

Annual Report

2008 - 2009



Institute for Post Graduate Teaching
& Research in Ayurveda
Gujarat Ayurved University,
Jamnagar - 361 008, Gujarat.



Foreword

In 1952, Govt. of India has established a Central Institute of Research in Ayurveda at Jamnagar in the great palacious building, Dhanvantari Mandir. There after on 20th July, 1956, a Post Graduate Training Centre in Ayurveda (PGTCA) was established by Govt. of India in Jamnagar. Later on these both Institutions were merged in 1962 named as Institute for Ayurvedic Studies & Research (IASR) which became integral part of the Gujarat Ayurved University in 1967 and renamed as Institute of Post Graduate Teaching and Research (I.P.G.T. & R.A.). At present this Institute is managed by Gujarat Ayurved University under its acts and statute and fully financed by the Govt. of India. Board of Post Graduate Teaching & Research in Ayurveda is governing body and Scientific Advisory Committee and Academic Committee are the statutory bodies help in the management of the Institute.

The Governing body constituted as per the Gujarat Ayurved University Act for the management of this Institute is fully represented by the Govt. of India and Govt. of Gujarat. It imparts post graduate level teaching and intensive researches in various fields of Ayurveda. Till date more than 1300 post graduates have passed from this Institute who are serving Ayurveda in India and abroad. The work force developed by this University forms the backbone of Ayurvedic teaching, Research and administration in India. This institute has been also recognized as W.H.O. collaborative centre for indigenous system of medicine. Since 1977 till date nearly 120 theses have been awarded the degree of Ph. D. There are ten teaching faculties and five independent laboratories are in the Institute and provide facility for Post Graduate teaching and research in 13 specialities for Post Graduate degree and doctorate degree. Forty two stipendiary seats are available for the Indian and International students coming from all over the country.

The Institute, being a premier Institute of Govt. of India always participates in the National Health Programmes of Govt. of India. During last year Govt. of India has started two National campaigns i.e. National Campaign in Geriatric Health Care and National Campaign on Kshara Sutra. Institute is implementing these programmes and organizing various out-reach activities for these programmes and started the Geriatric clinic and various research projects in these areas. A National workshop on 'Problems of Aging Women - Preventive and Curative Aspects' was organized by the department of Stree Roga & Prasuti Tantra, on the occasion of 53rd foundation day of the Institute on 20th - 21st July 2008. More than 150 teachers and students of the Institute participated in the workshop and 8 eminent speakers from all over the country delivered there lectures.

As a part Govt. of India programme for up-gradation of the man-power of AYUSH Institute is organizing the Reorientation Training Programme (RoTP) and CME for the teachers and Medical Officers of Ayurveda. During the reporting year 5 RoTP and 4 CMEs were conducted. These programmes were conducted under the Sponsorship of Govt. of India and were well attended. Renowned experts of Ayurveda imparted training to the teachers of Ayurveda.

Institute has many projects in hand sponsored by Govt. of India and WHO. The work on digitalization of manuscripts of Ayurveda available in the library is in progress. A 60 lectures e-learning programme is being prepared for the sensitization of Medical graduates in Ayurveda. Under WHO sponsorship preparation of manual for common diseases treatment and preparation of International catalogue of Ayurvedic publications under progress.

Pharmacovigilance Programme for ASU Drugs - Institute for Post Graduate Teaching & Research in Ayurveda (IPGT&RA), Gujarat Ayurved University, Jamnagar as national Pharmacovigilance Centre for Ayurveda, Siddha and Unani Drugs (NPRC-ASU) in India. The

extensive training programme for the physicians and teachers of Ayurveda has been started regarding reporting and evaluation of ADR. During the year four workshops were organized at Guwahati, Varanasi, Bhopal and New Delhi. Under this programme various popularization programmes are being conducted under which in the CME / RoTP and other seminar and symposia, lectures on Pharmacovigilance are being delivered. A Training Programme in Pharmacovigilance for Co-Ordinators of PPC / RPC of A.S.U Drugs, was conducted under the sponsorship of W.H.O during December 11th & 12th, 2008.

AYU Research Journal : Institute is publishing a Peer reviewed Research Journal titled 'AYU', to give more credibility to Ayurveda and disseminate the knowledge. During the year 4 issues of the Journal were published containing National and International papers. The Faculty of the Institute is also engaged in publication of research papers, books and during the year 46 research papers were published by the faculty in various peer reviewed National and International Journals and 1 book was also published.

The Teachers and students of the Institute are continuously participating in the Academic and research activities at all India level. Many teachers are being invited by the National Institutes and Ayurvedic colleges for delivering guest lectures in Seminars, Symposia, Workshops of National and International level.

CME on paper writing : Institute is engaged in uplifting the acumen of the faculty and scholar and as a part of the same a National workshop on Preparation of Scientific Research Paper and Project Reports was organized on the occasion of foundation day of Gujarat Ayurved University on 5th January 2009. The aim of this CME programme was to train and inculcate the art of technical paper drafting for scientific journals and presenting them before the scientific fraternity at large for popularization of this ancient science.

During the academic year 2008-2009 an Joint All India Entrance Test for the admission of M.D. (Ayu) / M.S. (Ayu) course was conducted for Jaipur and Jamnagar. Total 42 admissions were given including OBC candidates to implement the decision of Govt. of India, 3 foreign Nationals were also given admission. Amongst these candidates 45 % were females. During the year total 120 students were studying in the Institute out of which 28 were Ph.D. scholars.

This Institute also conducts the courses of M. Pharma (Ayurveda) and M.Sc. (Medicinal Plants of Ayurveda) as part of Self finance activity. During the year 15 students have been given admission in M. Pharma (Ayurveda) course and 6 in M.Sc. including one Iranian student.

In June 2008 the regular examinations for M.D. (Ayu.) first year and final year were conducted. Total 64.44% students of first year and 100% students of final year were passed the exam. Total 33 weekly seminars were organized at the Institute level, on every working Thursday in which final year post graduate scholars presented their research work.

The I.P.G.T. & R.A. is organizing various training programmes for International scholars. During this academic session total 10 students from France, U.S.A., Colombia, Brazil, Ecuador, Japan, Nepal & Chili have joined the Introductory course conducted during November 1st 2008 to January 31st 2009. During the year three students from Mauritius, Maldieives and Srilanka were admitted in M.D.(Ayu) course and 3 Sri Lankan students were admitted in Ph.D. course. A special one week introductory programme on Ayurveda was organized from 5th to 9th August for Dr. (Mrs) Michele Barzach, Ex. Minister of Health, France, Prof.(Dr.) Jacques Lebas, chief Medical doctor, St. Antonie hospital, Paris. Delegations from Russia, Germany and France have visited the Institute during the year. During the year one new MoU has been signed with Jeonju University, South Korea.

The Institute had been the WHO collaborating centre. At present process of re-designation is in progress. During the reporting year 02 persons from Nepal were given one month training in Panchakarma. The faculty of the Institute is being regularly visiting foreign country

on deputation of Govt. of India and on invitation from various Institutes. During the year Dr. M. S. Baghel- Director, Prof. H. M. Chandola - Professor, Dr. Ravishankar B.- Pharmacologist and Prof. K. S. Dhiman - has visited France, Russia, South Korea, Poland, Muscut and Italy on deputation from Govt. of India.

This institute has a well managed Hospital with O.P.D. & I.P.D. facilities. During the year total **134536** patients were treated as out door patient with an average of **369** patients per working day, which included **59382** female and **9277** children. Total 2136 patients were admitted to the various wards of the hospital as I.P.D. patients. During the current year one new extension weekly O.P.D. has been started at Naval Centre at INS Valsura. Average 40 patients per week take privilege of this facility. During the 6 camps were organized in rural areas of Saurashtra and 6 specialiity camps were organized in the campus. Health check up camps for five schools was organized by the Kaumarbhritya Dept. of the Institute. For the management and recording of treatment data of the Institute installation RUDRA software is in progress.

Govt. of India has sanctioned Rs. 315 Lacs as Plan money for the development of the Institute. The construction of new Institute building is to be done design has been finalized and tenders have been issued and internal roads were revamped with paver's blocs. New research instruments and furniture has been purchased for the Institute.

During the reporting year three meetings of PG Board have taken place in which important decisions were made. Board has taken radical decisions to revamp the examination pattern of PG courses and adopted scoring / grading system in place of conventional marking system. Board approved the implementation of the sixth pay commission to the employees of the Institute. Board also approved two new Memorandum of Understanding with Gujarat State Bio - Technology Mission, Sridharyam Ayurvedic Eye Hospital, Kerala. The Board also approved the creation of New Dept. of Roga Vigyan and Vikriti Vigyan by bifurcating the existing Kayachikitsa Dept. Board also approved the organization of International Seminar on Geriatric Management in January 2010. A new course of Panchakarma technician has also been approved.

On this occasion, I convey my sincere thanks to Govt. of India, Authorities of the Dept. of AYUSH, Dept. of ISM& H., Govt. of Gujarat, Gujarat Ayurved University, Jamnagar for their cooperation provided for the running of this Institute. Special thanks are due to the members of PG Board and other regulating committees who provided their expertise and support for the development of the Institute. The development of this Institute is the result of whole hearted effort of the Faculty, staff, PG & PhD students of this Institute; I convey my sincere thanks to them also.

(Prof. M.S. Baghel)
Director

BOARD OF POST GRADUATE TEACHING & RESEARCH IN AYURVEDA

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Gujarat Ayurved University,
Jamnagar - 361 008. | - | Member |
| 13 | Shri R. M. Jhala
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Jamnagar - 361 008. | | -Member / Secretary |

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N-9/31-32 Brij Enclave Extension, P.O. Bajardiha,
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Vill. Undavalli - 522501 P.O. Phadepalli,
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9. The Secretary, - Member
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61-65 Institutional Area, Opp. D Block , Janakpuri
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Gujarat Ayurved University, Jamnagar - 361 008.
16. Prof. H. M. Chandola, - Member
Dean, I.P.G.T. & R.A.,
Gujarat Ayurved University, JAMNAGAR.
17. Shri R. M. Jhala, Registrar, - Member/Secretary
Gujarat Ayurved University, JAMNAGAR.

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2. Dr. Medhaswini B. Jani - Member
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Gandhinagar
3. Dr. S. K. Sharma - Member
Adviser - Ayurveda,
Dept. of AYUSH,
Government of India (or his representative)
New Delhi.
4. All Heads of the Teaching Depts.,
Institute of Post Graduate Teaching & Research in Ayurveda, Jamnagar - Member
 1. Prof. R. R. Dwivedi, H.O.D. of Basic Principles
 2. Prof. P. P. Sharma, H.O.D. of Dravyaguna
 3. Prof. V. D. Shukla, H.O.D. of Panchakarma
 4. Prof. S. N. Vyas, H.O.D. of Kayachikitsa
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 7. Prof. Chaturbhuj Bhuyan, H.O.D. of Shalya Tantra
 8. Prof. Dhiman, H.O.D. of Shalakya Tantra
 9. Dr. K. S. Patel, H.O.D. of Kaumarabhritya
5. Two members nominated by the Board of PGT & R
 1. Dr. A. K. Sharma, Professor Dept. of Kayachikitsa, N.I.A., Jaipur - Member
 2. Dr. Manoranjan Sahoo, Professor Dept. of Shalya, BHU, Varanasi. - Member
6. One Principal on rotation of the affiliated colleges where there is an up graded Dept.
 1. Dr. S. G. Bhadaliya, Principal, Govt. Akhandanand Ayurved Mahavidyalaya, Bhadra, Ahmedabad. - Member
7. Prof. M. S. Baghel, Director, I.P.G.T. & R.A. - Member
8. Prof. H. M. Chandola, Dean, I.P.G.T. & R.A. - Member
9. Shri R. M. Jhala, Registrar, Gujarat Ayurved University, Jamnagar. - Member Secretary

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DEPARTMENT OF MAULIKA SIDDHANTA

INTRODUCTION :

The department of Maulika Siddhanta conducts teaching, training and research in two specialities viz Ayurved Siddhanta evam Darshana and Samhita. The department also teaches the compulsory subjects i.e. research methodology and medical statistics to the scholars first year M.D. (Ayu.). In addition to this, subjects like 'Basic Principles of Sharira' and 'Basic Principles of Ayurveda' are also being taught to the scholars in 'Ka' group of first M.D. (Ayu.) by this department. For the second and final year M.D. (Ayu.) scholars the subjects like 'Padartha Vijnana', 'Darshanika Siddhanta', 'Aadharbhuta Siddhanta', 'Charaka Samhita', 'Sushruta Samhita', 'Ashtanga Samgraha' and 'Ashtanga Hridya' are also been taught throughout the year. The Department has following teaching staff.

	Name	Designation	Qualification
1	Prof. R. R. Dwivedi	Professor	M.D.(Ayu), Ph.D.
2	Dr. M. K. Vyas	Reader	M.D.(Ayu), Ph.D.
3	Dr. A. S. Baghel	Reader	M.D.(Ayu), Ph.D.
4	Dr. H. A. Vyas	Lecturer	M.D.(Ayu)

During the span of April 2008 - March 2009, the Dept. has involved in various activities; brief data on which is as follows:

ACADEMIC ACTIVITIES :

Summary of the Academic activities of the department for 2008 - 2009 are as follows:

Sl. No.	Activity	Total No.
1	No. of M.D. (Ayu) Students	015
2	No. of Ph.D. (Ayu) Students	003
3	No. of Ph.D. (Ayu) Degree awarded	003
4	No. of theory classes conducted for 1 st M.D. (Ayu)	096
5	No. of theory classes conducted for 2 nd & 3 rd M.D. (Ayu)	511
6	No. of papers presented in National / International Seminars including guest lectures	022
7	No. of papers Published	003
8	Participation in Sarvaroganidana chikitsa camps	004

CLINICAL RESEARCH: Hospital Activities - General Data:

* No. of Patients visited OPD	:	12099
* Patients admitted in IPD	:	00121

RESEARCH ACTIVITIES :

Ph.D. Research Projects (Completed) :

1. Evolution and evaluation of some objective parameters for Ushna and Shita Gunas based on Pancha bhautika theory and experiments.

Scholar : Dr. Santosh Mane, Guide : Prof. R.R. Dwivedi,
Co-Guides : Dr. M. K. Vyas, Dr. B. Ravishankar.

This research work consists of conceptual, pharmacognostical, physico - chemical and pharmacological studies along with clinical effects of the *Ushna* and *Shîta Guna Dravya* in patients of *Amlapitta*. The patients were divided in two groups according to their complaints of *Shîtagunadhikyâtâ* or *Ushnagunâdikyâtâ* in Group 'A' and Group 'B' respectively. Group 'A' was treated with *Ushnagunayukta* Drugs and in Group 'B' *Shîtagunayukta* Drugs were administered. These two groups were then again randomly sub-divided into three groups each. In group 'A' total 95 patients were treated, for duration of 4 weeks. In group 'B' total 91 patients were treated, for duration of 4 weeks. The results were analyzed on the basis of symptomatic relief. The properties of *Ushna* and *Shîta Gunas* were studied through pharmacognostical, physico - chemical, pharmacological and clinical parameters to find out some objectivity. On all these parameters it has been found that characteristics of *Ushna* and *Shîta Gunas* are differentiable especially in clinical study in 185 *Amlapitta* patients.

2. Fundamental and applied study of Snigdha and Ruksha Gunas with special reference to Rasa - Raktagata Sneha (Hyperlipidemia).

Scholar : Dr. Sangram Mishra,

Guide : Prof. R.R. Dwivedi,

Co-Guide : Dr. B. Ravishankar.

The snigdha guna is described as the characteristics of Cikkanata and Sneha tulya etc. Improper formation of snigdha (Lipids), improper quantity and impaired digestion of lipids will lead to any type of the diseases related to Sneha guna vaishamya. In this study hyperlipidemic persons were included to assess the Snigdha guna vaishamya as the condition can be assessed by Lipid profile. The work was selected to establish the Snigdha guna vaishamya present in the body and body elements like Dosha, Dhatu and Mala of Hyperlipidemic persons.

Total 110 persons of Rasa-raktagata snehadhikya were registered. Among these selected persons all the 100% persons suffered from Kapha prakopa lakshanas i.e. Nidra, Gaurava and Alasya where as Pittaparakopa lakshanas were observed in 99.09% of persons. Kleda vridhhi lakshanas were also seen in those alongwith the Pitta prakopa lakshanas. Out of those 98.18% persons suffered from Netra Raktima. Among Vataparakopa lakshanas, 99.09% persons suffered from Toda. From the above discussion it can be concluded that the Kapha vargiya dhatus are more vitiated in this disease. Pitta and Vata vargiya Dhatus are also involved in this disease. The increase in Snigdha of malas was also found in all the Hyperlipidemic persons.

3. An Applied Concept of Dhatusarata and Vyadhikshamtva (Immunity).

Scholar : Dr. Indra Kumar Parvani,

Guide : Prof. R. R. Dwivedi,

Co-Guide : Dr. J. R. Joshi.

Acharya Charaka has indicated Dashavidha Pariksha to examine the Sharira bala and Ayu pramana. Sara is one of them and it is enumerated to assess the strength of the body. There are many subjective parameters described in the classics for assessment of Sara, but in present era it is need of hour to establish some objective parameters for the same. With this view in mind this particular work has been designed. Haematological, biochemical investigations of blood and serum, routine and microscopic investigations of urine and stool were carried out to find some relation between particular investigation and particular Dhatu sarata. Total 200 healthy volunteers were surveyed as an applied part of the subject. It is found that Pravara Sarata is decreasing day by day in spite of increased literacy, medical awareness and huge development of medical science. It was also found that the level of Rasasarata and Shukrasarata increase by strict vegetarian diet while mix diet increases

Rakta, Mamsa and Meda Sarata. Particular Desha (Geographical place) also exerts its effect on Sarata.

Ph.D. Research Projects (In progress):

1. Ashtangahridaya Sutrasthana Adhyaya 1 se 10 ki Sahityika, Saiddhantika, Prayogika Evam Anusandhanatmaka Samiksha.
Scholar : Vd. Hitesh Vyas, Guide : Prof. R. R. Dwivedi.
2. A critical study of Srotovimaniya Adhyaya with special reference to Annavaahasrotas and Amlapitta.
Scholar : Dr. Umapati C. Baragi, Guide : Dr. M. K. Vyas.
3. Panchabhautika assessment of guru and laghu guna wsr to santarpana and apatarpana janya klaibya.
Scholar : Dr. Umang Pandya, Guide : Dr. M. K. Vyas.

M.D. (Ayu.) Research Projects (Completed)

Samhita Speciality:

1. Conceptual and Critical study of Bhesaja Chatushka w.s.r. to Agnidipana.
Scholar : Dr. Sangita More, Guide : Prof. R. R. Dwivedi.

A clinical study was carried out on 47 patients of Adiptagni, who were randomly divided into two groups. Group A was treated with Panchakola Siddha Yavagu and Group B was treated with simple Yavagu with roasted rice powder. Complete remission was found in 17.24 % of the patients of Group A and in no patients of Group B. Marked improvement was found in 34.48% patients in Group A and 11.11% in Group B. Moderate improvement was found in 34.48 % in Group A and 27.78% in Group B. Mild improvement was found in 13.80% in Group A and 61.11% in Group B.

2. Critical Study of Vividhashitapeeteeya Adhyaya w.s.r. to principle of management in Rasa Pradoshaja Vikara.
Scholar : Dr. Ami Rajani, Guide : Dr. M. K. Vyas,
Co-Guide : Vd. Hitesh Vyas.

Total 59 patients of Agnisada were registered and randomly divided into two groups of Upavasa + Pachana (Group A) and Upavasa (Group B). 83.77% improvement was found in Group - A, while 72.97% in Group - B, which is statistically highly significant (<0.001). But in percentage wise comparison Group A showed better result than Group B.

Siddhanta Speciality :

1. A fundamental study of Swapna in the aspect of its Prakrita - Vaikrita Awastha and Sattvavajaya Chikitsa.
Scholar : Dr. Sonali Tendulkar, Guide : Prof. R. R. Dwivedi.

A survey of 100 healthy volunteers was carried out to assess Prakrita Swapna on the basis of their Shareerika Prakriti, Manasika Prakriti, frequency of Swapna and Agni types. Dreams of 30 Kushtha and 20 Rajayakshma patients were also assessed for Vaikrita Swapna on the basis of their Sadhya asadhyatva. 12 volunteers having Duhswapna were treated with Sattvavajaya Chikitsa. Complete remission of Duhswapna was seen in 66.66%, whereas 8.33% showed no change, 8.33% showed increase in frequency of Duhswapna; whereas 8.33% had temporary relief and 8.33% volunteers did not continue the treatment.

2. A conceptual and applied study of Badhana and Sanubadhana w.s.r. to Adverse Drug Reactions and ADR scale for Ayurvedic drugs.

Scholar : Dr. Megha Pathak,

Guide : Vd. Hitesh Vyas,

Co-Guide : Dr. M. K. Vyas.

An experimental study was carried out on albino rats and no acute or chronic toxicity with Pippali Churna was observed. A clinical study was carried out on 33 patients of Kaphaja Kasa randomly divided into two groups. Group A was treated with Pippali and Group B was treated with Vasa. Complete remission was found in 28.58% of patients in group A while 8.33% in group B. Marked improvement was found in 33.33% of group A while 58.34% in group B. Total 33.33% of patients were moderately improved in group A as compare to group B with 25%. Mild improvement was found 4.76% and 8.33% in group A and group B respectively. None of the patients was unchanged in both the groups. No adverse effects were found in the patients treated with Pippali.

3. Conceptual and Applied study of Paradiguna w.s.r. to Samyoga Guna.

Scholar : Dr. Ajay Kumar Rout,

Guide : Prof. R.R. Dwivedi.

A clinical study was carried out on 19 patients of Kaphaja Kasa, who were randomly divided into three groups. Group A (6 patients) was treated with Haritaki Churna, Group B (6 patients) with Saindhava Churna and Group C (7 patients) with an equal combination of Haritaki and Saindhava Churna. The relief of Kasa in Group A was 72.2%, in Group B it was 73.68% and in Group C it was 92.3%. Thus better relief was obtained in Kasa in the Group C (Samyoga group).

M.D. (Ayu.) Research Projects (In progress)

Samhita Speciality:

1. Concept of Drava Guna and its Role in Physio-Pathology w.s.r. to Amlapitta.

Scholar : Dr. Hemant Pol,

Guide : Dr. M. K. Vyas,

Co-Guides : Vd. Hitesh Vyas, Dr. B. Ravishankar.

2. A comprehensive and applied study of "Aturparijnana Hetwah" in context of Desha Pariksha.

Scholar : Dr. Rupesh Wadher,

Guide : Prof. R.R. Dwivedi.

3. Inter-relationship of Sharira Dosha and Manasa Dosha and their influence on physio - psychopathology.

Scholar : Dr. Kavita Vyas,

Guide : Prof. R.R. Dwivedi.

4. Study on Rasavimana Adhyaya of Charaka Samhita and applied aspect of Prakriti sama samaveta and Vikriti vishama samaveta Siddhanta.

Scholar : Dr. Sangita Mishra,

Guide : Prof. R.R. Dwivedi.

Siddhanta Speciality:

1. Conceptual and Applied study of Satkaryarvada in Ayurveda.

Scholar : Dr. Akansha Anupam,

Guide : Prof. R.R. Dwivedi.

2. Pharmacovigilant approach of Ayurveda in Dietetics w.s.r. Goghrita and Avikaghrita.

Scholar : Dr. Dipali J. Shukla,

Guide : Vd. Hitesh Vyas,

Co-Guide : Dr. M. K. Vyas, Dr. B. Ravishankar.

3. Basic concept of Disha and its applied aspect in Ayurveda.
Scholar : Dr. Vishal Pandya, Guide : Prof. R. R. Dwivedi.
4. Concept of diet and lifestyle in relation to health w.s.r. to management of Madhumeha (Diabetes Mellitus).
Scholar : Dr. Gyaneshwarsing Guddoye, Guide : Dr. Mahesh Vyas,
Co-Guide : Vd. Hitesh Vyas.
5. Applied study of Vayah Vayahparinamaj Bhava and role of Panchagavya Ghrita.
Scholar : Dr. Nisha Parmar, Guide : Dr. Mahesh Vyas,
Co-Guide : Vd. Hitesh Vyas.
6. An Applied study of inter-relationship of Jatharagni and Dhatvagni in context to Dhatuvridhi.
Scholar : Dr. Kishor Satani, Guide : Vd. Hitesh Vyas,
Co-Guide : Dr. M. K. Vyas.

LITERARY RESEARCH UNIT :

Dr. R.K. Jakhmola, Bhashashastry is constantly involved in literary research. Hindi translation of Sarasamgraha of Atreya is published in "AYU Journal Vol No.-30" Computerization of two manuscripts namely "Kalajnanam" and "Sharirpadmini" was done during the year.



DEPARTMENT OF DRAVYAGUNA

INTRODUCTION:

Department of Dravyaguna, deals with different aspects of plants and animal products described in Ayurveda, is concerned mainly with the teaching, research and clinical training to the post graduate scholars of Ayurveda. It discusses fundamental principles like identification, cultivation, collection, preservation and therapeutic applications etc. of medicinal plants. In addition to this, the branch also discusses about the drugs from animal resources used in Ayurveda. The Department has following teaching staff.

	Name	Designation	Qualification
1	Prof. P. P. Sharma	Professor	M.D.(Ayu), Ph.D.
2	Dr. T. N. Pandya	Reader	M.D.(Ayu), Ph.D.
3	Dr. R. N. Acharya	Reader	M.D.(Ayu), Ph.D.
4	Dr. Bhupesh Patel	Lecturer	M.D.(Ayu)

During the span of April 2008 - March 2009, the Dept. has involved in various activities; brief data on which is as follows:

ACADEMIC ACTIVITIES :

Summary of the Academic activities of the department for 2008 - 2009 are as follows:

<u>Sl. No.</u>	<u>Activity</u>	<u>Total No.</u>
1	No. of M.D. (Ayu) Students	011
2	No. of Ph.D. (Ayu) Students	003
3	No. of M. Pharma (Ayu) Students	003
4	No. of Ph.D. (Ayu) Scholars	003
5	No. of theory classes conducted for 1 st M.D. (Ayu)	035
6	No. of theory / Practical / Clinical classes conducted	529
7	No. of papers presented in National Seminars	001
8	No. of papers Published	006
9	No. of ventures organized	001

Awards Recieved

The department recieved "Gaweshakaratra award" along with cash prize instituted by Kerala Ayurveda Ltd., Kerala for the M.D. (Ayu.) research thesis of Dr. Shiromani Mishra under the direct guidance of Prof. P. P. Sharma.

