

INSTITUTE OF POST GRADUATE TEACHING &  
RESEARCH IN AYURVED

आयुर्वेदीय स्नातकोत्तर प्रशिक्षण एवं  
अनुसन्धान संस्थान

**ANNUAL REPORT**  
वार्षिक प्रतिवेदन



2006-2007

**GUJARAT AYURVED UNIVERSITY  
JAMNAGAR**

**गुजरात आयुर्वेद विश्वविद्यालय  
जामनगर**

# PREFACE

Premier and unique Institute of Post Graduate Teaching & Research in Ayurveda (I.P.G.T. & R.A.) was established in 1953 by Govt. of India as a Central Institute of Research in Indigeous System of Medicine (CIRISM) at Jamnagar. Then in 1956 a Post Graduate Training Centre in Ayurveda (PGTCA) was established in Jamnagar. In 1963 both the Institutions of Govt. of India were merged and renamed as Institute for Ayurvedic Studies & Research (IASR). The Post Graduate Centre became integral part of the Gujarat Ayurved University in 1965 after an MOU between Govt. of India and Govt. of Gujarat subsequently passing of Gujarat Ayurved University Act 1965.

At present I.P.G.T. & R.A. is fully financed by Govt. of India, Department of AYUSH and its management is governed by the Gujarat Ayurved University through a governing body named as Board of Post Graduate Teaching & Research in Ayurveda constituted as per the Act of Gujarat Ayurved University amended in 2003. The scientific work is supervised by a statutory body named as Scientific Advisory Committee. For academic matters the decisions are taken by the Academic committee setup as per regulation passed by the Board of Post Graduate Teaching & Research in Ayurveda.

During the year 2006-07 three meetings of Board have taken place and many new policy decisions were taken. Board has approved the award of Grades in M.D. (Ayu.) examinations in the place of original marking system.

The budget of this Institute sanctioned by the Govt. of India has increased to 583 Lacs under the Non Plan Head and Rs. 98 Lacs as Plan Budget during the year 2006-07. The Department of AYUSH, Govt. of India has further increased the budget of this Institute to Rs. 729 Lacs under Non Plan Head and Rs. 700 Lacs under the Plan Head for the accounting year 2007-08. As an effort to encourage the development of the Institute a plan for the construction of a state of art Institute building has been approved by the Govt. of India and accordingly budget is being provided.

Institute for Post Graduate Teaching & Research in Ayurveda is having 9 departments offering post graduate degree in 13 specialities. Admission capacity of this Institute is sanctioned as 34. supported by highly qualified and experienced faculty. There are six well equipped laboratories viz. Pathology, Bio-chemistry, Pharmacology, Pharmacognosy, Modern Medicine, and Pharmaceutical Chemistry which are manned by well qualified technical staff. The Institute has its own buildings for hospital and hostels for the students. Two hostels with capacity of 22 students have been built for the international scholars studying at Gujarat Ayurved University in the various courses.

This premier postgraduate teaching Institution of Ayurveda has best facilities available for teaching and research in Ayurveda. Till date nearly 1225 Post Graduate theses have been submitted and awarded the degree. The work force developed by this University forms the backbone of Ayurvedic teaching, Research and administration in India. More than 100 theses have been awarded the degree of Ph. D.

Institute is managing 150 bed indoor hospital along with O.P.D. facility. During the year total 129691 patients benefited from O.P.D. facility out of which 63235 were females and 7756 children. In the Indoor hospital total 1529 patients were admitted. During the year in the hospital Nimi Agara (Ophthalmic O.T.) has started functioning and Family Planning Unit has been established. For the all round development of students and to boost up the research activities an IT Centre with 16 terminals have been made functional.

As part of extension services Institute is organizing the Health checkup camps in schools and 29459 students from 17 schools of Jamnagar city were examined during the year. Special Health check up camp for Adolescent girls was also organized in the Girl's schools of Jamnagar and total 6000 adolescent girls were examined. Various diagnostic camps are being organized in the rural areas to provide health facilities to rural population and also to popularize Ayurveda in general public. During the year three such camps were organized in the rural areas.

The Institute also manages the gardens in the campus and out site the campus at Sasoi village nearly 30 Km. from the main campus. These gardens are used for teaching and research purposes to be used by P.G. & Ph.D. scholars.

Looking to the shortage of the staff, Institute is making all efforts to recruit new faculty. During the year first time the post of Director has been filled by direct recruitment and Dr. M.S. Baghel has been appointed. During the academic session of 2006 - 07 total 132 scholars of M.D. and Ph.D. were studying in the institute; among them 50 were females. 03 SC, 02 ST, 02 OBC / SEBC candidates were admitted M.D. (Ayu.) / M.S. (Ayu.). This Institute is also conducting M. Pharma (Ayurveda) and M. Sc. (Ayurvedic Med. Plants) course under Self Finance scheme.

Looking to the importance of Seminar/Symposia/Workshop in Post Graduate Education and Research, Institute is continuously organizing the various programmes to disseminate the knowledge. As part of 51st Foundation Day Celebrations of I.P.G.T. & R.A. a National Workshop on Rogavijnan was organized in July 2006. To upgrade the knowledge of the students and teachers CMEs and guest lectures are continuously being organized.

Staff members of this Institute are continuously being nominated by Govt. of India in various committees like Golden Triangle Project, Working Group on AYUSH Education constituted by Planning Commission, Working Group of Planning Commission to access the Public Health Systems including AYUSH and New college Inspection teams. Also teachers of the I.P.G.T. & R.A. are continuously being nominated to various Advisory Bodies of the Deptt. of AYUSH. Dr. S.S. Savrikar, Vice-Chancellor, G.A.U., Jamnagar along with Dr. M.S. Baghel, Director participated in WHO Consultation on drafting of guidelines for basic training and safety in Ayurveda, Chinese Medicine and other Traditional Systems of Medicine at Milan, Italy in November, 2006.

Institute has attained international status and conducting various activities for foreigners. Many candidates from Sri Lanka, Nepal, Mauritius and Bangladesh have already been awarded degree from this Institute. In M D Ayurveda course one student from Bangladesh has completed M.D. (Ayu) course in Kayachikitsa during the year and one student from Sri Lanka has been admitted in M.D. (Ayu) course. During the year, four students from countries USA, Italy, UK, Myanmar have joined introductory course in Ayurveda. Panchakarma Training Programme for five Traditional Doctors from Bhutan was also organized. A training programme for two WHO fellows from Nepal on Ano-rectal fistula care & management (Ksharasutra) was conducted.

On this occasion I convey my sincere thanks to Govt. of India, Authorities of the Department of AYUSH, Deptt. of ISM & H, Govt. of Gujarat, Officers and employees of Gujarat Ayurved University, Jamnagar for their co-operation provided for the running and development of this Institute. The development of any organization depends on the sincere and whole hearted efforts of the employees of the organization. I convey my sincere thanks to the faculty members, technical and administrative staff, Post Graduate and Ph.D. students of this Institute for their efforts and support in the development of the Institute.

**November 17, 2007**

**Prof. M S Baghel**  
Director

## BOARD OF POST GRADUATE TEACHING & RESEARCH IN AYURVEDA

1. Dr. S. S. Savrikar - Chairman  
Vice-Chancellor, Gujarat Ayurved University, Jamnagar
2. Shri Shiv Basant, I.A.S. - Member  
Joint Secretary, Department of AYUSH,  
Ministry of Health & Family Welfare, Indian Red Cross Society  
Building, Red Cross Road, New Delhi - 110 001
3. Financial Advisor (AS&FA) - Member  
Ministry of Health & Family Welfare, Govt. of India,  
Nirman Bhavan, New Delhi - 110 001
4. Dr. S.K. Sharma / Dr. S. Madhavan, - Member  
Adviser (Ayurveda)  
Department of AYUSH, Ministry of Health & F. W.,  
Govt. of India, Indian Red Cross Society, Red Cross Road  
New Delhi - 110 001
5. Shri J. C. Rathod, I.A.S. - Member  
Joint Secretary, Deptt of Health & Family Welfare, Sachivalaya,  
Govt. of Gujarat, Gandhinagar
6. Dr. A. P. Singh, Director, I.S.M. & H. - Member  
Gujarat state, Block no. 1, Old Sachivalaya, 2nd floor,  
Dr. Jeevraj Mehta Bhavan, Gandhinagar (Gujarat)
7. Rajvaidya Shri Dhanshankar G. Pandit (21.02.2007) - Member  
Nominated by Govt. of Gujarat, Brahmpuri Pole,  
Near Patasa pole, Near Police Chawki Gali, Gandhi Marg  
Ahmedabad - 380 001.
8. Prof. Haridas N. Patel (21.02.2007) - Member  
Nominated by Govt. of Gujarat, 21, Nalanda Nagar  
College Road, Nadiad.
9. Dr. Alankruta R. Dave - Member  
Sr. Lecturer & Senate Syndicate member,  
Kayachikitsa Department, I.P.G.T. & R.A.,  
Gujarat Ayurved University, Jamnagar - 361 008
10. Dr. N.B. Kapopara (upto 08-02-2007) - Member  
Shri O.H. Nazar Ayurved College, Surat (Gujarat)  
Dr. A. R. Trivedi (From 09-02-2007) - Member  
Reader & Senate Syndicate member  
Kaumarbhritya Department, Shri Gulab Kunwarba Ayurved  
Mahavidyalaya, Gujarat Ayurved University, Jamnagar
11. Prof. M. S. Baghel ( From 29-08-2006) - Member  
Director of I.P.G.T. & R.A., Gujarat Ayurved University,  
Jamnagar - 361 008
12. Prof. P. P. Sharma - Member  
Dean - I.P.G.T. & R.A., Gujarat Ayurved University,  
Jamnagar - 361 008.
13. Shri R.M. Jhala, - Member Secretary  
Registrar, Gujarat Ayurved University,  
Jamnagar - 361 008.

**THE SCIENTIFIC ADVISORY COMMITTEE OF THE I.P.G.T. & R.A.  
(up to 15-03-2007)**

- |     |   |                             |                  |
|-----|---|-----------------------------|------------------|
| 1.  | Dr. S.S. Savrikar<br>Vice-Chancellor,<br>Gujarat Ayurved University,<br>Jamnagar  | -                           | Chairman         |
| 2.  | Prof. B.L. Gaur<br>Vice-Chancellor,<br>Rajasthan Ayurved University,<br>Jodhpur   | (Basic Principles)          | - Member         |
| 3.  | Dr. H.R. Goyal,<br>Rtd. Director - CCRAS<br>Govt. of India, New Delhi   | (Kayachikitsa)              | - Member         |
| 4.  | Dr. P. Sankarann Kutti<br>Retd. Prof. & H.O.D.<br>Kayachikitsa, Principals & Director -<br>Ayurved Govt. of Kerala,<br>Thiruvananthapuram | (Panchakarma)               | - Member         |
| 5.  | Dr. K. Raghunathan<br>Retd. Dy. Director - CCRAS<br>Govt. of India, Faridabad   | (Dravyaguna)                | - Member         |
| 6.  | Vd. Heerubhai K. Patel<br>Retd. Principal, Nadiad   | (Rasa Shastra)              | - Member         |
| 7.  | Dr. G.S. Lavekar,<br>Director - CCRAS,<br>Govt. of India, New Delhi   | (Shalya Shalakya)           | - Member         |
| 8.  | Dr. (Ms) P.V. Tiwari<br>Retd. Professor & H.O.D.<br>Prasuti Tantra & Striroga &<br>Ex-Dean, IMS, BHU Varanasi                             | (Prasuti Tantra & Striroga) | - Member         |
| 9.  | Registrar / Secretary, CCIM, New Delhi  | -                           | Member           |
| 10. | Dr. S.K. Sharma<br>Adviser (Ayurveda), Deptt. of AYUSH<br>Govt. of India, New Delhi   | -                           | Member           |
| 11. | Dr. Rajesh Kotecha, Jaipur (from 7-2-2005)  | -                           | Member           |
| 12. | Prof. M.S. Baghel, (from 29-08-2006)<br>Director, I.P.G.T. & R.A.<br>Gujarat Ayurved University, Jamnagar                                 | -                           | Member           |
| 13. | Prof. P.P. Sharma, Dean, I.P.G.T. & R.A.<br>Jamnagar  | -                           | Member           |
| 14. | Shri R.M. Jhala, Registrar<br>Gujarat Ayurved University, Jamnagar.   | -                           | Member/Secretary |

## ACADEMIC COMMITTEE

1. Dr. S. S. Savrikar,  
Vice Chancellor  
Gujarat Ayurved University, Jamnagar Chairman
2. Dr. A. P. Singh,  
Director- ISM & H, Government of Gujarat  
Gandhinagar Member
3. Dr. S. K. Sharma,  
Advisor - Ayurveda, Department of AYUSH,  
Govt. of India (or his representative)  
New Delhi Member
4. All Heads of the Teaching Depts. Of Institute for 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. Dr. V. D. Shukla, H.O.D. of Panchakarma
  4. Dr. S. N. Vyas, H.O.D. of Kayachikitsa
  5. Dr. M. A. Pandya, H.O.D. of Stri Roga & Prasuti Tantra
  6. Dr. P. K. Prajapati, H.O.D. of Rasa Shastra & Bhaishajya Kalpana
  7. Dr. Chatrubhuj Bhuyan, H.O.D. of Shalya
  8. Dr. Manjusha R., H.O.D. of Shalakya
  9. Dr. K. S. Patel, H.O.D. of Kaumarbhritya
5. Two members nominated by the Board of PGT & R (up to 27.11.2006)
  1. Dr. Gurdip Singh, Director, Research, Hassan Member
  2. Dr. B. L. Gaur, Vice Chancellor, Rajasthan Ayurved University 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, Barda, Ahmedabad Member
7. Prof. M. S. Baghel, Director, I.P.G.T. & R.A. Member
8. Prof. P. P. Sharma, Dean, I.P.G.T. & R.A. Member
9. Shri R.M. Jhala, Registrar,  
Gujarat Ayurved University, Jamnagar Member Secretary

# INDEX

Title	Page No.	विभाग	पृष्ठ क्र.
<b>Teaching departments :</b>		<b>शैक्षणिक विभाग</b>	
1. Basic Principles	01-05	१. मौलिक सिद्धांत विभाग	०१-०४
2. Dravyaguna	06-09	२. द्रव्यगुण विभाग	०५-०८
3. Rasashastra and Bhaishajyakalpana including Drug Research	10-16	३. रसशास्त्र भैषज्य कल्पना एवं भेषज अनुसन्धान विभाग	०९-१४
4. Kayachikitsa	17-23	४. कायचिकित्सा	१५-२०
5. Panchakarma	24-29	५. पंचकर्म	२१-२५
6. Kaumarbhritya	30-32	६. कौमारभृत्य	२६-२८
7. Striroga & Prasutitantra	33-38	७. स्त्रीरोग एवं प्रसूतितंत्र	२९-३३
8. Shalya	39-41	८. शल्य	३४-३५
9. Shalaky	42-45	९. शालाक्य	३६-३९
<b>Laboratories :</b>		<b>प्रयोगशालाएँ</b>	
1. Pharmaceutical chemistry	46-48	१. आधुनिक भैषजरासायनिक प्रयोगशाला	३९-४०
2. Library	48	२. ग्रंथालय विवरण	४०
3. Pathology	49	३. विकृतिविज्ञान प्रयोगशाला	४१
4. Pharmacognosy	50-51	४. वनस्पतिनामरूप विज्ञान प्रयोगशाला	४२-४३
5. Biochemistry	51	५. जीवरसायन प्रयोगशाला	४३
6. Pharmacology	52-59	६. भैषजविज्ञान प्रयोगशाला	४४-४९
7. Modern Medicine Team	59	७. आधुनिक चिकित्सादल	४९
8. Hospital	60-61	८. चिकित्सालय	५०-५१
9. International Activities	62-63	९. अन्तर्राष्ट्रिय गतिविधियाँ	५२-५३
10. Pgt-Self Finance Course Cell, I.P.G.T. & R.A.	64-69	१०. पी.जी.टी. सेल्फ फायनान्स कोर्स सेल आइ.पी.जी.टी. एण्ड आर.ए.	५४-५९
11. Other curricular activities	70-72	११. अन्य शैक्षणिक गतिविधियाँ	६०-६३
12. P. G. Account and Audit Report	73-84		



## DEPARTMENT OF MAULIK SIDDHANTA

### INTRODUCTION :

The department of Basic Principles (Maulika Siddhanta) conducts teaching, training and research in two specialties viz (i) Ayurved siddhanta evam darshana (ii) Samhita. The department also teaches the compulsory subjects i.e. research methodology and medical statistics in both Ka and Kha groups of first year M.D. (Ayu.). Moreover for Ka group the subjects like Basic Principles of Sharira and Basic Principles of Ayurveda are also being taught. For the second and final year M.D. (Ayu.) scholars the subjects like Padarth vijnana, Ayurveda Siddhanta evam darshana, Mano Vijnana, Aadharbhuta Siddhanta, Charaka Samhita, Susruta Samhita, Ashtanga Samgraha and Ashtanga Hridaya are also taught throughout the year.

