute. The raw material is

provided by the Survey of Medicinal Plants Units of the Council and the finished products are prepared in the Institute laboratory. The work was carried out by employing physical, chemical and biological parameters.

Standardisation in respect of *Cynodon dactylon, Holarrhena antidysenterica* and *Glycosmis pentaphylla* have been completed. Two papers on standardisrtion work of *Holarrhena antidysenterica* and *Glycosmis pentapyhylla* have been accepted for publication in the Journal of Research in Indian Medicine.

Work on *Cynodon dactylon* is being compiled for publication.

The work on *Tylophora indica* is in progress. The other drugs which are being used for clinical trials will be taken for formulating standards.

Various departments like Bio-chemistry, Pharmacology, Pathology, Pharmacognosy, Radiology and Department of Photography have amply contributed in accomplishing various programmes of the Institue.

The Out-patient department had attended to 27,518 patients during the year. A full-fledged Ophthalmic unit has been added and is functioning satisfactorily from this year.

Indoor hospital has functioned satisfactorily. Number of admission in the hospital was restricted to 117 patients during the current year as only such cases which belonged to research subjects were hospitalised.

C— LITERARY RESEARCH

Observation on Clarke's Dictionary of Practical Materia Medica with reference to Diabetes was prepared.

9.2.0 REGIONAL RESEARCH INSTITUTE

9.2.1 Regional Research Institute, Kottayam

The Institute has continued its research activities in the fields of behavioural disorders, bronchial asthma, diabetes mellitus and infective hepatitis.

TABLE I

Showing number of Patients under trial disease-wise and sex-wise :

Disease	Patients		Total
	Male	Female	
Behavioural disorders	177	103	280
Bronchial asthma	337	296	633
Diabetes mellitus	37	12	49
Infective hepatitis	11	15	26
Total	562	426	988

TABLE II

Showing improvement-index :

	Total	Sex		Results				
		Male	Female	Reco-vered	Improved	Mild imp.	No. imp.	Drop outs
1. Behavioural disorders	280	177	203	91*	58**	93***	30	8
2. Bronchial asthma	633	337	296	148	192	195	10	88
3. Diabetes mellitus	49	37	12	2	10	25	5	7
4. Infective hepatitis	26	11	15	21	4	—	—	1

BEHAVIOURAL DISORDERS

280 cases of various types of behavioural disorders were screened and taken up for the study. Out of 280 cases, 91 recovered, 58 improved, 93 showed mild improvement, 30 no improvement and 8 cases did not report

From the above study it is quite evident that the Homoepathic drugs are able to control the severity of illness, prevent further mental regression and improve behaviour sufficiently to allow speedy rehabilitation and in their becoming functional members of the Society.

Psora and Sycosis are the main miasmatic backgrounds for the incidents of behavioural disorders in this series and the syphilitic miasum comes last in order of incidence.

* 100% free from signs and symptoms.

** 75% and above but less than 100% disappearance of signs and symptoms.

*** 50% and above but less than 75% disappearance of signs and symptoms.

The remedies which are found useful in acute phase in aggressive personalities are Hyoscymus, Tarentula hispania, Kali brom, Belladonna, Strammonium, Veratrum album and Crocus sativa etc. In chronic phases drugs like Sulphur, Pulsatilla, Phorphorus, Ignatia and Aurum metallicum are found useful to enable the patient to become more active, co-operative and sociable

BRONCHIAL ASTHMA

A study on 633 cases of Bronchial asthma was made during this year.

Out of 633 cases, 148 recovered, 192 improved, 195 showed mild improvement. 10 no improvement and 88 cases did not report.

During the course of investigation the following facts were observed:

1) In acute phases remedies like Arsenicum album, Ipecac, Carbo-vegitabilis and Nux vomica to help to control the attacks either individually or with occasional help of drugs like Phosphorus, Kali carbonicum, Sulphur and Tuberculinum.

2) These medicines not only mitigate the symptoms but help to bring back the deviant blood chemistry and other alterations like high oeosinophilic percentage and E.S.R. to normalcy.

DIABETES MELLITUS

49 cases of Diabetes mellitus were investigated in the Institute during this year.

Out of 49 cases, 2 completely recovered with normal blood sugar level, 10 cases improved and 25 cases showed appreciable fall in glucose level. The medicines responsible were Arsenicum album, Sulphur and Phosphorus.

An indigenous drug Curcuma longa (Haldi) proved in this Institute was put to clinical trial on limited number of cases (10) of Hyperglycaemia. In all cases there was appreciable reductions in glucose level and total disappearance of glycosuria.

The drug was prescribed on the available drug picture and the symptoms were as under :-

1) Excessive appetite and thirst in early morning
2) Thirst for cold drinks which ameliorates burning sensation in the stomach
3) Burningcsensation all over the body.
   Agg. evening and night
   Amel. Cold application
4) Itching all over the body without eruptions
   Agg. after bath, at night
   Amel. rubbing
5) Pricking sensation on soles, in the legs and finger tips.
   Agg. in the evening
   Amel. rubbing
6) Numbness of the lower extremities

Above results confirmed some of the symptoms brought out earlier during short single-blind proving of Curcuma Longa Linn., conducted at the Institute.

INFECTIVE HEPATITIS

A Sudy of 26 cases of infective hepatitis was made during this year.

Out of 26 cases, 21 recovered, 4 improved and 1 case did not report.

Chelidemium majus has been found very useful medicine in infective hepatitis.

The above studies will have to be extended on large number of cases to arrive at final eonclusion.

9.2.2 Regional Research Institute, New Delhi

Activities and Achievements

A— CLINICAL STUDIES :

Work of the Institute revolves arround some of the common clinical entities. The idea is to find out effective, safe and cheap Homoeopathic remedies.

TONSILLITIES

60 cases were added in the trial. Out of which 5 showed total response (100% relief in symptoms and signs), 19 marked response (75% relief in symptoms and signs), 9 mild response (25% relief in signs and symptoms), 6 no response and 21 cases dropped out of trial.

The drugs used were Arsenicum album, Balladonna, Bryonia alba, Calcarea carbonicum, Causticum, Cina, Kali muriaticum, Kali carbonicum Mercurius solubilis, Natrum muriaticum, Pulsatilla, Phosphorus, Rhus toxicodendron, Silicea, Sulphur and Thuja.

ALIERGIC RHINITIS

32 cases were added in the trial. Out of which 17 showed total response, 7 marked response, 4 mild response, 2 no response and 2 cases dropped out of trial.

The study was made with the following drugs : Arsenicum album, Nuxvomica, Sangunaria canadensis, Phosphorus, Pulsatilla, Sulphur, Sabadilla, Sangunaria nitricum, Tuberculinum and Allium repa.

SINUSITIS

30 new cases were studied during the year. Out of which 11 showed total response, 6 marked response, 1 mild response, 1 no response a d 11 cases dropped out of trial.

The study was made with the following drugs: Natrum muriaticum, Pulsatilla, Nuxvomica, Kalirbich omicum, Sulphur, Sangunaria Canadensis, Bryonia alba, Calcarea carbonium and Euphrasia.

BRONCHIAL ASTHMA

43 cases were added in the trial out of which 11 showed total response, 8 marked response, 10 mild response, 1 no response and 12 cases were dropped out.

The drugs used were: Arsenicum album, Arafia Racemosa, Ipecacunaha, Kali carbonicum, Natrum Sulphuricum, Nux vomica, Sulphur and Tylophora indica.

ALLERGIC DERMATITIS

28 New cases were added to the trial, out of which 5 showed total response, 7 marked response, 8 mild response, 4 no response and 4 dropped out.

The study was made with the following drugs : Apis melifica, Antimonium, crudun Arsenicum album, Graphitis, Heparsulphur, Natrum muriaticum, Rhustoxicodendron Sepia and Sulphur,

ERUPTIVE FEVER

3 cases of Chicken pox attended the Institute and were prescribed homoeopathic drugs. All the 3 showed total response in curtailing the duration of illness. Duration of treatment was from 2 to 7 days. The Drugs used were Antimonium tartaricum, Pulsatilla and Sulphur.

INFECTIVE HEPATITIS

5 new cases were studied during the year. Of which 2 showed total response, 2 marked response and 1 case dropped out. The study was made with Phosphorus and Chelidonium. There is fair indication that these drugs will bring about speedy relief in acute attacks and in paroxysmal diseases prolongation of interparoxismal interval. These drugs were found not only controlling the acute complaints but also helped warding off complications and sequalae.

The study has to be continued for a longer period on a large number of patients so that statistically viable data to assess the response may be available.

B— DRUG STANDARDISATION :

The studies to determine physico-chemical profile of raw material and finished products frequently used in Homoeopathy were carried out during the current year. These studies were conducted in accordance with the established parameters and the preliminary standards were evolved for the following 5 drugs:

1. Boerhaavia diffusa
2. Cannabis indica
3. Cynodon dactylon
4. Berberis Vulgaris
5. Calotropis gigantia

C— LITERARY RESEARCH :

The review and revision of the Kent's Repertory is continued during this year. The chapters on 'Head and Ear' are taken up. The work involves cross reference from the source books of Materia Medica like Hering's Guiding symptoms, Allen's Encyclopaedia and Clarke's Dictionary of Materia Medica etc.

OTHER UNITS

9.3.0 CLINICAL RESEARCH UNITS

9.3.1 Clinical Research Unit, Gudivada

Clinical Research on 2 diseases, namely Rheumatic fever and Bronchial Asthma is continued in this year.

RHEUMATIC FEVERS

During the reporting period 45 cases of rheumatic fever were added in the series, of which 21 being the new cases and remaining 24 cases were old cases taken up for follow-up study. Out of 45 cases, 15 cases were investigated at the I.P.D. level and remaining 30 cases were investigated in the O.P.D.

This series includes 5 acute cases and 40 chronic cases. All the 5 acute cases have shown response to the medication and complete subjective and clinical improvement have been noticed. Subjective improvement being ahead of the clinical improvement.

The drugs found useful in acute cases are Bryonia alba, Rhustoxicodendron, Lachesis and Arsenicum album and the time taken to control the acute conditions is on an average 48 hours.

Along with the treatment local application of the heat and cold depending upon the modalities of the cases, was found to be helpful and diet restriction also plays an important role for the speedy control of the attack. Milk, bread, fruit, vegetables, etc. where bulk of the food is less constitute the diet. Out of 5 acute cases, 2 cases did not show any recurrence over a period of time, while the remaining 3 cases showed mild recurrences.

Out of 40 chronic cases, in 90% cases complete subjective and clinical improvement have been noticed. Thuja, Sulphur in 30,200 and 1M potencies were used.