CLINICAL RESEARCH:

Hospital Activities - General Data:

* No. of Patients visited OPD	:	8806
* Patients admitted in IPD	:	0115

RESEARCH ACTIVITIES:

Ph.D. (Ayu.) Research Projects (In Progress) :

1. Pharmacognostic and Pharmacological study of Virataru (*Dicrostachys cinerea* Wight & Arn.) and therapeutic effect on Mutravaha strotodushti (Urinary Disorders) w.s.r. to Mutra kruchchhra.

Scholar : Vd. Bhupesh R. Patel, Guide : Prof. P. P. Sharma,
Co-Guides : Dr. B. Ravishankar, Dr. Subrata De.

Pharmacognostical studies have been carried out to evaluate the authenticity of the raw material used in the trial drugs. Pharmacological studies in albino rats provided encouraging leads and promising results were obtained in the clinical trials conducted on 66 patients of Mutrakruhra.

2. A comparative Pharmaco - Therapeutic study of Tugaksheeree [*Curcuma angustifolia* Roxb. and *Maranta arundinacea* Linn.] w.s.r. to Amlapitta.

Scholar : Dr. Rajashekhara N., Guide : Prof. P. P. Sharma,
Co-Guide : Dr. B. Ravishankar.

Analytical study of both the samples showed partially similar Physico - chemical and Phytochemical profiles, indicating the possibility of similar clinical action. Pharmacological study revealed non toxic nature of both the drugs. Both the drugs were found effective against pyloric ligated ulcers; stress induced gastric ulcers and hypothermia in albino rats. The clinical revealed that, both the samples of Tugaksheeree are highly effective in relieving the cardinal symptoms of *Amlapitta*.

3. Evaluation of Anti - Ulcerogenic and Anti - Oxidant activities of Jivanti (*Leptadenia reticulata* Retz. wt. et Arn).

Scholar : Dr. Atanu Pal, Guide : Prof. P. P. Sharma,
Co-Guide : Dr. B. Ravishankar.

Pharmacognostical, Analytical, Pharmacological and Clinical studies were done. In the Clinical study, 80 patients of *Amlapitta* were treated with Jivanti Ghana Vati compared with Vit - C tablet in control group in the dose of 500 mg twice daily for 4 weeks. 42 patients were treated in I group and 38 patients in the II group. Significantly effective results were obtained in cardinal signs and symptoms of *Amlapitta* in the Jivanti Ghana Vati group. Pharmacognostical study reveals that *Leptadenia reticulata* Retz. is identified as real botanical source of Jivanti and other species may be considered as substitute of the plant which are used in different parts of India as Jivanti. The HPTLC study showed that *L. reticulata* matched more with the standard Quercetin.

M.D. (Ayu.) Research Projects Completed :

1. A comparative Pharmacognostic, Phytochemical and Pharmacological assessment of Market samples of Badi Pippali and Chhoti Pippali w.s.r. to Tamaka Shwasahara effect.

Scholar : Dr. Kumari Mamta, Guide : Prof. P. P. Sharma,
Co-Guides : Dr. T. N. Pandya, Dr. B. Ravishankar.

It was found in Pharmacognostical study that, Badi Pippali is matured one, while the Chhoti variety is immature. Phytochemical study revealed that 'Piperine' was present in all the varieties and the percentage was more in the Badi Pippali. Chhoti Pippali showed comparatively better Anti Tussive and anti inflammatory activities in Pharmacological study, while Badi Pippali provided better effect in clinical trials.

2. A comparative study for identification and evaluation of Kusha and Darbha to assess their Mootral Karma.

Scholar : Vd. Niti Tushar Shah, Guide : Dr. T.N. Pandya,
Co-Guides : Prof. P.P. Sharma, Vd. B.R. Patel, Dr. B. Ravishankar.

Based on the descriptions of classical literature and modern macroscopic as well as microscopic characters, Kusha may be identified as *Imperata cylindrica* Beauv. and Darbha as *Desmostachya bipinnata* Stapf. In pharmacological studies *D. bipinnata* has provided moderate diuretic effect while *I. cylindrica* has weak diuretic effect. The clinical trial of the two drugs in comparison with placebo control group on 29 healthy volunteers (10, 10 and 9 in 3 groups) in the dose of 5 g BID orally with water for 14 days indicated that the two drugs increased urine volume as compared to placebo group but the increase was statistically non significant.

3. A comparative appraisal of Brihati and its substitutes w.s.r. to its Pharmacognostical, Phytochemical and Pharmacological profile.

Scholar : Dr. Neha K. Kotak, Guide : Dr. B. R. Patel,
Co-Guides : Prof. P. P. Sharma; Dr. B. Ravishankar.

Pharmacognostical, Analytical and Pharmacological studies of *Solanum indicum* Linn., *Solanum incanum* Linn., *Solanum torvum* Swartz., *Solanum trilobatum* Linn. and *Solanum dubium* Fresen. were carried out. *Solanum incanum* Linn was found to be equally effective as diuretic as *Solanum indicum* Linn. in albino rats. All the species showed significant Anti tussive effect in experimental animals.

M.D. (Ayu.) Research Projects (In Progress) :

1. A study on *Cordia macleodii* Hook., a folklore medicinal plant w.s.r. to its Vranaropana karma (Wound Healing action).

Scholar : Vd. Bhargav Bhide, Guide : Dr. R. N. Acharya,
Co-Guides : Dr. B. Ravishankar; Mr. A.P.G.Pillai.

2. A comparative study of laghu panchamool drug 'Shaliparni' (*Desmodium gangeticum*) and their species w.s.r. to Pharmacognosy, Phytochemistry and Pharmacology.

Scholar : Vd. Bhavesh D. Vaghela, Guide : Vd. B. R. Patel,
Co-Guides : Dr. T. N. Pandya, Dr. B. Ravishankar.

3. Evaluation of Anti - Hyperlipidimic Activities of Vacha (*Acorus calamus* Linn.) w.s.r. to Sthaulya.

Scholar : Vd. Anoop Kumar Singh, Guide : Prof. P. P. Sharma,
Co-Guides : Dr. T.N. Pandya, Dr. B. Ravishankar.

4. A Pharmaco - Therapeutic Study on Kushtha (*Saussuria lappa* C.B.Clarke) w.s.r. Shukradushti.

Scholar : Vd. Dharmendra Jani, Guide : Dr. T. N. Pandya,
Co-Guides : Prof. P. P. Sharma, Dr. B.R. Patel, Dr. Ushnas Bhatt.

M. Pharma (Ayu.) Research Projects (In Progress) :

1. A comparative study on the role of Shodhana (Purification) on Sweta Datura (*Datura innoxia* Mill.) and Krishna Datura (*Datura metal* Linn.) Seed - A pharmacognostical & analytical study.

Scholar : Yogesh C. Patel, Guide : Dr. Rabinarayan Acharya,
Co-Guide : Prof. P.P. Sharma, Dr. V.J. Shukla.

2. A comparative study of stem bark & root bark of Patala (*Stereospermum suaveolens* DC.) w.s.r. to its Pharmacognostical, Analytical and Pharmacological profile.

Scholar : Jaimin R. Patel,

Guide : Dr. T.N. Pandya,

Co-Guides : Prof. P.P.Sharma, Vd. B.R. Patel, Dr. V.J. Shukla.

3. A comparative study of stem bark and root bark of Shyonaka - *Oroxylum indicum* (Linn.) Vent w.s.r. to its Pharmacognostical, Phytochemical and Pharmacological profile.

Scholar : Krunal A. Doshi,

Guide : Prof. P.P.Sharma,

Co-Guides : Vd. B.R. Patel, Dr. R.N. Acharya, Dr. V.J. Shukla.



DEPARTMENT OF RASA SHASTRA & BHAISHAJYA KALPANA INCLUDING DRUG RESEARCH

INTRODUCTION :

Department of Rasashastra and Bhaishajya Kalpana including Drug Research, the pioneer branch of Ayurveda for Drug Research is involved in drug development and standardization of single and compound formulations since last 50 years. Besides evolving in house SOPs to the Ayurvedic formulations, the main objectives of the department are to develop a data on Standard Operative Procedures of different Ayurvedic Formulations, to generate safety, toxicity profile of Ayurvedic formulations, particularly of Metal / Mineral based formulations and to establish clinical efficacy of the Ayurvedic formulations. The Department has following teaching staff.

	Name	Designation	Qualification
1	Prof. P. K. Prajapati	Professor	M.D.(Ayu), Ph.D.
2	Dr. V. Pattagiri	Reader	M.D.(Ayu), Ph.D.
3	Dr. Galib	Lecturer	M.D.(Ayu)

During the span of April 2008 - March 2009, the Dept. has involved in various activities; brief data on which is as follows:

ACADEMIC ACTIVITIES :

Summary of the Academic activities of the department for 2008 - 2009 are as follows:

<u>Sl. No.</u>	<u>Activity</u>	<u>Total No.</u>
1	No. of M.D. (Ayu) Students	013
2	No. of Ph.D. (Ayu) Students	006
3	No. of M. Pharma (Ayu) Students	019
4	No. of Ph.D. (Ayu) Degree awarded	001
5	No. of Ph.D. (Ayu) Degree submitted	003
6	No. of theory classes conducted for 1 st M.D. (Ayu)	114
7	No. of theory / Practical / Clinical classes conducted for 2 nd & 3 rd M.D. (Ayu)	523
8	No. of theory / practical classes conducted for 1 st M. Pharma. (Ayu)	113
9	No. of theory / practical classes conducted for 2 nd M. Pharma. (Ayu)	082
10	No. of theory / practical classes conducted for International Scholars	045
11	No. of papers presented in National / International Seminars including invitee speakers	017
12	No. of papers Published	012
13	No. ventures organized	002

CLINICAL RESEARCH :

Hospital Activities - General Data:

- * No. of Patients visited OPD : 11010
- * Patients admitted in IPD : 00065

RESEARCH ACTIVITIES :

Ph.D. (Ayu.) Research Projects (Completed) :

1. Evaluation of Shodhana (Detoxification) process and antidotal study on Vatsanabha.

Scholar : Dr. Prasanta Kumar Sarkar, Guide : Dr. P. K. Prajapati,
Co-Guide : Dr. B. Ravishankar.

The present work was planned to justify the process of Shodhana on Vatsanabha and to search a specific antidote for Vatsanabha poisoning from the ancient classical treasure. The aconitine content of raw Vatsanabha was found to be 0.2672%, after Shodhana in Godugdha it was reduced to 0.0669 % and after Shodhana in Gomutra, no trace of aconitine was found. Partial to complete removal of aconitine in Shuddha Vatsanabha reflects the importance of Shodhana of the poisonous plant drugs. In acute toxicity study, median lethal dose of crude aconite was found to be 35 mg/kg. In the Shuddha Vatsanabha by Gomutra and Shuddha Vatsanabha by Godugdha treated groups, no exitus occurred by up to 40 x TED. Chronic toxicity study revealed relatively less pathological effects of Shuddha Vatsanabha indicates that the Shodhana treatment lessens the toxic effects. Gomutra should be considered as a better media for Shodhana of Vatsanabha. Shuddha Tankana has been proved to be effective protective agent in acute and chronic Vatsanabha poisoning, and Vatsanabha induced cardio and neuro-muscular toxicity. Cardiac activity study reveals that Raw Vatsanabha caused bradycardia and increased in QRS complex. All these changes significantly altered by Shuddha Tankana treatment to the rats of raw Vatsanabha induced poisoning.

2. Pharmaceutical standardization of Tamra Bhasma and to evaluate its Anti-hyperlipidaemic and Cardioprotective activity in experimental model.

Scholar : Dr. Suhas Nayak, Guide : Dr. P.K. Prajapati,
Co-Guide : Dr. B. Ravishankar.

Somanathi Tamra Bhasma has been standardized in terms of time and temperature i.e. Mrudu Agni (212.50°C ± 50°C for 4 hours), Madhyamagni (400°C ± 50°C for 4 hours) and Tivragni (561.11°C ± 50°C for 4 hours). The temperature after 3 repeated Urdhvapatana procedures in Damaru Yantra was found to be 900°C in 1st Puta, 750°C in 2nd Puta and 550°C in 3rd Puta to 6th Puta. Ash value of Tamra Bhasma was found to be 94.73% w/w, acid insoluble ash 2.39% w/w, Carbon disulphide soluble extract 0.92 % w/w copper content 38.53% w/w. The compositional characterization of Somanathi Tamra Bhasma was found to be Aktshite [Cu₆Hg₃As₄S₁₂], ash value 53.19% w/w, acid insoluble ash 0.59 % w/w, Carbon disulphide soluble extract 2.42% w/w, copper content 23.69% w/w, Mercury 14.62% w/w, Sulphur 25.77w/w and arsenic content 23.41% w/w. Somanathi Tamra Bhasma provided better anti - hyperlipidemic and cardio protective activities in experimental animals in comparison to the plain Tamra Bhasma.

3. A Pharmaceutical Standardization of Narikela Khanda and Narikela Khanda Granule, its efficacy on Amlapitta.

Scholar : Dr. Pramod C. Baragi, Guide : Dr. B. J. Patgiri,
Co-Guides : Dr. P.K. Prajapati, Dr. B. Ravishankar.

Khanda Kalpana, a form of Avaleha Kalpana is a popular dosage form because of its palatability and high nutritional value. Narikela Khanda (Bhaishajya Ratnavali 30/233-234: AFI - I : 3/16.) and its granules were prepared, accessed for their stability and evaluated for efficacy on Urdhwaga Amlapitta through experimental and clinical studies. Average cost of 1 kg Narikela Khanda is estimated to be about Rs.180 and of Narikela Khanda granules is Rs. 192. Physico chemical parameters of both the samples were found to be with in the normal ranges and the differences are negligible. HPLC studies showed similar components at 270 & 200nm. Major heavy metals like mercury, arsenic, lead and cadmium were found to be below detection limits. Organo-phosphorous pesticides were also found to be below detection limits. Pharmacological study revealed that, both formulations have anti - ulcer activity in pyloric ligation induced and stress induced models. Clinically both formulations showed statistically highly significant results.

4. A pharmaceutical standardization of Syrup & Ghanavati (Tablet) of Jwarahara Dashemani and to evaluate its analgesic, anti- inflammatory and antipyretic activity.

Scholar : Dr. Bharat Kalsariya,

Guide : Dr. B.J. Patgiri,

Co-Guides : Dr. P.K. Prajapati, Dr. B. Ravishankar.

The study attempted to evaluate standard operative Process and establish shelf life of Jwarahara Dashemani Syrup and Tablet. Both the formulations were found to be stable on the basis of real time (6 months) and accelerated (equal to 24 months) stability study in context of physico - chemical parameters. The products found to be safe in relation to microbial and heavy metal load. The test formulations when administered in the form of syrup do possess moderate anti-pyretic, analgesic and anti-inflammatory activity; where as in tablet form it has only weak activity in experimental study. The test drug in syrup form is effective in controlling fever though it was not as good as paracetamol. However, JHD tablets showed any response only in few patients, indicating that it is not efficacious in controlling the fever. This apparently indicates that syrup is better effective than tablets.

Ph.D. (Ayu.) Research Projects (In Progress) :

1. A comparative Pharmaceutico - Pharmaco - Clinical Study of Herbo -Mineral Compounds (Gandhakadi yoga A and Gandhakadi yoga B) and its effect on Iron over loading w.s.r. to Thallassaemia.

Scholar : Dr. Joban K. Modha,

Guide : Dr. P.K. Prajapati,

Co-Guides : Dr. Atul Pandya, Dr. B. Ravishankar.

2. Standardization of Dashanga Lepa w.s.r. to its anti inflammatory and anti arthritic activities.

Scholar : Dr. Galib,

Guide : Dr. P.K. Prajapati,

Co - Guide : Dr. B. Ravishankar.

3. Stability Study of Shirisharishta and its effect on Tamaka Shwasa (Bronchial Asthma).

Scholar : Dr. Mundeep Jaiswal,

Guide : Dr. P.K. Prajapati,

Co-Guide : Dr. B. Ravishankar.

4. Stability study of Vasa Avaleha prepared by Swarasa & Kwatha and its effect on Tamaka Shwasa (Bronchial Asthma).

Scholar : Dr. Ankit Gupta,

Guide : Dr. P.K. Prajapati,

Co-Guide : Dr. B. Ravishankar.

5. Pharmaceutical Standardization of Rasa Karpura Drava and Rasa Karpura Malahara and their effect on Kshudra Kushtha.

Scholar : Dr. Neki Mehta, Guide : Dr. B.J. Patgiri,

Co-Guides : Dr. P.K. Prajapati, Dr. B. Ravishankar.

6. Pharmaceutical Standardization and toxicity study of Rasamanikya.

Scholar : Dr. K Srimannarayana, Guide : Dr. P.K. Prajapati,

Co-Guide : Dr. B. Ravishankar.

Ph.D. in M. Pharma (Ayu.) Research Projects (In Progress) :

1. Pharmaceutical Standardization of Apamarga Kshara Taila and Its Stability Study.

Scholar : Dr Hitaba Gohil,

Guide : Dr. P.K. Prajapati.

M.D. (Ayu.) Research Projects (Completed) :

Rasashastra Speciality :

1. A pharmaceutico - pharmaco - clinical study of Makaradhwaja prepare by Swarna Varka and Swarna Bhasma on Madhumeha (Diabetes Mellitus).

Scholar : Dr. Sanjay Khedekar,

Guide : Dr. P.K. Prajapati,

Co-Guides : Dr. B.J. Patgiri, Dr. B. Ravishankar.

Makaradhwaja was prepared by using Swarna Patra, Swarna Varkha and Swarna Bhasma in several batches and the pharmaceutical standardization was done. 250 mg of the medicament containing 125 mg of Makaradhwaja and 125 mg of Guduchi Ghana were filled in capsule and administered in cases of Diabetes for 28 days. The other group of patients received 250 mg of Guduchi Ghana for comparison. Before treatment and after treatment investigations were done and the results showed significant clinical improvement.

2. The effect of Puta in the preparation of Vanga Bhasma w.s.r. to Madhumeha (Diabetes Mellitus).

Scholar : Dr. Darshan K. Parmar,

Guide : Dr. B.J. Patgiri,

Co-Guides : Dr. P.K. Prajapati, Dr. B. Ravishankar.

Vanga Bhasma, significant amongst the metallic Bhasmas can be prepared by subjecting to Gaja Puta, Ardha Gaja Puta and Laghu Puta. Classics emphasizes that, the medicines which are prepared in Gaja Puta will possess greater activity i.e. Maha guna vidhayaka. References pertaining to Gaja Puta and Laghu Puta are abundantly available in classics, but, detailed descriptions regarding Ardha Gaja Puta are not. Looking in to this, an attempt has been made to standardize Ardha Gaja Puta in context of Vanga Bhasma. In the present study, Vanga Bhasma was prepared by subjecting to Gaja Puta and Ardha Gaja Puta. Desired qualities of Bhasma i.e. colour, particle size etc. was found to be attained in Ardha Gaja Puta in comparison to Gaja Puta. The Vanga Bhasma prepared by Ardha Gaja Puta was found to be effective experimentally and clinically.

Bhaishajya Kalpana Speciality :

1. A comparative study of Dhatriyarishta prepared by Dhatri Swarasa and Dhatri Kwatha w.s.r. to its effect on Pandu (Iron deficiency Anaemia).

Scholar : Dr. Subhashchandra S. Madavi,

Guide : Dr. B.J. Patgiri,

Co-Guide : Dr. P.K. Prajapati.

Dhatri (Amalaki) Swarasa has been advised in the pharmaceutical process of Dhatriyarishta in Charaka Samhita. But, as fresh fruits of Amalaki are not available throughout year, it is needed to have some alternative sources. Considering this, an alternative Dhatri Kwatha is used in the present study. Total 13 batches of Dhatriyarishta were prepared, 9 batches were prepared from Dhatri Swarasa and remaining 4 batches from Dhatri Kwatha. The alcohol percentage of Dhatriyarishta by Swarasa ranges between 4 to 6.65% v/v which may be taken as quality standard for particular method. The drug was subjected for clinical trials and based on sign and symptoms, 66.67% moderate improvement, 25% marked improvement and 8.33% mild improvement was observed.

2. The study of shelf life of Kumkumadi Ghrita prepared by Kumkum and Nagakeshara and its effect on Mukhadushika.

Scholar : Dr. Ameer Amrutia,

Guide : Dr. P. K. Prajapati,

Co-Guides : Dr. B. J. Patgiri, Dr. B. Ravishankar.

Among Sneha Dravya, superiority of Ghrita is indicated due to its 'Samskaranuvartana' property. Kumkumadi Ghrita, one of the formulations meant for external application has wide range of therapeutic properties. The component Kumkuma (Crocus sativus Linn.) is not an economic one and is difficult to obtain a genuine variety. Different pharmaceutical companies used to add Nagakeshara (Mesua ferrea Linn.) in place of Kumkuma (Crocus sativus Linn.) in case of which the therapeutics will differ. Considering this, the present study has been planned to evaluate the role Kumkuma and Nagakeshara in the formulation. Total seven batches each of the formulation by using Kumkum and Nagakeshara have been prepared. Organoleptic characters and results of chemical analysis were found to be similar in both the groups. All the samples were stable when stored at room temperature for 10 Months. The stability was found to be more in plain Ghritas when compared to Murchhita samples. In clinical study both groups of Kumkumadi ghrita showed significant results.

M. D. (Ayu.) Research Projects (In Progress) :

Rasashastra Speciality :

1. A pharmaceutical standardization of Gandhakadi Yoga and its effect on Thalassamic iron over load w.s.r. to Kadali as Pathya (Dietary intervention).

Scholar : Dr. Pramod Yadav,

Guide : Dr. P. K. Prajapati,

Co-Guides : Dr. Galib, Dr. B. Ravishankar.

2. A comparative Pharmaceutical and Clinical study of Jala Shukti Bhasma and Mukta Shukti Bhasma w.s.r. its effect on Amlapitta.

Scholar : Dr. Kirti Parmar,

Guide : Dr. B. J. Patgiri,

Co-Guide : Dr. Galib.

3. A study of Shadguna Balijarita Makaradhwaja prepared by Ashtasamskarita Parada and its effect on Madhumeha.

Scholar : Dr. Shraddha N Dhundi,

Guide : Dr. P. K. Prajapati,

Co-Guides : Dr. B. J. Patgiri, Dr. B. Ravishankar, Dr. V. J. Shukla.

4. Effect of shodhana in the preparation of Tamra Bhasma w.s.r. to its antihyperlipidaemic activity.

Scholar : Dr. Chandrashekhar Y. Jagtap,

Guide : Dr. P. K. Prajapati,

Co-Guides : Dr. B. J. Patgiri, Dr. B. Ravishankar, Dr. V. J. Shukla.

5. Pharmaceutical Standardization of Sameera Pannaga Rasa and its Effect on Tamaka Shwasa (Bronchial Asthma).

Scholar : Dr. Mayur Mashru, Guide : Dr. P. K. Prajapati,

Co-Guides : Dr. Galib, Dr. B. Ravishankar, Dr. V. J. Shukla.

Bhaishajya Kalpana Speciality :

1. Pharmaceutical Standardization of Mamajjak Ghana Vati prepared by two different methods (Kwatha and aqueous extract) wsr to its anti-hyperglycemic effect.

Scholar : Dr. Samir Tanna, Guide : Dr. P. K. Prajapati,

Co-Guides : Dr. B. J. Patgiri, Dr. B. Ravishankar.

2. A comparative study of Shirishavaleha prepared by Kwatha of Twak and Sara of Shirisha and its Shwasahara Effect.

Scholar : Dr. Shyamlal Yadav, Guide : Dr. Galib,

Co-Guides : Dr. P. K. Prajapati, Dr. B. Ravishankar.

3. A pharmaceutical standardization of Shatadhauta Ghrita w.s.r. to its Wound Healing Activity.

Scholar : Dr. Mayur Barve, Guide : Dr. Galib,

Co-Guides : Dr. P. K. Prajapati, Dr. B. Ravishankar, Dr. V. J. Shukla.

4. Role of Kalka and Kwatha in preparation of Sneha Kalpana w.s.r. to Guduchi Ghrita and its effect on Eka Kushtha (Psoriasis).

Scholar : Dr. Himanshi Navadhare, Guide : Dr. B. J. Patgiri,

Co-Guides : Dr. Galib, Dr. B. Ravishankar, Dr. V. J. Shukla.

M. Pharma (Ayu.) Research Projects (Completed) :

1. A Pharmaceutical & Analytical study of Vishwamitra Kapal Sneha.

Scholar : Kunal Maniar, Guide : Dr. P. K. Prajapati,

Co-Guides : Dr. B. J. Patgiri, Dr. V. J. Shukla.

Vishwamitra Kapala Sneha has been extracted by following three different methods. At the end of the different practicals it was concluded that the Ayurvedic method of taila patan utilizing earthen pot is suitable over other methods. Organoleptic characters, quantitative lipid determination, physico chemical parameters, qualitative tests, chromatographic study and GC - MS studies were carried out for trial drug. 17.81% w/w moisture content, 1.495 Refractive index, negative rancidity test, 35.066% w/w ash value, 63.61% w/w iodine value and 8.43% w/w unsaponifiable matter were found in the analytical study. Chromatographic study revealed total 3 spots, out of which two were visualized under day light and all the three after spraying with 5% methanol sulphuric acid. Spot having Rf value 0.68 was found common in both visualizations. GC - MS study of the drug revealed the presence of 5 fatty acids, out of which, mass spectra of three major peaks were studied. The study revealed the probability of the oleic acid, pelargenic acid and myristic acid in the Vishwamitra Kapal Sneha.

2. A comparative Pharmaceutical and Analytical Study of Strychnos nuxvomica (Kupeelu) w.s.r. to Shodhana by different medias.

Scholar : Rajbir Saini,

Guide : Dr. B. J. Patgiri,

Co-Guide : Dr. V. J. Shukla.

Three methods of Kupeelu Shodhana as explained in classics were followed in the present study. The presence of active constituents i.e. strychnine and brucine were compared with measuring the Rf values through TLC patterns. Two orange colour spots were observed after spraying the Dragendorff's reagent. Strychnine was observed at Rf value 0.52 and brucine was observed at 0.45 of sample A and sample B respectively. The analytical study reveals that, both the alkaloids were found to be increased quantitatively in presence of Goghrita and Kanji. The exact rationality behind this fact needs to be evaluated. On the basis of pharmaceutical & analytical study it can be concluded that Shodhana of Kupeelu with milk found better compared to Ghrita & Kanji.