The department has a fundamental research laboratory, where the departmental research scholars carry out their experimental research work.

During the reporting year following activities have been carried out by the department.

### ACADEMIC ACTIVITIES :

During the year two Ph.D. scholars were awarded the Ph.D. degree and another two scholars have completed their work and submitted the Ph.D. thesis.

In the academic year 2006-2007, the Department has arranged 76 theory classes for the first year M. D. (Ayu.) scholars. For the second and final year, departmental scholars in the 'samhita' Speciality, 255 lectures were conducted and in 'Siddhanta' speciality 260 lectures were conducted. There is a departmental time-table, according to which, weekly departmental seminars, case presentation, group discussion etc. are regularly conducted. At every Friday in afternoon session i.e. from 2.30 p.m. to 6.00 p.m. all the faculty members and scholars of department perform Samhita Pathana. Views of commentators and their interpretations are being discussed by the faculty.

### HOSPITAL SERVICES :

The department has a separate O.P.D. in the hospital and in the current year a total of 12040 patients awarded the services of O.P.D. total 109 patients were admitted on the beds allotted to the department in the indoor ward and were treated by applied form of Basic Principles of Ayurveda.

### RESEARCH ACTIVITIES :

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

#### SAMHITA SPECIALITY

1. "Study of The specialty of Dosa - Dhatu - Mala Ksaya Vrddhi Vijnaniya Adhyaya of Susruta Samhita and assessment of the principle Purvah Purvoativrddhatvat Vardhayeddh Param Param in context of Rakta Kshaya"

Scholar : Dr. Vaibhav Dadu,

Guide : Prof. R. R. Dwivedi,

Co-Guide : Dr. Mahesh Vyas.

Though the chapters of Susruta samhita are unique, chapter 15 of the sutra sthana bears extreme importance in the development of basic principles. Thus this work has been a good example of "Literary Research" and its clinical utility. The study explored the importance and place



of the chapter and also the specialties of the sutra sthana. The whole chapter has been studied "Sutra by Sutra" and its applied aspect has been dealt with in the clinical work. The clinical study was aimed to assess the principle of Dhatu posana (purvah purvotivrdhatvat vardhayeddhi param param). The patient of rakta ksaya were randomly divided into two groups:- Group A : - Satavari siddha kseera and Group B : - Nira siddha kseera. Both the groups were given the medicines for a duration of 30 days and assessment of a scoring pattern was done.

The results of the study have been encouraging as the significant results were obtained in the subjective parameters but no significant changes could be seen in the objective parameters. However, an increasing trend was conspicuous by its presence.

2. "Charak Samhita Ke Ashtau Ninditiya Adhyaya Ka Saidhdhantik Va Samikshatmak Adhyayan evam Atikrush mein Bruhanopaya"

Scholar : Dr. Bhavana Pandya,

Guide : Prof. R.R. Dwivedi,

Co-Guide : Dr. Hitesh Vyas.

Till date many research works have been carried out on atisthula, thus here the clinical design included the assessment of Brimhan therapy on Atikrisha patients. For this 54 patients had been registered and divided into 3 groups . in the treatment group mahisha ghrita was given in the dose of 10 gm / day Ashwagandha churna 3 gm B.D. in the control group while the godhum churna tablet in the dose of 2 tab B.D. was given in the placebo group. In all the 3 groups anupaan was dugdha & duration of treatment was 4 weeks.

34 patients completed the duration. The results were highly significant in the Ashwagandha group. In the dehbhaar vridhdhi. Though the mahish ghrita failed to provide significant result in dehbhaar vridhdhi, but it showed significant result in the rasayana prabhav like vyayam sahatva, utsaha vridhdhi etc. in the placebo group also significant results were obtained in the Atikrisha lakshanas like vyayam Asahatva, Kshudha Asahatva, tandra angamarda etc.

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

**MAULIKA SIDDHANTA SPECIALITY**

1. "A Critical study of "Bhutebhyo hi param yasmat nasti cinta cikitsite" w.s.r. to santarpanottha prameha and its management".

Scholar : Dr. Gautam Khandeparkar,

Guide : Dr. Mahesh Vyas,

Co-Guide : Dr. Hitesh Vyas.

Âcâryas lay emphasis on the significance of the Pancamahâbhûtas in understanding Sareera when they state their involvement from conception to death i.e. from the four Bhûtas which enter Garbha, the Pâñcabhautika Prakrti, the shaddhâtâtmaka Purusha termed as Cikitsadhikrta Purusha to the Pâñcabhautikatva of indriyas, till death quoted as Pancatva gatam, show a special relevance to Mahâbhûtas.

An attempt is made in this study to evaluate the utility and applicability of this principle of Pancamahâbhûtas in day to day practice.

A study on the Patients of Santarpanottha Prameha has been carried out divided in two groups, Group A & Group B. Here the drugs were selected on the hypothesis that the vitiated gunas of one particular group of mahâbhutas can be countered with the administration of

dravya having opposite Mahâbhautika guna dominancy, accordingly the drugs were selected. In Group-A-Triphalâdi Yoga was administered. In Group B - Citraka Curna was given.

The results were assessed after six weeks with the help of specially prepared Proforma. All the important hematological, Biochemical & Urine investigations were done. Significant results were found in Group A symptomatically compared to less significant in Group-B.

2. "A pilot study on sports medicine in Ayurveda w.s.r. to sharira bala vridhhi"

Scholar : Dr. Pritesh Dave,  
Co-Guide : Dr. Mahesh Vyas.

Guide : Dr. Hitesh Vyas,

The ayurvedic concept of sports medicine and its branches were described. In clinical work, the drug "Ashwagandhadi granules" were made from the reference of Balya dashemani from Charaka Samhita. Placebo drugs (roasted wheat floor capsule) were chosen for comparison. Both the drugs were given to healthy volunteers and sports persons and observations were recorded. The drug "Ashwagandhadi granule" showed significant and highly significance results in healthy volunteers and sports person respectively.

**M.D. (Ayu.) Research Project (Continued) :**

**SAMHITA SPECIALITY**

1. "Concept of Ahara in Relation to Matra, Desa, Kala and their effect on Health"

Scholar : Dr. Rohit Dangayach,  
Co-Guide : Dr. Mahesh Vyas

Guide : Prof. R. R. Dwivedi,

2. "The conceptual and Applied study of Medha and Manas in Ayurveda"

Scholar : Dr. Neeta Patel,  
Co-Guide : Dr. Mahesh Vyas

Guide : Dr. Hitesh Vyas,

3. "Critical study on "Vividhasitpitpeeteeya Adhayaya W.S.R. to principle of management in Rasa Pradoshaja Vikara"

Scholar : Dr. Ami Rajani,  
Co - Guide : Dr. Hitesh A. Vyas

Guide : Dr. Mahesh Vyas,

4. "Conceptual and critical study of Bhesaja catuska W.S.R. to Agnidipana"

Scholar : Dr. Sangita More,

Guide : Prof. R.R. Dwivedi,

**M.D. (Ayu.) Research Project (Continued) :**

**MAULIKA SIDDHANTA SPECIALITY**

1. "Conceptual and Applied study on effect of Rtus on Bala as per the Sutra - Adavante Ca.....nirdishet"

Scholar : Dr. Chhagan Jangid,  
Co - Guide : Dr. Hitesh Vyas.

Guide : Prof. R.R. Dwivedi,

2. "Process and Principles of Varnotpatti and assessment of Varnaprasadana in Tvakvaivarnya"

Scholar : Dr. Shilpa Savalia,  
Co - Guide : Dr. Hitesh Vyas.

Guide : Dr. Mahesh Vyas,

3. "The Fundamental study of 'Swapna' in the aspect if its Prakrta-Vaikrta Avastha and Satvavajaya Cikitsa"  
Scholar : Dr. Sonali Tendulkar, Guide : Prof. R.R. Dwivedi.
4. "Conceptual and Applied study of Paradiguna W.S.R. to sanyoga guna"  
Scholar : Dr. Ajay Kumar Rout, Guide : Prof. R.R. Dwivedi.
5. "Conceptual and Applied study of Badhana and Sanubadhana W.S.R. to Adverse Drug Reaction and ADR scale for Ayurvedic Drugs"  
Scholar : Dr. Megha J. Pathak, Guide: Dr. Hitesh A. Vyas,  
Co-Guide : Dr. M.K. Vyas & Dr. B. Ravishankar.

#### **Ph. D. (Ayu.) Research Project (Continued) :**

1. "Astanghridaya Sutrasthan Adhyaya 1 se 10 ki Sahityika Saiddhantika, Prayogika Evam Anusandhanatmaka Samiksha"  
Scholar: Dr. Hitesh Vyas, Guide: Prof. R.R. Dwivedi.
2. "Evolution And Evaluation Of Some Objective Parameters For Usònò And Úîta Gunas Based On Pancabhautika Theory And Experiments"  
Scholar : Dr. Santosh Mane, Guide : Prof. R.R. Dwivedi,  
Co-Guide : Dr. Mahesh Vyas & Dr. B. Ravishankar.
3. "Fundamental and applied study of Snigdha and Ruksa gunas with special reference to Rasa-raktagata Sneha (Hyperlipidemia)"  
Scholar : Dr. Sangram Mishra, Guide : Prof. R.R. Dwivedi,  
Co-Guide : Dr. B. Ravishankar.
4. "An Applied Concept of Dhatusarata and Vyadhiksamtva (Immunity)"  
Scholar : Dr. Indra Kumar Parvani, Guide : Prof. R.R. Dwivedi,  
Co-Guide : Dr. J.R. Joshi.

#### **LITERARY RESEARCH UNIT :-**

Following works were carried out by literary research unit in reporting year :-

Hindi translation work of Sarasamgraha of Atreya is in progress; chapters related to Maanparibhasha, Yamaghanta etc were translated during the year. Scanning and presentation work of valuable manuscripts has also been done during the year.

#### **RESEARCH PAPER PRESENTATION & PUBLICATION**

##### **Total seminar symposia and workshop attended : -**

During the reporting year, 6 guest lectures were delivered by the faculty members of the department at various places. Throughout the year, the faculty members and scholars of the department attended international and national level seminars and workshops. 10 Seminars, symposia , workshops were attended and departmental scholars also presented research papers.

### EXTRA CURRICULAR ACTIVITIES

- 1) Department organized "Akhand Samhita Path" of "Ashtang Hridaya" in September, 2007 in which the entire institutional staff and scholars participated.
- 2) Professor R. R. Dwivedi has been awarded "Honoris Causa Ayurveda" by Shri Pancha Bhautika Chikitsa and Samshodhana Kendra, Sangali (Maharashtra) - Vaidya Shri A.V. Datar Memorial Award.

M.D. (Ayu.) Scholars	No. of students		Total
	Siddhanta	Samhita	
Nov. 2006	1	-	1
Final June 2007	2	2	4
Final Nov. 2007	-	-	-
Second June 2007	2	2	4
First June 2007	<u>3</u>	<u>2</u>	<u>5</u>
<b>Total</b>	<b>8</b>	<b>6</b>	<b>14</b>

Ph.D. (Ayu.) Scholars	Continued	Awarded	Completed	Total
	4	2	2	8



## DEPARTMENT OF DRAVYAGUNA

### INTRODUCTION:

The Department of Dravyaguna deals with teaching, research and training related to fundamental principles of Dravyaguna, identification of medicinal plants and their different parts, cultivation, collection preservation & animal products used in Ayurveda. The Department is equipped with well-furnished museum with various drug specimens collected from different parts of the country as well as standard drugs and controversial drugs. It has 163 theses and about 400 compilations, 100 laminated photographs and around 500 standard drugs.

Apart from the above, the department provides assistance to the scholars of short-term Ayurveda courses conducted by the University for foreign nationals and WHO fellows.

### ACADEMIC ACTIVITIES :

Total 25 theory and 151 practical classes were conducted for 1st year M.D(Ayu.) students. 397 theory and practical classes were conducted for 2nd and 3rd M.D. (Ayu.) scholars. In addition, Ph.D. scholars as well as 3rd year M.D. scholars conducted classes for M.D. (Ayu.), M.Sc. (M.P.) and M.Pharm. (Ayu) students. On every Friday, departmental weekly seminars were conducted. Besides this, M.D. 1st year D.G. students undertook compilation and museum work etc. in the departments after their regular classes. As a part of practicals, teachers and students regularly visit university garden as well as 'Sasoi' garden also. 2nd and 3rd year M.D. scholars participated in the departmental tour to Paprola, Chandigarh, Haridwar, Dehradun etc. for 14 days.

### HOSPITAL ACTIVITIES :

The staff and students of the Department attended the O.P.D. and I.P.D. in the hospital daily. For indoor patients 6 beds for male and 4 beds for female have been allocated to the department. The clinical trials for M.D. (Ayu) and Ph.D. scholars have been carried out both at OPD and IPD levels.

### RESEARCH ACTIVITIES:

#### Ph.D. (Ayu) Research Project (Completed) :

1. "Comprehensive Pharmacognostic and Pharmacological Evaluation of Langali (Gloriosa superba) under Wild and Cultivated".

Scholar : Dr. K. V. Asha,

Guide : Prof. P. P. Sharma,

Co-Guides : Prof. Malati Chauhan, Dr. B. Ravishankar.