Details of the commonly indicated drugs are as follows, in acute as well as chronic cases:

1) Commonly indicated drugs for the acute exacerbations: Bryonia alba, Rhus toxicodendron, Lachesis. Arsericum album, Senega, Ignatia, Pulsatilla, Lac caninum, Spigelia, Arnica, Veratrum album, Kalmia, Natrum muriaticum, Calcarea carbonicum, Kali carbonicum and Cocus cacti.

2) Antimiasmatic drugs : Lycopodium, Thuja, Sulphur, Calcaria carbonicum.

3) Nosodes : Medorrhinum, Tuberculinum.

4) Drug under which E.S.R. is observed to be decreased : Kali Carbonicum, Lycopodium, Pulsatilla, Lachesis, Medorrhinum, Rhus toxicodendrone, Sulphur, Bryonia and Thuja.

5) Drugs under which E.C.G. changes were noted : Lycopodium, Senega.

6) Drug under which pathological conditions like inflammation etc. seemed to have returned to normal : Bryonia, Lycopodium, Coccus cacti.
Potencies commonly used :
30,200 and IM (and mother tinctures of certain drugs)

From the present series of the study it is noted that the homoeopathic remedies are capable of lessening the acute attacks, frequency, severity and duration of the recurrence and preventing the involvement of the heart over a period of time.

Further it is noticed that alongwith the general improvement of the patient, associated complaints like menstrual disfunctions, disturbances in vision and hearing, skin conditions like dermatomycosis and fungus infection also got relieved. Alongwith the subjective and clinical improvement, in many cases, considerable fall in the E.S.R. and improvement in the Haemoglobin percentage was recorded. The changed E.C.G. and

blood picture show a tendency to return to normalcy. There is also reduction in the size of the enlarged tonsils in cases where they were present at the time of commence ment of the treatment.

It is proposed to study the cases in the present series over a period of time under further treatment and with necessary follow-up and investigations to establish the claim that appropriate homoeopathic treatment of rheumatic fever not only relieves the acute symptoms but also checks the tendency for future recurrences and eventually eradicates the underlying rheumatic diathesis in its entirely and ultimately permanent cure.

BRONCHIAL ASTHMA

36 cases of bronchial asthma were investigated and added in the study. Out of 36 cases, 20 being the new cases and 16 were the old cases. 1 case was of an acute nature and 35 cases were chronic cases. 16 cases required hospitalization while 20 cases were studied in the O.P.D.

Duration of the treatment in individual cases varied from few months to an year in chronic cases. A complete subjective and clinical improvement has been observed in all the cases with regard to the Paroxysm and general condition with improvement in Hb percentage.

Out of 24 cases which showed high eosinophilic percentage before treatment in 13 cases the eosinophilic percentage has been returned to normal or near normal while 9 cases showed further rise in eosinophilic percentage even through subjective and clinical improvement was noticed.

The drugs found useful are as follows :-

1) Commonly indicated drugs for the acute exacerbations : Ipecac, Arsenicum album, Pulsatilla, Lachesis, Bryonia, Coccus Cacti, Carbovegitabilis, Sambucus, Natrum Sulphuricum and Spongia

2) Anti-miasmatic remedies : Thuja, Sulphur and Calcaria carbonicum

3) Nosodes : Moedorrhinum, Tuberculinum and Psorinum

4) Drugs under which E.S.R. and Eosinophil observed to be decreased : Lachesis, Pulsatilla, Tuberculinum, Medorrhium, Lycopodium, Ipecac, Kali carbonicum, Carbovegitabilis.

The aim of Homoeopathic treatment is to relieve the patient of the acute exacerbations during an episode and then to give a constitutional treatment to eradicate the underlying diathesis under appropriate diet and regime suitable to the needs of the individual patient. Homoeopathic constitutional treatment aims at rendering the patient insusceptible to uneliminable preodisposing and exciting causes and eventually ensure a permanent cure.

It is proposed to study these cases for a period of time to rule out the possibility of further recurrences and eventually to establish the fact that homoeopathic treatment eradicates the underlying diathesis and restore the patients to the previous state of Health permanently.

9.3.2 Experimental Research Enquiry, Varanasi

The Unit is engaged in screening through animal experiments, the antifertility potentialities of two homoeopathic drugs in 30 and 200 potencies.

The drug Pulsatilla in 30 and 200 potencies was studied during the current year. The study, using modern techniques, revealed that the drug is anti cesotrogenic/progesterogenic and its action is mediated through pituitary. Further work to see the effect of Pulsatilla 30 and 200 potencies on mating, implantation interruption and number of litters delivered after pregnancy in comparison to control, is in progress.

The work done in the past on Caulophyllum 200 and 10 M has yielded good results and proved that the drug in higher dilution has estrogenic properties, it inhibits maturation of ova and is effective implantation interrupter. The experiments have suggested that the drug action is through hypothalamic-hypophysial-axis and not directly on the target organs like ovaries, uteri. Work to study the effect of Caulophyllum on the ovaries, uteri and the thyroids of an immature female albino rats is in progress.

9.4.0 DRUG STANDARDISATION RESEARCH UNITS

9.4.1 Drug Standardisation Research Units, Patna

The Unit is engaged in identification, standardisation of crude and finished drugs of Homoeopathic importance. The work of laying down best methods for manufacture of homoeopathic mother tincture and study of shelf-value of these drugs are also parts of its activities.

The work on the following single drug has been completed and their preliminary standards have been evolved during the current year.

1) Capsicum annum

2) Artemesia maritima

3) Psoreleia corylifolia

4) Rheum emodi

5) Calendula officinalis

The investigations were conducted on the samples of drugs supplied from the various Survey of Medicinal Plants Units of the Council.

9.5.0 DRUG PROVING RESEARCH UNITS

AT

9.5.1 K.N.H. Homoeopathic Medical College, Bhagalpur

9.5.2 D.N.De. Homoeopathic Medical College and Hospital, Calcutta.

9.5.3 National Homoeopathic Medical College, Lucknow

9.5.4 Midnapore Homoeopathic Medical College & Hospital, Midnapore.

These units are engaged in the proving of the coded drugs which are being sent from the Headquarters from time to time. The proving is conducted by the double-blind technique.

Drug Proving Research Units at Bhagalpur, Lucknow and Midnapore have concluded the proving on 2 coded drugs, i.e. Cassia sophora at Bhagalpur and Midnapore and Cynodon dactylon at Lucknow. The proving reports of the same are under final compilation.

The proving on the third coded drug is in progress at Drug Proving Research Unit, Calcutta.

Projects and Programme

S. No.	Name of the Research organisation	Programme
1.0	Central Research Institute	
1.1	Calcutta	i) Continuation of Clinical study of indigenous drugs. *Cynodon dactylon Glycosmis pentaphylla, Holarrhena antidysenterica* in the Pathology of amoebiasis.

ii) Continuation of clinical trials of a lesser known drug namely *Fagopyrum esculentum* to establish its therapeutic value in hypotension.

iii) Continuation of clinical trials of lesser known drugs, to study their drug pictures and to study their effectiveness in paroxysmal dysponea.

iv) Continuation of standardisation of indigenous drugs-*Cynodon dactylon*, *Glycosmis pentaphylla*, *Holarrhena antidysenterica* and to check the standards of these drugs drawn by other standardisation units.

2.0 Regional Research Institutes.

2.1 Kottayam

i) Continuation of scheme of research in Mental disorders (Schizophrenia and other behavioural disorders).

ii) Continuation of clinical study to determine the efficacy of Homoeopathic drugs on Bronchial asthma, Diabetes and Infective hepatitis.

2.2 New Delhi

i) Continuation of clinical study to determine relative efficacy and period of treatment involved as compared with the existing known treatments in cases on Tonsillitis, Sinusitis, Allergic rhinitis, Bronchial asthma, Allergic dermatitis, Eruptive fevers and Infective hepatitis

ii) Continuation of the study of review and revision of Kent's Respartary.

		iii) Preliminary standards of the Homoeopathic mother tincture. Boerrhavia diffusa, Cassia sophora, Curcuma longa, Digitalis purpura, Hypericum perforatum, Secale corunatum, Ravowolfia serpentina, Cynodon dactylon, Abroma augusta folia, Berberis vulgaris Cannabis indica.
3.0	Drug Standardisation Research Unit.	
3.1	Patna	Preliminary standards of the Homoeopathic mother tinctures Anacardium Occidentale, Capsicum annum Cocculus indicus, Cretagus oxycantha, Plantago majus and Psoralea carylifolia and restudy of the mother tinctures of Artemisia maritima, Calendula officinale, Rheum emodi and Centella asiatica
4.0	Clinical Research	
4.1	Gudiwada	Continuation of clinical studies on Rheumatic diseases and Bronchial asthma.
4.2	Varanasi	i) Continuation of Clinico-Pharmacological screening of *Caulophylum thalictroides* as an implantation interrupter. ii) Continuation of the screening of *Pulsatilla* nigra on the above lines.
5 0	Drug Proving Research Units.	

5.1	Drug Proving Research Unit, Bhagalpur.	Proving of coded drug.
5.2	Drug Proving Research Unit, Calcutta.	Concluded the proving of Abroma augusta and started the proving of next coded drug which is in progress.
5.3	Drug Proving Research Unit, Lucknow.	Concluded the proving of Cynodon dactylon.
5.4	Drug Proving Research Unit, Midnapore.	Concluded the proving of Cassia sophora.

10.0 FAMILY PLANNING

CONTENTS

10.0 FAMILY PLANNING

Since long our country has been struggling with the problem of rising population. This problem has become obstacle for which the nation could not be able to move forward to its desired ideals in all aspects. It has been proved to be one of the reasons of poverty. To remove the poverty we have decided to include the minimum needs of programme in our planning. One of its main items is intergrated medical health, Family Planning and nutrition, far reaching steps have been initiated to reorient the thrust of medical education so as to strengthen the community, medicine and rural health aspects and to restructure the health care towards rural areas where the majority of our people reside and where child mortality and morbidity are the highest. Similarly, ignorance illiteracy and superstition have got to be faught and eliminated. It is obvious that simply to wait for educational and economic development to bring about a drop in fertility is not a practical solution. The very increase in population makes economic development slow and more difficult of achievement. The time factor is so hard and the population growth so formidable, that we have to find out the way to get out of the vicious circle through a direct approach upon this problem as a national commitment.

In these circumstances, the Government has reiterated the importance of stepping up family planning efforts. The assessment done by the Government reveals the clear picture of our country that at what rate the population is being increased in past then we would understand the necessity of implementing the Family Planning programme. It illustrates that with 2.4% of the world's land area, India has about 15% of the world's people. It is estimated that our population as on 1st January, 1976 has crossed the 600 million mark and is now rising at the rate of well over one million per month. Since independance 253 millions have been added, equivalent to the entire population of USSR. The increase every year is now equal to the entire population of Australia. If the present rate of increase continues unchecked over population at the end of century may reach the staggering figure of one billion. If the future of the nation is to be secured and the goal of removing poverty to be attained, the population problem will have to be treated as a top national priority and com-

mitment. Considerable work has been done in our country in the field of Family Planning but only some of problem has so far been touched.