M. Pharma (Ayu.) Research Projects (In Progress) :

1. Comparative Pharmaceutical and Analytical Study of Brihat panchamoola Kwatha prepared from Root and Stem Bark w.s.r. to Pravahi Kwatha.
Scholar : Manish Vyas, Guide : Dr. B. J. Patgiri,
Co-Guides : Dr. P. K. Prajapati, Dr. V. J. Shukla.
2. A Pharmaceutical and Analytical Study of Shalmali Kantik Lapa.
Scholar : Chirag Dholu, Guide : Dr. P. K. Prajapati,
Co-Guides : Dr. Galib, Dr. V. J. Shukla.
3. A Pharmaceutical and Analytical Study of Bakuladya Manjan.
Scholar : Hitesh Chauhan, Guide : Dr. B. J. Patgiri,
Co-Guides : Dr. P. K. Prajapati, Dr. V. J. Shukla.
4. A Pharmaceutical and Analytical Study of Gandhaka Malahara w.s.r. to Anti Microbial Activity.
Scholar : Piyush Sabhaya, Guide : Dr. Galib,
Co-Guides : Dr. P. K. Prajapati, Dr. V. J. Shukla.



DEPARTMENT OF KAYACHIKITSA

INTRODUCTION :

The main objectives of the department of Kayachikitsa are to impart teaching, training and research to the M.D. (Ayu.) scholars in the speciality of Kayachikitsa and Roga Nidana & Vikriti Vijnana; provide treatment facilities and consultancy services to the patients attending OPD and IPD of the Kayachikitsa, Roga Nidana & Vikriti Vijnana, Vajikarana and Geriatric section; organize training programme for the students of foreign countries who visit the institute under the MOU signed with Gujarat Ayurved University; other institutes under WHO collaboration; and for three months introductory course of Ayurved. As per the notification dated 28/02/09, the Department of Kayachikitsa has been bifurcated into two departments i.e. Kayachikitsa and Roga Nidana & Vikriti Vijnana. The Department has following teaching staff.

	Name	Designation	Qualification
1	Prof. S. N. Vyas	Professor	M.S.A.M., Ph.D.
2	Prof. H. M. Chandola	Professor	M.D.(Ayu), Ph.D.
3	Dr. A. R. Dave	Reader	M.D.(Ayu), Ph.D.
4	Dr. Darshana Pandya	Lecturer	M.D.(Ayu)
5	Dr. Mandip Kaur	Lecturer	M.D.(Ayu), Ph.D.

During the span of April 2008 - March 2009, the Dept. has involved in various activities; brief data on which is as follows:

ACADEMIC ACTIVITIES :

Summary of the Academic activities of the department for 2008 - 2009 are as follows:

<u>Sl. No.</u>	<u>Activity</u>	<u>Total No.</u>
1	No. of M.D. (Ayu) Students	018
2	No. of Ph.D. (Ayu) Students	009
3	No. of Ph.D. (Ayu) Degree submitted	004
4	No. of theory / practical classes conducted for 1 st MD	157
5	No. of theory / clinical classes conducted for 2 nd , 3 rd MD	407
6	No. of papers presented in National / International Seminars including guest lectures	018
7	No. of papers Published	013
8	No. of ventures organized	002
9	No. of diagnostic camps organized	007

CLINICAL RESEARCH :

Hospital Activities - General Data :

* Patients visited at General OPD	:	31573
* Patients admitted in IPD	:	00321
* Patients visited Geriatric OPD	:	00295
* Patients visited Vajikarana Laboratory	:	00895
* No. semen analysis done	:	00031

RESEARCH ACTIVITIES :

Ph.D. Research Projects (Completed) :

1. A clinical study on the management of Amavata (Rheumatoid arthritis) with Simhanada guggulu and Alambushadi churna tablet.

Scholar : Dr. Saroj Kumar Debnath,

Guide : Prof. Sudhaben N. Vyas.

Out of 90 registered patients of Amavata (Rheumatoid arthritis), 80 patients completed full course of the treatment. In Group-A, 40 patients were treated with 4 tablets of Alambushadi churna tablets (500mg each) orally thrice daily with warm milk, 1gm Simhanada guggulu orally thrice daily with warm water and Shatapushpadi Lepa applied locally over affected joints with warm water for 45 days. In Group-B, 40 patients were treated with Simhanada guggulu and Shatapushpadi Lepa in same dose & duration as Group-A. As per Paired't' test, both groups provided statistically highly significant effect on all the clinical features of Amavata like Sandhishula (Gp A : 64.77%, Gp B : 31.39%), Sandhishotha (Gp A : 61.03%, Gp B : 45.61%), Sandhi Stabdhatata (Gp A : 66.29%, Gp B: 35.63%), Sandhi Sparshasahata (Gp A : 62.96%, Gp B : 36.62%), Angamarda (Gp A: 65.38%, Gp B : 42.50%), Gaurava (Gp A : 60.0%, Gp B : 35.0%) and Aruchi (Gp A : 53.75%, Gp B : 48.68%). In addition, both Group provided statistically highly significant effect on objective parameters like Walking time (Gp A : 15.81%, Gp B : 9.65%), Grip strength (Gp A : 10.14 %, Gp B : 4.44%), Foot pressure (Gp A : 14.29%, Gp B : 8.40%), and the results were also statistically significant (P<0.05) on Hb% and ESR value. Overall Effect of the Therapy showed that effect of Alambushadi churna tablet, Simhanada guggulu and Shatapushpadi Lepa applied locally provided better relief in the patients of Amavata.

2. A clinical study of Nirgundi Ghana Vati and Matra Basti in the Management of Gridhrasi w.s.r. to Sciatica.

Scholar : Dr. Mumtaz Ali,

Guide : Prof. V.D.Shukla,

Co-Guides : Dr. A.R. Dave, Dr. Nilesh Bhatt.

Out of 119 patients registered, 102 patients completed the full course of treatment. In group A, 52 patients were treated with 2 tablets of Nirgundi Ghan Vati thrice daily after meal (3gm / day) with Luke warm water for the duration of 30 days. Local Abhyanga & Swedana for 21 days in three sittings, each sitting comprising of a week followed by 3 days interval was also given to these patients. In Group B, 50 patients were treated with the therapy as in Group A in same dose and duration. In addition, Matra-Basti with 60 ml of Nirgundi Taila for 21 days in three sittings, each sitting comprising of a week followed by 3 days interval was also given. Both Group provided statistically highly significant relief on Ruka (Gr A : 38.7%, Gp B : 62.20%), Toda (Gr A : 45%, Gp B : 63%), Stambha (Gr A : 62%, Gp B : 71%), improvement in SLR test (Gr A : 38%, Gp B : 56%) and in walking time (Gr A : 45.21%, Gp B : 59.82%). Overall result of the therapies showed that Matra Basti along with Nirgundi Ghana Vati and local Abhyanga & Swedana provided better results in chief complain as well in Neurological findings of the patients of Gridhrasi.

3. A clinical comparative study in the management of chronic renal failure with Punarnavadi compound.

Scholar : Dr. Prashanth G.S.,

Guide : Prof. M.S. Baghel,

Co-Guides : Dr. Miten Mehta, Prof. S.N. Gupta, Dr. B. Ravishankar.

For the present study, 67 patients of chronic renal failure were treated in three groups. In Group A (Allopathic control), 28 patients were observed without interfering with their

routine allopathic management. In Group B (Ayurvedic control), 14 patients were kept on a combination of standard Ayurveda intervention comprising of- Gokshuradi guggulu 3 tablets thrice daily, Varunadi Kwatha 40 ml twice daily, Rasayana churna 3 gms twice daily, 2 Tab. Uricare twice daily. In Group C (Ayurvedic test), 25 patients received same intervention as in Group B. In addition, Tab. Punarnavadi Compound 4gms/day in two divided doses with water was also given. The duration of the therapies was 8 weeks. Results were assessed on 15 parameters using Students (Paired) 't' test. Group A patients showed comparatively better results in 8 parameters- weight, platelet count, serum urea, serum uric acid, serum sodium potassium chloride and total proteins. In Group B patients, parameter Hb% showed better results and in Group C patients comparatively better results in 6 parameters- quality of life (breathlessness, weakness, general functional capacity), total count, serum creatinine and serum calcium was observed. Throughout the study trial drug tab. Punarnavadi compound didn't show any adverse drug reaction. It was concluded that the results of this study will help in developing a cheap and safe treatment for the management of CRF.

4. A Clinical Study on Effect of Nilibhringadi Taila and Keshya Rasayana on Hair Falling.

Scholar : Dr. Sarika Mehta,

Guide : Prof. V. D. Shukla,

Co-Guide : Prof. M. S. Baghel.

Out of 131 patients registered for the study, 103 patients completed the full course of treatment. In group A, 50 patients were treated with head massage with Nilibhringadi Taila in the dose of 6 ml/day for the duration of 4 weeks. In group B, 53 Patients were given Keshya Rasayana in the dose of 8 gm/day in two divided doses for the duration of 4 weeks with Anupana of milk in the morning and evening along with head massage with Nilibhringadi Taila as mentioned in Group A. Both the group provided highly significant effect on Hair falling (Gp A: 73.88%, Gp B:79.02%), Shirah Kandu (Gp A: 85.19%, Gp B: 91.51%), Kesha Rukshata (Gp A: 47.54%), Gp B: 56.58%), Kesha Bhoomi Daha (Gp A: 91.67%, Gp B: 100%), Kesha Bhoomi Sweda (Gp A: 76.09%, Gp B: 93.22%) and Kesha Bhoomi Daurgandhya (Gp A: 74.19%, Gp B: 96.15%). Overall effect of therapy showed that the results of combined therapy were superior to single therapy of Nilibhringadi Taila.

Ph.D. (Ayu.) Research Projects (In Progress) :

1. A comparative clinical study of Agnimantha Bhavita Shilajita and Trivrita Yukta Navaka Guggulu in the management of Sthaulaya (Obesity).

Scholar : Dr. Ranjan Kumar Pattonder,

Guide : Prof. S. N. Vyas,

Co-Guide : Prof. H. M. Chandola.

2. A clinical study on Pandu Roga w.s.r. to iron deficiency anaemia and its management with Phalatrikadi Kvatha (Ghanavati) and Trikatryadi Lauha.

Scholar : Dr. Subir Kumar Khan,

Guide : Prof. S. N. Vyas,

Co- Guide : Prof. H. M. Chandola.

3. A clinical study on the role of Rasayana as an adjuvant in the management of Pulmonary Tuberculosis with Anti Koch's Treatment.

Scholar : Dr. Purvi Vyas,

Guide : Prof. H. M. Chandola,

Co-Guide : Prof. Firoz Ghanchi.

4. A clinical study on Asthi Kshaya vis-a-vis osteopenia / osteoporosis and its management with Ayurvedic herbo-mineral Rasayana compound.
Scholar : Dr. Sanjay M. Kadlimatti, Guide : Prof. H. M. Chandola,
Co-Guide : Dr K. S. Maheshwari.
5. A comparative study on the management of Senile dementia with poly herbal Medhya Rasayana Ghrita and Amalakyadi Ghrita.
Scholar : Dr. Kundan Chaudari, Guide : Prof. H. M. Chandola,
Co-Guide : Dr. B. Ravishankar.
6. A clinico-experimental study on the efficacy of Amalakyasa Rasayana in the management of Premature Aging.
Scholar : Dr. SMS. Samarakoon, Guide : Prof. H. M. Chandola,
Co-Guide : Dr. B. Ravishankar.
7. A comparative clinical study on the role of Navayasa Rasayana Leha and Medhya Rasayana Tablet along with Dhatryadhyo Lepa in the management of Eka Kushtha (Psoriasis).
Scholar : Dr. Charmi S. Mehta, Guide : Dr. A. R. Dave,
Co-Guide : Prof. V. D. Shukla.
8. A comparative study on Rasona - Rasanadi Ghanavati and Simhanada Guggulu on Amavata w.s.r. to Rheumatoid Arthritis.
Scholar : Dr. Rajaram Mahto, Guide : Dr. A. R. Dave,
Co-Guide : Prof. V. D. Shukla.
9. A clinical Study on Senile Memory Impairment and its management with Guduchyadi Medhya Rasayana.
Scholar : Dr. R. D. Hemkanthi Kulatunga, Guide : Dr. A. R. Dave,
Co-Guide : Prof. M. S. Baghel.

M.D. (Ayu.) Research Projects (Completed) :

Kayachikitsa speciality

1. Clinical study on the etiopathogenesis of Indralupta and its management with Kesha Pooraka Yoga, Shiro Abhyanga and Nasya Karma.
Scholar : Dr. Rakesh Kumar, Guide : Prof. S. N. Vyas,
Co-Guide : Dr. J. R. Joshi.

Out of 34 patients of Indralupta registered in present study, 23 had completed the full course of treatment and were divided into two treatment groups A and B. In group A, 12 patients were given Kesha Pooraka Yoga 10 gm/day in two divided doses orally with the Anupana of Ghrita and Sita twice daily for the duration of 6 weeks. Simultaneously Shiro-Abhayanga with Karviradi Taila in dose of 15 ml/day was done twice daily for 6 weeks. In group B, 11 patients were given Nasya with Shadbindu Taila, 6 drop in each nostril per day for 6 weeks in 3 sittings of 7days (with 7 days interval in between). In addition, the treatment of Group A was also given in the same dose and duration. In both the groups statistically highly significant results were observed in symptom of Khalitya (Gp.A - 77.27%, Gp.B - 76.19%) and Daruanaka (Gp.A - 92.30%, Gp.B - 92.86%). In Group A statistically highly significant results were observed in Hair loss (46.15%) and Shirah Kandu (90%), Whereas in Group B significant result was found

in Hair loss (21.43%) and Shirah Kandu (85.71%). Statistically highly significant results were also observed in both the group in associated symptoms like Keshabhoomi Daha, Keshabhoomi Daurgandha, Kesha Rukshata and Pratishyaya. The overall effect of therapies showed that the effect of Group B i.e. Shadbindu Taila Nasya with Kesha Pooraka Yoga orally and Karviradi Taila Shiro-Abhayanga was comparatively better.

2. A clinical study on the role of 'Ama' in relation with Grahani Roga and its management by Tryushnadi Ghrita and Kalingadi Ghanavati.

Scholar : Dr. Alpesh Sorathiya,

Guide : Prof. S. N. Vyas,

Co-Guide : Dr. P.S. N. Bhatt.

Out of 66 patients of Grahani registered, 48 patients completed the full course of treatment and were treated in three groups. In Group A, 16 patients were given Kalingadi Ghanavati 3 Tablet (500mg) twice daily with Takra after meal for 14 days. In Group B, 18 patients were treated with Tryushnadi Ghrita 10gm twice daily with luke warm water before meal for 14 days. While in group C, 14 patients were treated with both Kalingadi Ghanavati and Tryushnadi Ghrita in above mentioned dose and duration. All the three groups provided highly significant results in the symptoms of Muhurbaddha - Muhurdrava Mala Pravritti (Gp-A 45.31%, Gp-B 50.90%, Gp-C 34.83%), Udara shoola (Gp-A 47.78%, Gp-B 54.08%, Gp-C 57.65%), Udara Gaurava (Gp-A 48.42%, Gp-B 60.59%, Gp-C 61.03%), Atopa (Gp-A 51.28%, Gp-B 49.81%, Gp-C 62.55%), Vidaha (Gp-A 51.55%, Gp-B 49.81%, Gp-C 70.37%), Aalasya (Gp-A 55.55%, Gp-B 71.16%, Gp-C 55.95%), Apachana (Gp-A 50.18%, Gp-B 56.73%, Gp-C 63.01%), and Aruchi (Gp-A 43.18%, Gp-B 54.66%, Gp-C 59.05%). Overall effect of therapies showed that combination of Kalingadi Ghanavati and Trayushnadi Ghrita provided better relief to the patients.

3. Evaluation of immuno - modulatory effect of Ranahansa Rasayana (A Sri Lankan classical Rasayana Drug) on HIV positive patients.

Scholar : Dr. K.I.W.K Somarathane,

Guide : Prof. H. M. Chandola,

Co-Guide : Dr. K.N. Pandya, Dr. B. Ravishankar.

Total 26 HIV positive patients were registered and 20 had completed the full course of treatment. These were divided into two groups. In Group - A Ranahansa Rasayana 10 Gm twice daily in two divided doses was given for 90 days while in Group-B only Allopathic drugs Highly Active Anti Retro Viral Therapy (HAART) were given for 90 days. Group A provided statistically significant relief in Varcha bheda (100%), Kasa (71.43%), Daurbalya (41.18%), Siro Ruja (75%), Angamarda (66.67%), Aruchi (44.44%), Abhyavaharana Shakti (100%), increase in Interest, pleasure, level of activities (37.5%), reduced energy level (33.33%), total HAMD-7 (18.09%), absolute CD4+ cell count (41.36%), Neutrophil percentage (11.33%) and haemoglobin percentage (11.31%). Whereas in Group B statistically significant results were observed in Jvara (100%), Varchabheda (100%), Kasa (100%), candidiasis (100%), Daurbalya (42.9%), depressed mood (23.53%), increase in interest, pleasure, level of activities (47.1%), tension, nervousness (41.2%) and total HAMD-7 (21.2%). Overall effect of the therapies showed that Ranahansa Rasayana provided mild to moderate improvement in the HIV positive patients where no highly active anti retroviral therapy was given.

5. A comparative clinical study on Amlapitta and its management with Shatpatrayadi Churna Tablet and Patoladi Yoga Tablet.

Scholar : Dr. Jitendra Kumar,

Guide : Dr. A. R. Dave.

Out of 41 patients of Amlapitta registered, 35 patients completed the course of treatment. In Group A, 20 patients were given 2 tablets (500mg each) of Shatpatrayadi Churna twice daily with Anupana of milk for one month whereas in Group B, 15 patients were treated with 2 tablets (500mg each) of Patoladi Yoga twice daily with Anupana of milk for one month. Statistically significant reduction was found in both the groups in the symptom of Daha (Gr-A : 76.79%, Gr-B : 50%), Udara Shoola (Gr-A : 68%, Gr-B : 68.2%), Utklesha (Gr-A : 68.18%, Gr-B : 73.8%), Adhamana (Gr-A : 66.6%, Gr-B : 69.23%), Amlodgara (Gr-A : 73.07%, Gr-B : 70%) and Bhrama (Gr-A : 55.17%, Gr-B : 46.66%). Overall effect showed that better relief was found in the patients treated with Shatpatrayadi Churna Tablet.

Speciality : Roga Nidana & Vikriti Vijnana

6. Clinico-experimental study of Hyperlipidaemia and its management by Mustadi Ghana Vati.

Scholar : Dr. Manjiri Arun Nadkarni, Guide : Prof. S. N. Vyas,
Co-Guide : Prof. M. S. Baghel, Dr. B. Ravishankar.

Out of total 61 patients registered, 50 had completed the course of treatment. The patients were randomly divided into two groups. In Group A, 28 patients were treated with Mustadi Ghanavati 3 gm per day before meal in three divided doses with warm water for the duration of 30 days. Whereas in Group B, 22 patients were treated by Placebo capsules filled with roasted Rava powder in same dose, Anupana and duration as of Group A. Group A provided better results on chief complaints of Anga Gaurava (100%), Gatradasa (95.31%), Atipipasa (90.58%), Alasya (85%), Sandhishoola (84.29%) and Nidradhikya (83.61%). On statistical analysis Group A was also seen to exhibit statistically highly significant results on Kshudra Shwasa, Daurbalyata, Sandhishoola and Angagaurava. In Group A, statistically highly significant reduction was found in the body weight (2.57%), BMI (2.65%) and body fat percentage (7.75%). In addition, Group A exhibited total improvement in the Lipid Profile by 58.8% as opposed to 5.5% in Group B. Group A also provided highly significant effect on reduction of all parameters of skin fold thickness viz; biceps skin fold thickness (18.11%), triceps skin fold thickness (18.8%) and abdominal skin fold thickness (18.52%). Whereas Group B was seen to significantly reduce skin fold thickness of biceps (9.37%), triceps (9.33%) and abdomen (7.68%). It was concluded that Mustadi Ghanavati provided better results on Hyperlipidaemia as compared to Placebo Control.

7. A clinical study of etio-pathogenesis of erectile dysfunction (Klaibya) in the Diabetic and Non-Diabetic subjects and its management with Ashvattha:

Scholar : Dr. Nilesh Virani, Guide : Prof. H. M. Chandola,
Co-Guide : Prof. S.N. Vyas, Dr. D.B. Jadeja.

Out of 44 Diabetic and Non diabetic patients of Klaibya registered, 39 had completed the full course of treatment. Patients of both groups (Diabetic & Non diabetic) were further divided into two subgroups; Treated and Control groups. Patients of both Treated groups were given Ashvattha Kshirapaka made with 10gm Ashvattha powder twice daily. While patients of control groups received placebo capsules filled with 500mg of starch powder twice daily with glass of lukewarm milk. The duration of treatment was 45 days in all groups. In Diabetic Ashvattha treated group, statistically highly significant result in penile erection, penile rigidity, early ejaculation, orgasm, performance anxiety, post act exhaustion and satisfaction of self and of the partner after sex was found. On IIEF scoring in diabetic patients treated with Ashvattha, highly significant improvement in erectile function & intercourse satisfaction and significant

improvement in orgasm was found. In non-diabetic patients in Ashvattha treated group statistically highly significant result in penile rigidity and significant improvement in orgasm and satisfaction of self and of the partner after sex was observed. On IIEF scoring in non-diabetic patients, treated with Ashvattha highly significant improvement in intercourse satisfaction (45.45%), and significant improvement in erectile function (19.35%) were found. While in both the placebo groups insignificant changes was found. It was found that in both diabetic and non diabetic subjects Ashvattha provided better improvement on Klabhya.

M.D. (Ayu.) Research Projects (In Progress) :

Speciality : Kayachikitsa

1. A survey of Hypertension in Geriatric Population and its management with Makandii (Coleus forskohlii Briq.).
Scholar : Dr. Madhavi Jagtap, Guide : Prof. H. M. Chandola,
Co-Guide : Dr. B. Ravishankar.
2. A clinical trial on protective role of Yashtimadhu (Glycyrrhiza glabra) against side effects of radiation/ chemotherapy in case of head and neck malignancies:
Scholar : Dr. Debabrata Das, Guide : Prof. H. M. Chandola,
Co-Guide : Dr. S. K. Agarwal.
3. Efficacy of Pushpadhanva Rasa on Kshina Shukra (Oligozoospermia).
Scholar : Dr. Jitesh Padaria, Guide : Prof. S. N. Vyas,
Co-Guide : Dr. D. B. Jadeja, Dr. Darshana Pandya.
4. Comparative study of Shwasahara Leha and Vasa Haritaki Avaleha in the management of Tamaka Shwasa w.s.r to Bronchial Asthma.
Scholar : Dr. Manisha Sharma, Guide : Dr. A. R. Dave,
Co-Guide : Prof. V. D. Shukla.
5. A Clinico - Experimental study on Mansyadi Gnanavati in Vyanabala Vriddhi w.s.r. to Essential Hypertension.
Scholar : Dr. Yadav Chandrajit R., Guide : Prof. H. M. Chandola,
Co-Guide : Dr. B. Ravishankar, Dr. Mandip Kaur.
6. A Clinico-Experimental Study on Sandhivata vis-à-vis Osteo-Arthritis and its management with Boswellia serrata Resin (Shallaki).
Scholar : Dr. Pradeep Kumar Gupta, Guide : Prof. H. M. Chandola,
Co-Guide : Dr. B. Ravishankar.
7. A Clinico-Experimental Study on the effect of Saptarangyadi Ghanavati in Apathya Nimittaja Prameha w.s.r. to Type II Diabetes Mellitus.
Scholar : Dr. Kanwar Samrat Singh, Guide : Prof. H. M. Chandola,
Co-Guide : Dr. B. Ravishankar.
8. Effect of Shalmalyadi Lepa and Guduchyadi Vati in the Management of Yuvanapidika w.s.r. to Acne.
Scholar : Dr. Piyush Pampania, Guide : Dr. Darshana Pandya.

Speciality : Roga Nidana and Vikriti Vijnana

1. Role of Udara Krimi w.s.r to intestinal helminthes on the etio-pathogenesis of Pandu.
Scholar : Dr. Vaishnavi Tengse, Guide : Prof. S. N. Vyas,
Co-Guides : Prof. M. S. Baghel, Dr. J. R. Joshi.
2. A clinical study on dietetics and lifestyle in etio-pathogenesis of type II Diabetes (Apathya Nimittajja Prameha) and evaluation of 'Meha Mudgaravati' in Samprapti Vighatana.
Scholar : Dr. Ila Tanna, Guide : Prof. H. M. Chandola,
Co-Guide : Dr. J. R. Joshi.
3. The Etio - pathological Study of Obesity (Sthaulya) and its management by Ayurvedic Drug compound.
Scholar : Dr. Feeroz Khan, Guide : Dr. A. R. Dave,
Co-Guide : Prof. H. M. Chandola.
4. The Clinical study on Vicharchika and its management by Ayurvedic Classical Drugs with and without Snehapana.
Scholar : Dr. Dipam H. Tripathi, Guide : Dr. A. R. Dave,
Co-Guide : Prof. V.D. Shukla.



DEPARTMENT OF PANCHAKARMA

INTRODUCTION :

Department of Panchakarma deals with providing theoretical and practical training to the scholars of Ayurveda in Panchakarma as well as Manasa roga speciality. Collaborative intensive research is being carried out by the department particularly with focus in the field of the standardization of Panchakarma procedures. It also provides various Panchakarma and allied Panchakarma therapies to the OPD and IPD patients of the institute. Department conducted various teaching and practical of Panchakarma for foreign students of the various institutes having MOU with Gujarat Ayurved University, foreign scholars who visit the institute under WHO collaboration, foreign students under three months introductory course of Ayurveda, International scholars coming for Panchakarma certificate course, internees of BAMS foreigners course. The Department has following teaching staff.

	Name	Designation	Qualification
1	Prof. V. D. Shukla	Professor	M.D. (Ayu), Ph.D.
2	Dr. A. B. Thakar	Reader	M.D. (Ayu), Ph.D.
3	Dr. Santosh Battad	Lecturer	M.D. (Ayu)
4	Dr. Nilesh Bhatt	Panchakarma Assistant	M.D. (Ayu), Ph.D.