Survey of three different fields for different parameters were carried out in Palghat, Thrisur and in Malappuram district. NPK analysis of soil (natural), analysis of soil of given field area & effort to duplicate the soil condition using agro-techniques as well as Ayurvedic techniques, Collection of the drug from its natural habitat (Wild Form), Cultivation of drug using Ayurvedic Parameters along with agro-techniques (Cultivated form) was carried out. Studies on Dormancy breaking (Duration of study: 104 days), Dormancy breaking (With Ankola Taila), Incubation at particular temperature, growth regulator study, preparation of land, manuring chemical analysis of dung & urine (range), NPK status of dung and urine, NPK analysis on modified Kunapajala, composition of modified Kunapajala effect on growth of plants of Gloriosa superba by various treatments, comparative data of temperature & rainfall at different fields were discussed with all data pertaining to the matter.

In Pharmacognostic study leaf, stem as well tuber were studied out but there was no much difference in cultivated and wild form of drug. Physical as well chemical analysis of the drug was carried out peaks of colchicine or colchicine related compounds at various retention time were observed.

Toxic study of the drug showed that after purification, drug can be used very safely and it also showed spermatogenic effect. It is affecting GIT at the initial stage whereas the condition is getting corrected within one week, which shows that it is an ideal drug for continuous usage for a long period. Drug is having anti-inflammatory, analgesic and anti pyretic effect even at very low dose, it also has a very weak abortifacient activity, so the drug should be maximum avoided during pregnancy stage.

#### **Ph.D. (Ayu) Research Project (Continued) :**

1. "An Advanced Investigative study of controversial Ayurvedic drugs with particular reference to Amlavetas."  
Scholar : Dr. Giriraj Singh Gohil, Guide : Prof. P. P. Sharma,  
Co-Guides : Dr. B. Ravishankar, Dr. N. H. Pandya
2. "A comprehensive study of Virataru (*Dicrostachys cineria*) w.s.r. to Mutrakrichra".  
Scholar : Vd. Bhupesh R. Patel, Guide : Prof. P. P. Sharma,  
Co-Guides : Dr. Subrata De, Dr. B. Ravishankar
3. "Pharmacognostic, Pharmacological, Phytochemical and Pilot clinical study on *Lobelia nictianaefolia*, Heyne (*Devanala*) a Folk medicine".  
Scholar : Dr. Ravi Rao Sorake, Guide : Prof. P. P. Sharma,  
Co-Guides : Dr. B. Ravishankar, Dr. Subrata De.
4. "A Pharmaco-clinical study of Chandrashur (*Lepidium sativum* Linn.) w.s.r. to Sandhivata (*Osteoarthritis*)".  
Scholar : Dr. Nita D. Raval, Guide : Dr. T. N. Pandya,  
Co-Guides : Dr. Ravishankar, Dr. subrata De.
5. "A Comparative Pharmaco-Therapeutic study of Tugaksheeree [*Curcuma angustifolia* Roxb. (Fam. Zingiberaceae) and *Maranta arundinacea* Linn. (Fam. Marantaceae) w.s.r. to Amlapitta".  
Scholar : Dr. Rajashekhara N., Guide : Prof. P. P. Sharma,  
Co-Guide : Dr. B. Ravishankar.
6. "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.

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

1. "Pharmacognostic, Phytochemical and Pharmacological studies on Hastisundi (*Heliotropium indicum* Linn.) and allied species *Heliotropium ovalifolium* Forsk and their effect on Tundikeri (*Tonsillitis*)".  
Scholar : Dr. Ram Babu Paswan, Guide : Prof. P. P. Sharma  
Co-Guides : Dr. T. N. Pandya, Dr. B. Ravishankar, Dr. Usanash Bhatt

In Pharmacological study, *Heliotropium ovalifolium* Forsk showed better Anti-Pyretic activity after 24 hours, In Clinical study, both the drugs *H. indicum* Linn. and *H. ovalifolium* Forsk showed statistically highly significant results in the treatment of Tundikeri.

2. "A comprehensive study of Anup and Jangal Deshastha Shitivaraka (*Celosia argentea* Linn.) and through Mootral Karma, Tamakshwasahara effect".

Scholar : Dr. Nitin N. Lavate, Guide : Prof. P. P. Sharma  
Co-Guides : Vd. Bhupesh R Patel, Dr. B. Ravishankar

Pharmacological study indicated presence of moderate anti-inflammatory activity in both the samples. But both the samples did not show any anti-histaminic activity. In clinical study, Jangal deshastha shitivarika gave better results.

3. "A multidisciplinary method used for identification of crude drugs w.s.r. to *Arjuna* species".

Scholar : Dr. Niraj D. Mehta, Guide : Dr. T. N. Pandya,  
Co-Guides : Prof. P. P. Sharma, Dr. Usanash Bhatt.

In Pharmacognostical study, species like *Terminalia arjuna* W&A, *Terminalia tomentosa* W&A, *Sterculia urens* showed presence of Rosette crystal of calcium oxalate, but rhytidoma was found only in *Terminalia tomentosa* W&A. The study showed that all these species may be taken as *arjuna* by different parameters, but most appropriate plant is *Terminalia arjuna* W&A..

4. "A pharmaco-botanical study of Chakramarda and Gomutra Bhavit Chakramarda Churna its efficacy on *Vicharchika*".

Scholar : Dr. Vadi Ankur K., Guide : Vd. Bhupesh R. Patel,  
Co-Guides : Prof. P. P. Sharma, Dr. B. Ravishankar.

Both the plant species *Cassia tora* Linn. and *Cassia obtusifolia* Linn. may be considered as chakramarda. In pharmacological study, the test drugs did not affect antibody formation. The test drugs did not produce any effect on the isolated guinea pig and did not modify the tissue spasmogenic effect to histamine. In clinical study, highest results obtained in gomutra bhavita chakramarda group.

#### **M.D. (Ayu.) Research Project (Continued) :**

1. "A comparative study of "Ativisha" and "Katuki" with special reference to "Lekhaniya Karma".

Scholar : Dr. Kusum Sadiya, Guide : Dr. T. N. Pandya,  
Co-Guide : Prof. P. P. Sharma, Dr. B. Ravishankar

2. "A Pharmaco therapeutic study on "Kushmandabeeja" with special reference to "Vrishya Karma".

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

3. "A Pharmaco botanical study of "Shinshapa" *Dalbergia sissoo* and its effect on Gridhrasi".

Scholar : Dr. Arti Rupani, Guide : Prof. P. P. Sharma,  
Co-Guides : Dr. B. Ravishankar, Dr. B. R. Patel

4. "An Evaluation of ethnomedicinal property of Saptaparna w.s.r. to Essential Hypertension (UCCHARKATACHAP)".  
Scholar : Dr. Kamlesh Bhogayata, Guide:Vd. Bhupesh Patel,  
Co-Guides : Prof. P. P. Sharma, Dr. Usanash Bhatt.
5. "Evaluation of a folklore plant Kanoti (Linaria ramosissima) in the management of Ashmari".  
Scholar : Dr. Vitthal Khunt, Guide : Dr. T. N. Pandya,  
Co-Guides : Prof. P. P. Sharma, Dr. B. R. Patel
6. "A Comparative Evaluation of Anti Cough and Anti-Inflammatory Activity of Choti Pippali and Badi Pippali w.s.r. to Tamaka Shwasa".  
Scholar : Dr. Kumari Mamta, Guide : Prof. P. P. Sharma,  
Co-Guides : Dr. T. N. Pandya, Dr. B. Ravishankar.
7. "A comparative Phyto-Pharmacognostical study for identification and evaluation of Kusha and Darbha And assessment of their Mootral Karma".  
Scholar : Dr. Niti Tushar Shah, Guide : Dr. T. N. Pandya,  
Co-Guides : Prof. P. P. Sharma, Dr. B. R. Patel, Dr. B. Ravishankar.
8. "A comparative appraisal of Brihati and its substitutes with special reference 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.

M.D. (Ayu.) Scholars	June-2006	Nov. -2006	June-2007	Nov. -2007
1st year M.D. (Ayu.)	3	-	3	-
2nd year M.D. (Ayu.)	4	1	3	-
3rd year M.D. (Ayu.)	4	1	-	-

**Ph. D. (Ayu.) Scholars - 6**





## DEPARTMENT OF RASASHASTRA AND BHAISHAJYA KALPANA INCLUDING DRUG RESEARCH

The department of Rasashastra and Bhaishajya Kalpana is the pioneer in the field of Ayurvedic drug research. For the past 50 years, this department has been involved in standardization of the Ayurvedic formulations with enormous effort. The ultimate objectives of this department are to disclose the physico-chemical character, to assess safety & toxicity profile and to establish the clinical effectiveness of the Ayurvedic medicines.

### Academic Activities

During this period, theory & practical classes for M.D. (Ayu.) 1st, 2nd, 3rd year and M. Pharma (Ayu.) 1st & final year had been arranged.

No. of theory classes for M.D. (Ayu.) 1st Year = 27

No. of theory classes for M.D. (Ayu.) 2nd & Final Year = 60

No. of theory classes for M. Pharma (Ayu.) 1st Year = 42

No. of theory classes for M. Pharma (Ayu.) final Year = 20

Practical classes to understand the subject were arranged which are as follows-

No. of practical of 1st Year M. D. (Ayu.) = 25

No. of practical for M.D. (Ayu.) 2nd & 3rd Year = 504

(Rasashastra-264 + Bhaishajya Kalpana-240)

No. of practical of M. Pharma (Ayu.) 1st Year = 25

The department also provides exposure to international scholars through various theory and practical classes.

Classes for three months Introductory course = Theory-12

= Practical-24

### Weekly seminar

As a part of academic activity, department conducted weekly seminars for M. D. (Ayu.) and Ph. D. Scholar brief detail are as follows :-

Rasashastra - 08

Bhaishajya Kalpana - 06

### Pharmacy Training

The scholars of 2nd & 3rd Year were engaged in Pharmacy (Daily duties) in different groups to give them maximum exposure in manufacturing of different Kalpanas like Kharaliya rasayana, Parpati, Kupipakwa, Bhasma, Snehas, Sandhana etc. at commercial scale.

### Academic Tour

As per routine programme for final year students, the academic tour for exposure of drug manufacturing & research and development of quality control, a team of P.G. scholars headed by

Dr. P.K. Prajapati visited N.I.A. Jaipur, Dhanvantri pharmaceutical Amritsar, R. R. L. Jammu, Paprola Ayurvedic college, Jogindernagar-Herbal garden, Tibatian pharmacy, Dharmashala, Dabur India Ltd, Maharishi Ayurvedic pharmaceutical and Baidyanath Ayurvedic Ltd. Jhansi.

## RESEARCH ACTIVITIES

### Ph. D. (Ayu.) Research Project (Completed):

1. "A pharmaceutical study of Bharangiguda Avaleha prepared by two different processes and its efficacy on Tamaka Shwasa".

Scholar : Alpesh Jarsania,  
Co-guide: Subrata De.

Guide : Dr. A. K. Choudhary,

Bharangiguda Avaleha-I was prepared according to the reference Chakradatta (12/25-30). The second sample of Bharangiguda Avaleha, the Bharangi and Dashamula were exhausted with 14 parts of water twice, the filtrate were concentrated by reducing to ½ part, rest of the Avaleha procedure being similar to Bharangiguda Avaleha-I sample. Stability studies of Bharangiguda Avaleha-I have not shown any significant changes in the values upto 24 months. On the basis of the study, it can be said that this formulation is stable for the period of upto 24 months. The bacteriological examination viz. total viable count, yeasts & moulds, E-coli and Salmonella for stability sample was carried out and it was observed that the growth of micro - organisms was found to be within limits, as mentioned in the guidelines by WHO. A statistically highly significant reduction in episodes of cough was recorded in Anti -tussive activity in the entire three formulations administered. Total 100 patients of Tamaka Shwasa were registered and divided in three groups randomly, Group-A and Group-B were treated with Bharangiguda Avaleha I, II, respectively and Group-C was treated with Bharangiguda Churna given as control drug in the dose of 3 g. b.i.d. for 30 days. It was found that Bharangiguda Avaleha (Group-A) treated patients show better result in the disease Tamaka Shwasa.

2. "Pharmaceutical development in Ayurveda and Standardization of Certain formulation".

Scholar : Kailash Chandra Sahoo,  
Co-Guide : Dr. Subrata De.

Guide : Dr. P. K. Prajapati,

Physico-chemical parameters like specific gravity (0.9160), Refractive index (1.4660), Acid value (4.00) and Saponification value (186.9) were reported in Tila taila. Specific gravity (0.9143), Refractive index (1.4730), Acid value (3.79) and Saponification value (186.62) were reported in Murchita Tila-taila. Specific gravity (0.9164), Refractive index (1.4740), Acid value (5.49) and Saponification value (188.69) were found in Bala taila. Specific gravity (0.9131), Refractive index (1.4630), Acid value (2.23) and Saponification value (227.50) of Panchatikta Ghrita were estimated. 22.67%, 5.1% loss was observed in Trikatu Churna preparation by small and large scale production respectively. 7.53%, 4.561% loss was observed in Sitopaladi Churna preparation by small and large scale production respectively. 10%, 5.13% loss was observed in Hingwastaka Churna preparation by small and large scale production respectively.

### Ph.D. (Ayu.) Research Projects (in progress):

1. "Role of fermenting agent in the preparation of Lohasava and its pharmaco-clinical assessment on Pandu (Iron deficiency Anaemia)".

Scholar : Dr. Raju Thomas,  
Co-Guides : Dr. Subrata De, Dr. B. Ravishankar.

Guide : Dr. P. K. Prajapati,

2. "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.
3. "The pharmaceutical study of different Kalpana of Guduchi w.s.r. to Ekakustha (Psoriasis)".  
Scholar : Dr. Rajesh Barvaliya, Guide : Dr. P.K.Prajapati,  
Co-Guides : Dr. Subrata De, Dr. B. Ravishankar
4. "Physico-chemical effect of Bhavana on Gandhaka Rasayana prepared with two different media and its therapeutic effect on Ekakushta (Psoriasis)".  
Scholar : Dr. Suchi Mitra, Guide : Dr. P. K. Prajapati,  
Co-Guide : Dr. B. Ravishankar.
5. "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.
6. "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
7. "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.
8. "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.

### **M.D. (Ayu.) Research Project (Completed) :-**

#### **Rasashastra speciality**

1. "A comparative pharmaceutico-pharmaco-clinical study of Kasis bhasma (prepared by three different methods) w.s.r. to its effect on Pandu roga (iron deficiency anaemia)".  
Scholar : Dr. Bhavesh H. Patel, Guide : Dr: P. K. Prajapati,  
Co-guides : Dr. A. K. Choudhary, Dr. B. Ravishankar.