In view of the above the Central Council for Research in Indian Medicine and Homoeopathy has also decided to share the burden of the Government in implementing the Family Planning programme to success and to attain the target of Family Planning by controlling birth rate. This is to be clarified that description of various recipes/drugs are available in our samhitas/treatises, some of them are being tried under Family Planning research programme. It was felt desirable that steps should be taken to promote family planning among the masses specially in rural areas and to suggest safe, cheap and effective acceptable recipes, to the masses which can be used as an oral contraceptive. The Expert Committee has selected a few recipes on priority basis for trial at clinical levels, as such few units were established for conducting clinical trials of these selected recipes with regard to the contraceptive potentiality.

The clinical trial among others calls for motivation since the family planning research is a medico-socio-economic programme and studies have to be conducted for over a reasonable time i.e. for 36 cycles in 50 cases by each unit positively. There are quite a large number of factors to be considered before declaring the outcome of research or arriving at any conclusion. Besides the study of the fact over a fairly reasonable period. it is also necessary that a large population also is to be included in such study. Of course, in all these studies it is to be ensured that the persons concerned do not resort to other known or established methods of Family Planning. Definite conclusions can be drawn after considering these factors when statistically viable data are available.

Keeping in view the national importance of the problem and the need for rapid development of an effective and safe contraceptive, it was considered necessary that a few rapid screening methods are evolved. On the basis of the above the Council established a few chemico-pharmacological screening units which would make chemical studies as well as animal experiments with regard to antifertility potentiality of the drugs. It is considered that this screening process will provide a lead in the direction of contraceptive studies that could be undertaken at clinical level.

Sole aim of the Council in establishing the Family Planning Units being only search for new cheap, easily available oral contraceptive, the entire workings are designed to suit the objective. The workings are mainly collection of cases, maintenance of their records and proper follow up, the women of active reproductive age of proven fertility, living regularity with husband, free from any systemic or specific gynaecological disorder and willing to accept our drug are taken from field surveys during visit. However to attract more cases and gain faith an attempt is made to eradicate other socio-medical problems relating to ladyherself or her family members.

The detail history of cases enrolled for trial is recorded in specific proformae sent by the Council after conducting thorough and gynaec examination making sure that women does not suffer for any specific systemic or gynaec disorder she is given the drug. In subsequent months she is visited regularly at monthly interval, occurance of any complication or side effect is enquired and medicine given recording it in follow up proforma. This cycle goes on for 36 cycles in each case, once the patient drops, the cause of discontinuation is noted.

Details of research work carried out at Family Planning Research Unit (Unani), at Hyderabad, may be seen at page-(133)

The overall assessment of results of the drugs are quite effective, safe oral contraceptive agents. The report of the work done so far by each unit during 1975–76 is given in the following statement :

10.1.0 Statement showing the work done by Family Planning Research Unit during 1975-76.

S. No.	Name of the drug	Units engaged in study	Work done
1.	Vidangadi yoga	Trivandrum Lucknow	During the period 237 cases have been studied out of that 84 cases have been dropped due to various reasons. 153 cases are under study.
2.	Talisadi yoga	Patiala	35 cases have been studied; out of that 32 have been discontinued. Only 3 cases were in hand.
3.	AYUSH ACI	Lucknow Patiala Calcutta Bombay Madras	The study has been started recently only. So far 90 cases have been studied.
4.	K Capsule	Varanasi	88 cases have been studied out of that 15 have been discontinued. Since 73 cases are under trial at presens.
5.	J Capsule	Varanasi	Due to scarcity of the drug, the old 10 cases have been continued during the period upto 75 June.
6.	Pippalyadi yoga	Calcutta	258 case have been studied during the period and 97 have been discontinued. 161 cases are under trial.

10.2.0 Performance of Chemico-Pharmacology Units during 1975-76.

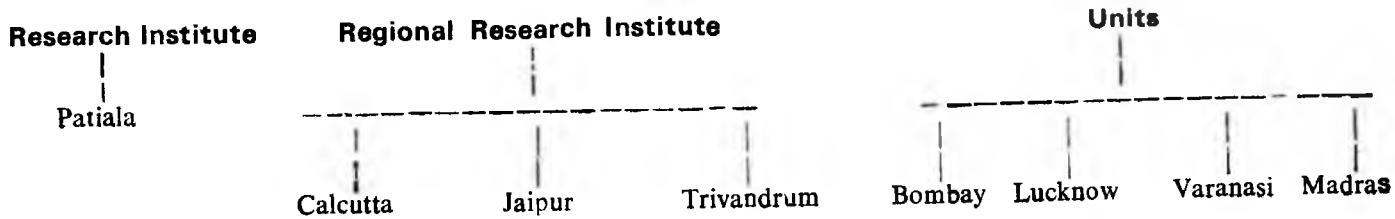
S. No.	Name of the drug	Unit engaged	Work done
A.	Vidangadi yoga	Trivandrum	Vidangadi yoga produced 57% of anti-implantation effect in the dose of 10 mg/100 gm. body weight. In acute toxicity studies there was no mortality upto the dose of 80 mg/100 gm. body weight except two rats showed slight depression for 4 hours. In the pharmacological study it did not produce any significant action of blood pressure and respiration of dog; it also did not produce any significant action on frog's heart and rectus abdomins muscle and the smooth muscle of the intestine of rabbit, guinea pig and rats.
B.	AYUSH ACII		AYUSH ACII in the dose of 1 mg/100 gm. body weight showed 75% anti-implantation effect in the female rats. It did not produce any effect in rats in the dose of 1-40 mg/100 gm. body weight. At pharmacological studies it produced a fall in blood pressure in anaesthetised dog which has been blocked by atropine.

	AYUSH–7 AYUSH–47	Bhubaueswar	During this period both drugs have been studied for its antiovulatory effect. The experimental groups received the drug by oral intubation for 3 days at three dosage schedule prior to 2% solution @ 4 mgs/kg. body weight of chemical induction for ovulation with copper acetate. The dosage schedule was 50mgs/100mgs and 200mgs per kg. body weight. AYUSH-47 showed promising results at the dose of 100mgs. and 200mgs/ kg. body weight and AYUSH-7 showed with 200 mgs/ kg. body weight. The reasons adduced for the negative results, obtained with single dose of drugs are conjectural based mostly on indirect evidence. Hence the study with three dosage schedule for 3 days after copper acetate administration (50mg/100mg/ and 200mg) were employed and encouraging results were obtained. Hence the repetition of the above study has been proposed.
A. B.	Embelia ribes AYUSH-47	Jamnagar	A procedure for the extraction of different compounds from Vidanga (Embelia ribes) has been worked out and it is felt that one of these may yield a very good antifertility activity.
A. B.	Hibiscus rosasinensis AYUSH-47	Varanasi	During the period the following study has been carried out :

1) *Hibiscus rosasinensis :* (Flower, stem and branches, leaves) chemically and pharmacologically were screened. The antifertility effect of mother liquor (alcohol extract) as three isolated compounds were assessed in pregnant rats at the dose of 200mg/kg. body weight. The mother liquor showed 50-60% inhibition in pregnancy. The total benzene extract at the dose of 250mg/kg. showed 90% antifertility effect.

2) *AYUSH-47 :* in lower dose showed only 30% antifertility activity and in higher dose (33mg/kg. and 100mg/kg.) showed 60% antifertility effect.

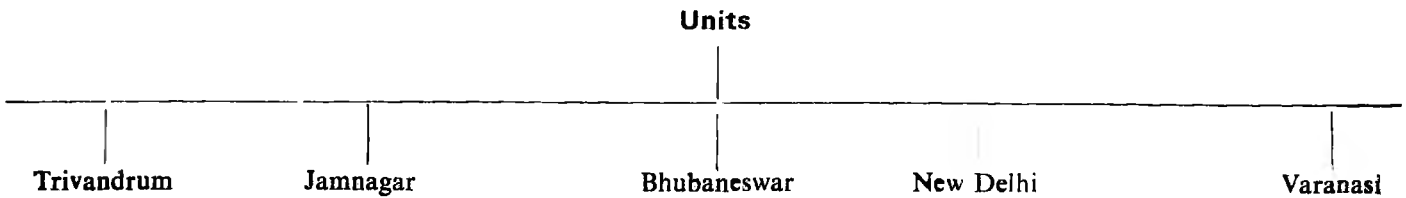
10.3.0 Family Planning Clinical Research Programme under C.C.R.I.M.H.



Problems under study :

1. C.R.I., Patiala.	a) Talisadi yoga b) AYUSH ACI
2. R.R.I., Calcutta.	a) Pippalyadi yoga b) AYUSH ACI
3. R.R.I., Jaipur.	a) Pippalyadi yoga
4. R.R.I., Trivandrum.	a) Vidangadi yoga
5. F.P.C.R.U., Bombay.	a) V.T.P. tablets b) AYUSH ACI
6. F.P.C.R.U., Lucknow.	a) Vidangadi yoga b) AYUSH ACI
7. F.P.C.R.U., Varanasi.	a) 'K' capsules b) 'J' capsules
8. V.H.S., Madras.	a) AYUSH ACI

Family Planning Chemico-Pharmacological Research Programme under C.C.R.I.M.H.



Programme under study :

1. Trivandrum	a) Vidangadi yoga b) AYUSH ACII
2. Jamnagar	a) Embelia ribes b) AYUSH-47
3. Bhubaneswar	a) AYUSH-7 b) AYUSH-47
4. Delhi	a) Embelia ribes b) Abrus precatorius
5. Varanasi	a) Hibiscus rosasinensis b) AYUSH-47

1.1.0 PUBLICATION

CONTENTS

11.0 AYURVEDA

11.1.0 Clinical Research :

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Kapoor, M.L., Gupta, R.P. & Bansal, N.K. (1975)	Study of aetiopathogenesis fo Timira. J.R.I.M.Y. & H.
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Nair, B.K.H., Nair, C.P.R., Ramiah, N. & Kurup, P.B. (1975)	Cassia fistula in pyoderma - A clinical trial. J.R.I.M.Y. & H. (Under publication).
Nair, B.K.H., Nair, C.P.R., Ramiah, N., Kurup, P.B., Sulekha, Chandramouli, K., Pillai, K.G.B. & Pai, K.N. (1976)	Cassia fistula in pyoderma J.R.I.M.Y. & H. (Under publication).
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Uniyal, M.R., Mishra, O.P.	Neo-botanical establishment of controversial and unknown Ayurvedic plants. Sachitra Ayurveda, March, 76 pp. 550-553.
Uniyal, M.R., Mishra, O.P. & Dixit, R.S.	Botanical exploration of Lahaul area in Himachal Pradesh. Indian Forester (In press).
Uniyal. M.R.	Uttarakhanda Himalaya Ki Van Sampada Evam Jaributiyan. Seminar on development of Uttarakhanda at Rishikesh U.P. on 13th June, 1970.
Vasudevan Nair, K., Pillai, M.G.K., Usman Ali. S. & Ananthanarayan Nair, C.A	Controversial drugs in Sahasrayoga. (Under publication).
Venkataraman, S., Agnihotri, R.J., Verma, R.R. & Venkataraghavan, S.	Antifungal activity of single and compound indigenous medicinal preparations-an experimentol study (in vitro) and clinical evaluation. J.R.I.M.Y. & H. (Under publication).
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Not specified	Typhonium trilobatum (L) Shott - a new record to the flora of M.P. J.R.I.M Y. &H (Published).