During the span of April 2008 - March 2009, the Dept. has involved in various activities; brief data on which is as follows :

ACADEMIC ACTIVITIES :

Summary of the Academic activities of the department for 2008 - 2009 are as follows :

<u>Sl. No.</u>	<u>Activity</u>	<u>Total No.</u>
1	No. of M.D. (Ayu) Students	018
2	No. of Ph.D. (Ayu) Students	006
3	No. of Ph.D. (Ayu) Degree awarded	001
4	No. of theory / Practical / Clinical classes conducted	356
5	No. of papers Published	009
6	No. of papers presented in National /International Seminars	003

CLINICAL RESEARCH :

Hospital Activities - General Data :

* Patients admitted in IPD : 00591

Panchakarma :

In the year 2008 - 09 following procedures were carried out in the Panchakarma Department.

Karma	Name	Male	Female	Total	
Snehana	Sarvang Abhyanga	14445	11730	26175	
	Mridu Abhyanga	00759	00677	01436	
Swedana	Nadi Sweda	09812	07281	17093	
	Bashpa Sweda	02559	02039	04598	
	Mridu Svedana	00759	00677	01436	
	Nirdundi Patrapinda swedana	01561	02287	03848	
	Valukasveda	00013	00035	00048	
	Shashti Shalipinda Swedana	00084	00016	00100	
	Upanaha	00148	00008	00156	
	Udavartana	00007	00004	00011	
	Vamana	Vamana	00039	00016	00055
Virechana	Virechana	00108	00081	00189	
Basti	Matra Basti	00347	00560	00907	
	Anuvasana Basti	00718	00509	01227	
	Niruha Basti	00502	00390	00892	
	Mustadi Yapan Basti	00024	00021	00045	
	Pancha Tikta Kshira Basti	00311	00068	00379	
	Raj yapan Basti	00179	00164	00343	
	Baladi Yapan Basti	00099	00006	00105	
	Kshira Basti	00074	00060	00134	
	Majja Basti	00009	00000	00009	
	Lavan Jala basti	00012	00000	00012	
	Pichchha basti	00021	00000	00021	
	Basti Sthanik	Shirobasti	00132	00030	00162
		Hridaya basti	00005	00000	00005
		Kati Basti	00288	00460	00748
		Janubasti	00074	00051	00125
Nasya	Nasya	00759	00677	01436	
Raktamokshana	Jalaukavacharana	00036	00035	00071	
	Shira vedha	00007	00000	00007	
Shirodhara	Shirodhara (Jala)	00079	00066	00145	
	Shirodhara (Taila)	00325	00704	01029	
	Shirodhara (Takra)	00000	00007	00007	
Kshiradhooma		00015	00000	00015	
	Total	34310	28659	62969	

RESEARCH ACTIVITIES :

Ph.D. (Ayu) Research Projects (Completed) :

Panchakarma speciality :

1. Clinical effect of Nirgundi Patra Pinda Sveda and Ashwagandhadi Guggulu Yoga in the management of Sandhivata.
Scholar : Dr. Alpesh Joshi, Guide : Prof. V. D. Shukla.
2. Clinical effect on Matrabasti and Vatari guggulu in the management of Amavata.
Scholar : Dr. Rita Khagram, Guide : Prof. V. D. Shukla.

Manasa Roga Speciality :

1. Evaluation of the role of Manasika Bhavas in the aetiopathogenesis of Madhumeha and its management by polyo-herbal anti diabetic formulation with and without Medhya Rasayana.
Scholar : Dr. Dhananjay Patel, Guide : Prof. H. M. Chandola,
Co-Guide : Prof M. S. Baghel.

Ph.D. (Ayu) Research Projects (In progress) :

Panchakarma Speciality :

1. A comparative study of Virechana and Jalaukavacharana Karma (leech Therapy) in Ekakushtha w.s.r. to Psoriasis.
Scholar : Dr. Akhil Nath Parida, Guide : Prof. V. D. Shukla.
2. A comparative study of Kshara Basti and Matra Basti in the management of Amavata w.s.r. to Rheumatoid Arthritis.
Scholar : Dr. Krishna Thanaki, Guide : Prof. V. D. Shukla.

Manasa Roga Speciality :

1. Role of Manasa Bhava in etiopathogenesis of Essential Hypertension and its management by Sarpagandha Vati and Medhya Rasayana.
Scholar : Dr. Nishant Shukla, Guide : Prof. V. D. Shukla,
Co-Guide : Dr. A. R. Dave.
2. A Double Blind Randomized Placebo Controlled Study in the management of Male Erectile Disorders with Ashvagandha.
Scholar : Dr. Prasad Mamidi, Guide : Dr. Anup Thakar.
3. Randomized Placebo Controlled Clinico experimental Study on Sarasvata Churna in the management of Generalized Anxiety Disorder.
Scholar : Dr. Kshama Gupta, Guide : Dr. Anup Thakar.
4. A Clinico Experimental Study on role of Stress in Premature Ageing and its management with Rasayana Yoga.
Scholar : Dr. Yogesh Deole, Guide : Dr. Anup Thakar.

M.D. (Ayu) Research Projects (Completed) :

Panchakarma Speciality :

1. A Clinical Study of Matrabasti and Patrapinda Sveda in the treatment of Sandhigata Vata (Osteo arthritis).
Scholar : Dr. Bisvanath Mishra, Guide : Prof. V.D. Shukla.

Osteoarthritis is the most common articular disorder begins asymptotically and extremely common by the age of 70. The present study aims at evaluating the role of matra basti with Bala Taila in the management of Sandhigata Vata (Osteo arthritis). The patients were selected randomly and grouped in to two. In group A, 75% complete remission and in group B, 40% complete remission has been observed.

2. A Comparative clinical study on Virechana Karma and Kala Basti in the management of Amavata.

Scholar : Dr. Jalpa Gohil,

Guide : Prof. V. D. Shukla,

Co-Guides : Dr. A. R. Dave, Dr. N. N. Bhatt.

Randomly selected patients of Amavata were grouped in to two i.e. Group A (Virechana Karma + Nirgundi patra ghanavati) and Group B (Nirgundi patra kala basti + Nirgundi patra ghanavati). On comparing the effect of therapy, it can be concluded that Basti provided better relief in comparison to Virechana.

3. A comparative study on Vamana karma by using Shuddha Ghrita and Samskarita Ghrita as Abhyantara Snehapana in Ekakushtha w.s.r. to Psoriasis.

Scholar : Dr. Satish Padsala,

Guide : Prof. V. D. Shukla,

Co-Guide : DR. N. N. Bhatt.

Randomly selected patients of Ekakushtha were grouped in to two i.e. Group A (Vamana Karma with Shuddha Ghrita) and Group B (Vamana karma with Amrita Ghrita). Shamana Yoga in the form of Panchanimba Vati was administered in both the groups after Sansarjana Krama. Biochemical values found to be improved in B group after Snehapana and relief in signs and symptoms was highly significant in B group.

4. An observer and clinical study on standardization of Shodhanartha Snehapana w.s.r. to Sneha Pravicharana.

Scholar : Dr. Gauri Vaidya,

Guide : Dr. A.B. Thakar.

The present study is an attempt towards exploring the concept of Pravicharana for its fruitful benefits. It is also designed to assess the difference between accha and pravicharana sneha given in stable and increasing dose patterns. The study was carried out on total 64 healthy volunteers divided in four groups. In Group A (Accha Sneha in stable dose), Group B (Pravicharana Sneha in stable dose), Group C (Accha Sneha in increasing dose) and Group D (Pravicharana Sneha in increasing dose). There is no remarkable difference found in appearance of Samyak Snigdhi Lakshana in Accha and Pravicharana Sneha groups, supporting its safer acceptability. Increasing dose groups provided better Snigdhatata, thus persuading its acceptability for Shodhana purpose. Pravicharana was found to be effective in minimizing the Sneha Jeeryamana Lakshana, resulting in easier Snehapana. Role of Prakriti is also important in appearance of Sneha Jeeryamana Lakshana. Dugdha Pravicharana in particular was found to be effective in minimizing Pitta Pradhana Jeeryamana Lakshana appeared in Sharada Ritu.

5. Standardization of process of administration of Basti w.s.r. to Oligozoospermia.

Scholar : Dr. Yashwant Juneja,

Guide : Dr. A. B. Thakar.

In this clinico-experimental study patients were distributed in two groups i.e. Group A - Classical Basti putak method and Group B - Enema pot method. Drugs administered in both the groups was same i.e. Baladi Yapan Basti for Asthapana, Eranda Taila for Anuvasan Basti in Kala Basti regime and placebo capsules for 30 days. Total 12 patients were registered, six in each group. The study reveals that Basti Putak method increased the sperm count by 70.75%, reduced the viscosity in abnormal specimens by 71.42%, increased the erectile function by

75%, sexual desire by 73.33%, ejaculatory function 72.22% and overall average administration time of Asthapana Basti was 33.64 sec., overall average administration time of Anuvasan Basti was 18.48sec., overall average retention time of Asthapana Basti was 18.69sec. and overall average retention time of Anuvasan Basti was 8.10hrs. Enema pot method increased the motility by 18.97%, RLP increased by 19.02%, SLP increased by 17.24%, reduced the NP by 20.19%, IMM reduced by 17.74%, overall average administration of Asthapana Basti time was 254.78 sec., overall average administration time of Anuvasan Basti is 11.28 sec., overall average retention time of Asthapana Basti was 12.87sec. and overall average retention time of Anuvasan Basti was 5.48 hrs. On the basis of above data, administration time and pressure difference in both processes a formula was derived to evolve out this difference from Enema pot and also definite improvisation has done in both the methods to increase its utility and therapeutic efficacy. Also in this study an endeavor has done to evaluate the role of each Basti ingredient pharmaceutically (in preparation of stable colloid) and therapeutically (in action).

Manasa Roga Speciality :

1. An Assessment of Manasika Bhava in Menopausal Syndrome and it's management.

Scholar : Dr. Khyati Santavani,
Co-Guide : Dr. Gayatri Thakar.

Guide : Prof. V. D. Shukla,

Randomly selected cases of Menopausal Syndrome were grouped in to three administering the respective trial drug i.e. Group A (Conjugated estrogens / 0.625mg / od / 45days), Group B (Saraswatarishta / 20ml with water before meal twice daily / 45 days) and Group C (Shirodhara with Bala taila / 30 mins per sitting for 45 days with a gap of 3 days in between). All the patients subjected to Panchakarma procedure (Shirodhara) showed better effect in combating the disturbances of Manasa Bhavas and Psychic symptoms of Menopause. Saraswatarishta also showed encouraging results in managing the associated somatic symptoms along with the psychic symptoms. Hence, it can be used as an alternative therapy to HRT.

2. A clinical study of Shirodhara and Sarpagandhadi vati in the management of Essential Hypertension.

Scholar : Dr. C. Kundu,
Co-Guide : Dr. N. N. Bhatt.

Guide : Prof. V. D. Shukla,

A clinical trail was conducted to evaluate the efficacy of Shirodhara and Sarpagandha vati in Essential Hypertension. Selected cases were randomly grouped in to two groups. Systolic and diastolic B.P. was measured in sitting as well as in supine position. When the observations were compared, Shirodhara Group showed better results in comparison to Sarpagandha group. Both the trial groups helped in reducing both systolic and diastolic pressures, but, Shirodhara helped in counteracting the psychological factors like anger, tensions etc. in a comprehensive way.

M.D. (Ayu) Research Projects (In Progress) :

Panchakarma Speciality :

1. A comparative study on Vamanakarma with Madanaphala and Krutavedhana w.s.r. to Ekakushtha (Psoriasis).

Scholar : Dr. R. Patel Jaimin,

Guide : Dr. Bhattad Santosh Kumar.

2. Effect of Majja Basti and Asthishrinkhala in the management of Osteoporosis.

Scholar : Dr. Ajay Kumar Gupta,
Co-Guide : Dr. Nehal Shah.

Guide : Dr. A. B. Thakar,

3. Comparative study of Raktamokshana by Jalaukavacharana, Pracchana and Sira vedhana in the management of Vicharchika (Eczema).
Scholar : Dr. Hiren N. Raval, Guide : Dr. A.B. Thakar.
4. A comparative study of Vamana and Virechana karma in the management of Sthaulya w.s.r. to Obesity.
Scholar : Dr. Rajan Nelson Munzni, Guide : Prof. V. D. Shukla,
Co-Guides : Dr. A. B. Thakar, Dr. N. N. Bhatt.
5. A comparative study of Virechana and Basti karma with Shamana therapy in the management of Essential Hypertension.
Scholar : Dr. Gyanendra Datta Shukla, Guide : Prof. V. D. Shukla,
Co-Guides : Dr. Bhattad Santoshkumar, Dr. A. R. Dave.
6. A comparative study of Vamana and Virechana karma in the management of Sthula Pramehi w.s.r. to type-2 Diabetes Mellitus.
Scholar : Dr. Rajeev Pandey, Guide : Prof. V. D. Shukla,
Co-Guides : Dr. N.N. Bhatt, Dr. Tushar M Shingala.
7. Clinical study on the effect of Virechana karma and Padughni vati in the management of Pandu w.s.r. to Iron Deficiency Anaemia.
Scholar : Dr. Monica Agraval, Guide : Dr. A. B. Thakar,
Co-Guides : Dr. N. N. Bhatt, Dr. Tushar M. Shingala.
8. Assessment of Lekhan Basti in the management of Hyperlipidaemia.
Scholar : Dr. Swapnil Auti, Guide : Dr. A. B. Thakar.
9. A clinical study on the effect of Virechana karma and Amalaki Rasayana in the management of Kshina Shukra w.s.r. to Oligozoospermia.
Scholar : Dr. Nakul Jethava, Guide : Prof. V. D. Shukla,
Co-Guide : Dr. A. B. Thakar.
10. Assessment of clinical efficacy of Eranda Mooladi Yapana Basti and Eranada Bija Kshirapaka in the management of Katigraha w.s.r. to Lumber spondylosis.
Scholar : Dr. K. P. S. Fernando, Guide : Prof. V. D. Shukla,
Co-Guide : Dr. A. B. Thakar.
11. A Clinical study of Virechana, Takradhara and Makandi ghanavati in the management of Ekakushtha w.s.r. to Psoriasis.
Scholar : Dr. Chetan Gulhane, Guide : Prof. V. D. Shukla,
Co-Guide : Dr. A. R. Dave.
12. A comparative study between the efficacy of Vamana and Virechana Karma in the management of Tamaka Swasa (Bronchial Asthma).
Scholar : Dr. Gadhavi Kundan Guide : Dr. Bhattad Santoshkumar



DEPARTMENT OF KAUMARABHRITYA

INTRODUCTION :

Department of Kaumarbhritya was established in the year 1978 - 79, comprising of two sub specialities viz. Balaroga and Striroga & Prasuti Tantra, were recognized as separate departments in 2006, thus giving individual speciality identity to Kaumarbhritya. This department deals with preventive, curative and promotive aspects of child health care. The department also works towards better community health especially in the preventive and promotive aspects of children in accordance with different National Health Programmes. The Department has following teaching staff.

	Name	Designation	Qualification
1	Dr. K. S. Patel	Reader	M.D. (Ayu), Ph.D.
2	Dr. V. K. Kori	Lecturer	M.D. (Ayu)
3	Dr. Rajagopala S.	Lecturer	M.D. (Ayu), Ph.D.

During the span of April 2008 - March 2009, the Dept. has involved in various activities; brief data on which is as follows:

ACADEMIC ACTIVITIES :

Summary of the Academic activities of the department for 2008 - 2009 are as follows:

<u>Sl. No.</u>	<u>Activity</u>	<u>Total No.</u>
1	No. of M.D. (Ayu) Students	008
2	No. of Ph.D. (Ayu) Students	002
3	No. of Ph.D. (Ayu) Degree awarded	002
4	No. of theory classes conducted for 1 st M.D. (Ayu)	027
5	No. of theory / Practical / Clinical classes conducted for 2 nd & 3 rd M.D. (Ayu)	478
6	No. of theory / practical classes conducted for International Scholars	024
7	No. of papers presented in National / International Seminars including invitee speakers	005
8	No. of papers Published	003
9	No. ventures organized	001

IMMUNIZATION :

During the duty hours at OPD, immunization is also done as per National Immunization Programme schedule. A brief is given below:

	Vaccine	No. of patients
1.	TT	012
2.	OPV	091
3.	DPT	068
4.	Measles	014
5.	BCG	030

PANCHAKARMA PROCEDURES :

The department also studies different aspects of Panchakarma in diseases like Shwasa, Cerebral Palsy, Mental Retardation, DMD etc. at IPD level. Brief details are as follows :

Procedure	Number	Diseases
1 Bahya snehana / Abhyanga etc.	735	Sandhishoola, Vatavyadhi
2 Shashtika Shali Pinda Sweda	211	Bala pakshaghata, DMD
3 Swedana / Nadi sweda etc.	198	Vatavyadhi, Bala pakshaghata
4 Udvartana	264	Buddhi mandhya, Pakshaghata, Sandhishoola, Samvardhana Vikriti
5 Nasya	17	Vyadhija Phakka, Apabahuka, Mental retardation.
6 Basti	88	Vyadhija Phakka, Vatavyadhi, Sandhishoola, Samvardhana Vikriti
7 Virechana	01	Switra
8 Vamana	06	Twak roga
Total	1520	

CLINICAL RESEARCH :

Hospital Activities - General Data :

- * No. of Patients visited OPD : 6843
- * Patients admitted in IPD : 0124

RESEARCH ACTIVITIES:

Ph.D. (Ayu.) Research Projects (In Progress):

1. A pharmaco - clinical study of Pandughni Vati on Pandu (Iron Deficiency Anaemia) in children.
Scholar : Dr. V. K. Kori, Guide : Dr. K. S. Patel,
Co-Guide : Dr. B. Ravishankar.
2. Clinical and experimental evaluation of an Ayurvedic compound in Pandu w.s.r. to Iron Deficiency Anemia in children.
Scholar : Dr. A. Raja Hariprasad, Guide : Dr. K.S. Patel,
Co-Guide : Dr. B. Ravishankar.

M.D. (Ayu.) Research Project (Completed) :

1. A comparative study on efficacy Bharangyadi Avaleha and Vasa Avaleha in the management of Tamaka Shwasa w.s.r. to child asthma.
Scholar : Dr. Salim D Gohel, Guide : Dr. K. S. Patel,
Co-Guide : Dr. I. P. Anand.

The clinical study conducted in the patients of Tamaka shwasa (Bronchial Asthma) aged between 2-10 years revealed that Vasa Avaleha provides better relief (28.57% complete remission) when compared with Bharangyadi Avaleha (18.18% complete remission).

2. A study of disease thalassemia (Anukta Vyadhi in Ayurveda) and its management with Triphaladi Avaleha as an adjuvant therapy.

Scholar : Dr. Jadhav Sahebrao B.,
Co-Guide : Dr. I. P. Anand.

Guide : Dr. K. S. Patel,

A total of 30 patients were registered by random sampling method in the clinical trial and grouped in to two. For the patients of Group - A, Triphaladi Avaleha in scheduled dose was administered thrice daily along with routine supportive modern therapy, while patients of Group - B received routine supportive modern therapy. Patients of Group - A showed encouraging results, when compared with Group - B.

M.D. (Ayu.) Research Project (In Progress) :

1. A clinical study on the effect of Brahmi vati in the management of Shayya Mutra (Enuresis).

Scholar : Dr. Pragya Pushpanjali,
Co-Guide : Dr. V. K. Kori.

Guide : Dr. K. S. Patel,

2. A Clinical study of Devadarvyadi Vati on Grahani Dosha in Children.

Scholar : Dr. Rutu Patel,
Co-Guide : Dr. V. K. Kori.

Guide : Dr. K. S. Patel,

3. A study of disease Thalassemia (Anukta vyadhi in Ayurveda) and its management with Triphaladi Avaleha as an adjuvant therapy.

Scholar : Dr. Abhishek Y. Patalia,
Co-Guides : Dr. Kalpana S. Patel, Dr. Rajagopala S.

Guide : Dr. V. K. Kori,

4. A comparative pharmaco - clinical study on the response of madhu, ghrita & swarna, vacha, madhu, ghrita on neonates.

Scholar : Dr. Amrita Gaikwad,
Co-Guides : Dr. V. K. Kori, Dr. S. Rajagopala, Dr. B. Ravishankar.

Guide : Dr. Kalpana S. Patel,

5. A comparative study on Brumhana effect of Prinana Modak & Godhumadi Modak in the management of Karshya in children.

Scholar : Dr. Nirali Doshi,
Co-Guides : Dr. V. K. Kori, Dr. S. Rajagopala.

Guide : Dr. Kalpana S. Patel

6. A clinical study on Shashtika Shali Pinda Sweda & Samvardhana Ghrita in the management of cerebral palsy.

Scholar : Dr. Apexa Vyas,
Co-Guides : Dr. Kalpana S. Patel, Dr. S. Rajagopala.

Guide : Dr. V. K. Kori,



DEPARTMENT OF STREE ROGA & PRASUTI TANTRA

INTRODUCTION :

Department of Streeroga and Prasuti Tantra was established along with the Dept. of Kaumarabhritya during 1978 - 79, and was recognized as separate department in 2006, thus giving individual speciality identity to the department. The faculty of Prasuti Tantra mainly deals with Ayurvediya aspects of Garbhini Paricharya (Antenatal care), Prasava Paricharya (Labour care) and Sutika Paricharya (Puerperal care) etc. while the faculty of Stree Roga deals with management of Artava Vyapad (Menstrual disorders), Yoni Vyapad (Reproductive tract disorders), Stana roga (Breast disorders) and Vandhyatwa (Infertility) etc. Besides, the department also runs special clinics for Menopause and Family planning. The Department has following teaching staff.

	Name	Designation	Qualification
1	Prof. M. A. Pandya	Professor	M.D. (Ayu), Ph.D.
2	Dr. L. P. Dei	Reader	M.D. (Ayu)
3	Dr. Shilpa Donga	Lecturer	M.D. (Ayu), Ph.D.

During the span of April 2008 - March 2009, the Dept. has involved in various activities; brief data on which is as follows :

ACADEMIC ACTIVITIES :

Summary of the Academic activities of the department for 2008 - 2009 are as follows:

<u>Sl. No.</u>	<u>Activity</u>	<u>Total No.</u>
1	No. of M.D. (Ayu) Students	010
2	No. of Ph.D. (Ayu) Students	001
3	No. of Ph.D. (Ayu) Degree awarded	001
4	No. of theory classes conducted	241
5	No. of Clinical classes conducted	450
6	No. of papers presented in National Seminars	014
7	No. of papers Published	003
8	No. ventures organized	002
9	No. of diagnostic health camps conducted	008

CLINICAL RESEARCH :

Hospital Activities - General Data :

* No. of Patients visited OPD	:	10772
* Patients admitted in IPD	:	00400

The department has an experimental laboratory for the purpose of conducting different tests like cervical mucus test; vaginal smear, post coital test etc. are being done. The department also utilizes relevant investigative procedures of current scenario and studies the role of different Ayurvedic procedures in diseases like Shwasa, Cerebral Palsy, Mental Retardation, DMD etc. at IPD level. Brief details are as follows:

Investigative procedures:

1. **USG** : 2400 cases were investigated for Gynecological disorders and Fetal well being in ANC cases.
2. **HSG** : Total 40 were carried out (initiated on 21.09.2008)
3. **Pap's Smear** : 40

Specialized procedures/treatments	No. of patients
1. Yoga basti	408
2. Yoni Prakshalana/Parisheka	352
3. Yoni Pottali	343
4. Yoni Pichu	107
5. Yoni Avachurnan	048
6. Sukrabasti	018
7. Anuvasana Basti (Antenatal)	153
8. Asthapana Basti	037
9. Uttara Basti	187
10. Nasya	248
11. Agnikarma	007
12. D & C	008
13. Prasava	047
14. Minor surgical procedures	007

Family Planning Unit :

1. Cu-T : 062 Pts.
2. Oral Contraceptive Pills : Free supply
3. Condom : Free supply
4. Inj. TT : 162 Pt.

Menopausal Clinic :

The department runs a special clinic for menopausal women. Rasayana kalpa Vati is found to be beneficial in counteracting different complications of this syndrome. Total 200 women were counseled and the drug has been dispensed.

RESEARCH ACTIVITIES :

Ph.D. (Ayu.) Research Projects (Completed) :

1. A clinical study on the effect of Bhrumhana in Pediatric practice.
Scholar : Dr. Rakesh Kumar Mishra, Guide : Dr. M. A. Pandya,
Co-Guides : Dr. I. P. Anand, Dr. P. K. Prajapati.

The trial drug Ashwagandha was converted into Granules and Ghrita and the efficacy was compared with a placebo. Encouraging results were observed in clinical trials.

2. A Clinico - Experimental study of Shatavaryadi Vati on Menopausal syndrome (Rajo nivritti janya lakshana).

Scholar : Dr. Rujuta N. Trivedi,

Guide : Dr. M. A. Pandya,

Co-Guides : Dr. B. Ravishankar, Dr. J. R. Joshi.

Rasayana Kalpa Vati and Shatavaryadi Vati were selected for the present research work. Gross behaviour, Anti-depressant activity, Hypnotic potentiation, Anti-anxiety activity, Adaptogenic activity and Oestrogenic activity were evaluated in experimental studies and levels of Triglycerides, Cholesterol, HDL were also evaluated. In clinical study, the drugs were administered at a dose of 6 gm / day in three divided doses orally for 2 months along with milk as an adjuvant. The study proven that the group treated with Shatavaryadi Vati showed better results.

M.S. (Ayu) Research Projects (Completed) :

1. A comparative study of Shami Ashvattha ghrita and Goghrita in the management of Vandhyatva w.s.r. to Anovulatory factor.

Scholar : Dr. Kajal Khadadiya,

Guide : Dr. M. A. Pandya,

Co-Guide : Dr. Kalpana Khandheria.

Shamim ashvattha ghrita and Plain Goghrita were instilled IUUB 5ml for 3 days in two consecutive cycles. The same drugs were advised to take orally 10gm before meal for one month. Patients treated with Shami ashvattha ghrita showed better results in comparison to the individuals treated with plain Goghrita on anovulatory factor.

2. A comparative study of Shatavaryadi Ghanavati and Brihat Dhatryadi Ghanavati in the management of Garbhini Mutra kricchra w.s.r. to lower UTI.