Kasis Bhasma was prepared as per the references of Rasatarangini 21/259, Rasamrita 3/160 and Rasatarngini 21/255-258 in which 21.62%, 21.40% and 24.56% Bhasma was obtained respectively. All the samples of Bhasma showed red in colour, smooth with perceptible coarse powder, no specific odour, tasteless property was observed. The percentage of iron i.e. 27.75% w/w, 63.72% w /w, 73.81% w/w and 55.31%.w/w in Kasis (raw drug), Kasis Bhasma (R. T. 21/259), Kasis Bhasma Rasamrita 3/160 and Kasis Bhasma R. T. (21/255-258) respectively have been reported. In acute toxicity study, no mortality was observed in animals

receiving both the test drugs (Kasis Bhasma and Lauha Bhasma) up to 80 times higher than the therapeutic equivalent dose (11 mg/kg). In chronic toxicity study, no serious toxicity was found in both the test drugs. In clinical study, Kasis Bhasma (Rasamrita 31/160) 125 mg/ day provided marked improvement in 6.67%, mild improvement in 65.64% and no change in 27.69%, whereas Lauha Bhasma 125 mg/day provided marked improvement in 5.56%, moderate improvement in 22.22%, mild improvement in 33.33% and no change in 38.89%. Clinically, Kasis Bhasma showed a better haematinic effect (statistically highly significant increase) than Lauha Bhasma.

2. "A comparative pharmaceutico-pharmaco- clinical study of Rajata Bhasma and Rajata Sindura w. s. r. to Depression (Avasad)".

Scholar : Dr. Mamta Tanna,

Guide: Dr: B. J. Patgiri,

Co-guides : Dr. A. K. Choudhary, Dr. B. Ravishankar.

Rajata Bhasma was prepared in six batches, using different media. The E. M. F. is found convenient for the preparation of Rajata Bhasma in comparison to traditional Puta system the minimum half quantity of Gandhaka is found better as a media during the preparation of Rajata Bhasma. Various analytical tests were done. The samples of Rajata bhasma show the presence of Ag<sub>2</sub>S as a major phase and Ag<sub>5</sub>Sio<sub>4</sub> as minor phase by XRD analysis. The various trace elements are found like iron, copper, lead, cadmium, lead are present as trace elements other than mercury (99.99% w/w) and Sulphur (11.68% w/w) in Rajata Sindura. On the basis of pharmacological study Rajata Bhasma and Rajata Sindura, both the drugs do not possess a profile of classical antidepressants. However, Rajat Sindura produced CNS stimulation in comparison to Rajata Bhasma. Clinically Rajata Bhasma was found more efficacious in comparison to Rajata Sindura to treat the patients of Depression (Avsada).

3. "Pharmaceutical standardization of Rasakarpura and Rasakarpura Drava, it's safety profile & therapeutic effect on Kshudra Kustha".

Scholar : Dr. Neky Mehta,

Guide : Dr: P. K. Prajapati,

Co-guide : Dr. B. Ravishankar.

Rasakarpura was prepared as per the reference of Rasatarangini (6/65-71). Pharmacological study was carried out to evaluate its toxic effect in three phases viz. acute toxicity (in Swiss albino mice), chronic toxicity (in albino rats) and dermal toxicity [in rats (0.1%) and in rabbits (0.2%)]. It is found quite safe in therapeutic doses. Analytical study was done to find out its major chemical constituents i.e. mercuric chloride along with sodium, magnesium and calcium as trace elements. The antimicrobial study was done on Staphylococcus, E. coli and Candida in the dilution of 0.2%, 0.1% and 0.05% in water. Clinical study was carried out on 80 patients of Kshudra Kustha by using Rasakarpura Drava (0.1% solution in water) and compared with standard drug Gandhaka Malhara. The observed result of clinical trial suggests that both drugs have highly significant result on the cardinal symptoms of Kshudra Kustha.

### **Bhaishajya Kalpana Speciality:**

1. "A comparative pharmaceutico- pharmaco- clinical study of effect of different formulations of Tulsi Churna (tablet), Tulsi Arka and Tulsi aerosol on Shwasa".

Scholar : Dr. Vimal R.Joshi,

Guide : Dr.B.J.Patgiri,

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

Tulsi Arka was prepared as per the reference of Arka Prakash. Arka was collected upto 10%

of water. Average 1 % v/w Volatile oil was found in dry Tulsi Panchang. Loss on drying at 1100C 6.10% w/w, Ash value 8.74% w/w, water soluble extract 12.93 w/w and Alcohol (Methanol) soluble extract 5.83w/w were found in Tulsi Churna. 6.29 of pH and 1.003 of specific gravity was found in Tulsi Arka. In clinical study total 35 patients were randomly selected and divided into three groups. Group A having 10 patients, was treated with Tulsi inhaler (aerosol) 2 ml/ 5 min / wk. In Group B patients were treated with Tulsi tablet (500 mg) 1 Tablets TDS. In Group C, patients were treated with Tulsi Arka. The total cardinal symptoms were relieved upto 74.19%, 67.07%, 60.17 in Group A, B, and C respectively which were statistically highly significant. Moderate improvements were observed 90% of patients in all the groups while mild improvement was found in 10% of patients in all the groups. Complete remission was not found in any patient.

2. "A comparative pharmaceutical study on Khadirarista w.s.r. to fungal growth in Arista and its effect on Kustha".

Scholar : Dr. Kinnari Dhruve,

Guide : Dr. P.K.Prajapati.

Khadirarista was prepared as mentioned in the Sharangadhar Samhita, but a modification was made by using Jaggery instead of sugar for pharmaceutical comparison. Khadirarista prepared by sugar fermented earlier and yielded more than Khadirarista prepared by Jaggery. Antimicrobial property of some known drug was added to prevent the unwanted growth of contaminants. Both the Khadirarista were analyzed physico chemically and clinically investigated in the general symptoms of the disease Kustha. Fungus present in the raw material, during procedure, in the final product were analyzed. HPTLC profile showed almost equal spots in both Khadirarista, prepared by sugar and Jaggery. Some common contaminants were found in the raw drugs, during preparation and in the final product. Clinically, Khadirarista prepared by Jaggery was found to be better than Khadirarista prepared by sugar.

3. "A comparative pharmaceutico-pharmaco-clinical study of Sirisharishta prepared by Twaka and Sara Kastha of Shirisha w.s.r. to its Shwasahara effect".

Scholar : Dr. Mundeep Jaiswal,

Guide : Dr. P. K. Prajapati,

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

In this study, Shirisharishta was prepared by Twaka (bark), Kastha (sapwood) and Sara (heartwood). Pharmaceutically Shirisharishta prepared by Sara shows better fermentation along with earlier onset and completion than that of Twaka and Kastha. Analytically Shirisharishta prepared by Sara shows more alcoholic aroma than the other two groups. In Twaka, Kastha and Sara group of Shirisharishta, average pH was observed near 4.74, 4.56 and 4.45 while average alcohol percent was 3.93, 3.64 and 4.96 respectively. HPTLC analysis was carried out to develop a fingerprint profile and HPLC analysis of the three groups shows maximum percentage of epigallocatechine gallate, piperine and curcumin in Shirisharishta prepared by Sara. Pharmacologically it also shows better activity profile in anti-inflammatory, CMI suppression, anti-histaminic and anti-tussive activities and the same results were supported by clinical study.

### **M. D. (Ayu.) Research Projects (Continued) :**

#### **Rasashastra specialty:**

1. "The role of media in the preparation of Vanga Bhasma and evaluation for its hypoglycemic and anti hyperglycemic effect".

Scholar : Jalpa H. Jani,

Guide : Dr. P. K. Prajapati,

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

2. "A pharmaceutical standardization and toxicity study of NagaBhasma prepared by two different methods w. r. s. Madhumeha (Diabetes Mellitus)".  
Scholar : Pravin Tate, Guide : Dr. B. J. Patgiri,  
Co-Guides : Dr. P. K. Prajapati, Dr. B. Ravishankar.
3. "A pharmaceutico -pharmaco-clinical study of Makaradhwaja prepare by Swarna Varka and Swarna Bhasma on Madhumeha ( Diabetes Mellitus)".  
Scholar : Sanjay Khedekar, Guide : Dr. P. K. Prajapati  
Co-Guides : Dr. B. J. Patgiri, Dr. B. Ravishankar.
4. "An effect of Puta in the preparation of Vanga Bhasma w.s.r. to Madhumeha (D.M.)".  
Scholar : Darshan K. Parmar, Guide : Dr. B. J. Patgiri,  
Co-Guides : Dr. P. K. Prajapati, Dr. B. Ravishankar.

### **Bhaishajya Kalpana Speciality :**

1. "A comparative pharmaceutico clinical study of Karpanpatru oil prepared with different Medias and its effect on Switra (Vitiligo) Roga".  
Scholar : Manisha Goyal, Guides : Dr. P. K. Prajapati,  
Co-Guides : Dr. B. J. Patgiri, Dr. B. Ravishankar.
2. "A comparative pharmaceutical study of Guduchi Ghana prepared from Kwatha and aqueous extract in the management of Eka-Kustha (psoriasis)".  
Scholar : Bharati Umretia, Guides : Dr. B. J. Patgiri,  
Co-Guides : Dr. P. K. Prajapati, Dr. B. Ravishankar.
3. "A comparative study of Dhatriyarishta prepared by Dhatri Swarasa and Dhatri Kwatha w.s.r. to its effect on Pandu (Iron deficiency Anaemia)".  
Scholar : Subhashchandra S. Madavi, Guide : Dr. B. J. Patgiri,  
Co-Guide : Dr. P. K. Prajapati.
4. "The study of shelf life of Kumkumadi Ghrit prepared by Kumkum and Nagakeshar and its effect on Mukhadushika".  
Scholar : Ameer Amrutia, Guide : Dr. P. K. Prajapati,  
Co-Guides : Dr. B. J. Patgiri, Dr. B. Ravishankar.

### **Papers published :-**

1. Dr. Suhas Nayak, Dr. B. J. Patgiri Dr. P. K. Prajapati, A pharmaceutical Standardization of Somanathi Tamra Bhasma and Tamra Bhasma w.s.r. to Temperature Pattern, Sachitra Ayurveda July 2006.
2. Dr. P. K. Prajapati, A current practices for Bhasma preparation, Souvenir Ayurvedic medicine and practices focus on Bhasmas, Ahmedabad, Nov. 13th - 14th 2006.
3. Dr. P. K. Sarkar, Dr. P. K. Prajapati, Dr. A.K. Chaudhary, Physico-chemical evaluation of Lauha Bhasma and Mandura Bhasma Indian Drugs, Vol. 44, 1st Jan. 2007.
4. Dr. P. K. Sarkar, Dr. P. K. Prajapati, Dr. A.K. Chaudhary, A comparative Clinical trial of Lauha Bhasma and Mandura Bhasma on Panduroga (iron deficiency anaemia). Aryavaidyan, Vol. XIX., No. 4, 2006.

5. Dr. Nky Mehta, Dr. A.K.Chaudhary, Dr. P.K.Prajapati, Role of milk in shodhana (detoxification) w.s.r. to Nux-vomica. Aryavaidyan Vol. XX No. 2., Nov. 2006-Jan.2007.
6. Dr. P. K. Prajapati, Ayurvedic metallic bhasma a right or wrong choice Hirak Jayanti Samarika, Krishana Gopal Ayurved Bhavan, kalera, May-2006.

**Paper presentation :** Total 15 papers were presented by the scholars of the department in the various scientific seminars.

### Extra curricular Activity :

Apart from routine curriculum, department is actively involved in APC research project, development of SOP for the preparation of Ayurvedic, Siddha and Unani formulations. Developed SOP of the following formulations-

1. Rasa Sindura
2. Rasakarpura
3. Makaradhwaja

### Scholars

Post Graduates	Batch	No. of Students		Total
		R. S.	B. K.	
1st year	June 2007	02	02	04
2nd year	June 2007	02	02	04
3rd year	Nov. 2006	02	01	03
3rd year	June 2007	01	02	03



## DEPARTMENT OF KAYACHIKITSA

The department of Kayachikitsa conducts teaching, training and research to the M.D. (Ay.) scholars of Kayachikitsa and Roga Nidana evam Vikriti Vigyana; provide research, treatment facility to the patients attending the OPD and IPD of the department of Kayachikitsa. The department also organizes training programmes to the students of other countries who visit the institute under WHO collaboration and for 3 months introductory course of Ayurveda. Recently library facility is also provided to the students in the department.

### Academic Activities

The Ph.D. research work of 2 scholars was completed and submitted to the University for adjudication. More than 210 theory classes and 130 clinics and practicals were conducted for the first year and 250 theory classes for 2nd and 3rd M.D. (Ay) scholars of the two specialties viz. Kayachikitsa and Roga Nidana evam Vikriti Vigyana. 141 classes of Charaka Samhita Adhyayana for 2nd and 3rd year scholars were carried out. Departmental seminars and clinical meetings were also held.

### Hospital

In the hospital, total 28 beds are allotted to the department and during the year 322 patients have taken treatment in the I.P.D. and 25,198 patients have taken treatment in the O.P.D. Patients suffering from male infertility and sexual dysfunctions were dealt separately in Vajikarna section of experimental laboratory.

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

1. "A Clinical study on the role of Guduchyadi Yoga as an adjuvant in the management of Pulmonary Tuberculosis with anti Koch's treatment".

Scholar : Dr. Somraj Kharche,

Guide : Prof. M.S. Baghel.

In this study, total 106 patients were registered, out of which 91 completed the course of treatment. The patients were divided into two groups: Management Group : 48 patients completed the treatment with Guduchyadi Yoga (Guduchi, Gokshura, Aamalaki, Vasa, Ashwagandha, Pippali macerated with Bhringraja Swarasa three times) in tablet form 6 grams B.D. in two divided doses (1 tablet-500mg) daily along with the conventional AKT thrice a week under DOTS with water. Control Group : 43 patients completed the treatment with the conventional AKT thrice a week under DOTS with water.

Effect of therapy: In the Management Group, 48 patients showed 94.98% relief in Roga Bala, 84.35% on Agni Bala, 63.8% on Deha Bala and 70.1% on Chetsa Bala. Average percentage improvement was 85.76% whereas in Control Group: 43 patients showed 78.1% relief in Roga Bala, 76.6% on Agni Bala, 48.3% on Deha Bala and 87.2% on Chetsa Bala. Average percentage improvement was 75.13%.

Overall Complete remission was found 7.14% in Mangement Group and no in Control Group, Marked improvement was found 87.23% in Mangement Group and 58.13% in Control Group; Moderate improvement was found 10.63% in Mangement Group and 30.23% in Control Group. 2.32% patients showed no improvement in control group.

From the overall study it can be concluded that the drug Guduchyadi Yoga can prove a good adjuvant to the conventional AKT regimen.



2. "A Clinical etiopathological study on Psoriasis w.s.r. to the role of Stress in it and it's Management".

Scholar : Dr. Sisir Mandal,  
Co-Guide : Prof. M.S. Baghel.

Guide : Dr. Anup B Thakar,

In this study, total 112 patients of Psoriasis were selected from I.P.D and O.P.D. of I.P.G.T& R.A. Hospital, Jamnagar. 25 patients left against the medical advice and remaining 87 patients were treated in three groups: Group A - 28 patients were given Jivantyadi Yamaka for tropical application with Placebo. Group B- 30 patients were given G.B.tablet (Guduchi, Brahmi, Jatamansi, Sarpagandha) orally in the dose of 9 grams /day in three divided doses and Jivantyadi Yamaka for tropical application as above. Group C- 29 patients were given Virechna was given and then G.B.tablet orally in the dose of 9 grams /day in three divided doses and Jivantyadi Yamaka for tropical application as above. Duration - 30 days for internal medication.