11 1.3 Literary Research

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Nair, C.P.R.	Sukladhatu vis-a-vis protaglandin. J.R.I. M.Y. & H. (Under publication).
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Reddy, C. Govind (1975)	Recent Indian Medical Historiography Bibliography Feb., 1973 B I.I.H.M.; V, 4, 253-268
Reddy, C. Govind (1975)	Recent Indian Medical Historiography Bibliography for 1972. B.I.I.H.M., V, 1. 179-192.

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Sastry, V.V.S (1975)	Indian knowledge of blood circulation. B.I.I.H.M.; V, 2, 57-64.
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Sharma, M.L.	Roga Apani Galatinyon Ke Karan Swasthaya, New Delhi. (Published.)

Sharma, M.L. — Swastha Jeevan aur Ayurveda-Hindi Swasthaya Sandesh, New Delhi. (Published).

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11.2.0 YOGA

Udupa, K.N., Singh, R.H. & Settiwar, R.M. (1975)
Preliminary therapeutic trials of some yogic practices. Swastha Hind – special issue on Yoga.

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Studies on the effect of some yogic breathing exercises (Pranayamas) in normal persons. Indian Journal of Medical Research Vol. 63 No. 8, pp. 1062-1065, 1975.

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Physiological and Biochemical changes followed the practices of some yogic and non-yogic exercises. J.R.I.M.Y. & H. Vol. 10, No. 2, pp. 91-93, 1975.

Udupa, K.N., Singh, R.H. & Settiwar, R.M
Physiological and Biochemical studies on the effect of yogic and certain other exercises. Indian Journal of Medical Research. Vol. 63/4, 620-624, 1975.

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Studies on the continued practice of some yogic practices. (Under publication).

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Role of the practice of Yoga in the management of Gastro-intestinal disorders J.R.I.M.Y. & H. June, 1976.

11.3.0 UNANI

11.3.1 Clinical Research :

Husain, S.M.S., Singh, D.P., Yusuf Saleem, Ahsan, Z.B., Siddiqui, M.A., & Ifhamullah, M.	Preliminary report of clinical trial of "Ustukhudoos (Lavandula stoechas Linn.) in the treatment of chronic sinusitis. J.R.I.M.Y & H. (Under publication).
Khan, A.J., Fazal, U., Siddiqui, M.K & Khan, M. H.	A combined approach to Vitiligo. (Papers ready for publication).
Khan, M.K. & Siddiqui, M K.	Platy halminths - A review of their hazards symptomatology and Unani ways for their eradication. (Sent for approval).
Khan, M.H., Siddiqui, M.K., Khan, A J. & Fazal, U.	Hazards of intestinal protozoal parasites and Unani ways for their eradication. (Sent for approval).
Khan, A.J. & Fazal, U.	A successful trial of Post-Bekh-e-Madar in Z Muzmin. (Paper sent for approval).
Siddiqui, M.K. & Khan, M.H.	Birth Defects. (Ready for publication).
Saleem Yusuf, Hussain S.M.S., Siddiqui, M.A. & Ifhamullah, M. (1976)	Atrilal in the treatment of Vitiligo 'A preliminary report'. J.R.I.M.Y. & H. (Under publication).

Ali M. Iqbal	Munzij (a miraculous recipe) Souvenier of Unani Convention, Hyderabad.
Taneja, V, Soghra Begum, Sharma, P. K.M, Baig, H A , & Kareemullah-L	On the associaton of ABO. Blood group & Vitiligo Journal of Medical Geneties, LONDON. (Under publication)
Khan. A.J.	Khafqan, A Cardiac arrhythmia. Published in journal of N I.M.A.

11.3.2 Drug Research :

Israili, A.H. & Issar, R.K.	Pharmacognostical study of the Unani drug. Post-Bekh-e-Madar (Calotropis procera (Ait) J.R.I.M.Y. & H. (Under publication).
Israili, A.H. & Sharma, P.	Chemical study of the flowers of Calotropis gigantea (Madar). (Under publication)
Israili, A.H., Issar, R.K.	Chemical investigation of Commercial Nagarmotha (Cyperus pangorei Rottb.)
Israili, A.H. & Sharma, P.	Chemical components of Badaward (Centauria-Phyllo-cephalla Boiss)
Issar, R.K.	A note on the botanical sources of a snake bite antidote drug (Nagdaun). (Under publication).
Issar, R.K.	Contribution to the botanical identification of the Unani drug Zufa. (Under publication).

Israili, A.H. & Issar, R.K.	Comparative pharmacognostical study of the genuine and commercial samples of the Unani drug 'Brinjasif'. (Under publication).
Issar, R.K.	Achillea Millefolum Linn. Floristic variability of morphological character. Under publication submitted to the Indian Forester F.R.I., Dehradun).
Israili, A H. & Issar, R.K.	Adulterated drugs and their standardisation (Under publication, accepted for publication in the J.R.I.M.Y. & H,. Vol. X, No. 4)
Israili, A.H. & Issar, R.K.	Pharmacognostical study of Unani drug - Afsanteen. (Under publication accepted for publication in the J.R.I.M., Vol. X, No. 4).

11.3.3 Literary Research :

Azeez, Pusha, M. (1975)	Bukhrat (Hippocrates) B.I.I.H.M. V, 3, 129-142.
Azeez, Pasha, M. (1975)	Jalinoos (Galen) B.I.I.H.M , V, 4. 211-224.
Azeez, Pasha, M.	Description catalogue of Arabic Mss. Presented in B I.I.H.M , V, 2, 74-79.
Azeez Pasha, M.	Biography of an eminent Unani Hakeem called Abu Sayeed Sinha Bin Sabit Bin Gurra. B.I.I.H.M., V, 2, 69-73.

Azeez Pasha, M.	Brief Biographies of Eminent Unani Hakims of India. B I I H M V, 1, 11-18
Azmi Hk Khurshid Ahmad Shafquat	Hakim Karam Husain Published in Subhe-adab. Monthly, Lucknow.
Nadwi, A.R.	Abu Baka Zakaria Razi aur Al-Hawi published in "Maarif monthly Azamgarh"
Shamsi, K.J.	Unani system of Family Planning (Approved for publication (JRIM)

11.4.0 SIDDHA

11.4.1 Clinical Research :

Mutharasan, S. (1975)	Amber Mezhugu. 8th National Seminar on Rheumatic diseases, M.M.L. Centre.

11.4.2 Drug Research :

Chelladurai, V. (1975)	On a market sample of Ikshura Beeja and seeds of Asteracantha longifolia Nees.
Radha Krishnan, N. & Alam, M.M.	Anti-fertility activity of Embelin Albino rats. Indian Journal of Experimental Biology.
Radha Krishnan, N. Uma, R. Hamsavani, R. & Thyagarajan, R.	Preliminary investigations on the anti-fungal activity of Cassia alata Linn. Souvenir cum Scientific abstracts of 8th Annual Conference of Indian Pharmacological Society.

11.4.3 Literary Research :

Thyagarajan, R. & Palanichamy, K.	The life sketch of Veerama muniver (Rev. Beschi) and his Siddha works. Bulletin of Institute of History of Medicine, Vol. IV; No. 3 & 4.

11.5.0 HOMOEOPATHY

11.5.1 Clinical Research :

Muzumdar, K.P. & Gosh Mondal	A preliminary trial to the study of the sphere of action of Filix Mas and granatusn in Helminthiasis. (Under publication).
Muzumdar, K.P. & Gosh Mondal	The scourage of Malaria and its treatment by Homoeopathy (based upon trial and clinical confirmation on 16 cases). (Under publication).
Pramanik, M.S. & Mal, P.C.	Preliminary clinical trial of certain lesser known drugs viz. Cassia sophera, Tylophora indica and Grindelia robusta on symptom complex of respiratory system. (Under puplication).
Shaw, R. & Muzumdar, K.P.	Clinical trials on preparation of Eagopyrum aesculantum in relation of Hypertension. (Under publication).
Shaw, R. & Muzumdar, K.P.	Conjunctivitis in July, 1975 epidemic condition of Calcutta and Homoeopathic treatment in search of genus epidemicus. (Under publication)

11.5.2 Drug Research :

Nandi, M. & Muzumdar, K.P.	Standardisation of Homoeopathic mother tincture of Holarrhena antidysenterica. Journal of Research in Indian Medicine - December, 1975.

Nandi, M. & Muzumdar, K.P.	Standardisation of Homoeopathic mother tincture of Glycosmic pentaphylla. J.R.I.M.Y. & H. - December, 1975.
Verma, P.N., Vikramaditiya & Singh, V.P.	Tylophora indica (Standardisation studies) Hahnemann Gleanings.

11.5.3 Literary Research :

Ary, M.P.	Research in Homoeopathy under CCRIMH III Scientific Seminar held at Poona.
Basu, A.K.	Review paper on "Catharantha roseus" J.R.I.M.Y. & H.
Muzumdar, K.P.	Homoeopathy and Homoeopathic research. III Scientific Seminar held at Poona.
Singh, V.P.	Present day need of reproving of Homoeopathic drugs. Hahnemanian Gleanings.