Scholar : Dr. Sushma Rathod,

Guide : Dr. M. A. Pandya,

Co-Guide : Dr. Kalpana Khandheria.

Shatavaryadi Ghanavati and Brihat Dhatryadi Ghanavati were administered at the dosage of 1gm orally for 01 month. The symptoms of mutrakricchra were found to be reduced with the treatment of Brihat Dhatryadi Ghanavati.

3. A clinical study of Gokshuradi vati in the management of Gestational Hypertension.

Scholar : Dr. Shalini Gupta,

Guide : Dr. M. A. Pandya,

Co-Guide : Dr. Kalpana Khandheria.

Cases of gestational hypertension were treated with 2 gm of Gokshuradi vati for 45 days, where 37.5% marked, 37.5% moderate improvement was found without development of any adverse effects in comparison to the standard group.

M.S. (Ayu) Research Projects (In Progress) :

1. A comparative study of Uttarbasti of Yava kshara taila and Kumari taila in tubal blockage.

Scholar : Dr. Kamayani Shukla,

Guide : Dr. M. A. Pandya,

Co-Guide : Dr. Neeta Sata.

2. A comparative study of Nasya and Matrabasti with Narayana Taila on Anovulatory factor.
Scholar : Dr. Krupa R. Donga, Guide : Dr. Shilpa B. Donga,
Co-Guide : Dr. Laxmi P. Dei.
3. A comparative study of Dashamoola Taila Matrabasti and Tila Taila Matrabasti in management of Kashtartava (Dysmenorrhoea).
Scholar : Dr. Kaumadi Karunagoda, Guide : Dr. L. P. Dei,
Co-Guides : Dr. Shilpa B. Donga, Dr. Chandrika H. Tanna.
4. A comparative Clinical Study of Shatpushapa Taila Matra Basti with & without Pathadi Kwatha in the Management of PCOS.
Scholar : Dr. Krupa Patel, Guide : Dr. L. P. Dei,
Co-Guides : Dr. Nalini Anand, Dr. Shilpa Donga.
5. A Comparative Clinical Study of Nimbadi yoga on Sweta Pradara (Leucorrhoea).
Scholar : Dr. Grishma Solanki, Guide : Dr. L. P. Dei,
Co-Guide : Dr. Shilpa Donga
6. Effect of Panchavalkaladi yoga in the management of Vulvo-vaginitis during Pregnancy w.s.r to Upapluta Yoni vyapad.
Scholar : Dr. Sunita, Guide : Dr. Shilpa Donga,
Co-Guides : Dr. L. P. Dei, Dr. Nalini Anand.
7. A Clinical Study of Gestational Hypertension and its management by Mansyadi Vati.
Scholar : Dr. Yamini Tripathi, Guide : Dr. Shilpa Donga,
Co-Guides : Dr. L. P. Dei, Dr. Nalini Anand.



DEPARTMENT OF SHALYA TANTRA

INTRODUCTION :

Department of Shalya tantra, the most vital clinical branch of Ayurvedic medical science, imparts teaching, training, research and hospital activities through out the year to the scholars of Ayurveda. A number of common surgical and para - surgical procedures are being continuously undertaken with the help of anaesthetist in the operation theatre. The department is well equipped with separate para - surgical units like Kshara karma, Agni karma and Rakta mokshana. The Ano - Rectal Clinic (ARC) deals all proctological diseases independently in Kshara karma unit. Besides this, Orthopedic unit is also functioning to treat various disorders of joints and other musculo - skeletal ailments. The Department has following teaching staff.

	Name	Designation	Qualification
1	Prof. C. B. Bhuyan	Professor	M.D. (Ayu), Ph.D.
2	Dr. S. K. Gupta	Reader	M.D. (Ayu)
3	Dr. T. Dudhmal	Lecturer	M.D. (Ayu)

During the span of April 2008 - March 2009, the Dept. has involved in various activities; brief data on which is as follows :

ACADEMIC ACTIVITIES :

Summary of the Academic activities of the department for 2008 - 2009 are as follows :

<u>Sl. No.</u>	<u>Activity</u>	<u>Total No.</u>
1	No. of M.D. (Ayu) Students	007
2	No. of Ph.D. (Ayu) Students	002
3	No. of theory classes conducted for 1 st M.S. (Ayu)	042
4	No. of theory classes conducted for 2 nd / 3 rd M.S. (Ayu)	084
5	No. of Clinical classes conducted for 2 nd / 3 rd M.S. (Ayu)	140
6	No. ventures organized	001
7	No. of presentations in CME / RoTp as invitee speakers	017

CLINICAL RESEARCH :

Hospital Activities :

Para - Surgical Units :

*	Ksharakarma	:	PCA Therapy Unit
*	Agnikarma	:	DCA Therapy Unit
*	Raktamokshana	:	Blood Letting Therapy

General Data :

* Patients visited at OPD	:	4038
* Patients visited the ARC	:	4047
* Patients admitted in IPD	:	0418
* Bed Occupancy	:	81.46%

No. of Surgeries conducted :

* Piles	:	053
* Fistula in Ano	:	051
* Fissure in Ano	:	026
* Hydrocele	:	004
* Inguinal Hernia	:	005
* Phimosi	:	002
* Appendicitis	:	001
* Others	:	034
Total	:	176

No. of Para-surgical procedures conducted :

* Raktamokshana	:	069
* Agnikarma	:	110
Total	:	179

Investigations & Referral :

* T.B. patients referred	:	019
* AIDS patients referred	:	004
* Total fistulogram	:	034
Total	:	057

RESEARCH ACTIVITIES :

Ph.D. (Ayu.) Research Projects (In Progress) :

1. A Clinical and Experimental Study of Pashanabhedadi Ghrita in the management of Ashmari w.s.r. to Urolithiasis.

Scholar : Dr. Sanjay Kumar Gupta,
Co-Guide : Dr. B. Ravishankar.

Guide : Dr. Chaturbhuja Bhuyan,

2. The Role of Ksharasutra in the management of Parikartika (Fissure - in - ano).

Scholar : Dr. T S. Dudhamal,

Guide : Dr. Chaturbhuja Bhuyan.

M.S. (Ay.) Research Projects (Completed) :

1. A comparative study of Agnikarma with Lauha, Tamra and Pancha Dhatu Shalaka in Gridhrasi w.s.r. to Sciatica.

Scholar : Dr. Babita Bakhashi,
Co-Guide : Dr. Manjusha Rajgopal.

Guide : Dr. Sanjay Kumar Gupta,

An attempt has been made to evaluate the use of Shalakas made with different metals for Agni karma in cases of sciatica. The research work has been carried out through clinical studies. Results of the study shows that Agnikarma by Panchadhatu Shalaka provides better result in relief of symptoms i.e. Ruka and Tandra, while Lauhadhatu Shalaka in symptoms of Spanadana and Gaurava and Tamradhatu Shalaka provides better effect in Toda, Stambha. Over all assessment found to be more effective (50% cured rate) when Panchadhatu Shalaka was used for Agnikarma in comparison to Lauha and Tamra Dhatu Shalakas.

M.S. (Ay.) Research Projects (In Progress) :

1. A comparative clinical study on efficacy of Maha Yavanala Roma kshara and Dhanyaka Gokshura ghrita in the management of Vatastheela w.s.r. to BPH.
Scholar : Dr. Yogesh R. Vasava, Guide : Dr. Chaturbhuj Bhuyan,
Co-Guide : Dr. Manjusha Rajagopala.
2. A Clinical and experimental study of Manjisthadi Ghrita on vrana ropana.
Scholar : Dr. Jyoti D. Baria, Guide : Dr. S. K. Gupta,
Co-Guides : Dr. Chaturbhuj Bhuyan & Dr. B. Ravishankar.
3. A Clinical study to evaluate the efficacy of Ksharasutra ligation in management of haemorrhoids as compared to haemorrhoidectomy.
Scholar : Dr. Meva Lal Gupta, Guide : Dr. Chaturbhuj Bhuyan,
Co-Guide : Dr. S. K. Gupta.
4. A comparative clinical study of Tilanaala Ksharasutra and Snuhi ksheera Sutra in the management of Bhagandara.
Scholar : Dr. Supreeth J. Lobo, Guide : Dr. Chaturbhuj Bhuyan,
Co-Guides : Dr. S. K. Gupta, Dr. T. S. Dudhamal.
5. A comparative clinical study of fortified Gokshuradi Guggulu and Dhanyak Gokshura Ghrita in the management of Mootraghata w.s.r. to BPH.
Scholar : Dr. Shreyas G. Bhalodia, Guide : Dr. S. K. Gupta,
Co-Guides : Dr. Chaturbhuj Bhuyan, Dr. T. S. Dudhamal.
6. Clinical evaluation of Arshohara Malahara in the management of Arsha.
Scholar : Dr. Milankumar V. Solanki, Guide : Dr. T. S. Dudhamal,
Co-Guides : Dr. Chaturbhuj Bhuyan, Dr. S. K. Gupta.



DEPARTMENT OF SHALAKYA TANTRA

INTRODUCTION :

Department of Shalakyta Tantra, one of the eight specialities of Ayurveda deals with the important clinical specialities i.e. Ophthalmology, E.N.T. and Dentistry, with equal emphasis to theoretical as well as practical training in different Ayurvedic therapeutic procedures to the scholars of Ayurveda. The speciality deals with the disorders of the ear, nose, throat, eye and teeth. Research works are being carried out mainly on myopia, cataract, conjunctivitis and eye lid infections, ocularpalsy, myasthenia gravis, optic atrophy, trigeminal neuralgia, rhinitis, sinusitis, pyorrhoea, tonsillitis, otomycosis, otitis media etc. Fundus examination, ophthalmoscopic examination, tonometry, refraction, perimetry, audiometry and otoscopic examination are being done regularly in relevant cases. In addition to the regular Kriya Kalpas, para - surgical procedures like Agnikarma, Jalaukavacharana are also being done in different pathological manifestations. The Department has following teaching staff.

	Name	Designation	Qualification
1	Prof. K. S. Dhiman	Professor	M.D. (Ayu), Ph.D.
2	Dr. Manjusha R.	Reader	M.D. (Ayu), Ph.D.
3	Dr. D. S. Vaghela	Lecturer	M.D. (Ayu), Ph.D.

During the span of April 2008 - March 2009, the Dept. has involved in various activities; brief data on which is as follows :

ACADEMIC ACTIVITIES :

Summary of the Academic activities of the department for 2008 - 2009 are as follows:

Sl. No.	Activity	Total No.
1	No. of M.S. (Ayu) Students	008
2	No. of Ph.D. (Ayu) Students	005
3	No. of theory classes conducted	166
4	No. of Clinical classes conducted	500
5	No. of classes conducted by Visiting Professors	156
6	No. of presentations in national / international seminars	007
7	No. of published papers	004

CLINICAL RESEARCH:

Hospital Activities - General Data:

*	Patients visited at Eye OPD	:	6093
*	Patients visited the Dental & ENT	:	6223
*	No. of Fundus Examinations done	:	0663
*	No. of Refractions done	:	1963
*	Patients admitted in IPD	:	0066
*	No. of OT Procedures done	:	0043

No. of Para-surgical procedures and Kriya Kalpas conducted:

* Tarpana	:	1370
* Nasya	:	1765
* Karna Purana	:	0271
* Karna Dhupana	:	0020
* Kshara Karma	:	0020
* Shiro Dhara	:	0037
* Netra Dhara	:	0162
* Bidalaka	:	0009
* Anna Lepana	:	0025
* Aschyotana	:	0073
* Seka	:	0044
* Anjana	:	0029
* Pichu	:	0007
* Gandusha	:	0041
* Mrudu Sweda	:	0039
* Leech Application	:	0034
* Tooth Extraction	:	0006
* Audiometry	:	0044
Total	:	3990

RESEARCH ACTIVITIES :

Ph.D. (Ayu.) Research Projects (Completed) :

1. A clinical study on Computer Vision Syndrome and its management with Triphala Ashchyotana and Saptamrita Lauha.

Scholar : Dr. M.P. Gangamma,

Guide : Dr. Manjusha Rajagopala.

The incidence of computer Vision Syndrome (CVS) is as high as 50% - 90% amongst the employees of computers occupation. The survey study was conducted in two batches at different computer centres / teaching institutes and RIL of Jamnagar consistency of total 1205 computer professionals. Survey of batch - 1 conducted at computer institutes and management colleges showed that 34.17% were having symptoms of CVS, while batch - 2 survey at RIL campus showed that 41.40% were having the symptoms of CVS. Randomly selected patients of CVS were grouped into three and have been prescribed with plain Triphala eye drops (Group - 1), Triphala eye drops and Saptamrita Lauha internally (Group - 2), and placebo eye drops and placebo tablets (Group - 3). The combined therapy of Group - 2 showed better results when compared with the other treated groups.

Ph.D. (Ayu.) Research Projects (In Progress) :

1. A clinical study on Pothaki -Trachoma and its management with Haritakyadi eye drops.

Scholar : Dr. B. Narayan,

Guide : Dr. Manjusha Rajagopala.

2. An advance comparative study of Lodhradi Churna Pratisarana and Lodhradi paste application in the management of Dantaveshta w.s.r. to Peridontitis.
Scholar : Dr. U. Rajshree, Guide : Dr. Manjusha Rajagopala.
3. A clinical study on Shushkakshipaka with special reference to dry eye syndrome and its management with Mridweekadi eye drops and Nayanamruta eye ointment.
Scholar : Dr. K. Sreekumar, Guide : Dr. Manjusha Rajagopala,
Co-Guides : Dr. Piyush Matalia.
4. A comparative study of Dashana Samskara Churna Pratisarana and Dashana Samskara paste application in the management of Shitada W.S.R. to Gingivitis.
Scholar : Dr. K.P.P. Peiris, Guide : Dr. Manjusha Rajagopala,
Co-Guides : Dr. B. Ravishankar, Dr. Nayna Patel.

M.S. (Ayu.) Research Project (Completed) :

1. A clinical study on Akshi Tarpana with and without Nasya w.s.r. to Myopia.

Scholar : Dr. Durgesh Prasad Gupta, Guide : Dr. Manjusha Rajagopala.

The present study has been planned to know the efficacy of Nasya as a Poorvakarma procedure to Tarpana in Myopia. Mahatriphaladya Ghrita was used for Akshi Tarpana and Abhijita Taila was used for Nasya. Randomly selected patients of myopia were grouped into two groups and have been prescribed with plain Tarpana (Group - 1) and Nasya with Tarpana (Group - 2). The combined therapy of Group - 2 showed better results when compared with first group.

2. Role of Trayodashanga Kwatha and Pradhamana Nasya in the management of Dushta Pratishyaya w.s.r. to chronic sinusitis.

Scholar : Dr. Varsha Chaudhary, Guide : Dr. Manjusha Rajagopala,
Co-Guide : Dr. Sejal Mistry.

Dushta Pratishyaya is a Vatapradhana Tridoshaja Vyadhi. Changes in life style, urban sprawl and increased resistance to the antibiotics are responsible for increased prevalence of this disease, which can be correlated with chronic sinusitis in modern parlance. Randomly selected patients of chronic sinusitis were grouped into three and have been prescribed with Trayodashanaga Kwatha + Madhu (Group - A), Pradhamana Nasya with Trikatu + Triphala Churna (Group - B) and Pradhamana Nasya + Trayodashanga Kwatha with Madhu (Group - C). 10% complete relief was observed in Group A, while marked improvement was observed in Group B (81.82%) and in Group C (60%).

M.S. (Ayu.) Research Project (In progress) :

1. Standardization of "Tarpana" and role of Jeevantyadi Ghrita in the management of Timira w.s.r. to Myopia.

Scholar : Dr. Poonam Sindher, Guide : Dr. Manjusha Rajagopala,
Co-Guides : Dr. V. J. Shukla, Dr. D. B. Vaghela.

2. Further Study on the role of Arka Taila in the Management of Karnasrava w.s.r. to Otomycosis.

Scholar : Dr. Komal Palmer, Guide : Dr. D. B. Vaghela,
Co-Guide : Dr. Manjusha Rajgopala.

3. A comparative Study between traditional method of Ashchyotana in Vataja Abhishyanda w.s.r. to Allergic Conjunctivitis.
Scholar : Dr. Jayshree Udani, Guide : Dr. Manjusha Rajagopala,
Co-Guides : Dr. D. B. Vaghela, Dr. Piyush Mataliya.
4. A clinical study to evaluate the efficacy of Trataka Yoga Kriya and eye exercises (Non Pharmacological Methods) in the management of Timira (Ammetropia and Presbyopia).
Scholar : Dr. Gopinath, Guide : Dr. K. S. Dhiman,
Co-Guides : Dr. Manjusha Rajgopala.
5. A clinical study on Blepharitis and its management with Karpooradi Kuzumbu Anjana with or without Jalaukaavacharana.
Scholar : Dr. Munna Kumar, Guide : Dr. Manjusha Rajgopala,
Co-Guide : Dr. D. B. Vaghela.
6. A role of Chitraka Haritaki Avaleha and Sunthyadi Taila Nasya with and without Shatahvadi Dhumapana in the management of Vataja Pratishyaya - Allergic Rhinitis.
Scholar : Dr. M. Lamin, Guide : Dr. D. B. Vaghela,
Co-Guides : Dr. K.S. Dhiman, Dr. Hiten Maniyar.



PHARMACOLOGY LABORATORY

AIMS AND OBJECTIVES :

- * To undertake detailed research on all aspects of drug activity pertaining to drugs used in Ayurvedic therapeutics including folklore drugs.
- * To impart knowledge of basic pharmacology to M.D. (Ayu.) scholars.
- * To teach pharmacology related subjects to M. Sc. (Med. plants) and M. Pharm (Ayu.) scholars.
- * To undertake sponsored research projects.
- * To offer technical consultancy in the areas related to drug activity and pharmacology of natural products.
- * Preparation of project reports, technical reports and other related scientific literature including editing of books and reports.

ACADEMIC ACTIVITY :

Summary of the Academic activities of the laboratory for 2008 - 2009 are as follows:

<u>Sl. No.</u>	<u>Activity</u>	<u>Total No.</u>
1	No. of Ph.D. (Ayu) Scholars	003
2	No. of theory classes conducted	102
3	No. of practical classes conducted	065
4	No. of M.D.(Ayu) students utilizing the Lab. facilities	008
5	No. of Ph.D.(Ayu) students utilizing Lab. facilities	010
6	No. of M.Sc., & M. Pharm students utilizing Lab. facilities	005
7	No. of presentations in national / international seminars	006
8	No. of published papers	011

RESEARCH ACTIVITY :

The following are the categories of research projects undertaken in the laboratory.

- A : Research projects related to Ph.D (Ayu) Scholars.
- B : Research projects related to M.D. (Ayu) Scholars.
- C : Research projects of the external sponsor.
- D : Research projects related to the PG & Ph.D. scholars under PGT SFC - Cell.
- E : Research projects under PHRU - CCRAS functioning in the Laboratory.

Research projects related to the Ph.D. (Ayu) Scholars :

(Studies completed and submitted for adjudication) :

1. **A detailed investigation on the influence of Shodhana process on the expression of toxic effects in raw Vatsanabha and its reversal by Shuddha Tankana :**
(Dr. Prasantha Sarkar - RSBK)

Aims and objective, method of study : To study the influence of Shodhana process on the toxicity profile of Vatsanabha, a detailed study in six phases was undertaken. In the first

phase, toxicity profile of raw and Shuddha Vatsanabha was evaluated. Further recovery from the toxic effect was also assessed. In the second phase, antidotal evaluation of Shuddha Tankana was carried out on Vatsanabha induced poisoning. In the third phase, sub-acute toxicity of Shuddha Tankana was evaluated. In the fourth phase, cardiac activity of raw, Shuddha Vatsanabha and raw Vatsanabha with Shuddha Tankana were assessed. In the fifth phase, neuromuscular activity of raw, Shuddha Vatsanabha and raw Vatsanabha with Shuddha Tankana were tested in vitro on leech dorsal muscle. And in the final phase, antipyretic evaluation of raw and Shuddha Vatsanabha was carried out.

Conclusions : In this present study the LD₅₀ value of raw Vatsanabha was found to be 35 mg/kg. *Aconitum chasmanthum* Holmes ex Stapf. species of aconite was used in this study. This is the most toxic species of *Aconitum* and its total alkaloidal content is around 3 % (highest among all the *Aconitum* species).

Analysis of the data of the recovery study reveals that rats of all the recovery groups have shown partial to significant recovery with respect to biochemical, haematological, ponderal and histopathological parameters. Some persisting pathological conditions observed in Shuddha Vatsanabha by Gomutra (SM) recovery group indicates sudden withdrawal of test drug could cause adverse effects and are suggestive of necessity of tapering withdrawal of the test drug.

Analysis of the data of the antidotal study reveals that the Shuddha Tankana has significant protective activity against both acute and chronic Vatsanabha poisoning. Both the dose levels are equi-active in this respect.

Analysis of the data of the sub-acute toxicity study reveals that Shuddha Tankana at the dose levels studied does not affect biochemical, haematological, ponderal and histopathological parameters studied.

Administration of raw Vatsanabha lead to changes in heart rate and QRS complex. These changes were reversed by the administration of Shuddha Tankana.

2. A comparative pharmacological investigation on Tamra bhasma and Somanathi Tamra Bhasma for hypolipidemic and cardioprotective effects in experimental animals : (Dr. Suhas Nayak - RSBK)

Aims and objective, method of study : Tamra bhasma and Somanathi Tamra Bhasma were evaluated for hypolipidemic activity in hyperlipidemic rats maintained on hyperlipidemic diet and also for cardioprotective activity against isoprenaline induced cardiac injury. The effect of test drugs on hyperlipidemic diet and isoprenaline induced changes in different parameters was assessed employing standard experimental protocol.

Conclusions : The data generated during the present study clearly indicates presence of significant triglyceride and cholesterol lowering effect in both the test drugs. Somanathi Tamra Bhasma produced comparatively better effect including reversal of hyperlipidemic diet induced histopathological changes in comparison to Tamra bhasma. Similarly both exhibited good cardioprotective effect at the dose level studied. The results obtained suggest that both the drugs can be used as it is or as primary ingredients on which a formulation can be built. Both the drugs are almost equi-effective with Somanathi Tamra Bhasma showing slightly better effect (statistically there is no difference between the groups). Hence the selection of either of them should be based on their safety profile.

3. A comparative study on Narikela khanda and Narikela granules for anti-ulcer activity against pyloric ligation and stress induced ulcers in rats: (Dr. Pramod Bargi-RSBK)

Aims and objective, method of study : Experimental evaluation was undertaken to study the effect of Narikela Khanda and Narikela Khanda granules (the same formulation was prepared in the form of granules to enhance the stability) on pyloric ligation and stress induced gastric ulcer models in rats and its possible effect on offensive and defensive mucosal factors. The experiments were carried out employing standard protocols.

Conclusions : The data obtained during the study showed that both of them possess anti-ulcer activity against pyloric ligation induced gastric ulcers which are mainly dependent on acid-pepsin activity. The Test formulations also possess anti-ulcer effect against stress induced ulcers. They were found not to influence the stress induced hypothermia. It may be indicative of operation of other mechanisms in this parameter. The data generated during this study clearly indicate that administration of Narikela Khanda granules for the treatment of gastric ulcer condition of different aetiology would be useful and this formulation retains the efficacy of the classical Narikela khanda.

4. A comparative investigation on the starch obtained from *Curcuma angustifolia* Roxb. And *Maranta arundinacea* Linn., two source plants of the classical Tugaksheeree : (Dr. Rajashekhar- DG)

Aims and objective, method of study : Tugaksheeree is the drug described during Samhita period as the substitute for Vamshalochana. It is an important drug and is used as one of the important ingredients of many medicinal formulations like Chyavanaprasha, Dhatriyavaleha, Sithopaladi churna, Triphala rasayana etc. Starch obtained from the two different plants viz. *Curcuma angustifolia* Roxb. (Fam. Zingiberaceae) & *Maranta arundinacea* Linn. (Fam. Marantaceae) are used as Tugaksheeree in different parts of the country. They are used in folklore practice (certain tribes of Dakshina Kannada district of Karnataka) in the treatment of Amlapitta and also as a nutritional food supplement. Hence the starch obtained from both the plants was studied for their effect on pyloric ligation and stress induced ulcers in rats following standard experimental protocol.

Conclusions : Analysis of the data generated as a whole indicates that the starch samples obtained from both *Curcuma angustifolia* and *Maranta arundinacea* possess good anti-ulcer activity against both pyloric ligation and stress induced ulcers. *Maranta arundinacea* has better activity profile in both the types of ulcers. Further, since it reversed stress hypothermia besides attenuating stress ulcer- it seems to have better anti-stress effects.

5. Analgesic, anti - inflammatory and antipyretic activity evaluation of tablet and syrup forms of Jwarahara Dashemani- a polyherbal formulations : (Dr. Bharat Kalsariya - RSBK)

Aims and objective, method of study: Jwarahara Dashemani is an important group of anti-pyretic drugs mentioned by Acharya Charaka. Two formulations - tablet and syrup were prepared and evaluated for the above mentioned properties, using standard experimental protocols to ascertain the influence of formulation on the expression of pharmacological activity.

Conclusions: The data generated clearly show that the test formulation when administered in the form of syrup do possess moderate anti-pyretic, analgesic and anti-inflammatory activity; where as in tablet form it has only weak activity. Further, optimization of the formulation is likely to provide an effective antipyretic.

6. An investigation on the suitability of different experimental procedures to assess Ushna and Shita guna attributes in test drugs: (Dr. Santosh Mane - BP)

Aims and objective, method of study : At present no objective experimental protocols are available for assessing rasapanchaka attributes in a plant. Evolving such a protocol is very important for expanding the ayurvedic therapeutic armamentarium by including more number of plants. As part of this endeavor, two set of medicinal plants one representing shita guna and the other representing ushna guna were studied at therapeutically equivalent dose in a battery of tests to determine the activity profile. The data generated was assessed carefully to find out the correlation between the observed activity and the guna attributed to the drug.

Conclusions : Among the different Deepana and Pachana parameters employed for the assessment of ushna and shita guna- only body weight can be considered suitable for assessment of these properties. Food conversion ratio- can be a parameter for assessment of ushna property but there was no correlation for assessing shita guna. Similarly forced swimming induced hypothermia can be employed as a parameter for assessment of ushna guna but again shita guna drugs did not influence this parameter- indicating limitation to adopt it for measuring both ushna and shita gunas. Based on the above analysis it can be suggested that further experiments would be necessary for providing suitable testing protocol with due consideration to time and season of testing and feeding status of the experimental animals.