The effect of treatment on Erythema was 44.29% in Group A, 63.33% in Group B and 77.94% in Group C. On Scaling (A-61.76%, B-74.58%. C-79.07%), Dryness (A-63.89%, B-71.10%. C-83.12%), Itching (A-53.85%, B-67.09%. C-83.52%), Burning sensation (A-64.29%, B-70.83%. C-77.78%), Epidermal thickening (A-30.77%, B-47.92%. C-70.15%), Elevation of lesion (A-35.38%, B-52.31%. C-61.11%) was found which was statistically highly significant level. The effect of the drugs on the associated symptoms as fever, scalp involvement, disturbed sleep was found at highly significant and significant level. The therapeutic effect on the Hamilton depression rating scale shows that it gives maximum relief in both B & C Groups comparative to group A. It indicates that G.B. Tablets have a definite role in HDRS rather than virechna or Jivantyadi Yamaka.

#### Ph. D. (Ayu.) Research Projects (Continued) :

1. "Aetiopathological study of sandhigata vata (osteoarthritis) and its management with Tryodashang Guggulu".

Scholar : Dr. Chinmayi Shah,  
Co-Guide : Dr. H. M. Chandola.

Guide : Prof S. N. Vyas,

2. "Role of Rasayana and Daivavyapasryachikitsa in the management of psychosomatic disorders w.s.r. to Sheetapitta, Udarada and Kotha (Urticaria)".

Scholar : Dr. Parthiv G.Bhatt,  
Co-Guide : Dr. Arpan Bhatt.

Guide : Prof S. N. Vyas,

3. "Aetiopathological study of Khalitya and its management with Neelibhringraj Taila and Keshya Rasayana".

Scholar : Dr. Sarika Mehta,  
Co-Guide : Prof. M.S. Baghel.

Guide : Prof V.D.Shukla,

4. "A Clinical study on the management of Amavata (Rheumatoid Arthritis) with Simhanada Guggulu and Alambasushadi Tablet".

Scholar : Dr. Saroj kumar Debnath,

Guide : Prof. S.N.Vyas.

5. "A Clinical study on the aetiopathogenesis of pureesha vibanadha and its management on the basis of predominant aetiology".

Scholar : Dr. Zarana Shah,

Guide : Prof. M.S. Baghel

6. "Clinical study of Matra basti and Nirgundi ghanavati in the management of Gridhrasi w.s.r. to Sciatica".  
Scholar : Dr. Mumtaz Ali, Guide : Prof. V.D. Shukla,  
Co-Guide : Dr. A.R. Dave, Dr. Nilesh Bhatt
7. "A Clinical study on the management of chronic renal failure with Punarnavadi Compound".  
Scholar : Dr. Prashant GS Guide : Prof. M.S. Baghel  
Co-Guides : Dr. B.Ravishankar, Dr. Miten Mehta

#### **M. D. (Ayu.) Research Project (Completed) :-**

#### **SPECIALITY : ROGA NIDANA EVAM VIKRITI VIGYANA**

1. "A Clinical Study of Hyperlipidaemia and the effect of Panchatiktaghana in its management- A double blind study".  
Scholar : Dr. Umesh Kumar Sapra, Guide : Dr. Anup B Thakar,  
Co-Guide : Prof. M.S. Baghel, Prof.S.N.Vyas, Dr. B.Ravishankar.

In this Randomized, double blind study with standard control method, 60 patients of Hyperlipidaemia from O.P.D and IP.D. of Kayachikitsa were selected. Out of which 6 patients were dropped out at various stages of treatment and 54 patients completed the course of treatment and they were randomly divided into two groups : Group A: 30 Patients of this group were given Panchatikta Ghana. Group B: 24 Patients of this group were given Shuddha Guggulu. Dose: 3gm/day in three divided doses in capsule form each of 500 mg, 2 capsules t.i.d. for 30 days with Lukewarm water (Ushnodaka). In PTG group, 2.45% reduction was observed in S.Cholesterol; while 4.90% reduction was observed in GSG group. S.Triglyceride increased by 14.76% in PTG group whereas 16.40% reduction was observed in GSG group. S.HDL level was decreased up to 2.49% in PTG group while in GSG group by 6.10%. Reduction observed in S.LDL was 4.31% in PTG group while 6.17% increase was observed in GSG group. In PTG group, there was 6.50% increase in S.VLDL while 16.40% reduction was found in GSG group. All the above results were statistically insignificant ( $P > 0.05$ ). Effect of Therapies on Body Weight (PTG-1.41%, GSG-1.07%), B.M.I (PTG 1.10% GSG-1.1%), Body circumference (PTG-2.48%, GSG-2.33%) and Skin fold Thickness (PTG-9.63%, GSG-16.82%) was observed at statistically highly significant and significant level.

2. "An etiopathological study of Panduroga w.s.r. to Iron Deficiency Anaemia and its management with Pandughna vati and Dhatriyarista".  
Scholar : Dr. Urvi Dave, Guide : Prof. S. N.Vyas,  
Co-Guide : Dr. A. B Thakar.

In this study 46 Patients of Panduroga were selected and randomly divided into three Groups. 16 patients of Anaemia were treated in Group-A. Pandughna vati (Anubhut) provided highly significant results in signs and symptoms like Panduta (53.50%), Daurbalyata (44.73%), Hridspandanam (52.40%), Bhrama (62.30%), and Pindikodweshtana (65.84%). Statistically significant relief was observed in the symptoms of Shunakshikuta (57.15%), Aruchi 72.65%, Jwara (80%). Regarding Hematological investigation significant improvement was noted in Hb (2.6%), MCV (4.63%), MCHC (2.38%), ESR (10.28%) and in TIBC (3.16%). In patients treated with Dhatriyarishta (Group B), Highly significant results were found in Panduta (56.73%), Daurbalya (55.35%), Bhrama (71.42%) and Pindikodweshtanama (53.84%), Where as significant

result were found in Hridspandanama (54.65%), Shunkshikuta (57.14%), Rukshta (33.33%), Shwasa (50%), Aruchi (33.33%) and Jwara (14.86%). Regarding investigations, significant results were found in TRBC (2.77%) count and TIBC (4.60%). In control Group Highly significant results were found in Panduta (64%), Daurbalyta (65.5%), Bhrama (80.70%), Shunakshikuta (46.50%), Rukshata (29.10%), Aruchi (62.20%), Pindikodweshtanama (69.20%), Shwasa (79.05%) and Jwara (66.67%). Significant result were found in Hridspandanama (43.30%), Hb (21.16%), MCV (11%), MCH (10.08%), ESR (32.82%). Overall comparison showed that best results were obtained in both the trial compounds in the form of better statistical significance and percentage relief.

### **SPECIALITY : KAYACHIKITSA**

1. "A Comparative study of Trivritayukta Navaka Guggulu and Vidangadi Churna in the management of Sthaulya (Obesity)".

Scholar : Dr. Amit Kumar Singh,

Guide : Prof. S. N. Vyas

Co-Guide : Prof. M. S. Baghel

In this study above written drugs were selected for the clinical trial. Total 55 patients were registered for the study. Out of them 39 patients completed the study. In group A Vidangadi Churna was administered for 30 days. 15 patients completed the study. In group B Trivritayukta Navaka Guggulu was administered for 30 days. 24 patients in this group completed the study.

In the Vidangadi Churna group 6.87% relief was found in the thigh circumference, 4.65% relief was found in the leg circumference, 2.26% relief was found in the Chest circumference. Significant result ( $P < 0.01$ ) were found in Daurbalyata and Gatrasada whereas in Trivritayukta Navaka Guggulu 10.32% relief was found in the thigh circumference, 4.34% relief was found in the Arm circumference, 2.83% relief was found in the abdomen circumference. Highly Significant ( $P < 0.001$ ) results were found in Thigh, Arm, Abdomen, Hip-circumference. Overall marked improvement was found in 6.67% of patients, moderate improvement in 26.67%, mild improvement in 33.33% and 33.33% of patients remained unchanged in group-A whereas marked improvement was found in 12.5% of patients, moderate improvement in 33.33%, mild improvement in 41.67% and 12.5% of patients remained unchanged in group-B. No patient was reported with complete remission in either group.

2. "Clinical study of Role of Rasayana as a Pre, Adjuvant and Post treatment of Chemotherapy in the management of Carcinoma".

Scholar : Dr. Zankhana Mankad,

Guide : Prof. V. D. Shukla,

Co-Guide : Dr. Dhaval H. Mankad

**Groups : (1)** Chemotherapy + Rasayan Avaleha (2) Chemotherapy alone with no administration of Rasayan Avaleha. In this study Rasayan Avaleha was selected for the clinical trial. 50 patients were registered for the study out of which 46 patients completed the study. In group A, RASAYAN AVALEHA was administered prior, adjuvant and post chemotherapy for 3 months. 23 patients have completed the study. In group B, only CHEMOTHERAPY was administered alone. 23 patients in this group completed the study.

**Effect of Therapy :** 46.01% relief was found in the complaints of nausea and vomiting in drug group whereas it worsened by 74% in control group. 42.32% relief was found in constipation in drug group whereas it worsened by 67.32% in control group. 42.02% relief

was found in mucositis in drug group and 19.5% relief was found in maintaining WBC count whereas WBC fall was upto 79.25% in control group. Hb% fall was by 8.18 % whereas Alopecia worsened by 19.66% in control group. Overall 34.7% patients markedly improved, 43.47% patients improved, 13.04% patients got mild improvement and remaining 8.69% reported no change in drug group whereas in control group 17.39% patients improved, 39.13% patients got mild improvement and remained 43.47% patients reported no change.

3. "A Clinical Study on The Role of Pathyadya Vatak And Vidangadi Lepa In The Management of Ekkushtha (Psoriasis)".

Scholar : Dr. Charmi S.Mehta,  
Co-Guide : Prof. V. D. Shukla.

Guide : Dr. (Mrs.) Alankruta. R. Dave,

In the present Study, patients were divided into three groups : **Group-I** : In this group Pathyadya vatak (2 tab /t.d.s) was given to the patients after doing Kosthashudhi and Vidangadi lepa (q.s) for local application .Total 24 patients were registered out of which 5 were LAMA. **Group-II** : In this group patients were given Vidangadi lepa (q. s.) for local application.. **Group - III** : In this group patients were given placebo capsules (Rava powder) (1 cap/.b.d) for internal medication.

**Effect of Therapy : Group-I** : The drug provided highly significant relief in all the signs and symptoms. The relief was 83.73% in Kandu, 100 % in Daha and Ruskhata, 85.46% in scaling, 80.08% in size of Mandala, 84.16% in Aswedanam, 77.16% in Sraava, 66.06% in Unnati and 60.66% in Bahalatva. The internal administration of Pathyadya Vatak and external application of Vidangadii Lepa in group I, provided highly significant relief ( $p<0.001$ ) in Auspitz sign by 93.5% and in Candle grease sign by 92.5% . 75% result was also found in Koebner reaction. **Group-II** : Vidangadi lepa provided highly significant relief in all the symptoms. The relief was maximum in Sraava (100%), 70.58% in Rukshata, 64.06% in Aswedanam, 59.34% in Matsya Shakalopamam, and 59.04% in Kandu. The external application of Vidangadii Lepa in group-II, provided highly significant relief ( $p<0.001$ ) in Auspitz sign by 70% and in Candle grease sign by 58.50%. 37.5% result was also found in Koebner reaction. **Group-III** : 50% relief was found in Sraava, 28.5% relief was found in Kandu while statistically insignificant result was found in Mandala, Aswedanam, Bahalatva and Sraava. 25% relief was found in Auspitz sign and in Candle grease sign. Over all complete remission was found in 26.31% in group-I while 20% was found in group-II and in no patient in group-III. Marked improvement was found in 52.63% patients in group-I, in 33.33% patients in group-II. Improvement was found in 21.05 % patients in group-I, in 40 % patients in group-II and in 30 % patients in group -III. 6.66% patients remained unchanged in group-II, 70%.

4. "A comparative clinical study of Nyagrodhadi ghanavati and virechana karma in the management of Madhumeha (Diabetes mellitus)".

Scholar : Dr. Jyoti kumari,

Guide : Prof. V. D. Shukla

Co-Guide : Dr. (Mrs.) Alankruta. R. Dave, Dr. Tushar M. Shigala

Groups : (1) Nyagrodhadi ghanavati(Shamana Yoga) : 2 vati thrice daily with lukewarm water before meal for 30 days. (2) Virechana and Nyagrodhadi Ghanavati (Combined therapy). virechana was given priorly and after that Nyagrodhadi Ghanavati was given with the same schedule as in the Shamana therapy Group.

**Efect of the therapy :**

<b>Symptoms</b>	<b>Shamana Group</b>	<b>Combined Group</b>
Prabhuta Mutrata	78.94% relief	90.24% releif
Kshudhadhikya	73.17% relief	83.33% releif
Trishnadhikya	77.14% relief	87.17% releif
Daurbalya	84.61% relief	85.36% releif
Kara-Pada -Tala daha	83.33% relief	88.09% relief

It was concluded that Combined therapy Group provided better relief than Shamana Yoga Group.

**M. D. (Ayu.) Research Projects (Continued) :**

- "Etiopathogenesis of Amlapitta and its management with Chinodbhavadi yoga Ghanavati".  
Scholar : Dr. Ch. Srikrishna, Guide : Prof. S. N. Vyas,  
Co-Guide : Dr. Anup B. Thakar. Speciality : R.N.V.V.
- "A clinical study of Udavarta w.s.r. to Udaravata".  
Scholar : Vd. Taruna Modhera, Guide : Prof. M. S. Baghel.  
Speciality : R.N.V.V.
- "A comparative study of Hansamandura and Phalatrikadi kwath in the management of Pandu w.s.r. to Iron deficiency Anaemia".  
Scholar : Dr. Madhuri G. Vyas, Guide : Dr. Alankruta R. Dave,  
Co-Guide : Prof. V. D. Shukla. Speciality : K.C.
- "Effect of Shireeshadi Ghanavati in the management of Tamaka Shwasa w.s.r. to Bronchial Asthama".  
Scholar : Vd. Shweta Agarwal, Guide : Prof. M. S. Baghel.  
Speciality : K.C.
- "A comparative clinical study of Nirgundi Ghanavati and Tindukamrita capsule with Nirgundi patra pinda sweda on Amavata".  
Scholar : Dr. Shakuntla Sundi, Guide : Prof. V. D. Shukla,  
Co-Guide : Dr. Alankruta R. Dave. Speciality : K.C.
- "A study on the role of Parijata vati in the management of Gridhrasi w.s.r. to Sciatica".  
Scholar : Dr. Bharat A. Mungra, Guide : Prof. V. D. Shukla,  
Co-guide : Dr. Alankruta R. Dave. Speciality : K.C.
- "A clinical study on the role of Ama in relation to Grahani Roga and its management by Kalingadi Ghanavati and Trayushanadi Ghrita".  
Scholar : Dr. Alpesh P. Sorathiya, Guide : Prof. S. N. Vyas,  
Co-Guide : Dr. P.S.N. Bhatt.
- "Clinico-experimental study of Hyperlipidaemia and its management by Mustadi Ghanavati".  
Scholar : Dr. Manjari Arun Nadkarni, Guide : Prof. S. N. Vyas,  
Co-Guide : Prof. M. S. Baghel, Dr. B. Ravi Shankar.
- "Clinical study on the etiopathogenesis of Indralupta and its management with Keshapooraka yoga, Shirobhyanga and Nasya Karma".  
Scholar : Dr. Rakesh Kumar, Guide : Prof. S. N. Vyas,  
Co-Guide : Dr. J.R. Joshi.