12.0 PROJECTS IN OPERATION

Applied Drug Research Project :

12.1	Ayurvedic and Allopathic Teams at New Civil Hospital, *Ahmedabad.*
12.2	Unani and Allopathic Teams at Aligarh Muslim University, *Aligarh.*
12.3	Ayurvedic Team at R.A. Podar Ayurvedic College and Allopathic Team at J J Group of Hospitals, *Bombay.*
12.4	Ayurvedic Team at Govt. Ayurvedic College & Allopathic Team at G.R. Medical College, *Gwalior.*
12.5	Ayurvedic Team at State Ayurvedic College & Allopathic Team at K.G. Medical College, *Lucknow*
12.6	Ayurvedic Team at Safdarjung Hospital and Allopathic Team at All India Institute of Medical Sciences, *New Delhi*
12.7	Jawaharlal Post Graduate Medicinal Educational Research, *Pondicherry.*
12.8	Ayurvedic, Allopathic Teams and Institute of Medical Sciences, Banaras Hindu Uuiversity, *Varcnasi*

Central Research Institutes :

12.9	Central Research Institute, *Calcutta.*
12.10	Central Research Institute, *Cheruthuruthy.*
12.11	Central Research Institute, *Hyderabad.*
12.12	Central Research Institute, *Madras.*
12.13	Central Research Institute, *Patiala.*

Chemical Research Projects :

12.14 Aligarh Muslim University, *Aligarh.*

12.15 Calcutta University, *Calcutta.*
(includes extraction supply project)

12.16 Delhi University, *Delhi.*

12.17 Osmania University, *Hyderabad.*

12.18 Central Drug Research Institute, *Lucknow.*
(extraction supply project)

12.19 Institute of Medical Sciences, Banaras Hindu University, *Varanasi*

Clinical Research Projects :

12.20 Akhandanand Ayurvedic Hospital, *Ahmedabad.*

12.21 Maniban Govt Ayurvedic Hospital, *Ahmedabad.*

12.22 National Institute of Mental Health and Neuro Sciences, *Bangalore.*

12.23 Government Ayurvedic College, *Baroda.*

12.24 R.A Podar Ayurvedic Hospital, *Bombay.*
(2 projects)

12.25 Government Ayurvedic College, *Gauhati.*

12.26 Guru Raju Homoeopathic Medical College, *Gudivada.*

12.27 Gurukul Kangri Ayurvedic College, *Hardwar.*

12.28 Rishikul Ayurvedic College, *Hardwar.*

12.29 Govt. Ayurvedic College, *Hyderabad.*

12.30 Yogic Research Centre, *Jaipur.*

12.31 Govt. Ayurvedic College, *Jammu.*

12.32 Arya Vaidya Shala, *Kottakal.*

12.33 State Ayurvedic College, *Lucknow.*

12.34 Arignar Anna Hospital, *Madras.*

12.35 A. & U. Tibbiya College, *New Delhi.*

12.36 Delhi Yoga Sabha, *New Delhi.*

12.37 Vishwayatan Yogashram, *New Delhi.*

12.38 Tilak Ayurved Mahavidayalaya, *Poona.*

12.39 Institute of Medical Sciences, Banaras Hindu University, *Varanasi.*

Drug Proving Research Projects :

12.40 K.N.H. Homoeopathic Medical College, *Bhagalpur.*

12.41 D.N.De Homoeopathic Medical College, *Calcutta.*

12.42 National Homoeopathic Medical College, *Lucknow.*

12.43 Midnapore Homoeopathic Medical College, *Midnapore.*

Family Planning Research Projects :

12.44 R.A. Podar Ayurvedic College, *Bombay.*

12.45 Regional Research Institute, *Calcutta.*

12.46 Nizamia Hospital, *Hyderabad.*

12.47 Regional Research Institute, *Jaipur.*

12.48 State Ayurvedic College, *Lucknow.*

12.49 Central Research Institute, *Patiala.*

12.50 Regional Research Institute, *Trivandrum.*

12.51 Institute of Medical Sciences, Banaras Hindu University, *Varanasi.*

12.52 Orissa Agricultural University, *Bhuvaneswar.*

12.53 Gujarat Aurvedic University, *Jamnagar.*

12.54 Government Medical College, *Trivendrum.*

12.55 Institute of Medical Sciences, Banaras Hindu University, *Varanasi.*

Literary Research Projects :

12.56 Aligarh Muslim University, *Aligarh.*

12.57 Takmilu-Tibb, Institution, *Lucknow.*

12.58 T.M.S.S.M. Library, *Thanjavur.*

12.59 Government College of Indian Medicine, *Tirunelveli, Palyamkottai.*

Pharmacognostical Research Projects :

12.60 L.M. College of Pharmacy, *Ahmedabad.*

12.61 Aligarh Muslim University, *Aligarh.*

12.62 Calcutta University, *Calcutta.*

12.63 Punjab University, *Chandigarh.*

12.64 Regional Research Laboratory, *Jammu.*

12.65 National Botanical Garden, *Lucknow.*

12.66 Indian Drug Research Association, *Poona.*

Pharmacological Research Projects :

12.67	Gandhi Medical College, *Bhopal.*
12.68	Haffkine Institute, *Bombay.* (2 Projects & 1 toxicity project)
12.69	Calcutta University, *Calcutta.*
12.70	Government Medical College, *Jodhpur.*
12.71	K G. Medical College, *Lucknow*
12.72	L.L R. Medical College, *Meerut.* (Toxicity study Project)
12.73	Govt Medical College, *Trivandrum.*
12.74	Institute of Medical Sciences, Banaras Hindu University, *Varanasi.*

Regional Research and Allied Institutes :

12.75	Regional Research Institute, *Bhubaneswar.*
12.76	Regional Research Institute, *Calcutta.*
12.77	Indian Institute of History of Medicine, *Hyderabad.*
12.78	Regional Research Institute, *Jaipur.*
12.79	Regional Research Institute, *Kottayam.*
12.80	Capt. Srinivasa Murthy Research Institute, *Madras.*
12.81	Dr. A Laxmipathi Unit for Research in Indian Medicine, *Madras*
12.82	Regional Research Institute, *New Delhi.*
12.83	Jawaharlal Nehru Ayurvedic Medicinal Plants Garden, Herbarium and Museum, *Poona.*

12.84 Amalgamated Unit, *Tarikhet*.

12.85 Regional Research Institute, *Trivandrum*.

Regional Research Centres :

12.86 Regional Research Centre, *Bangalore*.

12.87 Regional Research Centre, *Jhansi*.

12.88 Regional Research Centre, *Jogindernagar*.

12.89 Regional Research Centre, *Nagpur*.

12.90 Regional Research Centre, *Vijayawada*.

Standardisation Research Projects :

12.91 Gujarat Ayurvedic University, *Jamnagar*.

12.92 Gujarat Ayurvedic Vikas Mandal Pharmacy, *Junagadh*.

12.93 Institute of History of Medicine and Medical Research, Hamdard Dawakhana, *New Delhi*.

12.94 Dalwar Homoeopathic Medical College, *Patna*.

12.95 Institute of Medical Sciences, Banaras Hindu University, *Varanasi*.

12.96 Academy of Ayurveda, *Vijaywada*.

Survey of Medicinal Plants Projects :

12.97 Government Ayurvedic College, *Gauhati*.

12.98 Government Ayurvedic College, *Gwalior*.

12.99 Government Ayurvedic College, *Jammu.*

12.100 Government Ayurvedic College, *Patna.*

12.101 Government Ayurvedic College, *Rajpipla.*

12.102 Government College of Indian Medicine, *Tirunelveli. Palayamkottai.*

Survey and Surveillance Projects :

12.103 Gujarat Ayurvedic University, *Jamnagar.*

12.104 Sri Krishna Ayurvedic College, *Kurukshetra.*

12.105 Institute of Medical Sciences, Banaras Hindu University, *Varanasi.*

12.106 Civil Hospital, *Vidisha.*

Headquarters and other common Allied Projects :

Headquarters, *New Delhi.*

Documentation Centre, *New Delhi.*

Jawaharlal Nehru Ayurvedic Medicinal Plants Garden, Herbarium and Museum, *Poona.*

Indian Institute of History of Medicine, *Hyderabad.*

Journal of Research in Indian System of Medicine, *Varanasi.*

CENTRAL COUNCIL FOR RESEARCH IN INDIAN MEDICINE AND HOMOEOPATHY
STATEMENT OF RECEIPTS AND PAYMENTS FOR THE YEAR 1975-76

RECEIPTS			AMOUNT		PAYMENTS			AMOUNT	
S. No.	Particulars		Rs	Ps.	S. No.	Particulars		Rs.	Ps.
1.	**Opening balance**				1.	**Headquarters office**			
	i) Headquarters Office					a) Pay and allowances	5,63,196.50		
	a) Cash in hand	1,000,00				b) Travelling allowance	1,78,462.13		
	b) Cash at Bank	10,791.84	11,791.84			c) Contigencies			
	ii) Closing balance with the Decentralised Units		65,583.08			i) Consumable stores and miscellaneous expenses	3,92,125.08		
	iii) Imprest advance		88,235.93			ii) Non-consumable stores	31,752.77		
	iv) Lumpsum fund released in the month of March, 1975 but received in the month of April, 1975 by the decentralised units		6,68,932.55			d) Advances			
	v) Imprest advance with Jawaharlal Nehru Ayurvedic Medicinal Plants Garden and Herbarium, Poona		1,000,00			i) Travelling allowance	7,542.00		
	vi) Advance given to Regional Research Institute, Calcutta, D.P.R.U., Calcutta and Lucknow, Regional Research Centre, Jogindernagar for opening of Bank account		800.00			ii) Contingent advance	450.00	11,73,528.48	
2.	Grant-in-aid					e) Payment of income tax, leave salary and pension contribution, CD (DA), CPF etc. (Headquarters Office) (Details in Appeadix III)		8,36,311.77	
	i) Department of Health	1,39,25,000.00				f) Council's contribution to CPF account		7,16,584.00	
	ii) Department of Family Planning	3,88,497.00	1,43,13,497.00			g) Transfer to Fixed Deposit Account of CPF (contra)		7,71,163.00	
		C/o	1,51,49,840.40			h) Payment of CPF advance (contra)		1,284.00	
						i) Refund of Dearness allowance (CPF)		22,658.05	
						j) Interest on D.A. (CPF)		2,486.60	
							C/o	35,24,015,90	

S. No.	RECEIPTS		AMOUNT
			Rs. Ps.
		B/F	1,51,49,840.40
3.	Recovery of Income Tax, C.P.F., CD (D.A.) etc. made in the pay bills in the Headquarters Office (see the details in Appendix I)		7,80,098.65
4.	Recovery of Income Tax, C.P.F. etc. made in the pay bills and other receipts by the decentralised unit (see the details in Appendix II)		6,78,218.38
5.	Contingent advance paid in the past years but adjusted during 1975-76		16,708.38
6.	T.A. advance paid in the past years but adjusted during 1975-76		3,601.85
7.	Subscriptions for bulletins of I.I.H.M.		2,723.90
8.	Subscriptions for J.R.I.M		5,907.79
9.	Recovery of charges from private use of staff car		1,290.00
10.	Purchee fee from the patients		2,115.00
11.	Proceeds from sale of old articles etc.		6,439.66
12.	Transfer from the CPF account of the Council (contra)		1,284.00
13.	Interest Earned		
	i) Fixed deposits of CPF	60,558.52	
	ii) Savings Bank account	9,727.28	70,285.80
		C/o	1,67,18,513.81