Research projects related to the M.D. (Ayu.) Scholars :

1. Investigation on the safety profile of Pippali on acute and chronic administration: (Dr. Megha Pathak - BP)

Aims and objective, method of study : To determine what would happen if higher doses of Pippali is administered at higher doses over longer period a study was designed in experimental animals to evaluate Pippali in two different phases viz. acute administration at graded doses as part of acute toxicity study and chronic administration at fixed dose level, as part of chronic toxicity study, to assess the possible adverse effects if any.

Conclusions : No mortality was observed up to the maximum dose (3750 mg / kg-po) studied in acute toxicity study. In the light of the above observations it can be interpreted that Pippali can be considered as a safe drug for acute administration in multiples of the indicated therapeutic dose. Over all analysis of the data generated during the chronic toxicity study clearly indicates that at the therapeutic dose level and even at three times the therapeutic dose level Pippali churna even on long duration of administration do not have the potential to produce serious toxicity in persons who have no serious deficiency in the functioning of the vital organs like liver, kidney, heart etc.

2. A comparative experimental evaluation of badi and choti Pippali for anti-inflammatory and anti-tussive activity : (Dr. Kumari Mamta - DG)

Aims and objective, method of study : Two varieties of Pippali known as badi and choti are available in the market. It was thought worthwhile to evaluate both the samples for anti - inflammatory activity by employing carrageenan and formaldehyde paw oedema tests and anti-tussive activity in mice against SO₂ induced cough to determine whether both are equi-active or not.

Conclusions : Both the varieties produced significant suppression of carrageenan oedema and SO₂ induced cough. However, only choti Pippali produced significant suppression of formaldehyde oedema especially the late phase where as badi Pippali produced weak effect in this model. Taking the overall data generated during the present study in to consideration, it

can be suggested that both badi and choti Pippali show the characteristic features mentioned in classics. However, choti Pippali seems to have better activity profile especially for suppression of the late phase of asthma.

3. Evaluation of diuretic activity in *Desmostachya bipinnata* Stapf and *Imperata cylindrica* Beauv : (Dr. Niti Shah - DG)

Aims and objective, method of study : Kusha and Darbha are the constituents of the Trinapanchmoola which is a well known diuretic group in the Ayurvedic classics employed for various disease conditions like Shotha, Mutrakrichhra and Ashmari etc. The botanical source of both Kusha and Darbha is still a matter of dispute with both *Imperata cylindrica* Beauv., and *Desmostachya bipinnata* Stapf being mentioned as source plants by different authors. It is considered important to study them pharmacologically for assessment of diuretic activity to provide experimental basis to clinical findings and also to know probable mechanism of action. They were evaluated for diuretic activity in hydrated rats following standard procedures.

Conclusions : The study did not provide un-equivocal data to come to a firm decision with respect to which of them can be considered as Kusha or Darbha. However, considering the fact that *Desmostachya bipinnata* produces moderate diuretic effect which is much higher in magnitude in comparison to the weak diuretic effect observed with *Imperata cylindrica* it can be suggested that it has better eligibility to be considered as the classical Kusha / Darbha. Further the obtained data reveal that *Desmostachya bipinnata* has the potential to influence serum electrolyte content especially potassium and chloride content hence requires careful observation during clinical application.

4. Anti - tussive and diuretic activity evaluation of six species of *Solanum* which are marketed as source plants of classical Brihati : (Dr. Neha Kotak - DG)

Aims and objective, method of study : *Solanum incanum* Linn., *Solanum dubium* Fresen., are the most common species which are sold in the market. Taking this fact in to consideration five species of *Solanum* - *Solanum indicum* Linn; *S. incanum* Linn, *S. torvum* Swartz., *S. trilobatum* Linn., and *S. dubium* Frsen., were evaluated for diuretic and anti-tussive activities following standard experimental protocol in rats and mice to determine which of them would serve as good source of classical Brihati.

Conclusions : Taking in to consideration the overall activity profile generated during the study it can be suggested that from both Sothahara and Kasahara point of view *Solanum incanum* is equi-effective to *Solanum indicum* since both produced good anti-inflammatory and anti-tussive activity. If the requirement is for Kasahara all the substitutes are equally effective like the original source plant *S. indicum* since all the species studied produced significant suppression of SO₂ induced cough. It is to be noted that Brihati is not used as single plant in therapeutics.

5. Evaluation of Mustadi ghanavati for hypolipidemic activity in hyperlipidemic rats: (Dr. Manjari Nadkarni - KC)

Aims and objective, method of study : The present study was undertaken to evaluate the efficacy of Mustadi Ghanavati as a potential anti -hyperlipidaemic drug. Mustadi Ghanavati contains ingredients like Musta, Triphala, Devadaru, Gokshura, Nimba, Haridra, Daruharidra and Tvak which have proven hypolipidaemic actions in various experimental as well as clinical studies. The study was carried out in rats made hyperlipidemic following standardized protocol. The effect of test drug on different biochemical, ponderal and histological parameters was studied.

Conclusions : Analysis of the data generated during the study indicates that Mustadi Ghanavati has no influence over diet induced hyperlipidaemia and on the hyperlipidaemia induced alteration in transaminase, alkaline phosphatase activity and serum uric acid level. The activity profile contrary to the expectation did not produce the desired hypolipidaemic activity. This is surprising considering the ingredient profile which shows presence of active hypolipidaemic constituents. There can be several reasons for this occurrence. Further the protection observed in majority of rats against hyperlipidaemia induced mild to moderate degenerative changes in liver and kidney may be indicative of presence of cytoprotective effect rather than any indication towards presence of hypolipidaemic activity.

6. Adaptogenic activity evaluation of Ranahansa rasayana, a well known compound formulation of Sri Lanka : (Dr. K.I.W.K Somarathane - KC)

Aims and objective, method of study : Ranahansa rasayana is a well known classical Sri Lankan rasayana drug, very popular among traditional vaidyas used especially in the treatment of chronic and severe debility conditions of the body secondary to a major illness. It contains 51 ingredients including both the drugs of plant and animal origin. Taking the above factor in to consideration the present study was undertaken to evaluate the test formulation for its effect on cell mediated and humoral immunity and for the presence of cytoprotective, anti - stress and anabolic effects employing standard experimental protocols.

Conclusions : The test formulation was found to increase the rate of body weight gain, suppress cell mediated immunity, moderately enhance anti - body formation against sheep red blood cells (SRBC) and attenuate forced swimming stress induced hypothermia in rats. This clearly indicates it possess immunomodulation, adaptogenic and anabolic effects.

7. An investigation on the influence of nature of puta on the anti-diabetic activity of Vanga bhasma : (Dr. Darshan Parmar - RSBK)

Aims and objective, method of study : Ayurvedic classics describe different protocols for preparation of same bhasma. Further it has been mentioned that a bhasma can be therapeutically used under different conditions by giving it with different anupana-sahapana. Vanga Bhasma preparations are considered as best remedy for Madhumeha Roga. In the present study two samples of Vangabhasma prepared by two different putas- one prepared with ardha gajaputa and another prepared with gajaputa have been investigated for the presence of anti-diabetic activity in rats made diabetic with streptozotocin injection (45mg/kg-ip).

Conclusions : Based on overall analysis of the data recorded during this study it can be concluded that VB - 1 (ardha gajaputa) has weak anti-hyperglycemic effect in STZ diabetic rats and VB-2 (gaja puta) moderate consistent effect. Thus VB-2 has better activity profile. In addition to producing anti-hyperglycemic effect it also protects liver and kidney against diabetes induced fatty changes. The adjuvant Guduchi ghrita given with honey per se has weak to moderate anti-hyperglycemic effect which tapers off during the course of administration. Further it has the tendency to produce hypertriglyceridemia and its attendant fatty changes in liver and kidney. It does not seem to add to the therapeutic activity of the main drugs. Thus whatever therapeutic activity present in the VB depends up on the puta. Gajaputa prepared VB is better.

8. An investigation on the influence of source material on the anti-diabetic activity of Makaradhwaja in rats : (Dr. Sanjay Khedekar - RSBK)

Aims and objective, method of study : Pharmacological activity expression in metal based preparations can be modulated by several kinds of factors like nature of source material used, magnitude and nature of heating, use of adjuvants etc. In the present study three samples

of Makaradhwaja, supposed to be among the best drugs for the treatment of madhumeha, were evaluated for anti-diabetic activity in streptozotocin diabetic rats. The three samples were MKP- Makaradhwaja prepared by using Swarna Patra, MKV - Makaradhwaja prepared by using Swarna Varkha and MKB - Makaradhwaja prepared by using Swarna Bhasma. Effect of test preparations was studied on different types of parameters in streptozotocin diabetic rats using a standard study protocol.

Conclusions : From the data obtained it can be suggested that MKV has better potential in the treatment of hyperglycemia observed in diabetic condition. At the dose level studied the anti-diabetic activity noted was moderate and due to variation in the data did not reach statistically significant level. However, the activity was long lasting. The inference is that MKV: Makaradhwaja prepared by using Swarna Varkha has the best activity profile among the three preparations studied. MKB : Makaradhwaja prepared by using Swarna Bhasma closely follows it, while MKP: Makaradhwaja prepared by using Swarna Patra has only weak effect which requires longer onset and tapers off quickly.

Details of sponsored research projects :

1. Pharmacological investigations on two coded drugs: "Sample A - Coded 40601009 and Sample B - Coded 40605015" for analgesic, anti-inflammatory and anti-rheumatic activities. Study sponsored by MGM Vision Laboratories, Bhubaneswar. Study completed and report submitted to the sponsor.
2. Evaluation of natural product containing vitamin K complexes for different pharmacological activities and determination of its safety profile: Sponsored by VIRDIS, Mumbai: The study is under progress.



LABORATORY OF PHARMACEUTICAL CHEMISTRY

INTRODUCTION :

Pharmaceutical Chemistry Laboratory is mainly engaged in various dimensions of research activities i.e. quality control of raw material and finished products, standardization aspects of Ayurvedic drugs, phytochemical studies of important medicinal plants etc. The laboratory is also engaged in academic work, research and administrative activities of the Institute and University as well. The Laboratory extended its supportive role to various departments of the Institute and also to the University Pharmacy in the drug analysis. To undertake detailed research on all aspects pertaining to standardization, quality control and phytochemical studies on important medicinal plants of Ayurveda, technical guidance is being provided to the researchers. In addition, imparting basic knowledge of pharmaceutical chemistry, formulation development and quality control to the scholars of M.D. (Ayu), Ph.D. (Ayu), M.Pharm. (Ayu) and M.Sc. (Medicinal Plants).

During the span of April 2008 - March 2009, the Dept. has involved in various activities; brief data on which is as follows:

ACADEMIC ACTIVITIES :

Summary of the Academic activities of the department for 2008 - 2009 are as follows:

<u>Sl. No.</u>	<u>Activity</u>	<u>Total No.</u>
1	No. of theory classes conducted	051
2	No. of practical classes conducted for 1 st M.D. (Ayu.)	094
3	No. of theory classes conducted for M. Pharma (Ayu.)	082
4	No. of practical classes conducted for M. Pharma (Ayu)	022
5	No. of theory classes conducted for M.Sc. (Med. Plants)	005
6	No. of practical classes conducted - M.Sc. (Med. Plants)	021
7	No. of papers presented including guest lectures.	003
8	No. of papers Published	???
9	No. of ventures organized	???

TECHNICAL ACTIVITIES :

- * 62 Samples were received from University Pharmacy and chemical analyses has been done as per the standard protocol.
- * Planning to get up gradation of pharmacy to get GMP certification.

RESEARCH ACTIVITY :

The following were the category of research projects undertaken in the Laboratory :

- A - Research projects related to M.D. (Ayu.) Scholars
- B - Research projects related to Ph.D. (Ayu.) Scholars
- C - Research projects of the external sponsor
- D - Research projects related to Ph.D. Scholar as per MOU with Saurashtra University, Rajkot

Research projects related to M.D. (Ayu.) Scholars :

1. A comparative study for identification and evolution of Kusha and Darbha to assess their Mootral karma : (Dr. Niti Shah - DG)

Kusha and Darbha samples were analyzed according to methods mentioned in per Ayurvedic Pharmacopoeia. Work of standardization and comparison at Physical level as well as comparison of methanol extract of Kusha and Darbha was performed. Compounds having similar retention factor were traced out using non destructive method and using derivatization with suitable spray reagent. Sugar content was measured using UV - VIS spectroscopic method. Qualitative test for Alkaloid, Flavonoids, Glycosides, Tannins, Phenols, Saponins and Sugar were performed and both the plants studied were found different in their chemical constituents.

2. A comparative appraisal of Brihati and its substitutes w.s.r. to its Pharmacognostic, Phytochemical and Pharmacological Profile : (Dr. Neha Kotak - DG)

Six Solanum species were compared on the basis of physical properties like loss on drying, ash value, Acid insoluble ash, powder consistency, extractive principle using water and alcohol as solvent. The values are found within range of pharmacopoeia. The extracts were subjected to qualitative testing for presence of functional groups like alkaloid, Saponin, Sugar, flavonoid etc. total alkaloid content was estimated.

3. A Comparative Pharmacognostic, Pharmacological, Phytochemical Assessment of market sample of Choti Pippali and badi Pippali w.s.r. to its Tamakaswasahara effect : (Dr. Kumari Mamta - DG)

Eight samples of Pippali designated as 4 badi pippali and 4 as choti pippali from east zone, north zone, west zone and south zone were subjected to Pharmaceutical Standardization using Pharmacopoeial parameters like loss on drying, ash value, Acid insoluble ash, powder consistency, extractive principle using water and alcohol as solvent. Variation in DCM extractive principle was considered as crude level for piperine content of the drug. TLC and HPTLC fingerprinting of all the samples and comparison with standard piperine was also carried out it is found that all the sample content piperine but the concentration of piperine was different. Hence regional variation in herb is confirmed.

4. A clinical study on the effect of Brahmi vati in the management of Shayya mutra (Enuresis) : (Dr. Pragya Pushpanjali - KB)

Standardization of Brahmi and Bimbi moola as per the standards of Pharmacopoeia was carried out. The parameters selected for comparison of the drugs are as follows: Loss on Drying, Ash value, Extractive principles (Water, Methanol) pH (10 % W/V aqueous solution), Acid insoluble Ash, Uniformity of tablet, Hardness and disintegration time etc. Bimbi mool stands with higher value for almost all parameters studied.

5. The Effect of puta in Preparation of Vang Bhasma w.s.r. to Madhumeha (DM) : (Dr. Darshan Parmar - RS & BK)

Standardization and qualitative parameters performed and the results were evaluated.

Research projects related to Ph.D (Ayu.) Scholars

1. A Comparative pharmaco - therapeutic study of Tugaksheeree (*Curcuma angustifolia* Roxb. (Fam.Zingiberaceae) and *Maranta arundinacea* Linn. Fam. Marantaceae) w.s.r. to Amlapitta : (Dr. N. Rajashekhara - DG)

Starch from *Curcuma angustifolia* Roxb and *Maranta arundinacea* Linn were subjected to analytical profiling as well as physico chemical and UV-VIS study protocol. Chromatographical fingerprinting was studied through Hand made TLC plates and HPTLC plates followed by densitometry and substance assignment using Camag scanner III operated through WINCATS software.

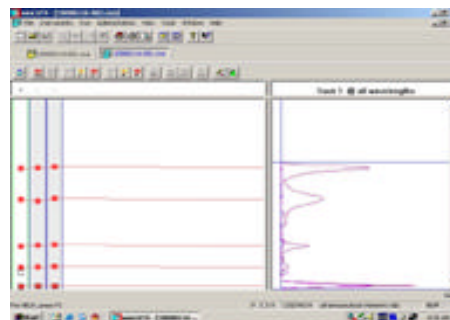


Fig. : Substance Assignment.

2. A Clinical Study on computer Vision Syndrome and its Management with Triphala Ashchyotana and Saptamrita Loha : (Dr. Gangamma - Shalakya)

In analytical study, arka preparations were subjected to specific gravity, pH metry etc. Chromatographic study gives encouraging results and aqueous distillate (Ark) of Triphala give good separation of components when observed under UV radiation after development through medium polar solvent system - Di chloromethane and diethyl ether. Separated spots were compared and mean retardation factor was calculated.

3. A Pharmaceutical standardization of Syrup & Tablet (Ghanavati) of Jwarahara Dashemani and to evaluate its Analgesic, anti-inflammatory and antipyretic activity : (Dr. Bharat Kalsariya - RS & BK)

Pharmacopoeial standardization was carried out and HPLC study from SICART was obtained and interpreted at laboratory.

4. A Clinical Study on the Role of Rasayana as an Adjuvant in the Management of Pulmonary Tuberculosis with anti kochs treatment : (Dr. Purvi Vyas - KC)

Pharmaceutical standardization of formulation and TLC, HPTLC fingerprinting was carried out.

5. A clinical study on Pothaki - Trachoma and its management with Haritakyadi eye drops : (Dr. Narayan - Shalakya)

Pharmaceutical study was carried out using Physical parameters and chemical parameters according to pharmacopoeial standards.

6. A comparative Study of on the management of Sanile Dementia with Poly - Herbal Medhya rasayana Ghrita and Amalakyadi Ghrita : (Dr. Kunden Chaudhari - KC)

Pharmaceutical standardization of the ghrita preparation was carried out. Unaponifiable matter was separated and chromatographic comparison was also done.

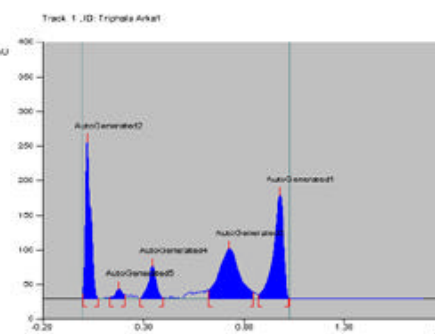
7. A comparative clinical Study of Agnimantha Bhavita Shilajatu and Trivrit yukta Navak Guggulu in the Management of Sthaulya (Obesity) : (Rajan Kr. Pattonder - KC)

Pharmacopoeial standardization according to Ayurvedic pharmacopoeia of India was performed and the results are compared. TLC profile was developed from methanolic extract.

8. A Clinical Study on Pandu Roga W.S.R. to Iron Deficiency and Anaemia and its Management with Phalatrikadi Kwatha (Ghanavati) and Trikatrayadi Lauha : (Dr. Suber Khan - KC)

Physical and chemical experiments were performed and the results are documented for the formulation mentioned.

Fig. : Densitogram



9. A comparative Study of Rasona Rasanadi Ghanavati and Simhanada Guggulu on Amavata w.s.r. to Rheumatoid Arthritis : (Dr. Raja Ram Mahto - KC)

Parameters related to standardization were estimated according method mentioned in API.

10. Evaluation of some objective for ushna and shita gunas based upon panchabhautika theory and experiments : (Dr. Santosh Mane - KC)

Pharmaceutical standardization of ushna and shita drugs was performed and effect of variable in extraction was compared.

11. A Pharmaceutical standardization of Narikela Khand and Narikela Khand Granules, it's efficacy on Amlapitta : (Dr. Pramod Baragi - RS & BK)

12. Standardization of tablet was carried out using physico chemical parameters. TLC and HPTLC fingerprinting was studied in fresh and old extract of tablet. (Dr. Prashanth - KC)

13. Evaluation of Phytochemical and chromatographic fingerprinting of Jivanti (*Laptadenia reticulata*) : (Dr. Atanu pal - DG)

14. Volatile oil content and related parameters were studied in Ghana sample, Kwatha sample and Ark preparation : (Dr. Shuchi - RS & BK)

15. Physico-chemical parameters as per pharmacopoeial standard was carried out : (Dr. Sangram Mishra - KC)

16. Pharmaceuticaasl standardization, physicochemical parameters as per Ayurvedic Pharmacopoeia and TLC fingerprinting was performed and results were evaluated : (Dr. G. D. Gohil)

Research projects of the external sponsorer :

Research projects completed :

1. Anti-inflammatory and anti - arthritic activity of two coded drugs: Supplied by MGM vision lab.

Project Director : Prof. M .S.Baghel

Chief Investigator : Dr. B.Ravishankar

Co-Investigators : Dr. V.J.Shukla and Dr. Ashok B.K.

Research proposals are planned on request and suitable analytical parameters were suggested to the organizations as under.

1. Farm Food products, Coimbatore :

The laboratory suggests analytical study protocols for their newly developed healthy soup mixture.

2. M/s Amity greens, Chennai :

The laboratory planned out the analytical study protocols for the newly developed herbal soup mixture containing 21 herbs, 4 greens and 8 vegetables.

Collaborative research projects with Saurashtra University, Rajkot :

1. Evaluation of anti - hyperglycemic activity of some coded drugs : Department of Biosciences, Saurashtra University, Rajkot.

Principal Investigator : Dr. Sumitra Chanda, **Co-Investigator :** Dr. V. J. Shukla.

Research projects related to Ph.D Scholars :

(As per the MOU with Saurashtra University, Rajkot)

1. Screening of some medicinal plants for anti - microbial properties, phytochemical and pharmacological studies of selected medicinal plants :

Scholar : Yogeshkumar Vaghasiya,

Guide : Dr. Sumitra Chanda,

Co-Guide : Dr. V. J. Shukla.

Fifty three plants were screened for their anti - microbial activity and analysed phytochemically for presence of active functional groups like alkaloids, tannins etc. Out of them *Aristolochia indica*, *Argemone mexicana*, *Alpinia speciosa*, *Causarina equisetifolia*, *Gymnema sylvestre* and *Pluchea arguta* were screened for acute anti - inflammatory activity. *P. arguta* posses a potent anti -inflammatory activity followed by *C.equisetifolia* and *A. speciosa*. *P.arguta* Leaf and stem was selected for Pharmacognostic, toxicological and pharmacological studies. Acute toxicity testing in mice was carried out to explore safety aspects for *P. arguta* Methanol extract of *P.arguta* produced dose related acute inflammatory activity (Carageenan, dextran, histamine and formalin), chronic anti-inflammatory activity (Cotton pellet model) and analgesic activity (Acetic acid and formalin).



PHARMACOGNOSY LABORATORY

INTRODUCTION:

The Pharmacognosy laboratory is mainly involved in standardization of Ayurvedic crude drugs by morphological and microscopical methods. The quality of the drugs is also being assessed by their chemical tests. It maintains a museum and herbarium samples of many authenticated Ayurvedic medicinal herbs, their substitutes and adulterants also.

During the span of April 2008 - March 2009, the Dept. has involved in various activities; brief data on which is as follows:

ACADEMIC ACTIVITIES :

Summary of the Academic activities of the department for 2008 - 2009 are as follows:

<u>Sl. No.</u>	<u>Activity</u>	<u>Total No.</u>
1	No. of theory classes conducted for 1 st M.D. (Ayu)	0021
2	No. of practical classes conducted for 1 st M.D. (Ayu)	0029
3	No. of theory classes conducted for M.Sc. (Med. Pl.)	0045
4	No. of practical classes conducted for M.Sc. (Med. Pl.)	0019
5	No. of Students completed pharmacognosy work	
	M.D. (Ayu)	0018
	Ph.D. (Ayu)	0013
	M. Pharma (Ayu)	0005
6	No. of exposed photographs / photomicrographs	2844

Pharmacognosy laboratory is research oriented unit of the University with multifarious activities enlisted below :

- * Teaching and guidance: M. D. (Ayu.) & Ph. D Scholar's research work.
- * Pharmacognostic investigation on Ayurvedic medicinal plants / crude drugs.
- * Identification of the crude drugs selected for dissertation work in Research.
- * Teaching and Guidance to P.G.T Cell research scholars.
- * Photography and Photomicrography.
- * Maintenance of Herbarium and museum of authentic crude drugs.
- * Participation in seminars, workshops, symposia, ROTP and presentation of research papers etc.

ACADEMIC ACTIVITIES :

During the period of report the laboratory was engaged in teaching various aspects of Pharmacognosy to first year, second and third years M.D. (Ayu.) scholars through theoretical and practical demonstration as per syllabus and schedule of time table.

RESEARCH ACTIVITIES :

- * The laboratory continued its broad - based research activity related to quality control and standardization aspects of Ayurvedic drugs, studies of important medicinal plants and also its association with various academic, researches, technical and administrative activities of the University. The laboratory extended its supportive role to various departments of the institute for identification of crude drugs and also to the pharmacy of the university.
- * Established a well equipped laboratory for all pharmacognostic investigations. Plants were studied by Morphological and Microscopical characters.

MUSEUM :

- * The collected herbariums are fumigated and rearranged.
- * Renaming of the collected raw drugs has been initiated.
- * A separate research scholar's row drugs allowed.

PHOTOGRAPHIC WORK:

Photographic work including exhaustive photography of all the drugs of plants, animal or mineral origin has been carried out. In addition to this, the photographs of the different research works carried out by scholars of M.D., Ph.D., M. Pharm, M.Sc. etc. are also being taken. These photographs not only served the thesis work of the students but were also useful for teaching and research purpose. They served the purpose in exhibition, publication of books etc. They are useful tools for the visitors who come to see the department especially to see the photograph of the authentic specimen, their substitutes and adulterants. Following is the photographic work been conducted by the photography technician of the department.

1. Taking photography of the entire live plants growing in the natural habitat.
2. Close up photography for visualizing the microscopical characters of various fresh parts of plants like flowers, roots, fruits, leaf, rhizomes, seeds etc.
3. Photographs of dried medicinal plants, parts of crude drugs and its powder, gum, exudates etc. showing their different colours, textures etc.
4. Photomicrographs of various sections of plant drugs like transverse and longitudinal sections, powder, isolated, elements etc. and histopathological photomicrographs of various tissues.



BIO - CHEMISTRY

ACTIVITIES:

* **Teaching:**

Theory and Practical classes in the subject of Biochemistry were conducted during the current reporting year for the 1st M.D. (Ayu.) scholars.

* **Association with clinical research:**

Total **43,132** special as well as routine biochemical investigations were carried out from **5,614** pathological samples of blood, urine etc. In addition, associated in conducting **4,328** biochemical investigations from **417** animal samples. The research scholars of M.D. / M.S. (Ayu.), Ph.D., M.Pharm. And M. Sc. (Med. Plant) utilized the laboratory facilities for their thesis / research works.