10. "Evaluation of Immunomodulatory effect of Srilankan Classical Rasayana drug on HIV positive patients".

Scholar : Dr. K.I.W.K. Somaratha Guide : Dr. H.M. Chandola.  
Co-Guide : Dr. Kapil N. Pandya, Dr. B. Ravi Shankar.

11. "A clinical study on etiopathogenesis of Erectile Dysfunction (Klaibya) in Diabetic and Non diabetic subjects and its management with Ashwath".

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

12. "A comparative clinical study of Amlapitta and its management with Shatpatrayadi Churna and Patoladi yoga".

Scholar : Dr. Jitendra Kumar, Guide : Dr. Alankruta R. Dave.

### NIDANA CAMPS:

1. Prof. S. N. Vyas participated in Rural Health Program in Sarva Roga Nidana and Chikitsa Camp at Raval in Distt - Jamnagar on dated 24-12-06 jointly organized by I.P.G.T. & R.A., G.A.U., Jamnagar, Shri Bal Mukund Charitable Trust Jamnagar and Giriraj Charitable Trust Raval.
2. Dr. A.R.Dave rendered services as Physician as Nidan camp at Fotadi Ta .Bhanvada Distt. Jamnagar organized by Vrindavan Charitable Trust on 23-4-06.
3. All the departmental faculty as well as scholar participated in Orthopaedic camp on 17-1-07 at I.P.G.T. & R.A., Jamnagar, with collaboration of Gujarat Ayurved University and International Ayurved Foundation.

### Paper presentations in seminar by the PG students in joint Authorship

The students and teachers of the department have actively participated in National and International seminars and symposia and workshops at various places in India. Seven papers were presented by the teachers and students of the department.

M.D. (Ayu.) Scholars	June-2006	Nov. -2006	June-2007
1st year M.D. (Ayu.) Kayachikitsa	4	-	-
Roga Nidana and Vikriti Vigyana	2	-	-
2nd year M.D. (Ayu.) Kayachikitsa	4	-	-
Roga Nidana and Vikriti Vigyana	2	-	-
3rd year M.D. (Ayu.) Kayachikitsa	4	1	-
Roga Nidana and Vikriti Vigyana	2	1	-

Ph.D. (Ayu.) Scholars	Awarded	Thesis submitted	Work in progress	Registered	Synopsis submitted
	4	3	6	1	3



## DEPARTMENT OF PANCHAKARMA

Department of Panchakarma is imparting teaching to the M.D. (Ayu) scholars in subject of Panchakarma and Manasa Roga including intensive research and also provide Panchakarma therapy to OPD and IPD patients of the Institute. It also deals with the patients related to Manasaroga. Department also provides Panchakarma training to the foreign students of the 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 and interneers of B.A.M.S. foreigner's course.

### Academic Activities :

During the reporting year three scholars have submitted their Ph.D. work and three scholars have been awarded Ph.D. degree. Total 122 theory classes and 50 bedside clinics including Panchakarma practical were conducted for Ist M.D. (Ayu), IInd M.D. (Ayu) and Final M.D. (Ayu) scholars. 22 Clinical presentations were also arranged.

### Physiotherapy Training :

More than 15 physiotherapy classes and clinical demonstration were arranged with the help of visiting physiotherapist.

### Panchakarma :

During the year 2006-07 following procedures were carried out in the Panchakarma Department.

Karma	Male	Female
Sarvang Abhyanga	12177	8309
Nadi Sweda	6903	4782
Bashpa Sweda	4258	2651
Mridu Abhyanga	0525	0316
Jentak Svedana	0122	0073
Mridu Svedana	0525	0316
Nasya	0525	0316
Shalipind Svedana	0065	0019
Nirgundi Patrapind Svedana	0859	0926
Shirodhara (jala)	0309	0314
Shirodhara (taila)	0017	0042
Shirodhara Kwatha	0026	0005
Vaman	0017	0006
Virechan	0035	0030
Matra Basti	0611	0911
Anuvasana Basti	0324	0092
Niruha Basti	0205	0066
Kshira Basti	0066	0002

Kati Basti	0034	0006
Pancha Tikta Kshira Basti	0023	0056
Raja Yapana Basti	0529	0079
Lavan Jal Basti	0005	0022
Picchha Basti	0025	---
Sneha Basti	0037	---
Jalaukavacharana	0017	0016
<b>Total....</b>	<b>28239</b>	<b>19355</b>

Total Karma on patients during the year..... **47594**

### Trigarbha Kuti :

Total 6 number of the patients were admitted and treated in Trigarbha Kuti of the Department for different time duration as per requirement. It was occupied by patients for the duration of more than six months.

### Research Activities :

#### Ph.D. (Ayu.) Awarded during the year

1. "Role of Vata and Sattva in the etiopathogenesis and management of Klaibya Roga".  
Scholar : Dr. N. N. Bhatt, Guide : Prof. V.D. Shukla
2. "A Comparative Clinical Study of Jala Taila Dhara in the management of Stress".  
Scholar : Dr. Neha Tank, Guide : Prof. V.D. Shukla
3. "A Clinical Study on the Role of Bashpa Sweda with and without Agnimanthadi Compound in the Management of Sthaulya (Obesity)".  
Scholar : Dr. Ravikant Goyal, Guide : Prof. H.M. Chandola,  
Co-Guide : Prof. Gurdip Singh.

#### Ph.D. (Ayu.) Projects (Continued) :

1. "A Clinical effect on Matrabasti and Vatari guggulu in the management of Amavata".  
Scholar : Dr. Rita Khagram, Guide : Prof. V.D. Shukla.
2. "A 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.
3. "Evaluation of the role of Manasika Bhavas in the aetiopathogenesis of Madhumeha and its management by poly herbal anti diabetic formulation with and without Medhya Rasayana".  
Scholar : Dr. Dhananjay Patel, Guide : Dr. H.M. Chandola.

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

##### Panchakarma Speciality :

1. "A Comparative Clinical Study of Vamankarma and Jalaukavacharana in the Management of Vicherchika".  
Scholar : Kapil Pandya, Guide : Prof. V.D. Shukla,  
Co-Guide : Dr. A. R. Dave, Dr. N. N. Bhatt.



To compare the efficacy of Vamankarma and Jalaukavacharana in the management of Vicherchika, the study was done on 27 patients. Vamankarma was done on the patients of Group A and Jalaukavacharana was done on the patients of Group B with the Samana Yoga (Gandhaka Rasayana + Vanga Bhasma) for 28 days. Vital signs and symptoms of Vicherchika such as Kandu, Daha, Pidika, Raji, Srava etc. were assessed before and after treatment. By Jalaukavacharana cardinal symptoms were improved more significantly than Vamanakarma. Overall Jalaukavacharana showed complete remission 23.08%, marked improvement in 38.46%, moderate improvement in 15.38% and mild improvement in 23.08%. Where, in Vamana group marked improvement in 35.71%, moderate improvement in 28.57%, mild improvement in 21.43% and 14.29% remain unchanged. Overall the study of Jalaukavacharana has an edge over Vamanakarma. Jalaukavacharana prove better especially alleviating the symptoms of Vicherchika associated with pitta.

2. "A Comparative study of Role of Yapana Basti and Karma Basti in the Management of Pakshaghata (CVA)".

Scholar : Gajanan Kulkarni,

Guide : Prof. M.S. Baghel.

To compare the efficacy of Yapana Basti and Karma Basti in the Management of Pakshaghata, this study was done on 16 patients. Rajayapana Basti was given to the patients in Group-A and Dashamula Karma Basti was given to Group-B patients after their enrollment in the study. Vital signs and symptoms of Pakshaghata such as Ekanga Karmahani (motor functions), Ardit, Vakstambha, Modified Ranking scale etc. were assessed before and after treatment. By Rajayapana Basti motor function was improved more significantly ( $P < 0.001$ ) than Karma Basti ( $P < 0.05$ ). Overall Rajayapana Basti showed marked improvement in 12.5%, moderate improvement in 25%, mild improvement in 50%, and poor improvement in 12% of the patients. Where as in Karma Basti group 66.66% patients mildly improved and 33.33% were poorly improved. Overall in the study Rajayapana Basti has an edge over Karma Basti. Rajayapana Basti proved better especially alleviating the symptoms of Pakshaghata associated with Pitta.

3. "A Clinical Study on Standardization of Yapana Basti Karma in the Management of Kampavata (Parkinson Disease)".

Scholar : Vinay Chaudhary,

Guide : Prof. M.S. Baghel.

The study was done on 18 patients of Parkinson's disease Kampavata. Rajyapana Basti was given with drip method to group A and same drug was given with Putak method in Group B. In Group C Kapikacchu Vati was administered orally after enrollment in the study, vital signs and symptoms of Kampvata such as Kamp, Sthambha, Gativikriti, Vakvikriti were studied before and after the treatment by drip method Kamp was improved more significantly ( $P < 0.01$ ) than by Putak method ( $P > 0.10$ ). Overall drip method showed marked improvement in 33.33%, improvement in 66.66% where as Putak method showed marked improvement in 16.67%, improvement in 16.67%, stability in 16.67%. Kapikacchu Vati showed improvement and stability in 50%.

### Manasa Roga Speciality :

1. "The Role of Manasika Bhava in Akalaja Jara (Ageing) and comparative study of its management with Guduchyadi and Bhringarajadi Rasayanaa".

Scholar : Devangi N. Shukla,

Guide : Dr. H. M. Chandola,

Co-Guide : Dr. B. Ravishankar.

Out of 35 patients of premature Ageing registered. The Grahana hani, Dharanahani, Utsaha hani and vali was observed in 97.14% patients each with Twak Parushata. Palitya and Prabhahani in 94.29% patients each. Hamilton depression rating scale and brief psychiatry rating scale. These patients were treated under three groups : 1. Guduchyadi Ghrita Rasayana - 10 gm BD 2. Bhringarajadi Ghrita - 10 gm BD 3. Plain Goghrita - 10 gm BD. The duration of treatment was 2 months. After the course of therapy, Guduchyadi Grita and Bhringarajadi Ghrita showed increased significant relief in Slatha Sana, Slatha Manasa, Kasa and Parakrama hani. On Palitya, Guduchyadi Ghrita showed increased significant relief while Bhringarajadi Ghrita showed relief highly significantly increased. The Bhringarajadi Ghrita showed significantly increased relief in Dhatukshaya, Vipatha, Khalitya, Shwasa and Prabhahani. On disturbed Manasika Bhava, highly significant decrease was reported by Guduchyadi Ghrita in negative conditions like Krodha, Shoka, Chinta and significant decrease in Bhaya, Dwesha, Moha etc. with highly significant increase in positive emotions like Dhairya, Harsha, Medha and significant increase in Dhriti, Veerya etc. Bhringarajadi Ghrita showed highly significant decrease in Krodha, Shoka, Vishada, Chinta with highly significant increase in Priti, Veerya, Vijnana etc. Analyzing the overall effects Gyuduchyadi Ghrita showed marked improvement in 13.33%, moderate improvement in 46.67%, mild improvement 33.33% whereas Bhringarajadi Ghrita showed marked improvement in 11.11%, moderate improvement in 77.73% and mild improvement in 11.11% patients.

In Pharmacological study, Guduchyadi Ghrita showed good antidepressant and anxiolytic activity with beneficial effect in chronic fatigue syndrome. Plain goghrita and Guduchyadi Ghrita both have antistress effect. Surprisingly Bhringaraja Ghrita did not produced antistress effect.

2. "Clinical Study on Psychic traits in stress induced chronic insomnia and its management with Mamsyadi ghrita and Dashamula Kwatha Shirodhara".

Scholar : Singh Anil Kumar,  
Co-Guide : Dr. Ravishankar B.

Guide : Dr. Chandola H. M.,

Thirty patients of stress induced chronic Insomnia (Anidra) have been studied to evaluate the role of psychic traits (Manasabhava) in etiopathogenesis and management of disease. A compound herbal Ghrita based formulation consisting of Jatamansi (Nardostachys Jatamanasi), Shankhapushpi (Convolvulus pluricaulis), Ashvagandha (Withania somnifera) and Tagar (Valeriana jatamanasi) 20 gms twice a day for six weeks has provided highly significant relief ( $P < 0.001$ ) on Sleeplessness (86.54%), Distress (89.28%) and Sleep Time (94.29%). In other group of patients Dashamula Kwatha Shirodhara half an hour daily in morning for 21 days showed highly significant relief on Sleeplessness (61.29%), distress (63.64%), Sleep Time, Sleep Quality and Freshness after Awakening (100% each). Relief in mental health has ben observed in both groups based on Hamilton's Anxiety Rating Scale, Hamilton's Depression Rating Scale, Brief psychiatry Rating scale and Manasabhav pariksha on Ayurvedic parameters.

### **M.D. (Ayu.) Research Projects (Continued) :**

#### **Panchakarma Speciality :**

1. "A Comparative study of Prasarini taila matra basti and vatari guggulu in the management of Amavata".

Scholar : Ashish Das,

Guide : Prof. S.N. Vyas.

2. "A Comparative Study of Vamana and Virechana in Eka Kushtha with special reference to psoriasis".  
Scholar : Akhil Parida, Guide: Prof. V.D. Shukla,  
Co-Guide : Dr. N. N. Bhatt.
3. "A Comparative Study of Kala basti and Virechana Karma in the Management of Pakshaghata".  
Scholar : Vimal Vekariya, Guide : Prof. V. D. Shukla,  
Co-Guide : Dr. N. N. Bhatt.
4. "Effect of Tikta kshira basti and Patra panda sveda in the management of cervical spondylosis (Asthigata vata) - A Clinical Study".  
Scholar : Jaydip Shah, Guide : Dr. A. B. Thakar.
5. "A Clinical Study of Matrabasti and Patrapinda Sveda in the treatment of Sandhigata Vata (Osteo arthritis)".  
Scholar : Bisvanath Mishra, Guide : Prof. V. D. Shukla.
6. "A Comparative clinical study on virechana Karma and Kala basti in the management of Amavata".  
Scholar : Jalpa Gohil, Guide : Prof. V.D. Shukla,  
Co-Guide : A.R. Dave, N.N. Bhatt.
7. "A comparative study on Vamanakarma by using Shuddha Ghrita and Samskarita Ghrita as Abhyantara Snehapana in Ekakustha w.s.r. to Psoriasis".  
Scholar : Satish Pathsala, Guide : Prof. V.D. Shukla,  
Co-guide : Dr. N.N. Bhatt.
8. "An observer and clinical study on standardization of Shothanartha Snehapana w.s.r. to Sneha Pravicharana".  
Scholar : Gauri Vaidya, Guide : Dr. A. B. Thakar.
9. "Standerdization of process of administration of Basti w.s.r. to Oligozoospermia".  
Scholar : Yashwant Juneja, Guide : Dr. A. B. Thakar

### **Manasa Roga Speciality :**

1. "Clinico - experimental study on the effect of Brahmighrita on depressive illness".  
Scholar : Yogesha Deole, Guide : Dr. H.M. Chandola,  
Co-Guide : Dr. B. Ravishankar
2. "A Clinical study on Anidra w.s.r. to stress induced insomnia and it's management with Tagaradi kwatha and Mahishi dugdha Shirodhara".  
Scholar : Bina Vansha, Guide : Dr. H. M. Chandola.
3. "An Assessment of Manasika Bhava in Menopausal Syndrome and it's management".  
Scholar : Khyati Santavani, Guide : Prof. V. D. Shukla,  
Co-Guide : Dr. Gayatri Thakar.