S. No.	PAYMENTS			AMOUNT
				Rs. Ps.
			B/F	35,24,015.90
2.	**Documentation Centre-cum-Library**			
	a) Pay and allowances	1,70,315.50		
	b) Travelling allowance	—		
	c) **Contingencies**			
	i) Consumable stores and miscellaneous expenses	34,565.50		
	ii) Non-consumable stores	19,961.91		
	d) Advance			
	i) Contingent advance	43.50		2,24,886.41
3.	**Journal of Research in Indian Medicine, Varanasi**			
	a) Pay and allowances	41,380.65		
	b) Travelling allowance	1,196.50		
	c) Contingencies			
	i) Consumable stores and miscellaneous expenses	21,275,63		
	ii) Non-consumable articles	—		
	d) Advance — Contingencies	798.00		64,650.78
4.	**Advance**			
	a) Festival advance	5,100.00		
	Less advance refunded	5,100 00		
	b) Cycle advance	4,200.00		
	Less advance refunded	2,000 00		2,200.00
	c) Scooter advance	6,000.00		
	Less advance refunded	150.00		5,850.00
			C/o	38,21,603 09

S. No.	RECEIPTS		AMOUNT
			Rs. Ps.
		B/F	1,67,18,513.81
14.	Transfer from fixed deposit account of C.P.F. (Contra)		7,71,163.00
15.	Application fee		343.92
16.	Earnest money		1,490.00
17.	Leave salary and Pension Contribution		4,268.00
18	Unspent balance refunded by the J.N.A.M.P.G. & H., Poona		15,915.76
19.	Council's contribution to C.P.F. forfeited (transfer from C.P.F. account)		9,446.75
20.	Miscellaneous receipts		8,372.09
		C/o.	1,75,29,513.33

S. No.	PAYMENTS			AMOUNT
				Rs. Ps.
			B/F	38,21,603.09
	d) Flood advance	5,000 00		
	Less andvance refunded	2,182.20		2,817.80
5.	**Drug Research Scheme (Composite Drug Research Scheme Ayurveda)**			
	a) Pay and allowances	13,69,887 06		
	b) Travelling allowance	10,784.50		
	c) Contingencies			
	i) Consumable stores and miscellaneous expenses	1,01,665.76		
	ii) Non-consumable stores	2,054,88		
	d) Advance			
	i) T.A.	1,491.00		
	ii) Contingencies	198.00		14,86,081.20
6.	**Drug Research Scheme (Composite Drug Research Scheme (Unani)**			
	a) Pay and Allowances	96,011.40		
	b) Travelling allowance	207.70		
	c) Contingencies			
	i) Consumable stores and miscellaneous expenses	3,216.10		
	ii) Non.consumable stores	3,722.62		
	d) Advance			
	i) Centingencies	369.60		
	e) Grant-in-aid	22,324.34		1,25,851.76
			C/o	54,36,353.85

S. No.	RECEIPTS	AMOUNT
		Rs. Ps.
	B/F.	1,75,29,513.33
	C/o	Rs. 1,75,29,513.33

S. No.	PAYMENTS		AMOUNT
			Rs. Ps.
	B/F		54,36,353.85
7.	**Drug Standardisation Research Scheme (Ayurveda, Siddha, Unani & Homoeopathy)**		
	a) Pay and allowances	4,39,540.20	
	b) Travelling allowance	1,798 75	
	c) Contingencies		
	i) Consumable stores and miscellaneous expenses	29,866.58	
	ii) Non-consumable stores	5,394.15	4,76,599.68
8.	**Survey and Cultivation of Medicinal Plants Scheme**		
	a) Pay and allowances	3,33,945.15	
	b) Travelling allowance	12,402.60	
	c) Contingencies		
	i) Consumable stores and miscellaneous expenses	45,722.62	
	ii) Non-consumable stores	5,283.05	
	d) Advance		
	i) T.A.	730.00	
	ii) Contingencies	1,035.00	3,99,118 42
9.	**Jawaharlal Nehru Ayurvedic Medicinal Plants Garden and Herbarium, Poona**		
	a) Pay and allowances	1,18,074.85	
	C/o		63,12,071.95

S. No.	RECEIPTS	AMOUNT
		Rs. Ps
	B/F.	1,75,29,513.33
	C/o	Rs. 1,75,29,513.33

S. No.	PAYMENTS		AMOUNT
			Rs. Ps.
	B/F		63,12,071.95
	b) Travelling allowance	1,715.35	
	c) Contingencies		
	i) Consumable stores and miscellaneous expenses	9,480.19	
	ii) Non-consumable stores	—	
	d) Advance		
	i) Contingencies	575.00	1,29,845.39
10.	**Literary Research Scheme (Ayurveda, Unani and Siddha)**		
	a) Pay and allowances	1,97,418.45	
	b) T.A.	2,490.95	
	c) Contingencies		
	i) Consumable stores and miscellaneous expenses	6,107.38	
	ii) Non-consumable stores	—	2,06,016.78
11.	**Indian Institute of History of Medicine, Hyderabad.**		
	a) Pay and allowances	1,53,736.25	
	b) Travelling allowance	1,123.55	
	c) Contingencies		
	i) Consumable stores and miscellaneous expenses	23,490.05	
	ii) Non-consumable stores	2,490.95	1,80,840.80
	C/o		68,28,774.92

S.No.	RECEIPTS	AMOUNT
		Rs. Ps.
	B/F	1,75,29,513.33
	C/o	Rs. 1,75,29,513.33

S. No.	PAYMENTS		AMOUNT
			Rs. Ps.
	B/F		68,28,774.92
12.	**Seminar on Yoga**		
	a) T.A.	21,211.60	
	b) Contingencies	1,045.76	22,257.36
13.	**Clinical Research Scheme (Ayurveda, Unani, Siddha and Homoeopathy)**		
	a) Pay and allowances	10,21,223.62	
	b) T.A.	10,690.60	
	c) Contingnecies		
	i) Consumable stores and Miscellaneous expenses	73,545.77	
	ii) Non-consumable stores	4,293.11	
	d) Advance		
	i) Contingnencies	381.00	
	ii) T.A.	900.00	
	e) Grant-in-aid	14,000.00	11,25,034.10
14.	**Dr. A. Lakshmipati Unit for Research in Indian Medicine, Madras.**		
	a) Pay and allowances	1,52,911.89	
	b) Travelling allowance	725.95	
	c) Contingencies		
	C/o		79,76,066.38

S. No.	RECEIPTS	AMOUNT
		Rs. Ps.
	B/F.	1,75,29,513.33
	C/o	Rs. 1,75,29,513.33

S. No.	PAYMENTS		AMOUNT
			Rs. Ps.
	B/F		79,76,066.38
	i) Consumable stores and miscellaneous expenses	19,081.52	
	ii) Non-consumable stores	481.00	1,73,200.36
15.	**Ayurvedic Research Unit, Bangalore**		
	a) Pay and allowances	1,46,387.45	
	b) Travelling allowance	669.20	
	c) Contingencies		
	i) Consumable stores and miscellaneous expenses	10,380.69	
	ii) Non-consumable stores	—	1,57,437.34
16.	**Central Research Institutes (Patiala, Cheruthurushy, Calcutta, Madras, Hyderabad)**		
	a) Pay and allowances	23,64,854.12	
	b) T.A.	16,800.40	
	c) Contingencies		
	i) Consumable stores and miscellaneous expenses	6,83,631.27	
	ii) Non-consumable stores	74,682.90	31,39,968.69
17.	**Regional Research Institutes (Jaipur, Bhubaneswar, Calcutta, Kottayam, New Delhi and Trivandrum)**		
	C/o		1,14,46,672.77

S.No.	RECEIPTS	AMOUNT
		Rs. Ps.
	B/F	1,75,29,513.33
	C/o	Rs. 1,75,29,513.33

S. No.	PAYMENTS		AMOUNT
			Rs. Ps.
	B/F		1,14,46,672.77
	a) Pay and allowances	14,99,626.85	
	b) Travelling Allowance	13,119.40	
	c) Contingencies		
	i) Consumable stores and miscellaneous expenses	2,81,641.09	
	ii) Non-consumable stores	84,624.17	
	d) Advance		
	l) Contingencies	10,200.00	18,89,211.51
18.	**Regional Research Centres (Joginder Nagar, Nagpur, Jhansi, Bangalore Vijayawada)**		
	a) Pay and Allowances	5,77,366.19	
	b) Travelling Allowance	20,067.10	
	c) Contingencies		
	i) Consumable stores and miscellaneous expenses	88,592.43	
	ii) Non-consumable stores	20.147.99	7,06,173.71
19.	**Amalgamated Unit, Ranikhet**		
	a) Pay and Allowances	3,39,707.02	
	b) Travelling Allowance	11,502.50	
	C/o		1,40,42,057.99

S. No.	RECEIPTS	AMOUNT
		Rs. Ps.
	B/F.	1,75,29,513.33
	C/o	Rs. 1,75,29,513.33

S. No.	PAYMENTS		AMOUNT
			Rs. Ps.
	B/F		1,40,42,057.99
	c) Contingencies		
	i) Consumable stores and miscellaneous expenses	50,858.13	
	ii) Non-consumable stores	5,498.03	4,07,565.68
	20. Captain Srinivasamurthi Research Institute, Madras.		
	a) Pay and allowances	2,61,815.45	
	b) Travelling allowance	950.95	
	c) Contingencies		
	i) Consumable stores and miscellaneous expenses	59,883.00	
	ii) Non-consumable stores	2,691.66	3,25,341.06
	21. Yoga (Grant-in-aid)		8,06,000.00
	22. Drug Proving Research Scheme (Homoeopathy)		
	a) Pay and allowances	1,40,418.62	
	b) Travelling allowance	63.90	
	c) Contingencies		
	i) Consumable stores and miscellaneous expenses	30,228.98	
	ii) Non-consumable stores	188.10	1,70,899.60
	C/o		1,57,51,864.33