PATHOLOGY LABORATORY

INTRODUCTION :

During the year 2008 - 09, pathology laboratory has actively associated with many fold activities like research, training, technical and academic as well as administrative activity of institute. A brief report of the activities is as follows:

TEACHING :

The pathology laboratory imparts practical training in respect of various pathological investigations of blood, urine, stool, sputum, semen etc. samples to the Ayurvedic scholars. The theoretical portion of the subject of pathology has been dealt with due attention to the M.D. (Ayu.) scholars.

RESEARCH :

The laboratory is associated with all routine as well as special investigations required for research being carried out by the students of M.D. and Ph.D. (Ayu.). In addition, haematological profile of animals of other departments particularly for drug toxicity etc. was also carried out in this laboratory.

TECHNICAL ACTIVITIES :

Pathology laboratory also maintains DMC centre under RNTCP programme of Govt. of India. In this programme examination of sputum will be done for AFB. During the year of 2008 - 2009, total 58,555 investigations of different categories have been carried out from 15,343 pathological samples of blood, urine, stool, sputum, semen etc.



MODERN MEDICINE TEAM

- * Medical Examination, diagnosis and following check up of OPD, IPD as well as research patients with advices about their relevant clinical investigations and their interpretation.
- * ECG diagnosis of various heart patients.
- * **Teaching and Education:**
Clinical and bed side education and clinical discussion with M. D. Ayu Students.
- * **Research & Thesis Work:**
M.D. (Ayu.) and Ph.D. (Ayu.) students assisted for their thesis and research works.



HOSPITALS

ACTIVITY :

The Institute has a hospital which provides teaching, training and research facilities to the Post Graduate and Post Doctoral scholars of Ayurveda. Hospital has the support of well-qualified physicians and is equipped with different specialized wings, operation theatre and maternity room, provides specialized treatments like Panchakarma, Ksharasutra and Kriya Kalpa along with the treatment for all the diseases. This hospital has been supported by the basic modern medical laboratories viz. Pathology, Biochemistry, Pharmacognosy, Pharmaceutical Chemistry along with facilities of sonography, roentgenology, ECG, Dentistry, Optometry etc. The research scholars doing their M.D./M.S. and Ph.D. are provided with expertise of modern medical doctors including surgeons, gynaecologists, sonologists, radiologists, oto-rhino-laryngologists and others. Hospital has an average of 450 patients per day OPD and a 150 bedded full fledged IPD is supported with standard Ayurvedic Medicines, which are given at free of cost. In addition, most of the facilities are provided free of cost with full financial support from Govt. of India.

STATISTICS :

i. The O.P.D. statistics are as under :

	Male	Female	Children	Total
New Cases	25714	27878	4214	57806
Old Cases	33668	37999	5063	76730
Total	59382	65877	9277	134536

The O.P.D. average is 369 patients (approx.) / day.

ii. The I.P.D. statistics are as under :

Department	Allotted Beds	No. of pts. Admitted	No. of pts. Expired	No. of pts. Discharged
1 Kayachikitsa	30	320	-	315
2 Panchakarma	34	475	-	473
3 Shalya	24	418	-	410
4 Shalakyia	12	67	-	68
5 Maulik Siddhanta	08	121	-	123
6 Rasa Shastra & BK	06	57	-	54
7 Drvayaguna	06	48	-	49
8 SR & PT	16	429	-	430
9 Kaumarabhritya	10	139	-	128
10 Special Cabin	04	85	-	86
Total	150	2159		2136

iii. The X-Ray performed during the year :

No. of cases	Film size 12" x 15"	Film size 10" x 15"	Film size 8" x 15"	Total number of films
1723	1539	710	221	2470

iv. The USG performed during the year :

No. of USG performed	Male	Female
679	339	340

OUT REACH SERVICES :**i. Rural Health Services Programme : (Sasoi Village OPD statistics) :**

Regular weekly OPD is conducted at the Botanical Garden of the Institute situated 30 kilometers away from the main campus.

Old Case	New Case	Male	Female	Child	Total
562	177	532	192	10	739

ii. Extension OPD at INS Valsura :

The Institute conducts a weekly regular OPD at Indian Naval Centre, Valsura since August, 2008, the OPD is well attended and during the year 1239 patients have attend this OPD and taken the benefit of Ayurvedic treatment.

iii. School Service : Survey Report of Health Examinations of the School Children done by Dept. of Kaumara Bhritya in Jamnagar.

Date	School	No. of Children	Remarks
1 12-10-2008	Visha Oswal Kanya Chhatralaya, Dig. Plot.-46	70	Health check -up
2 15-10-2008	Shasakeeya kanya Chhatralaya	27	camps and
3 06-12-2008	Adarsh Nivashi Shala	76	survey work to
4 03-01-2009	Juvenile court	52	screen out the
5 17& 20-02-09	RR Shah High School	168	anaemic patients
Total		393	

iv. Out reach activity - Special Camps Out Of Jamnagar :

Place	Dates	Organizer	No. of Patients
1 Talala (Gir), Junagadh	06-04-2008	Sidhartha Educational Charitable Trust, Sidhartha Hospital Junagadh	248
2 Bada Gram Panchayat, Jamnagar	18-04-2008	Bada Grampanchayat	301
3 Porbandar (Chhaya)	04-05-2008	Shri Raval Kelvani Mandal, Jam Raval Dist. Jam Raval	430
4 "Jodia" camp	03-07-08	Jodia	148
5 Vibhapar village, Jamnagar	19-10-2008	IPGT & RA, Jamnagar	122
6 Khambhaliya, Dist. Jamnagar	08-03-2009	Jalaram Satsang Mandal Trust , Ayurved Sarva Roga Nidana Camp	450
Total			1699

v. Out Reach activity - Special Local Camps:

	Details	Dates	Organizer	No. of Patients
1	PG Hospital, IPGT & RA, GAU, Jamnagar	23 rd & 24 th May 2008	PG Hospital, IPGT & RA, GAU, Jamnagar	350
2	Osteoporosis Camp September 08	23 rd & 24 th	Kayachikitsa Dept.	382
3	Gynecology Camp	21. 09. 2008	Dept. of SR & PT	005
4	Camp at Sirdi Sai Baba Seva Sansthan	05. 10. 2008	Dept. of SR & PT	057
5	Osteoporosis Diagnosis camp	13. 03. 2009	Kayachikitsa Dept.	177
6	Ayurved Netraroga Nidan Chikitsa Camp,	15 th & 16 th March 2009	Shalakya Dept.	081
			Total...	1052



Technical Staff working in Laboratoeries & Hospitals

	Name	Laboratory / Hospital	Designation	Qualification
1	Dr. B. Ravishankar	Pharmacology	Pharmacologist	M.Sc. Ph.D.
2	Dr. V.J. Shukla	Pharmaceutical Chemistry	Pharmaceutical Chemist	M.Sc. Ph.D.
3	Mr. Harisha C.R.	Pharmacognosy	Pharmacognosist	M.Sc.
4	Dr. D.B. Jadeja	Pathology	Pathologist	M.D.
5	Dr. N. H. Pandya	Modern Medicine	Sr. Physician	M.D.
6	Mr. V. K. Rana	Statistician	Statistician	M. Com. (Statistics)
7	Dr. R.K. Jakhmola	Library / Lit. Research	Bhashashastri	M.A. Ph.D.
8	Dr. D.G. Pancholi	Hospital	RMO	M.D. (Ayu), Ph.D.



LIBRARY

Library of the University made steady progress during the year under report.

Books issued	:	13340	
Journals issued	:	07890	
Total No. of books	:	31734	
Books purchased	:	00613	(Worth of Rs. 3, 07, 902)
Journal subscribed (National 25 and Inter National 10 Journals)	:	00035	(Worth of Rs. 2, 69, 028)
Daily News papers subscribed	:	0006.	

LIBRARY USERS :

1. UG, PG, IAPS, IMPS & PhD Students.
2. UG, PG Teachers.
3. Administrative Staff.
4. Trainee Teachers & Practitioners.

Reading Room : 11,546 students took advantage of reading room of the library.

SUBJECT STRENGTH OF LIBRARY :

Medical sciences, Veda, Purana, Upnishad, Sanskrit, Hindi, Gujarati, English Literature, Yoga, Naturopathy etc. books are available in the library.

Library closed :

The library will be closed during all National Holidays and National festivals.

Computer facilities :

INFLIBNET (UGC) Ahmedabad's design SOUL Soft Ware is being used in the Library.



INTERNATIONAL ACTIVITIES

The International activities of the Institute are managed through International Centre for Ayurvedic Studies (ICAS) an independent Self Finance Institute established by Gujarat Ayurved University in 1999. ICAS has been running various short and long term courses for foreign nationals with the help of two important institutes of Gujarat Ayurved University viz. IPGT & RA and Gulabkunverba Ayurved Mahavidyalaya. During the reporting academic year of 2008 - 09. During the year nearly 29 students are studying BAMS course of the University nearly from 18 countries. The following training activities were conducted by the Centre at IPGT&RA.

M. D. course in Ayurveda :

Institute is admitting the students in its various courses. During the year GOI has given power to sanction scholarships to the International students and three students were admitted in M.D. (Ayu) course from Sri Lanka, Mauritius and Maldieives. Under ICCR scholarship 3 students from Srilanka were admitted in Ph.D. course. One student of Iran is persuing the M.Sc. medicinal plant in Ayurveda course. One student from Sri Lanka has been awarded Degree of Ph.D. in Medicinal Plant in Ayurveda.

Introductory course in Ayurveda :

I.P.G.T. & R.A. is conducting three month introductory courses for Foreigners since last seventeen years. Till date approx 110 international scholars have participated in such courses. In this academic session total 10 students from France, U.S.A., Colombia, Brazil, Ecuador, Japan, Nepal & Chili have joined the course conducted during November 1st 2008 to January 31st 2009. Nearly 300 theory and practical classes were arranged during the training programme along with field visits.

Panchakarma Certificate Course for WHO fellows from Nepal :

A one month Panchakarma certificate course for WHO fellow from Nepal was conducted at I.P.G.T & R.A from 1st 20th October to 28th November 2008 and 10 days training programme in Panchakarma for WHO fellow from Nepal was organized from 17th to 28th November 08. Dr. A. B. Thakar, Reader, Dept of Panchakarma, I.P.G.T & R.A. is working as coordinator for this programme.

Training Programme for doctors from France :

A special one week introductory programme on Ayurveda was organized from 5th to 9th August for Dr. (Mrs) Michele Barzach, Ex Minister of Health, France, Prof.(Dr.) Jacques Lebas, chief Medical doctor, St. Antonie hospital, Paris at I.P.G.T. & R.A.

Visit of Foreign Delegations :

A Russian delegation under the leadership of Dr. Vladimir Kuznestov, Director, State Medical Academy, St. Petersburg visited I.P.G.T. & R.A., Jamnagar from 2nd to 3rd May 2009 to discuss regarding development of bilateral relation between Russia and India for Research, Education and development of Ayurveda in Russia. Kiran Vyas, Director, Tapovan centre, Normandy, France Visited I.P.G.T.& R.A. with five delegates from 14th to 15th December 2008 to discuss regarding MoU with Gujarat Ayurved University. Dr. Daniester Periera, Registrar,

Ayurvedic Medical Council, Sri Lanka visited I.P.G.T. & R.A. from 26th to 27th December 2008. Mr. Kiran Nayak, Director, GMBH Naturafam, Berlin, Germany visited the Institute to discuss the further research proposals to be taken on neurological disorders from 20th - 21st March 2009.

MoU :

Gujarat Ayurved University has signed 6 MOUs from the foreign institutes in Institute is implementing agency. During the year one new MoU has been signed with Jeonju University, South Korea.

Foreign Visits of Faculty :

Prof M. S. Baghel	12 th - 15 th March, 2009	To attend Ayurveda promotion campaign and Coference on Ayurveda. Organized by Indian embassy and Dept of AYUSH,.	South Korea, Seoul
	17 th - 18 th May, 2008	6 th International Colloqium on Ayurveda, organized by Adi - Shakti Tapovan, Annaville, Normandie France.	Normandie, France
	30 th June to 4 th July 2008	10 th International conference on Ayurveda, Organized by Government Institute of Ayurvedic Midicine, under St. Petersburg State Medical Academy named after I.I. Mechnikov.	Saint Petersburg, Russia
Prof. H.M. Chandola	3 rd - 6 th June 2008	Seminar on diabetes organized by Polish Assication Diabetes on the occasion of World Day of fighting diabetes.	Dabrowa, Gornicza, Poland
Dr. B. Ravishankar	16 th - 19 th Nov. 2008	Seminar on Traditional Medical System of India organized by Indian Embassy, Muscat.	Oman, Muscat
Prof K.S. Dhiman	21 st - 23 rd March 2009	International Conference on Ayurveda organized by Ayurved Point, Milan	Milan, Italy



PGT - SELF FINANCE COURSE CELL

ACADEMIC ACTIVITIES :

During the year 2008 - 2009, both theory and practical classes were conducted regularly according to the time-table. Examinations were conducted by Gujarat Ayurved University as per the schedule. Six students in first M.Sc. (Medicinal plants), fifteen students in final year M.Pharm (Ayu) and fifteen students in first year M. Pharm (Ayu.) are taking examination during this year.

STUDENT ADMISSION :

Six candidates including one from Iran were admitted to first year M.Sc. (Medicinal Plants) course during this academic year. Fifteen candidates were admitted to M. Pharm (Ayu) course. Of the fifteen candidates two were from modern B. Pharm (Ayu) stream and the remaining were from B. Pharm (Ayu) stream.

RESEARCH ACTIVITIES :

As a part of M. Pharm (Ayu.) dissertation assignment :

Ayurvedic Pharmaceutics (Rasashastra and Bhaishajya Kalpana) :

1. A Pharmaceutical and Analytical study of Shalmali Kantaka lepa.

Scholar : Chiragkumar Dholu,

Guide : Dr. P. K. Prajapati,

Co-Guides : Dr. V. J. Shukla, Dr. Galib.

The present study was an attempt to develop elegant dosage form for external application by using Shalmali Kantaka. Different batches of lepa, face packs were prepared and physico chemical standards were recorded. The H.P.T.L.C profiling showed that raw material and finished product have similar peaks. Though bacterial growth was found to be more than the prescribed limits, it did not show any untoward effects when applied externally by the volunteers.

2. Pharmaceutical and Analytical study of Bakuladya Manjan.

Scholar : Hitesh kumar,

Guide : Dr. B. J. Patgiri,

Co-Guides : Dr. V. J. Shukla, Dr. P. K. Prajapati.

In this study an attempt was made to prepare and develop SMP for toothpaste by using powder as ground material. A three step procedure was found to be suitable for this purpose, which gave a satisfactory consistency to the toothpaste. Analytical profiling of finished product was also attempted. The TLC, HPTLC, GC - MS profiles of the finished product were comparable to the raw materials used. Test train in volunteers revealed that the paste to be effective in halitosis, pyorrhea and loose teeth treatment.

3. Pharmaceutical and Analytical study of Gandhaka Malhara w.s.r. to its anti bacterial activity.

Scholar : Piyush Sabhaya,

Guide : Dr. Galib,

Co-Guides : Dr. V. J. Shukla, Dr. P. K. Prajapati.

The present study was an attempt to develop elegant dosage form of Gandhaka malhara by using modern ointment base. Three samples were prepared using three different protocols and ingredients. The results obtained showed that the Gandhaka powder of 120# should be used for the preparation of malhara to avoid particle formation. Ointments prepared from Gandhaka powder and Gandhaka druti were found to be organoleptically acceptable, less greasy and more stable. In physico chemical analysis, free sulphur was found to be present in high percentage in GM batch where as very less percentage of free sulphur was obtained in GD1M and GD2M batch. Evaluation for bacterial load indicated it to be within the prescribed limits.

4. A Comparative Pharmaceutical and Analytical Study of Brihat Panchamoola Kwatha prepared from Root and Stem Bark w.s.r. to Pravahi Kwatha.

Scholar : Manish Vyas,

Guide : Dr. B. J. Patgiri,

Co-Guides : Dr. V. J. Shukla, Dr. P. K. Prajapati.

In the present study an attempt was made to ascertain whether stem bark of the Brihat Panchamoola group possess anti-inflammatory activity or not in comparison to root bark along with elucidation of their pharmaceutical and analytical profile. The results obtained showed that kwatha prepared from the stem bark produces better anti-inflammatory activity in comparison to root. It was found to be rich in chemical moieties in comparison to root kwatha. This clearly indicates that stem can be used in place of root in case of Brihat Panchamoola. This would ensure better availability of the raw material.

Ayurvedic Plant Sciences (Dravyaguna Vijnan) :

1. A comparative study of stem bark and root bark of Patala (stereospermum suaveolens dc.) w.s.r. to its pharmacognostical, analytical and pharmacological profile.

Scholar : Jaimin Patel,

Guide : Dr. T. N. Pandya,

Co-Guides : Dr. P. P. Sharma, Dr. Bhupesh Patel, Dr. V. J. Shukla.

The study reports the pharmacognostical profile of both root and stem which were found to be in conformity with the reported literature. Qualitative tests showed the presence of different functional groups in both the sample. HPTLC study showed that triacontanol is present in chloroform extracts of root bark and stem bark but not present in water extracts. Pharmacological investigation showed significant anti-inflammatory activity with the root kwatha where as weak activity was observed with stem kwatha against carrageenin paw odema in rats.

2. A comparative study of stem bark & root bark of Shyonak - Oroxyllum indicum (linn.) vent w.s.r. to its Pharmacognostical, Phytochemical and Pharmacological profile.

Scholar : Krunal Doshi,

Guide : Dr. P. P. Sharma,

Co-guides : Dr. R. N. Acharya, Dr. Bhupesh Patel, Dr. V. J. Shukla.

Analysis of the results obtained indicated normal pharmacognostical feature in both stem and root which is conformity with the reported literature. Analytical and preliminary chemical studies did not indicate any marked difference between stem and root. This was found to be true in case of TLC and HPTLC profiles also. Stem bark produced comparatively better anti-inflammatory activity in carrageenin paw oedema model in comparison to root. Based on the observation it can be concluded stem bark of the Shyonak can be used as replacement to root bark without loss of pharmacological activity.

3. A comparative study on role of Shodhana (Purification) on Sweta Datura (*Datura innoxia* Mill.) and Krishna Datura (*Datura metel* Linn.) seed - (A pharmacognostical & analytical Study).

Scholar : Yogesh C. Patel,

Guide : Dr. R. N. Acharya,

Co-guides : Dr. P. P. Sharma, Dr. V. J. Shukla.

The study was undertaken to compare the Sweta and Krishna datura seed profiles. Microscopically and in powder microscopy no remarkable difference could be observed between the two varieties. However, macroscopically the *D. innoxia* Mill., was found to have kidney shape where as *D. metel* Linn., has ear shape. After shodhana with gomutra the colour of Sweta datura seed turned to cream from light brown and that of Krishna datura turned from creamish to pale brown. Analytical study revealed that the Krishna variety has more alkaloid content in comparison to white variety. The percentage of hyoscyamine and scopolamine was found to decrease after shodhana. Differences in the TLC profile were noted between the two varieties.

Pharmacognosy & Phytochemistry of Ayurvedic Drugs :

1. Comparative Pharmacognostic evaluation of the seed of *Azadirachta indica* a. juss (Nimba) and *Melia azedarach* linn. (Mahanimba).

Scholar : Keerti Pillai,

Guide : Dr. M. G. Chauhan,

Co-Guide : Dr. V. J. Shukla.

The study was undertaken to compare Nimba and Mahanimba (*Azadirachta indica*) and (*Melia azedarach*) belonging to the family Meliaceae. In both the seeds cotyledons are well developed and occupy the major area of the section. The main difference is noticed in the testa. The presence of well developed ridge of the raphe at one edge of the T.S. of the seed embedded with a large vascular bundle, parenchymatous cells embedded with brown pigments and a well developed endosperm tissue in *M. azedarach*. In case of *A. indica* these characters are absent but it shows sclereids embedded with prismatic crystals of calcium oxalate in testa layer and cotyledon tissue embedded with secretory cavities. Sclereids embedded with calcium oxalate and secretory cavities in the mesophyll cells of cotyledon being absent in *M. azedarach*. These characters can easily differentiate the T.S. of both the seeds. Analytical study also revealed difference between the seeds of the two species.

2. Macroscopic, microscopic and phytochemical evaluation of seeds of two varieties of *Mucuna pruriens*.

Scholar : Unmesh M.,

Guide : Dr. M. G. Chauhan,

Co-Guide : Dr. V. J. Shukla.

3. Macroscopic, microscopic and preliminary chemical evaluation of three seed drugs (*Albizia lebbek*, *Albizia procera*, *Mimosa pudica*) of family Mimosaceae.

Scholar : Vijay Kumar J. Prajapati,

Guide : Dr. M. G. Chauhan,

Co-Guide : Dr. V. J. Shukla.

The present studies deals with detailed microscopy, microscopy and preliminary photochemical study of the three seeds mentioned in the title. Morphological and microscopical characters of *Mimosa pudica* are reported separately. Physico-chemical characters of all the three seeds were determined. Variations in *Albizia lebbek* and *Albizia procera* seeds were noted down. These seeds were reported to contain negligible amount of alkaloid, hence it was

not determined, and instead percentage of saponin in both the seeds were determined. TLC separation of methanolic extract showed 4 spots when exposed to Iodine vapour and long UV, Rf 0.53, 0.71, 0.8, 0.96 and showed one spot of alkaloid when sprayed with dragondroff reagent Rf 0.08.

Pharmaceutical Analysis & Standardization of Ayurvedic Drugs :

1. Standardization and Quality Control aspects of Gokshuradi Guggulu Vati - An Ayurvedic Formulation.

Scholar : Parth N. Koringa,

Guide : Dr. V. J. Shukla.

Gokshuradi Guggulu Vati prepared in laboratory was black in colour with strong odour of Guggulu and not have shiny appearance while market sample has shiny appearance with the moderate odour of Guggulu and black in colour. Physico chemical analysis showed that the water soluble, alcohol soluble and petroleum ether soluble extractive values are much more in laboratory sample than the market samples. Percentage of volatile oil in laboratory sample was 0.35% while in the market sample GGMS-1 and GGMS-2 it is 0.20% and 0.30% respectively. The steroidal content of market sample was found to be much less in comparison to lab sample. HPTLC study showed presence of marker in both the samples however, there were quantitative differences between the two. UV study showed almost similar pattern. GC mass study also revealed major differences. Caryophyllene is the major volatile oil constituent with 24.16%. Other separated components were β -Bisabolene, Curcumene, Zingiberene, Caryophyllene reported in Shunthi. Caryophyllene, reported in Maricha. Chlorooctadecane reported in Pippali. Copaene reported in the Musta and Nerolidol reported in the Guggulu.

2. Quality Control and Standardization of Kutaj Dadim Kwatha - An Ayurvedic Formulation.

Scholar : Renuka,

Guide : Dr. V. J. Shukla.

The study incorporates the data obtained during comparative evaluation of two types kutaj-dadim kwatha. S-1 kwatha prepared by hot extraction and S-2 kwatha prepared by maceration. S-1 was greenish in yellow and S-2 was brown in colour. The two were almost similar in their physicochemical properties except that the total solid content was higher in S-1 in comparison to S-2. The tannin and alkaloid contents were higher in S-2 in comparison to S-1. TLC profile revealed some differences however both exhibited spots corresponding to alkaloid fraction of both dadim and kutaj. The UV spectral analysis showed that both the sample exhibit almost similar profile.

3. Standardization and Quality Control aspects of Pauchajam Churna - An Ayurvedic Formulation.

Scholar : Bidiya Goswami,

Guide : Dr. V. J. Shukla.

Pharmacology & Toxicology of Ayurvedic Drugs :

1. Hepatoprotective activity evaluation of coded drug AV-04.

Scholar : Vijendra Trivedi,

Guide : Dr. B. Ravishankar.

AV-04 a coded compound formulation containing extracts of well known medicinal plants with hepatoprotective activity. It was evaluated for its hepatoprotective activity against two experimental models of hepatic injury (paracetamol induced injury and Alcohol and paracetamol (sub-toxic dose) induced liver injury). The data generated showed presence of good hepatoprotective effect in AV - 04 against paracetamol and alcohol and paracetamol induced

hepatic injury at TED dose. The effects tend to get reduced at higher dose level - TED X2. The reference standard silymarin produced to moderate hepatoprotection against paracetamol induced liver toxicity and remarkable protection against alcohol - paracetamol combination induced hepatic injury. This testifies to the sensitivity of the experimental protocol in predicting the desired activity.

2. A detailed pharmacological investigation into gastrointestinal cytoprotective activity of Kalasakadi kashayam.

Scholar : Hardik Kiritkumar Soni,

Guide : Dr. B. Ravishankar.

The present study was undertaken to evaluate the effect of kalasakadi kashayam in experimental ulcerative colitis and against methotrexate induced small intestine injury. The test formulation was studied at two dose levels viz. therapeutic equivalent dose and double to therapeutic equivalent dose. Analyses of the data show that test preparation possesses significant colon protective effect. The acetic acid colitis induced changes in serum and tissue biochemical parameters and histopathology were significantly reversed by it. The colon protective effect seems to be free radical scavenging and anti-oxidant effect. From the analysis of the data generated in the second part, it can be inferred that test drug especially at TED dose level and reference standard sulfasalazine produce good cytoprotection against Methotrexate (MTX) induced jejunal injury. Thus the study provides un-equivocal experimental basis for the presence of good colon and jejunum cytoprotective activity in the test formulation - Kalasakadi kashayam. Its utilization in the treatment of GI disorders is justifiable.

Ph. D. Students :

The three Ph.D., scholars - Dr. B.K. Ashok, Ms. Hitaba Gohil and Shri Hemang Joshi continued their study. The progress report related to the work was reviewed by the research committee.

Teaching staff :

Prof. M. G. Chauhan - Visiting Professor,

Shri. A. P. G. Pillai - (Pharmacognosy and Medical Botany)

Dr. Nikita Sharma - Visiting Lecturer

Faculty Members (Co-opted and Honorary) : Dr. B. Ravishankar, Prof. P. P. Sharma, Dr. P. K. Prajapati, Dr. B.J. Patgiri, Prof. R.R. Dwivedi, Dr. S.C. Das, Dr. T.N. Pandya, Dr. V. J. Shukla, Dr. Rajagopal, Mr. Richard Fernandes, Dr. Santosh Bhattad, Dr. Galib, Dr. Mandeep Kaur, Dr. R. N. Acharya, Sri. Harisha.