4. "A Clinical study of Shirodara and Sarpagandhdivati in the management of Essential H. T. "

Scholar : C. Kundu,

Guide : Prof. V. D. Shukla,

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

#### Paper Presentation :

Total 16 papers were presented by the teachers and students of the department at National and International Seminar all over country.

#### Publications :

Total 7 papers were published by the teaches and scholars of the Department.

M.D. (Ayu.) Scholars		June-2007	Nov. -2007	Total
1st year M.D. (Ayu.)	Panchakarma speciality	4	--	4
	Manasaroga speciality	1	--	1
2nd year M.D. (Ayu.)	Panchakarma speciality	3	1	4
	Manasaroga speciality	2	-	2
3rd year M.D. (Ayu.)	Panchakarma speciality	3	1	4
	Manasa roga speciality	2	-	2
<b>Total...</b>				<b>17</b>

Ph.D. (Ayu.) Scholars	Awarded	Work in progress
	02	03



## DEPARTMENT OF KAUMARBHRITYA

The department of Kaumarbhritya was established in the year 1978- 79, comprising of two subspecialties viz. Bala Roga and Stree Roga and Prasuti Tantra. In the year 2006, dated 15th June, the Stree Roga and Prasuti Tantra separated from Kaumarbhritya and was established as a separate department. Kaumarbhritya Department deals with preventive, curative, and promotive aspects of child health care. The department also works towards the better community health specially in the preventive and promotive aspect of child health care.

### ACADEMIC ACTIVITIES:

During this period theory and practical classes for M.D.(ayu). first year ,2nd and 3rd year have been arranged.

- |   |   |     |
|---|---|-----|
| a. No. of theory classes for M. D. (Ayu.) first year            | - | 32  |
| b. No. of theory classes for M. D. (Ayu.) second and final year | - | 40  |
| c. No. of practical for M. D.(Ayu.) first year                  | - | 40  |
| d. No. of practical for M. D.(Ayu.) second and third year       | - | 200 |

Teaching is a partial training for the M. D. (Ayu.) course so second and final year M.D. scholar had taken classes for first year M. D. (Ayu.). 15 theory and practical classes were also taken for the three months introductory course for foreigners. The department has well equipped library exclusively for the benefits of scholars and staff of the department.

### HOSPITAL SERVICES:

The departments have separate OPD (Room No.15A) and IPD (Kashyapa Agar). The details of these OPD and IPD are as follows :

During the year 2006-2007, total 7063 patients registered in OPD out of which 4203 patients were old and 2860 patients were new cases.

**Immunization:** At OPD level in every Monday during duty hour's immunization is also done.

In children for some specific disease like Shwasa, Cerebral Palsy, Mental Retardation, DMD, these procedures were carried out in the IPDs of Kaumarbhritya department as follows :

	Procedures	No. of patients	Diseases
1.	Abhyang and Swedana	05	Sandhishoola, Vatavyadhi
2.	Snehana and Swedana	21	Buddhimandhya, Pakshaghata, Sandhishoola, Samvardhana Vikriti.
3.	Nasya	03	Vyadhija Phakka, Avabahuka, Mental Retardation
4.	Basti	06	Vyadhija Phakka, Vatavyadhi Sandhishoola, Samvardhana Vikriti.
5.	Virechana	05	Shwitra, Padadari, Ekakustha
6.	Vamana	06	Kaphaja Kasa, Pratishayaya
7.	Siravedha	01	Paratantra Kamala

## RESEARCH ACTIVITIES BY SCHOLARS:

### Ph.D. (Ayu.) Research Projects (Continue):

1. "A clinical study on Pandu Roga w. s. r. to Iron deficiency Anaemia in children and its management with Drakshdi Avaleha".

Scholar : Dr. Achyut Bhattacharya,  
Co-Guide : Dr. I. P. Anand.

Guide : Dr. K. S. Patel,

2. "A clinical study on the effect of Brumhana in paediatric practice".

Scholar : Dr. Rakesh Kumar Mishra,  
Co-Guide : Dr. P.K. Prajapati, Dr. I.P. Anand.

Guide : Dr. (Mrs.) Meeraben A. Pandya,

### M. D. (Ayu.) Research Projects (completed) :

- 1) "A study of disease Thalassemia ( Anukta Vyadhi in Ayurveda) and its management with Dhatri Avaleha"

Scholar : Dr. Ruchi Singh,  
Co-Guide : Dr. I. P. Anand.

Guide : Dr. K.S. Patel,

**Study in Brief :** The present study was divided in two main points : 1) Conceptual study, in which the etiopathogenesis of Thalassemia was tried to understand according to Ayurveda. 2) Clinical study - Total 19 patients were registered for the study and divided in two groups randomly. The details are below:

**Group-A (Trial Group):** . Drug Dhatri Avaleha was given in scheduled dose according to age group (1to5 yrs, 1-3 gms, >5 to10 yrs, 4-6 gms, >10 to 15 yrs, 7-9gms) twice daily with Anupana of milk for duration of 60 days along with routine modern therapy.**Group-B (Control Group) :** They were given routine supportive modern therapy and were observed for 60 days.

**Effect of therapy :** The effect of therapy on the subjective parameter (Chief complaints) has shown that in Group-A therapy provided 70.59% relief in Fatigue, 100% relief in Joint pain, 78.57% in Abdominal pain, 77.78% in Dyspnoea, 62.05% in Depression, 37.50% in Pallor ( but statistically significant), 30% in Spleenomegaly and lastly 100% relief was observed in Irritable bowel syndrome. While 06 patients of Group B showing negative percentage value which suggest that the condition of patients deteriorated day by day.

The effect of therapy on associated symptoms in Group A showing 92.86% relief in Aruchi, 100% in Alasya, 81.82% in Mandagni, 75% in Recurrent respiratory tract infection, 44.45% in Trishna and 100% was found in Angamarda. While in Group B observed that 11.43% relief in Aruchi, 25% in Angamarda, 12.50% in Mandagni, no relief was found in Alasya and Recurrent respiratory tract infection. -20% observed in Trishna.

The effect of therapy in blood transfusion interval shows statistically significant result during first interval duration in Group A in comparison to Group B. While no significant result was found during 2nd, 3rd, and 4th interval duration of blood transfusion.

"Dhatri Avaleha" has shown better improvement in subjective criteria which was overall significant. Results found in objective criteria were insignificant.

**M.D. (Ayu.) Research Projects (Continue):**

1. "A comparative study on the efficacy of Mustakadi Avaleha and Gojiwhadi Avaleha in the management of Pratishtyaya w.s.r. to Recurrent respiratory infection in children".  
Scholar : Dr. Lokesh, Guide : Dr. K.S. Patel,  
Co-Guide : Dr. I. P. Anand.
2. "A clinical study of Rajanyadi Vati in the management of Grahani Dosha in Annadavastha".  
Scholar : Dr. Kinjal B. Panchal, Guide : Dr. K. S. Patel,  
Co-Guide : Dr. I. P. Anand.
3. "A comparative study on the effect of Vidarikandadi Vati and Kshira Bala Taila Basti in the management of Karshya in children".  
Scholar : Dr. Geeta Jatav, Guide : Dr. K. S. Patel,  
Co-Guide : Dr. I. P. Anand.
4. "A study of disease Thalassemia (Anukta Vyadhi in Ayurveda) and its management with Trifaladi Avaleha as an adjuvant therapy".  
Scholar : Dr. Jadhav Sahebrao B., Guide : Dr. K. S. patel,  
Co-Guide : Dr. I. P. Anand.
5. "A comparative study on efficacy of Bharangyadi Avaleha and Vasa Avaleha in the management of Tamaka Shvasa w.s.r. to Childhood Asthma".  
Scholar : Dr. Salim D. Gohel, Guide : Dr. K. S. Patel,  
Co-Guide : Dr. I. P. Anand.

**Scientific papers presentation and attended seminars by the faculties & scholars :**

Total seven papers were presented by faculty and scholars of the department in various national and international seminars.

**Health checkup camps in Jamnagar for Children conducted by the Department :**

Under the guidance and coordination of Dr. K. S. Patel and scholars of the Kaumarbhritya dept and 2nd year M. D. scholars of other departments have actively participated in various social welfare activities like health checkup camps in Jamnagar. Dr. K. S. Patel also delivered lectures regarding "Role of Ayurveda in healthy and happy life, proper diet, hygiene measures for health".

Total 29459 students from 17 schools of Jamnagar city were checked up during the camps. Out of these 29459 patients, most of suffering from the Karshya (underweight), Pandu (anaemia), Vision problems, Krimi (worms infestation), Udarshoola (pain in abdomen), Mandagni, (Loss of appetite), Grahani Dosha (improper digestion & malabsorption) and unhygienic conditions found during survey. Some specific diseases like Thalassemia, Heart disease, Primary Amenorrhoea were also found in these schools. All the children of Odhavdeep (Primary, Secondary, and Higher Secondary) were suffering from Anaemia.

M.D. (Ayu.) Scholars	June-2006	Nov. -2006	June-2007	Nov. -2006
1st year M.D. (Ayu.)	2	--	--	--
2nd year M.D. (Ayu.)	3	--	--	--
3rd year M.D. (Ayu.)	3	1	--	--

**Ph. D. (Ayu.) Scholars - 2**



## DEPARTMENT OF STREEROGA AND PRASUTI TANTRA

The O.P.D. and I.P.D. in the Department are designed for a more efficient and practical application of the principles of Streeroga and Prasuti Tantra and for extending experience and practical expertise in the scientific application of the theoretical aspects of the subject. The Department also works on various National Health Programmes especially those selected by R.C.H.

### ACADEMIC ACTIVITIES :

During the academic year, total 250 theory and 458 practical classes were conducted for the I, II and III year M.S(Ayu.) scholars. Teachers of the Department conducted theory and practical classes for the students of 3 month introductory course in Ayurveda for foreign students and the other short term courses conducted by the Institute.

Weekly seminars at the departmental levels were conducted regularly. Five students presented their thesis work in the Institutional weekly seminar held during the academic year 2005 - 06. The department also maintains library for the PG & Ph.D. scholars along with audiovisual facility.

### RESEARCH PROJECTS UNDER THE DEPARTMENT :

- 1) A project on the "In vitro and in vivo study on the spermicidal action of Neem oil" is being carried out under guidance of Dr. Meeraben Pandya.
- 2) A new research project titled "The role of Punarnavadi Mandura compound in pregnancy anemia and anemia in adolescent girls" has been sanctioned to the institute by the Department of AYUSH, Ministry of Health and Family Welfare, Government of India. Dr. (Mrs.) Meeraben Pandya is working as chief investigator.

### HOSPITAL SERVICES :

The Department runs O.P.D for Streeroga and Family planning separately. In addition, there is an I.P.D division comprising of 18 beds. Department also maintains a labour room and Uttarbasti room in which intra-uterine, Para-operative procedures and normal labour are being conducted routinely. Panchakarma procedures like Udwartana, Nasya, Matra Basti, Anuvasana Basti, Asthapana Basti etc. are also being carried out in the Department itself.

During the year 2006-2007, 325 patients were admitted in the I.P.D. In O.P.D., a total of 11,196 patients were registered in Streeroga and Prasuti Tantra unit.

The following clinical procedures were carried out in I.P.D. and O.P.D. patients :

Specialized procedures / treatments	No. of patients
Striroga and Prasutitantra	
1) Yoni Prakshalana/Parisheka	558
2) Yoni Pottali	048
3) Yoni Pichu	208
4) Yoni Avachurnan	045



5) Sukrabasti	-	016
6) Anuvasana Basti :		
1. During 9th Month of Pregnancy	-	084
2. Matra Basti	-	----
7) Yog Basti :		
1. Anuvasana Basti	-	110
2. Asthapana Basti	-	092
8) Uttara Basti	-	218
9) Nasya	-	484
1. For the Healthy Progeny	-	249
2. Therapeutic	-	280
10) Endometrial Biopsy	-	05
11) Agnikarma	-	011
12) D & C	-	009
13) Prasava	-	050
14) Dhupana	-	035
15) Vranakarma	-	094
16) Minor surgical procedure	-	018

#### Family Planning Unit :

1) Cu-T	-	030
2) Oral Contraceptive Pill	-	Free supply
3) Condom	-	Free supply

#### Menopause Clinic :

1) Rasayanakalpa Vati	-	050
(No. of Patients since January 2007 after preparation of Drug)		

#### EXPERIMENTAL LABORATORY :

The following laboratory investigations were carried out in the experimental laboratory of the Department of SRPT is the year 2006 - 07.

Assessment of Cervical Mucous	-	105
1) Vaginal Smear	-	301
2) Fern Pattern Test	-	195
3) P.C.T.	-	102
4) pH of Cervical Mucous	-	105
5) pH of Vaginal Mucous	-	301

## RESEARCH ACTIVITIES BY SCHOLARS :

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

1. "The role of Kukkutanda Twak Bhasma and Pushyanuga Ghana Vati" in the management of Swetha Pradara w.s.r. to certain physio-pathological conditions".

Scholar : Dr. Nipa Dobarra,

Guide : Dr. (Mrs.) M. A. Pandya.

In this clinical study, total 121 patients were registered and divided in three groups randomly. In Group A patients were treated with Kukkutandatwak Bhasma, in Group B patients were treated with Pushyanuga Ghanavati and in Group C only Placebo treatment was given. The entire test drugs in 250mgs b.i.d. dose, in the form of tablet with Tandulodaka, for 21 days was given.

Kukkutandatwak Bhasma had shown statistically highly significant results on associated symptoms, where as Pushyanuga Ghanavati and Placebo had shown significant results on associated symptoms. It reveals that Kukkutandatwak Bhasma is more effective on associated symptoms. There was statistically significant result on local pathology in both treated groups, but result was insignificant in Placebo group. Overall effect of therapy reveals more effectiveness of Kukkutandtwa Bhasma and Pushyanuga Ghanavati and these can be successfully employed in treating the patients of Shwetpradar.

### Ph.D. (Ayu.) Research Projects (Continued)

1. "A Clinico-Experimental study of Shatavaryadi Vati on Menopausal syndrome. (Rajonivrittijanya Lakshana)".

Scholar : Dr. Rujuta N. Trivedi,

Guide : Dr. (Mrs.) M. A. Pandya,

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

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

1. "Comparative study of Savarnakar Ghrita and Savarnakar Cream in the management of Kikkis w.s.r. to Striae gravidarum".