S. No.	RECEIPTS	AMOUNT
		Rs. Ps.
	B/F.	1,75,29,513.33
	C/o	Rs. 1,75,29,513.33

S. No.	PAYMENTS		AMOUNT
			Rs. Ps
	B/F		1,57,51,864.33
23.	**Family Planning Research Scheme**		
	a) Pay & Allowances	3,68,848.15	
	b) Travelling Allowance	2,299.65	
	c) **Contingencies :**		
	i) Consumable stores and miscellaneous expenses	32,882.59	4,04,030.39
24.	Payment and remittance of recoveries made in the bills and receipts by the decentralised units (details in appendix IV)		7,04,728.19
25.	Payment to N.I.A. Jaipur		50,000.00
26.	**Closing balance**		
	i) Headquarters Office		
	a) Cash in Hand	1,000.00	
	b) Cash at Bank	31,308.09	32,308.09
	ii) Closing balance with the decentralised units		4,09,076.88
	iii) Lumpsum released in the month of March, 1976 but received in April. 1976 by some decentralised units		87,751.00
	iv) Imprest advance on 1.4.1975	88,235.93	
	Add paid during 1975-76	1,300.00	
	Total :	89,535.93	
	C/o		1,74,39,758.88

S. No.	RECEIPTS		AMOUNT	S. No.	PAYMENTS		AMOUNT
			Rs. Ps.				Rs. Ps.
	B/F.		1,75,29,513.33			B/F	1,74,39,758.88
					Less refund	443.14	
					Less adjustment	138.34	88,954.45
				v)	Imprest advance with the JNAMPG & H (Contra)	1,000.00	
					Less refund	1,000.00	...
				vi)	Advance given to RRI, Calcutta, DPRU, Calcutta and Lucknow and RRC, Jogindernagar for opening bank account.		800.00
						Total	Rs. 1,75,29,513.33
		Total	Rs. 1,75,29,513.33				

CENTRAL COUNCIL FOR RESEARCH IN INDIAN MEDICINE AND HOMOEOPATHY
STATEMENT OF INCOME AND EXPENDITURE ACCOUNTS FOR THE YEAR 1975-76

S. No.	EXPENDITURE	AMOUNT	S. No.	INCOME	AMOUNT
		Rs. Ps.			Rs. Ps.
1.	**Headquarters Office**		1.	Grant-in-aid from the Govt. of India	
	a) Pay and allowances	5,63,196.50		i) Department of Health 1,39,25,000.00	
	b) Travelling Allowances	1,78,462.13		ii) Department of Family planning 3,88,497.00	1,43,13,497.00
	c) Consumable stores and Miscellaneous expenses	3,92,125.08	2.	Recovery of Income Tax. C.P.F., CD (DA) etc. made in the bills in the Headquarters Office (details given in Appendix I)	7,80,098.65
2.	**Documentation Centre-cum-Library**		3.	Recovery of Income Tax, C.P.F., CD (DA) etc. made in the bills and other receipts by the decentralised units (details given in Appendix II)	6,78,218.38
	a) Pay and allowances	1,70,315.50			
	b) Consumable stores and miscellaneous expenses	34,565.50	4.	Contingent advance and T.A. advance paid in the past years but adjusted during 1975-76	
3.	**Family Planning Scheme**			i) Contingent advance 16,708.38	
	a) Pay and allowances	3,68,848.15		ii) T.A. advance 3,601.85	20,310.23
	b) Travelling Allowances	2,299.65	5.	Subscriptions for bulletins of I.I.H.M.	2,723.90
	c) Consumable stores and miscellaneous expenses	32,882.59	6.	Subscription for J.R.I.M.	5,907.79
4.	**Other Units**		7.	Recovery of charges for private use of the staff car	1,290.00
	a) Pay and allowances	92,54,305.22	8.	Purchee fee from the patients	2,115.00
	b) Travelling allowances	1,27,521.50	9.	Proceeds from sale of old articles etc.	6,439.66
	c) Consumable stores and miscellaneous expenses	15,39,712.95	10.	Transfer from the C.P.F. account (contra)	1,284.00
5.	Grant to Grant-in-aid units	8,42.324.34			
		C/o 1,35,06,559.11			C/o 1,58,11,884.61

S. No.	EXPENDITURE		AMOUNT
			Rs. Ps.
	B/F		1,35,06,559.11
6.	Payment of income tax, leave salary and pension contribution, CD(DA), CPF etc, (Headquarters Office) (details in Appendix III)		8,36,311.77
7.	Council's contribution to CPF account		7,16,584.00
8.	Transfer to fixed deposit account of CPF (Contra)		7,71,163.00
9.	Payment of CPF advances (Contra)		1,284.00
10.	Refund of Dearness allowance (CPF)		22,658.05
11.	Interest on dearness allowances (CPF)		2,486.60
12.	Payment and remittance of recoveries made in the bills and receipts by the decentralised units (Details in Appendix IV)		7,04,728.19
13.	Salary etc. outstanding for payment		
	i) Pay and allowances	2,47,677.40	
	ii) T.A.	13,999.30	
	iii) I.T., CD (DA) etc.	48,480.00	3,10,156.70
14.	Council's contribution, etc. outstanding for payment:		
	i) C.P.F. contribution	22.627.00	
	ii) C.P.F. subscription	27,284.17	
	iii) Interest on subscription and contribution	1,32,256.56	1,82,167.73
	Total		1,70,54,099.15

S. No.	INCOME		AMOUNT
			Rs. Ps.
	B/F		1,58,11,884.61
11.	Transfer from the fixed deposits account of CPF		7,71,163.00
12.	Application fee		343.92
13.	Leave salary and C P.F. contribution		4,268.00
14.	Interest earned on C.P.F.		
	i) Fixed deposits account	60.558.52	
	ii) Savings bank account	9,727.28	70,285.80
15.	Council's contribution for C.P.F. forfeited etc. transferred from the C.P.F. account		9,446.75
16.	Transfer to CCRIMH of non-consumable articles of grant-in-aid unit taken over under the direct control		57,553.28
17.	Unspent balance refunded by the Jawaharlal Nehru Ayurvedic Medicinal Plants Garden and Herbarium, Poona.		15,915.76
18.	Advance relating to the period ending 31-3-1975 but outstanding for refund as on 31-3-1976 brought into account.		
	i) Scooter advance	3,925 00	
	ii) Cycle advance	110.00	4,035.00
19.	Miscellaneous receipts		8,372.09
20.	Excess expenditure over income transferred to the Balance sheet		3,00,830.94
	Total		1,70,54,099.15

CENTRAL COUNCIL FOR RESEARCH IN INDIAN MEDICINE AND HOMOEOPATHY
BALANCE SHEET AS ON 31st MARCH 1976

S No.	LIABILITIES	Rs. Ps.	AMOUNT Rs. Ps.
1.	**Capital Fund**		
	a) Value of assets acquired, advances outstanding, security deposits as on 31-3-1975	67,46,920.28	
	b) Less Contingent/T.A. advance of the past years adjusted (Rs. 17,505.89+Rs. 5,907.00)	23,412.89	
		67,23,507.39	
	c) Less excess of expenditure over income transferred from the Income and Expenditure Statement	3,00,830.94	64,22,676.45
2.	**Outstanding Liabilities**		
	a) Salary etc. outstanding for payment		
	i) Pay and allowance	2,47,677.40	
	ii) T.A.	13,999.30	
	iii) Income tax, CD (DA) etc.	48,480.00	3,10,156.70
	b) Council's contribution etc. out standing for payment :		
	i) C.P.F. contribution	22,627.00	
	ii) C P.F. subscription	27,284.17	
		C/o	67,32,833.15

S No.	ASSETS	Rs. Ps.	AMOUNT Rs. Ps.
1.	**Closing Balance**		
	i) Headquarters Office		
	a) Cash in hand	1,000.00	
	b) Cash at Bank	31,308.09	32,308.09
	ii) Closing balance with the Decentralised Units		4,09,076.88
	iii) Imprest advance		88,954.45
	iv) Lumpsum released in March, 1976 but received in April, 1976 by some Decentralised Units		87,751.00
	v) Advance given to Regional Research Institute, Calcutta, Drug Proving Research Unit, Calcutta and Lucknow, Regional Research Centre, Jogindernagar		800.00
	vi) Suspense account		2,159.12
2.	**Assets**		
	i) **Non-consumable stores**		
	a) Headquarters Office	2,26,539.89	
		C/o	6,21,049.54

S. No.	LIABILITIES		AMOUNT
		Rs. Ps.	Rs. Ps.
	B/F		67,32,833.15
iii)	Interest on subscription and contribution	1,32,256.56	1,82,167.73
3	**Liabilities on Security Deposits**		
	Balance of previous year	9,633.80	
	Add duriug 1974-75	1,490.00	11,123.80
	C/o		69,26,124.68

S. No.	ASSETS		AMOUNT
		Rs. Ps.	Rs. Ps.
	B/F		6,21,049.54
b)	Documentation Centre-cum-Library	2,27,895.59	
c)	Publications	12,093.96	
d)	Drug Research Scheme (CDRS)	2,28,024.68	
e)	Drug Standardisation Research Scheme	4,33,886.33	
f)	Survey & Cultivation of Medicinal Plants Scheme	5,33,308.33	
g)	Literary Research Scheme	2,09,790.71	
h)	Clinical Research Scheme	8,60,853.51	
i)	Central Research Institutes	19,39,494.92	
j)	Regional Research Institutes	4,12,553.37	
k)	Regional Research Centres	2,12,403.98	
l)	Amalgamated Unit	1,89,228.57	
m)	Captain Srinivasa Murti Research Institute	1,77,327.71	
n)	Homoeopathy Research Scheme	2,87,611.77	
o)	Family Planning Research Scheme	66,600.76	60,17,614.08
3.	Building (Jawaharlal Nehru Ayurvedic Medicinal Plhnts Garden and Herbarium Poona)		98,005.00
	C/o		67,36,668.62

LIABILITIES		AMOUNT	ASSETS		AMOUNT
		Rs. Ps.			Rs. Ps.
	B/F	69,26,124.68		B/F	67,36,668.62
			4. Contingent advance to the Units :		
			As on 1-4-1975	33,399.20	
			Less adjustment	17,505.89	
				15,893.31	
			Add advance paid during 1975-76	14,050.10	29,943.41
			5. T.A. advance to the Units		
			As on 1-4-1975	9,582.00	
			Less adjustment	5,907.00	
				3,675.00	
			Add advance paid during 1975-76	10,663.00	14,338.00
			6. Advances refundable		
			i) Scooter advance (Rs. 3,925+Rs. 5,850)		9,775.00
			ii) Cycle advance (Rs. 110+Rs. 2,200)		2,310.00
			iii) Flood advance		2,817.80
			7. Advance payment to the PWD for carrying out repairs to the building of the C.R.I. (H). Calcutta		76,131.00
			8. Security Deposit		4,140.85
	C/o	69,26,124.68		C/o	68,76,124.68

S. No.	LIABILITIES		AMOUNT	S. No.	ASSETS		AMOUNT
			Rs. Ps.			Rs. Ps.	Rs. Ps.
		B/F	69,26,124.68			B/F	68,76,124.68
		Total	69,26,124-68	9.	Advance payment to NIA, Jaipur		50,000.00
						Total Rs.	69,26,124.68

I have examined the foregoing accounts and balance sheet of the Central Council for Research in Indian Medicine and Homoeopathy, New Delhi and obtained all the informations that I have required and subject to observations in the inspection report appended, I certify as a result of my audit, that in my opinion these acconnts and the balance sheets are properly drawn up so as to exhibit a true and fair state of affairs of the Council according to be best of the informations given to me and as shown by the Books of the Council.