INSTITUTIONAL ACTIVITIES

Academic year 2008 - 2009 was completed successfully, with the following activities carried out by the IPGT and RA.

Foundation Day :

53rd foundation day of institute for Post Graduate Teaching and Research in Ayurveda was celebrated on 20th & 21st July, 2008 by organizing National workshop on 'Problems of Aging Women - Preventive & Curative Aspects'.

Weekly Seminars :

Total 33 weekly seminars of M.D. / M.S. (Ayu) scholars were conducted from different specialities during the reporting academic year.

Samhita Pathana :

On the occasion of Saraswati Pujan (Basanta Panchmi), Samhita Pathana (Charaka Samhita) was conducted on 31st of January 2009.

Workshops :

To improve the skill and competence of the P.G. and Ph.D. students of the institute in the field of research two workshops were held:

1. National workshop on 'Problems of Aging Women Preventive and Curative Aspect' under the department of SR & PT, was organized on the occasion of 53rd foundation day of Institute for Post Graduate Teaching and Research in Ayurveda, on 20th to 21st July 2008.
2. National workshop on Preparation of Scientific Research Paper and Project Reports was organized on the occasion of foundation day of Gujarat Ayurved University on 5th January 2009.

Guest Lecturers :

During this academic year 7 Guest Lectures were held, where in speakers were invited from all over the country and abroad for these sessions.

	Title of the speech	Speaker	Date
1	Electro Physiology of Tridosha and role of dietetics in Cardiac Management	Dr. Ravishankar Polishetty, Cardiac surgeon, Moscow	19 th March 2008
2	Pharmacovigilance	Dr. Mohanta, WHO Country Office for India, New Delhi	13 th June 2008
3	Areas of collaboration with W.H.O.	Dr. Katoch, WHO Country Office for India, New Delhi	13 th June 2008
4	Ayurveda as ancient science	Dr. Veerendra Heggade	31 st July 2008
5	Concept of Atma	Dr. B. V. Sathya	23 rd September 2008
6	Status of Ayurveda in Israel	Mr. Ami Raye	6 th October 2008
7	Utility of Multi Media Technology in scientific presentations	Mr. Sanjay Gupta	19 th February 2009

RoTP :

Five Reorientation programmes, sponsored by the Dept. of AYUSH, Government of India, were organised successfully by various departments of the institute during the year of 2008 - 09.

	Subject	Duration	No. of Participants
1	Pharmacovigilance	17 th to 22 nd Nov. 2008	30
2	Stri Roga & Prasuti Tantra	15 th to 20 th Dec. 2008	30
3	Shalya Tantra	29 th December 2008 to 3 rd January 2009	26
4	Dravya Guna	19 th to 24 th January 2009	19
5	RS & BK	2 nd to 7 th March 2009	29

C.M.E. :

Total 4 CME were conducted during this academic year which was sponsored by the Dept of Ayush, Government of India, were organised successfully by various departments of the institute:

	Name of the CME	Organised by the Dept.	Duration	No. of Participants
1	Module - 1	Kayachikitsa	28 th to 30 th July 2008	30
2	Module - 1	Panchakarma	13 th to 15 th October 2008	15
3	Module - 1	Kayachikitsa	10 th to 12 th Nov. 2009	26
4	Module - 2	Kaumarabritya	16 th to 18 th March 2009	34

Other programmes :

1. Establishment of Old Age Care Centre at I.P.G.T & R.A., under the support of Ministry of Health & Family Welfare., Govt. of India on 13th May 2008.
2. A Demo presentation of 'RUDRA' Hospital software was held by the team of AVP. (Coimbatore) on 15th September 2008
3. Practical Training on use of 'RUDRA' Software had been arranged on 20th November 2008.
4. CME on "Concept of Immunity" organized by Himalaya Drug Company during 2nd December 2008
5. Co-Ordinators Training Programme in Pharmacovigilance for A.S.U Drugs, was conducted under W.H.O., has been organized by the Institute during December 11th & 12th, 2008.



NATIONAL PHARMACOVIGILANCE RESOURCE CENTRE FOR (ASU) DRUGS

Department of AYUSH vide its letter No Z.15015/09/2008-E&C-II dated 20th August 2008 recognised Institute for Post Graduate Teaching & Research in Ayurveda (IPGT&RA), Gujarat Ayurved University, Jamnagar as National Pharmacovigilance Resource Centre for Ayurveda, Siddha and Unani Drugs (NPRC - ASU) in India, under the Central sector scheme for grant-in-aid to non-profit / non government AYUSH organizations / institutions for up gradation to Centre of Excellence during the year 2008-09. An amount of Rs. 57,66,000/- has been sanctioned for this purpose.

On 29th & 30th August 2008, a two days National consultative meeting for adoption and implementation of Pharmacovigilance programme for Ayurveda, Siddha and Unani (ASU) drugs and to finalize the Protocol for the National Pharmacovigilance Programme for ASU drugs (NPP - ASU) was held in the Conference Hall, Department of AYUSH, Govt. of India, New Delhi being sponsored by WHO India Office, New Delhi.

On 29th September 2008, The National Pharmacovigilance Programme for Ayurveda, Siddha and Unani (ASU) Drugs was launched by Ms. Anita Das, Secretary, Dept. of AYUSH, Ministry of Health & Family Welfare, Government of India in presence of Dr. S. J Habayeb, WHO representative to India at New Delhi.

During 17th to 22nd November 2008, One RoTP programme, sponsored by Dept. of AYUSH, was conducted for the teachers of Ayurveda at IPGT & RA, Jamnagar, where 31 participants across the country were trained on pharmacovigilance for six days.

On 11th & 12th December 2008, One CME programme, sponsored by WHO India Country Office, New Delhi, was conducted for the coordinators of different RPCs and PPCs across the country at Jamnagar.

E - format for filling up the ADR forms for ASU drugs has been developed and is up loaded in the Website of GAU Jamnagar.(www.ayurveduniversity.com)

Brochures incorporating all the information related to NPP - ASU Drugs were printed for free distribution among the practitioners of ASU system.

During the 3rd World Ayurveda Congress and Arogya 2008 from 16th to 21st December 2008 at National Institute of Ayurveda, Jaipur, as part of promotional programme one stall was booked where representatives from the NPRC-ASU distributed free Protocols, brochures, ADR forms and educate visitors regarding the NPP-ASU drugs.

As part of promotional activities, out of the five scientific sessions one scientific session was earmarked for National Pharmacovigilance Programme for ASU drugs during the 8th Annual National Conference (SoPICon 2009) of Society of Pharmacovigilance (India) at Kolkata, on 9th to 11th January 2009, where three papers were presented on activities carried out by NPRC - ASU drugs. More than 200 participants across the country and two from Nepal attended the conference.

For wider publicity of ADR reporting of ASU drugs, one advertisement has been made in the special issue of Indian express published for Vibrant Gujarat.

On 21st January 2009, to review the progress of NPP-ASU a meeting of the National Pharmacovigilance Consultative Committee for ASU drugs (NPCC - ASU) was held at IPGT & RA, Jamnagar, where the progress for first four months was reviewed and certain guide lines were given by the members for better functioning of the programme.

One thousand five hundred protocols were reprinted and were distributed among all the affiliated colleges and research organizations of ASU system through out the country free of cost.

CME on Pharmacovigilance at different RPCs has been conducted as per the schedule given below:

Centre	Dates	No of participants
1. East Region (Guwahati)	: February 24 th - 26 th , 2009	40
2. North Region (Varanasi)	: March 19 th - 21 st , 2009	40
3. CCRAS (New Delhi)	: February 21 st - 22 nd , 2009	90
4. Central Region (Bhopal)	: February 26 th - 28 th , 2009	40



AUDITOR'S REPORT

We have audited the attached Balance Sheet of Gujarat Ayurved University, Institute for Post Graduate Teaching & Research, (Plan & Non-Plan Expenditure) Jamnagar, as at 31st March, 2009 and also the annexed income & Expenditure Account for the year ended on that date, we report as under:

These financial statements are the responsibility of the Organization. Our responsibility is to express an opinion on these financial statements based on our audit.

We have conducted our audit in accordance with auditing standards generally accepted in India. Those standard require that we plan and perform our audit to obtain reasonable assurance about whether the financial statements are free of material misstatements(s) An audit includes examining on a test basis evidence supporting the amounts and disclosures in the financial statements An audit also includes assessing the accounting used and significant estimates made by management as well as evaluating the overall financial statements presentation. We believe that our audit provides a reasonable basis for our opinion.

- 1 We certify that the Balance Sheet and Income & Expenditure account are in agreement with the books of account maintained at Jamnagar.
- 2 We report the following observations/comments/discrepancies/ inconsistencies if any.

Subject to above :

- (a) We have obtained all the information and explanations which to the best of our knowledge and belief were necessary for the purpose of our audit.
- (b) In our opinion proper books of accounts have been kept so far as it appears from our examinations of the books.
- (c) In our opinion and to the best of our information and according to the explanations given to us the said accounts read with the notes thereon give
 - (1) in the case of Balance Sheet of the state of affairs as on 31st March 2009 and
 - (2) in the case of Income & Expenditure account of the surplus of income over expenditure for the year ended on that date.

Jamnagar
Date :

Sd/-
For Doshi Maru & Associates
Chartered Accountants
Shashank P. Doshi
Partner
M. No : 108456

GUJARAT AYURVED UNIVERSITY, JAMNAGAR
INSTITUTE FOR POST GRADUATE TEACHING &
RESEARCH IN AYURVEDA
(Plan Accounts)
UTILISATION CERTIFICATE

This is to certify that on the basis of our necessary check and verification and on the basis of books of accounts and other necessary records produced before us for verification, for the financial year 2008-2009, by Gujarat Ayurved University, Institute of Post Graduate Teaching & Research, (Plan Accounts), Jamnagar. We hereby certify that the closing balance as on 31st March, 2009 for the above is as under:

Un-utilised Opening Balance as on 01.04.2008		Rs. 34,36,207.42
Add : Grant Received during the year 2008-09		Rs. 31,563,793.00
Bank Interest received during the year 2008-09		Rs. 348,965.00
Ayu Journal Income		Rs. 250.00
Miscellaneous Reciepts		Rs. 6,400.00
Salary recovery		Rs.
	TOTAL	Rs. 35,355,615.42
Less : <u>Expenditure Incurred:</u>		
Direct expenses	Rs. 10,659,550.00	
Indirect expenses	Rs. 816,353.00	
Capital expenditure	Rs. 22,517,157.00	
Deposits (Net)	Rs. 900.00	
Advance to Staff	Rs. 183,727.00	
	TOTAL	Rs. 34,177,687.00
Closing Balance as on 31.03.2009		Rs. 1,177,928.42

For detail of above referred incomes and expenditures refer to the audit report of even dated together with Balance Sheet as at 31st March, 2009 and Income & Expenditure account for the year ended on that date.

Jamnagar
Date :

Sd/-
For Doshi Maru & Associates
Chartered Accountants
Shashank P. Doshi
Partner
M. No : 108456

GUJARAT AYURVED UNIVERSITY, JAMNAGAR
INSTITUTE FOR POST GRADUATE TEACHING &
RESEARCH IN AYURVEDA
(Non-Plan Accounts)
UTILISATION CERTIFICATE

This is to certify that on the basis of our necessary check and verification and on the basis of books of accounts and other necessary records produced before us for verification, for the financial year 2008-2009, by Gujarat Ayurved University, Institute of Post Graduate Teaching & Research, (Non-Plan Accounts), Jamnagar. We hereby certify that the closing balance as on 31st March, 2009 for the above is as under:

Un-utilized Opening Balance as on 01.04.2008		Rs.	1,423,130.56
Add : Grant Received during the year 2008-09		Rs.	98,574,718.00
Direct Income		Rs.	443,345.00
Indirect Income		Rs.	---
University fee collection			---
	TOTAL		Rs. 100,441,193.56
Less : Expenditure Incurred:			
1. Direct Expenses	Rs.	62,575,761.00	
2. Indirect Expenses	Rs.	13,966,972.00	
3. Capital expenditure	Rs.	5,100,000.00	
4. Library deposits repaid	Rs.	---	
5. Hotel Deposit repaid	Rs.	2,479,459.00	
6. Advance to Staff	Rs.	14,763,088.00	
	TOTAL		Rs. 98,885,280.00
Closing Balance as on 31.03.2008			Rs. 1,555,913.56

For detail of above referred incomes and expenditures refer to the audit report of even dated together with Balance Sheet as at 31st March, 2009 and Income & Expenditure account for the year ended on that date.

Jamnagar
Date :

Sd/-

For Doshi Maru & Associates
Chartered Accountants
Shashank P. Doshi
Partner
M. No : 108456

GUJARAT AYURVED UNIVERSITY, JAMNAGAR
INSTITUTE FOR POST GRADUATE TEACHING & RESEARCH IN
AYURVEDA

(Plan & Non-Plan Accounts)

SCHEDULE : 19

A. SIGNIFICANT ACCOUNTING POLICIES :-

1. METHOD OF ACCOUNTING :-

The Accounts are prepared under the historical cost convention using generally cash system of accounting except administrative expenses which are accounted on accrual basis.

2. FIXED ASSETS & DEPRECIATION :-

- Fixed assets have been stated at cost.

- No Depreciation has been provided on the Block of Assets as required by the AS 6 of ICAI.

B. NOTES ON ACCOUNTS :-

1. The amount of imprest which they have given to their employees to meet the expenses of university had been debited as miscellaneous expenses instead of debiting them in their respective head which already exists.
2. Bank Reconciliation was done for the financial year 2008-2009, the unreconciled difference is of Rs. 2,15,467/-. The difference is due to uncleared cheques in the Bank and the validity period of those cheques has already been expired. The organization has not reversed those entries in their account yet and hence they have been stood as the difference with Bank Balance in the Books of Account and Bank Passbook. (I. P.G.T. & R. - NON PLAN).
3. Closing Bank balance difference as on 31.03.2009 between the bank account as per Books of Account and bank passbook amounting to Rs. 55,680/- remains un reconciled at the end of the year under audit. (I.P.G.T.& R. - PLAN)
4. As per the **Accounting Standard 15 - "Employees Benefits"** issued by The Institute of Chartered Accountants of India, Provision for Gratuity and Leave Encashment has to be made on actuarial valuation on the present value of future liability; the same is not complied with.
5. During the year the IPGT & RA received the grant & utilization there of is reported as under. The income part to the extent of unutilized grant portion for the year and the assets corresponding to the bank accounts, have been over stated.

6.	Plan Account	Non Plan Account
Grant Income	3,15,63,793.42	9,85,74,718.00
Unutilised Portion	11,77,928.42	15,55,913.56

As per our audit report of even date attached herewith

Jamnagar
Date :

Sd/-
For Doshi Maru & Associates
Chartered Accountants
Shashank P. Doshi
Partner
M. No : 108456

BOOKS & RESEARCH PAPERS PUBLISHED IN PEER REVIEWED JOURNALS

BOOKS PUBLISHED :

“Ayurveda First Aid”, Prof. Chaturbhuj Bhuyan, Chaukhamba Orientalia, Varanasi - 2008.

RESEARCH PAPERS: (46)

International:

1. Wijayasiriwardena C., Sharma P. P., Chauhan M. G., Pillai A. P. G., "Pharmacognostical investigation of seeds of *Moringa cancanensis* Mimmo. (Moringaceae)" *Planta Indica*, Vol. 4, No. 2, April - June 2008.
2. Mukeshkumar Nariya¹, Vinay Shukla, Sunita Jain and Basavaiah Ravishankar, "Comparison of Enteroprotective Efficacy of Triphala Formulations (Indian Herbal Drug) on Methotrexate induces small intestinal damage in rats" *Phytotherapy Research* (2009) on line (www.interscience.wiley.com) DOI-10. 1002/ptr. 2744

National:

3. Chandola H. M., Ravishankar B. et al., "Clinical study on psychic traits in stress induced chronic insomnia and its management with Mamsyadi ghrita & Dashamula kwatha Shirodhara" *AYU*, Vol. 29, No. 1 (pg. 09-18) January - March 2008.
4. Patgiri B. J., Krishnamurthy M. S., De S., Kulwant Singh, "A Comparative Pharmaceutico - Chemical Study of 1, 7 & 50 Avartita Ksheera Bala Taila" *AYU*, Vol. 29, No. 1 (pg. 19-24) January-March 2008.
5. Bhatt N. N., Shukla V. D., "Ayurvedic Management of Klaibya (Male Sexual Dysfunction) with special reference to Manasa Bhava (Psychological Factors)" *AYU*, Vol. 29, No. 1 (pg. 46-51) January - March 2008.
6. Sarkar P. K., Subha, Prajapati P. K., "Importance of media in Shodhana of Vatsanabha (Aconite)" *AYU*, Vol. 29, No.1 (pg. 52-55) January - March 08.
7. Amit Singh, Manjiri N., Vyas S. N., Baghel M. S., "A Comparative Study on Vidangadi Churna and Trivritayukta Navaka Guggulu in the Management of Sthaulya (Obesity)" *AYU*, Vol. 29, No. 1 (pg. 56-62) January - March 08.
8. Taruna K. M., Baghel M. S., "A Clinical Study of Udavarta w.s.r. to Udara Vata" *AYU*, Vol. 29, No.2 (pg. 69-73) April - June 2008.
9. Deole Y., Ashok B. K., Shukla V., Chandola H. M., Ravishankar B. "Psycho-Pharmacological study on Antidepressant and Anxiolytic Effect of Brahmi Ghrita" *AYU*, Vol. 29, No. 2 (pg. 77-83) April - June 2008.
10. Parida D. K., Shukla V. D., Baghel M. S., "A Clinical study on Ayurvedic Principle of management of Rheumatoid Arthritis" *AYU*, Vol. 29, No. 2 (pg. 84-87) April - June 2008.
11. Srikrishna C. H., Sanjay M. K., Thakar A. B., Vyas S. N., "Etiopathological study of Amlapitta and its Management with Chinnodbhavadi Yoga Ghana Vati and Medhya Rasayana Compound" *AYU*, Vol. 29, No. 2 (pg. 93-99) April - June 2008.
12. Madhuri G. V., Dave A. R., Shukla V. D., "A Comparative Study of Hansa Mandura & Phalatrikadi Kwatha in the management of Pandu w.s.r. to Iron Deficiency Anaemia" *AYU*, Vol. 29, No. 2 (pg. 100-106) April-June 2008.
13. Mandal A. K., Dwivedi R. R., Manjusha R., Ravishankar B., "A Comparative clinical Study of Tiladi Kshara and Varunadi Ghrita in the management of Ashmari" *AYU*, Vol. 29, No. 2 (pg. 107-112) April-June 2008.

14. Baljot K., Donga S. B., Dei L. P., Pandya M. A., "A clinical study of aetio-pathogenesis of Mootra krichhra w.s.r. to lower urinary tract infection in pregnancy and puerperium and its management with Brihat Dhatryadi Ghanavati" AYU, Vol. 29, No. 2 (pg. 113-117) April - June 2008.
15. Meera R., Donga S. B., Dei L. P., Pandya M. A., Tanna C. H., "A clinical study on management of Vandhyatva due to anovulatory cycle with Mahanarayana Taila Nasya and Uttarbasti" AYU, Vol. 29, No. 2 (pg. 118-122) April - June 2008.
16. Agarwal S., Baghel M. S., "Effect of Shireeshadi Ghanavati in the Management of Tamaka Shwasa" AYU, Vol. 29, No. 3 (pg. 128-132) July - September 08.
17. Bina V., Chandola H. M., "Clinical study on psychic traits in stress induced insomnia (Anidra) & it's management with Tagaradi Kwatha & Mahishi Dugdha Shirodhara" AYU, Vol. 29, No. 3 (pg. 133-139) July - September 08.
18. Kodinariya C. M., Pandya M. A., "A Comparative Study of Shatavari Ghrita and Goghrita Uttarbasti in the Management of Vandhyatva w.s.r. to Cervical Factor" AYU, Vol. 29, No. 3 (pg.144-148) July - September 2008.
19. Vaghela D. B., Kulwant Singh, Pansara K. N., Narayana B., Gangamma M., "Effect of Vyoshadivati and Rasanjanadi Taila Nasya on Pratishyaya - Rhinitis" AYU, Vol. 29, No. 3 (pg. 149-155) July - September 2008.
20. Mahto R. R., Dave A. R., Shukla V. D., "A comparative clinical study of Nirgundi Ghana Vati and Matra Basti on Amavata" AYU, Vol. 29, No. 3 (pg. 160-170) July - September 2008.
21. Vadi A. K., Sharma P. P., Ravishankar B., Patel B. R., "A pharmaco - therapeutic study to assess the comparative efficacy of Chakramarda and Gomutra Bhavita Chakramarda on Vicharchika" AYU, Vol. 29, No. 3 (pg. 171-175) July - September 2008.
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23. Panchal K., Anand I. P., Patel K. S., "A Clinical Study of Rajanyadi Vati in the management of Grahani Dosh in Annadavastha" AYU, Vol. 29, No. 3 (pg. 186-192) July - September 2008.
24. Galib, Acharya R. N., "National Pharmacovigilance Programme for Ayurveda, Siddha and Unani Drugs" AYU, Vol.29, No.4 (pg. 193-199) October - December 2008.
25. Deole Y., Chandola H. M., "A Clinical Study on Effect of Brahmi Ghrita on Depression" AYU, Vol. 29, No. 4 (pg. 206-213) October - December 2008.
26. Rupani A., Patel B. R., Shukla V. J., Ravishankar B., Sharma P. P., "Pharmacological Evaluation of Shinshapa (*Dalbergia sissoo* Roxb.) stem bark as Analgesic and Anti-inflammatory activities" AYU, Vol. 29, No.4 (pg. 214-218) October - December 2008.
27. Vasant C. Patil, M. S. Baghel and A. B. Thakar, "Assessment of Agni and Koshttha with special reference to Abhyntar Snehana" Ancient Science Of life, Vol. 28, Oct-Dec 2008
28. Asish K. D., Vyas S. N., Chandola H. M., "The Role of Prasarani Taila Matra Basti and Vatari Guggulu in the management of Rheumatoid Arthritis" AYU, Vol. 29, No. 4 (pg. 223-229) October-December 2008.
29. Mandal A. K., Dwivedi R. R., Manjusha R., Ravishankar B., "A Comparative Study on Vrikka Samrakshanatmaka and Ashmarighna Effect of *Tiladi Kshara* and *Varunadi Ghrita* (Nephroprotective and Lithotriptic effect)" AYU, Vol. 29, No. 4 (pg. 230-233) October - December 2008.
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31. Narayan B., Manjusha R., Matalia P., "A Clinical Study on Pothaki - Trachoma" AYU, Vol. 29, No. 4 (pg. 242-246) October - December 2008.
32. Vimal M. V., Shukla V. D., Bhatt N. N., "A Comparative Study of Virechana Karma and Kala Basti in the Management of Pakshaghata" AYU, Vol.29, No. 4 (pg. 253-258) October - December 2008.
33. Joshi J., Donga S. B., Pandya M. A., "A comparative study of Savarnakara Ghrita and Savarnakara Cream in the management of Kikkisa w.s.r. to Striae Gravidarum" AYU, Vol. 29, No. 4 (pg. 259-264) October - December 2008.
34. Lokesh, Anand I. P., Patel K. S., "A Comparative Study on the Efficacy of Mustakadi Avaleha and Gojihwadi Avaleha in the Management of Pratishyaya w.s.r. to Recurrent Upper Respiratory Tract Infections in Children" AYU, Vol. 29, No. 4 (pg. 265-270) October - December 2008.
35. Galib, Behera B. S., Kar A. C., "Lithotriptic Activity of Swadamstradi Kwatha and Swadamstradi Ghana Vati - An Experimental Evaluation" Journal of Drug Research in Ayurveda and Siddha (JDRAS) Vol. XXVII, No. 3 & 4 (pg. 8-18) July - December 2006, CCRAS, New Delhi, India.
36. Bharat K., Galib, Patgiri B. J., Prajapati P. K., Rajani D. P. "Anti Bacterial Activity of Jwarahara Dashemani - An Experimental Evaluation" Indian Journal of Ancient Medicine and Yoga (IJAMY) Vol. 2, No. 1 (pg. 31-35) World information Syndicate, January - March 2009, Delhi, India.
37. Gupta A., Mundeep J., Galib, Patgiri B. J., Prajapati P. K. "Quality Control in Ayurved and Its Interpretation" Indian Journal of Ancient Medicine and Yoga (IJAMY) Vol. 2, No.1 (pg. 41-53) World information Syndicate, January - March 2009, Delhi, India.
38. Pramod C., Patgiri B. J., Prajapati P. K. "Neutraceuticals in Ayurveda wsr to Avaleha Kalpana" Ancient Science of Life - Vol. 28, No. 2 (pg. 29-32) October - December 2008, Coimbatore, India.
39. Sarkar P. K., Prajapati P. K., Chaudhary A. K., "Preparation of Lauha Bhasma - Standard operating procedures" Arya Vaidyan - Vol. XXII, No. 2 (pg. 104-110) November 08 - January 2009, Kerala, India.
40. Sarkar P. K., Neki J. M., Prajapati P. K. "Chemistry of Kupipakva Rasayana - A Review" Ancient Science of Life - Vol. XXVII, No. 4 (pg. 56-63) May - June 2008, Coimbatore, India.
41. Himanshu S. T., Patgiri B. J., Prajapati P. K. "A Comparative Study on Pravala Mula Bhasma and Pravala Shakha Bhasma in Amlapitta" Journal of Research in Ayurveda & Siddha (JRAS) - Vol. XXIX, No. 3 (pg. 123-128) July - September 2008, CCRAS, New Delhi, India.
42. Bharti U., Patgiri B. J., Prajapati P. K. "Physico - Phyto Chemical Evaluation of Guduchi Ghana prepared by different methods" Indian Journal of Ancient Medicine and Yoga (IJAMY) Vol. 1, No.1 (pg. 3-16) World information Syndicate, October - December 2008, Delhi, India.
43. Neki J. M., Prajapati P. K., Ravishankar B., "Physicochemical Evaluation of Rasa Karpura" Journal of Ayurveda, Vol. II - 1 (pg.19 - 23) January - March 2008, National Institute of Ayurveda, Jaipur. (Issue released in November 2009).
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46. Patel Neeta, Vyas M. K., Vyas H. A., "Importance of Desha and Kala in Gunotkarsha of Guggulu Cultivation" Journal of Ayurveda, Vol. I - 4 (pg. 52 - 56) 2008, National Institute of Ayurveda, Jaipur.