Sd/-
(P.N.V. Kurup)
Director
C.C.R.I.M.H.

Sd/-
(K.K. Subramanian)
Assistant Director (ADMN)
C.C.R.I M.H.

Sd/-
(J.K. Dass)
Accounts Officer
C.C.R.I.M.H.

Sd/-
(R.P. GUPTA)
Accounts Officer
A.G.C.R.

APPENDIX-I

Statement showing the details of recovery of Income Tax CPF, CD (DA) etc. in the pay bills in the Headquarters Office.

1.	C.P.F. subscriptions to CCRIMH CPF Account		3,66,844.10
2.	C.P.F. Subscriptions		7,692,00
3.	Advance recovered		
	i) Festival advance	7,417.00	
	ii) Flood advance	2,182.20	
	iii) Cycle advance	4,883.00	
	iv) Scooter advance	7,749 00	
		22,231.20	
	Less advance relating to 1975-76 adjusted	8,752.20	13,479.00
4.	C.G.H.S. contribution		3,556.50
5.	P.L.I. Premium etc.		181.20
6.	D.A. (C.P.F.)		22,163.90
7.	D.A. (C.D.)		3,20,581.40
8.	Recovery of travelling allowance		1,366.90
9.	Professional tax		1,661.00
10.	Income tax		42,460.00
11.	Miscellaneous		112.65
		Total	7,80,098,65

APPENDIX-II

Statement of details of recovery of Income Tax, CPF etc. made in the pay bills and other receipts by the Decentralised Units.

			Amount
1.	Income tax		34,102.00
2.	C.P.F. subscriptions		2,57,054.44
3.	G.P.F. subscription		1,986.30
4.	Festival advance	3,880.00	
	Scooter advance	1,456.00	
	House building/cycle advance	4,589 50	
		9,925.50	
	Less advance relating to 1975-76 adjusted	680.00	9,245.50
5.	L.I.C. Premium		25,828.50
6.	C.D. (D.A.)		2,22,503.85
7.	D.A. (CPF) recovered		30,484.65
8.	House rent		882.75
9.	C.P.F. advance		11,840.00
10.	Hire charge of jeep for private use		156.25
11.	Pay and allowances received from other offices		23,726.50
12.	Recovery of pay and allowances		2,299.89
13.	Water and electricity charges		543.76
14.	Refund of earnest money		243.00
15.	Sale of usufructs etc articles		994.00
16.	Purchee fee from the patients		2,133.40
17.	Subscription for journals		2,521.90
18.	Tender fee		34.15
19.	Undisbursed salary		15,086.92
20.	Miscellaneous		33,922.62
21.	Earnest money		2,628.00
		Total	6,78,218.38

APPENDIX-III

Statement showing the details of payment of Income Tax C.P.F. etc. (Headquarters Office)

		Amount
1.	C.P.F. subscriptions deposited in CPF account	4,15,774.62
2.	C.P.F. subscriptions remitted	7,570.00
3.	Income tax paid	43,682.00
4.	Scooter advance and cycle advance remitted	1,256.00
5.	PLI premium etc. remitted	190.50
6.	CD (DA) paid	3,18,795.00
7.	DA (CPF) transferred to CPF account	27,457.10
8.	Refund of Income tax	154.00
9.	CPF contribution in respect of deputationists transferred to CPF account	2,680.00
10.	Leave salary and pension contribution paid	18,752.55
	Total	8,36,311.77

APPENDIX–IV

Statement of payment and remittance of recoveries made in the bills and receipts by the Decentralised Units.

		Amount
1.	Income tax paid	34,167.00
2.	C.P.F. subscriptions paid	2,51,993.44
3.	G.P.F. subscriptions paid	1,986.30
4.	L.I C premium paid	25,828.50
5.	C D. (DA) paid	2,23,009 85
6.	Earnest money refunded	3,078.00
7.	CPF (DA) remitted	31,037.50
8.	Scooter advance	1,461.00
9.	House building/cycle advance	3,558.00
10.	Festival advance	1,320.00
11.	House rent	702.75
12.	Hire charges of the jeep	148.75
13.	CPF advance paid	11,840.00
14.	Payment of pay and allowances received from other offices	24,553.15
15.	CPF (DA) refunded	33,610.15
16.	Sale of usufructs etc.	850.00
17.	Subscription for journals	2,521.90
18.	Purchee fee from the patients	2,133.40
19.	Refund of unspent balance by JNAMPG&H	29,903.32
20.	Miscellaneous	21,025.18
	Total	Rs. 7,04,728.19

CENTRAL COUNCIL FOR RESEARCH IN INDIAN MEDICINE AND HOMOEOPATHY
STATEMENT OF RECEIPTS AND PAYMENTS OF C.P.F. ACCOUNT FOR THE YEAR 1975-76

S.No.	RECEIPTS	AMOUNT
		Rs. Ps.
1.	Opening Balance (Savings Bank Account)	99,603.93
2.	C.P.F. Subscriptions for 1974-75	18,372.67
3.	Interest on C.P.F. Subscriptions for 1974-75	46,092.45
4.	Council's C.P.F. Contribution for 1974-75	3,16,584.00
5.	Interest on Council's C.P.F. Contribution for 1974-75	25,339.00
6.	C.P.F. Subscriptions for 1975-76 (including refund of Advance)	5,69,630.23
7.	Transfer of C.P.F./G.P.F. from other offices	22,365.24
8.	Transfer of D.A. (C.P.F.) from the current account	26,953.10
9.	Interest on Savings Bank Account	6,332.08
10.	D.A. (C.P.F.) received from the Decentralised Units	36,376.29
11.	C.P.F. subscription received from the I.C.M.R.	377.80
12.	Interest on Fixed Deposits Account	60,558.52
	Total :	12,28,585.31

S.No.	PAYMENTS		AMOUNT
			Rs. Ps.
1.	Amount deposited to fixed deposit account ...		9,25,633.00
2.	C.P.F. Advance paid ...		1,34,636.00
3.	**Final payment of C.P.F.**		
	i) Subscription account	8,304.00	
	ii) Contribution account	195.00	8,499.00
4.	Bank Commission charge		4.00
5.	Interest on savings Bank Account transferred to the Current Account		9,727.28
6.	**Transfer to the current account :**		
	i) Council's contribution forefieted	9,137.00	
	ii) Interim relief credited to C.P.F.	65.00	
	iii) Others	244.75	9,446.75
7.	Interest on fixed deposits transferred to current account		60,558.52
8.	Closing balance		80,080.76
		Total :	12,28,585.31

CENTRAL COUNCIL FOR RESEARCH IN INDIAN MEDICINE AND HOMOEOPATHY
BALANCE SHEET OF CPF ACCOUNT AS ON 31st MARCH, 1976

LIABILITIES		AMOUNT	ASSETS		AMOUNT
	Rs. Ps.	Rs. Ps.		Rs. Ps.	Rs. Ps.
1. Subscribers Account :			**1. Fixed Deposit Account :**		
a) Opening Balance	7,99,293.88		a) Opening Balance	10,77,656 00	
b) Subscriptions due for 1974-75 received and deposited	18,372.67		b) Add deposits during 1975-76	9,25,633 00	
c) Interest on subscriptions due for 1974-75 received and deposited	46,092.45				20,03,289.00
	8,63,759.00		2. Subscriptions and interest on subscriptions due but not deposited (contra) (Rs.27,284.17+Rs.81,383.56)		1,08,667.73
d) Subscriptions due for 1975-76 received and deposited	5,92,373.27		3. Contribution and interest on contribution due but not deposited (contra) (Rs. 4,22,627.00 + Rs 50,873.00)		4,73,500.00
e) Subscriptions due for 1975-76 but not deposited	27,284.17		4. Amount transferred to the current account (Rs 729.10 + Rs. 193.00)		922.10
f) Interest due for 1975-76 but not deposited	81,383.56		**5. Commission Charges :**		
	15,64,800.00		i) For the period ending 31.3.1975	195.88	
Less Withdrawal	1,43,005.00		ii) During 1975-76	4.00	
		14,21,795.00			199.88
2 Council's Contribution Account:			6. Subscription and advance received in March, 1976 but to be credited in April, 1976 (contra)		30,825.00
a) Opening Balance	3,62,601.00		7. Closing Balance		80,080.76
b) Contribution due for 1974-75 received and deposited	3,16,584.00				
c) Interest due for 1974-75 received and deposited	25,339.00				
	7,04,524.00				
C/o		14,21,795.00	C/o		26,97,484.47

LIABILITIES		AMOUNT	ASSETS	AMOUNT
	Rs. Ps.	Rs. Ps.		Rs. Ps.
	B/F	14,21,795.00	Total B/F	26,97,484.47
d) Contribution due for 1975-76 but not deposited	4,22,627.00			
e) Interest on contribution due for 1975-76 but not deposited	50 873.00			
	11,78,024.00			
Less Withdrawal	9,332.00			
		11,68,692.00		
3. **Interest on Fixed Deposit & Savings Bank Account :**				
Opening Balance	16,238.28			
Interest earned on Savings Bank Account during 1975-76	6,332.08			
	22,570.36			
Less transfer to the Current Account	9,727.28			
		12,843.08		
4. D.A. (CPF) transferred to C.P.F. Account		63,329.39		
	C/o	26,66,659.47	Total Rs.	26,97,484.47

LIABILITIES		AMOUNT	ASSETS		AMOUNT
		Rs. Ps.			Rs. Ps.
	B/F	26,66,659.47		B/F	26,97,484.47
5. Subscriptions and Advance received in March, 1976 to be credited in April,1976		30,825.00			
	Total :	26,97,484.47		Total	26,97,448.47

I have examined the foregoing accounts and balance sheet of the Central Council for Research in Indian Medicine and Homoeopathy, New Delhi and obtained all the informations that I have required and subject to observations in the inspection report appended, I certify as a result of my audit, that in my opinion these accounts and the balance sheet are properly drawn up so as to exhibit a true and fair state of affairs of the Council according to be best of the informations given to me and as shown by the Council.

Sd/-
(P.N.V. Kurup)
Director
C.C.R.I.M.H.

Sd/-
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