Scholar : Dr. Jalpa Joshi,

Guide : Dr. (Mrs.) M.A. Pandya,

Co-Guide : Dr. Nalini Anand

Group A :- Savarnakar Ghrita, 20gms/day in Two divided doses orally for 2 months. Follow up was done for 1 month. Group B:-Savarnakar Cream Q.S. (Apprx.10gms) for Local application for 2 months and follow up was done for 1 month. Group C :- Placebo (wheat flour cap.) + Krishnamritika Lepa (External) in the dose of 1 cap Twice in a day & Lepa Twice in a day Orally & locally respectively for two months and follow up was done for 1 month. All three groups were divided in to two subgroups i.e Preventive and curative.

### Results :-

#### In Preventive Groups :-

Group-A :- Rate of Non occurrence in Valivishesh (86.67%) Kandu (80%), Vidah (80%), Vaivarnyata (73.33%) and RSTS (60%).

Group-B :- Rate of Non occurrence in Valivishesh (93.33%) Kandu (93.33%), Vidah (80%), Vaivarnyata (86.67%) and RSTS (86.67%).

Group C :- Rate of Non occurrence in Valivishesh (53.33%) Kandu (20 %), Vidah (40%), Vaivarnyata (40 %) and RSTS (26.67%).

### In Curative Groups :-

Group A :- The relief provided by Savarnakar Ghrita on Vidah was 73.33%, on Kandu 60 %, on Vaivarnyata 54.55 % and on RSTS 50 %. The results were statistically highly significant at the level of 1 % and effect of this group on Valivishesh was statistically insignificant.

Group B :- 86.67% relief was observed in Kandu, 76.92 % in Vidah, 69.23% in Vaivarnyata, 68.75% in RSTS and 50% in Valivishesh. Effect of Savarnakar Cream shows highly significant result on all the symptoms.

Group C :- The effect of Placebo was not achieved and Kikkis developed insignificantly.

2. "A clinical study on Aetiopathogenesis of Mutrakrucchra w.s.r.to Lower UTI in pregnancy and puerperium and their management with Brhat Dhatryadi Ghanvati".

Scholar : Dr. Baljot Kaur,

Guide : Dr. (Mrs.) M. A. Pandya.

Group-A :- Brhat Dhatryadi Ghanvati in dose of 1gm/day in Two divided doses orally for one month and follow up was done for 1½ months.

Group-B :- Placebo (Wheat flour) 1gm/day in Two divided doses orally for one month & Nimbapatra kwath Prakshalan was also done externally twice a day . Follow up was done for 1½ months.

In this study total 22 patients, 16 patients in Group -A (Test) and 6 patients in Group B (Control) completed the treatment along with follow up.

Overall effect of therapies on main symptoms: In Test group the percentage of relief was 89.33% and the effect of therapy was highly significant at <0.001 as compared to control group where the percentage of relief was 14.71% and effect of therapy was insignificant at <0.10.

Effect of therapies on Urine culture report: In test group the relief was 66.5% and the effect of therapy was highly significant at <0.001 as compared to control group in which the relief was 20% and the effect of therapy was insignificant at <0.10.

Assessment of overall effect of therapies: Test group : In this group 50 % patients had complete relief, 41.67 % of patients had marked improvement and 8.33% of patients remained unchanged. Control group : In group 83.33% of patients remained unchanged while 16.67% of patients had improved.

3. "A comparative study of Phalakalyana Ghrita by oral route and Matra Basti in the management of Alpartava".

Scholar : Dr. Rashmi Sharma,

Guide : Dr. (Mrs.) M. A. Pandya,

Co-guide : Dr. Nalini Anand.

In Group-A Phalakalyana Ghrita Matrabasti (60ml/day during secretory phase for 8 consecutive days) + oral (5gm B.D.) was administered for two months. In group B Phalakalyana Ghrita was given in dose of 5 gm BD for 2 months. In group C Placebo cap. 250mg BD (roasted wheat flour) was given for three months. For all 3 groups Anupana was ushnodaka , Aushadh sevana kala - Pragabhakta kala (Apana kala). Follow up was done for two months and during follow up cap. Placebo ( Roasted wheat flour) in dose of 500mg O.D. was given.

Effect of Therapy - The effect of therapy on cardinal symptoms in 10 patients of Group A showed maximum relief in Alpata (quantity of menstrual flow, by pad. Wt. 92.59%), Alpata (duration of menstrual flow by daywise (80.76%) Katiparshwa pradesha shula (86.95%) & on associated symptoms group A showed that maximum relief was achieved in Katishula (88.88%), Daurbalya (87.5%), Agnimandya (83.33%), Adhmana (75%).

The effect of therapy on cardinal symptoms in Group B showed maximum relief in Alpata. (quantity of menstrual flow, bt pad. Wt. (85%), Alpata (duration of menstrual flow, by day wise (72%), Katiparshwa pradesha shula (77.27%) & on associated symptoms maximum relief was achieved in Katishula (77.77%), Daurbalya & agnimandya (71.42%), Adhmana (66.66%).

The effect of therapy on cardinal symptoms in 10 patients of group C showed maximum relief in Alpata (quantity of menstrual flow by pad wt. 42.85%, Alpata (duration of menstrual flw by day wise 30.43%, katiparshwa pradesha shula (50%)& on associated symptoms maximum relief was achieved in Katishula (62.50%), Daurbalya (60%), Vibandha & Adhmana (50%).

Total effect of therapy -Group A 80% of the patients were completely cured & 20 % of the patients were markedly improved. In Group B, 60% of patients were completely cured & 40% of the patients were markedly improved. In Group C, 20% of the patients markedly improved, 50% of the patients improved & 30% of the patients no improvement was found.

4. "A comparative study of Nasya and Uttarbasti with Mahanarayana taila on Vandhyatva w.s.r. to anovulatory factor".

Scholar : Dr. Meera Rajani,

Guide : Dr. (Mrs.) M. A. Pandya,

Co-guide : Dr. Chandrikaben Tanna.

In group-A Mahanarayan taila nasya for two sittings in dose of 8 drops in each nostril was given for 7days with three days interval. In group B Mahanarayana taila Uttarbasti was given in dose of 5 ml Both the procedures were done for two consecutive cycles for 3 days after cessation of menses. In group C Placebo 1 cap ( Wheat flour) BD was given for two months.

In this study, total 24 patients had completed treatment along with follow up study. Very encouraging result is found in Group A on ovulation. 22.22 % patients got conceived and 44.45% patients had ovulated. Result is highly significant. In Group B, 28.75% patients had ovulated. Results were insignificant. In Group C, 25% of patients had ovulated. Results were insignificant. Nasya is effective therapy than Uttarbasti on Vandhyatva.

#### **M.S. (Ayu.) Research Projects (Continued):**

1. "A comparative study of Shatavari Ghrit and Gau Ghrit in the Management of Vandhyatva w.s.r. to Cervical Factor".

Scholar : Dr. Chetna Kodinariya,

Guide : Dr. (Mrs.) M. A. Pandya.

2. "A Comparative study of Shamimashvattha ghrita and goghrita in the Management of Vandhyatva w.s.r. to Anovulatory factor".

Scholar : Dr. Kajal Khadadiya,

Guide : Dr. (Mrs.) M. A. Pandya,

Co-Guide : Dr. Kalpna Khanderia.

3. "A Comparative study of Shatavaryadi ghanavati and Brhat dhatryadi ghanvati in the management of Garbhini Mutrakriccha w.s.r to lower UTI".

Scholar : Dr. Sushma Rathod,

Guide : Dr. (Mrs.) M. A. Pandya,

Co-Guide : Dr. Kalpna Khanderia.

4. "A Clinical study of Gokshuradi Vati in the management of Gestational Hypertension".

Schola : Dr. Shalini Gupta,

Guide : Dr. (Mrs.) M. A. Pandya,

Co-Guide : Dr. Kalpna Khanderia.

### **PUBLICATIONS :-**

1. Phytoestrogens : A herbal alternative in minimizing risk of Postmenopausal osteoporosis  
Dr. M.A. Pandya Sachitra Ayurveda October 2006.
2. Garbhashaya griva mukhagata dushita varna par Khadir tail our agnikarma ke sthanik prayoga ka tulnatmaka adhyayana Dr.M.A.Pandya Sachitra Ayurveda, October 2006.

SCIENTIFIC PAPERS PRESENTED IN SEMINARS : Four research papers were presented by the students of the department in various national seminars.

### **OTHER ACADEMIC ACTIVITIES :**

Our departmental faculties and scholars have actively participated in various social welfare activities like Health survey camps in school & Anganwadi. Health check up camp of Adolescent girls by Lions club at St. Ann's Girls school on 18 - 20 January 2007 and at Maharshi Dayanand Arya samaj Girls school on 27 Feb 2007. Total 6000 Adolescent girls were examined. The Health check up camp of female health workers of Anganwadi of Jamnagar District organized by Lions club at Shekhar Madhavani Hall Jamnagar on 19-20 February 2007 under the supervision of Dr.M.A.Pandya. Dr.Pandya also delivered lecture at the same places. Dr. M.A.Pandya also delivered lecture on Growth, Devlopment & Maintenance of Health in Children. Dr. Shilpa Donga participated in a Medical camp organized by I.P.G.T. & R.A., and Bala Mukund Charitable trust Jamnagar at Raval on 24 Dec. 2006.

<b>M. S. (Ayu.) Scholars</b>	<b>June-2007</b>	<b>Nov. -2006</b>
1st year M. S. (Ayu.)	3	--
2nd year M. S. (Ayu.)	1	--
3rd year M. S. (Ayu.)	4	4
<b>Ph. D. (Ayu.) Scholars</b>	<b>Completed</b>	<b>Continued</b>
	1	1



## DEPARTMENT OF SHALYA TANTRA

### INTRODUCTION :

The Shalya dept. deals with the important clinical speciality i.e. Shalya (General Surgery). With equal emphasis to theoretical as well as practical training particularly to various Ayurvedic therapeutic procedures, the Shalya department imparts the education in Shalya speciality by following the syllabus set for M.S. (Ayu.) by the University.

### ACADEMIC ACTIVITIES :

In the year 2006-07 - total 74 classes were conducted for second and final year M.S. scholars. For 1st M.S. scholars 20 theory classes, 192 clinical classes and practical classes were conducted for different batches in the department along with the Shalaky department. The department scholars present their research works in the regular weekly seminars of the Institute also. The department conducts weekly seminars on various topics of clinical importance of both the specialities.

Prof. P. D. Gupta is working as visiting professor in the department and his services are beneficial for the scholars. The para-surgical procedures e.g. Kshara karma, Agni karma, Jalaukavacharana are being regularly done in the department. In ano-rectal clinic, patients with anorectal disorders are treated with medical as well as kshara sutra therapy.

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

1. "Role of Kasisadi Ghrita in the management of Parikartika w.s.r. to Fissure in ano".

Scholar : Vipul V. Sangani,

Guide : Prof. R. R. Dwivedi,

Co-Guide : Dr.Manjusha Rajagopala.

Total 23 patients of fissure in ano were randomly divided into two groups viz. - group A (Treated group with Kasisadi Ghrita): In this group, the patients were given Kasisadi Ghrita in the dose of 10 ml intrarectally once a day for 28 days, and Group B (Standard Control Group with Jatyadi Taila) : In this group, the patients were given Jatyadi Taila in the dose of 10 ml intrarectally once a day for 28 days. All the patients have been given standard conservative routine treatment with Pathya Apathya as mentioned below.

- ◆ Eranda Bhrishta Haritaki Churna : 10g at bed time
- ◆ Triphalâ Guggulu : 2 Vati thrice a day
- ◆ Panchawalkal Kwatha for sitz bath : 20g twice a day

### RESULT :

In Kasisadi Ghrita group (local application), it was found that each 16.66% patients were cured , 66.66% patients moderately improved where as in Jatyadi Taila group (local application), each 9.09% of the patients found cured and mildly improved, 18.18% patients markedly improved and 63.63% patients showed moderate improvement in signs and symptoms of Parikartika. Though, no patient found unchanged in both the groups.

The data on effect of therapy according to chronicity of the disease showed that in group A, 16.16% patients got cured who had chronicity between 1 month - 1 year, while in group B, 09.09% patients got cured who had chronicity between 1 month - 1 year. Further data shows that according

to chronicity mostly similar percentage of the patients showed marked improvement, moderate improvement and mild improvement in both the groups. Hence it can be concluded that Kasisadi Ghrita can be good alternative for relieving cardinal symptoms, general symptoms and quick healing of ulcer in the patients of Parikartika (fissure-in-ano) and even economical also to the patients.

2. "A comparative study of Agnikarma and Ajmodadi vati in the management of Sandhigata Vata w.s.r. to Cervical Spondylitis".

Scholar : Umesh Sehgal,

Guide: Prof. R. R. Dwivedi,

Co-Guides : Dr. Manjusha Rajagopala and Prof. P. D. Gupta.

In this study, para surgical procedure i.e. Agnikarma has been taken to establish its therapeutic efficacy. For this purpose shalaka of panchdhatu has been made possessing a pointed tip & heated with the help of gas stove till shalaka becomes red hot. For internal medication Ajmodadi vati (yoga ratnakar vata vyadhi chi.) has been selected.

Total 27 patients with signs and symptoms of Sandhigata Vata were registered for clinical study and randomly divided in to two groups. Group A - Agnikarma group - In this group Bindu type dahana vishesha was made at the most painful area of neck and other area also. Each patient was given four sittings of Agnikarma at the interval of seven days. Duration of schedule was once a month. Group B - Ajmodâdi vati group - In this group Ajmodâdi vati was given 500mg thrice daily in divided doses with luke warm water for 30 days.

## RESULTS :

Group-A was treated with Agnikarma Chikitsa. Out of total 10 patients, 3 were cured without recurrence within one month. 5 patients improved and showed marked improvement in 2 cases. No patients showed unchanged result. Group-B was treated with Ajmodadi Vati. Out of total 10 patients, 1 patient was cured without recurrence within one month. 6 patients were improved and Mild improvement observed in 3 cases. No patients showed unchanged result.

## M.S. (Ayu.) Research Projects (Continued) :

1. "A comparative study on Vrikka Samrakshanatmaka and Ashmarighna effect of Tiladikshara and Varunadi Ghrita ( Nephroprotective and Lithotriptic effect)".

Scholar : Asim K. Mandal,

Guide : Prof. R. R. Dwivedi,

Co-Guides : Dr. Manjusha Rajagopala and Dr. B. Ravishankar.

2. "A comparative study of Durvadi Taila and Povidone Iodine in the management of Vrana".

Scholar : Lalit J. Pankhaniya,

Guide : Prof. P. P. Sharma,

Co-Guide : Dr. Manjusha Rajagopala.

3. "A clinical comparative study of Mahayavanala Roma Kshara and Dhanyaka Gokshur Ghrita in the management of Mootraghata w.s.r. to Benign Prostare Hyperplasia".

Scholar : Dr. Yogesh R. Vasava,

Guide : Dr. Manjusha Rajagopala.

4. "A comparative study of role of Agnikarma with Panchadhatu shalaka, Loha & Tamra shalaka in Kati shool - Lowbackache".

Scholar : Babita Bakshi,

Guide : Prof. M.S.Baghel,

Co-Guide : Dr. Manjusha Rajagopala.

Hospital activities: The department maintains 20 beds in the hospital. In the year 2006 -'07 up to 31 March a total of 6241 patients were examined in Shalya O.P.D. In ARC 8206 patients were registered in total, from which newly registered patients were 850. From the total registered patients 490 patients were having Piles, 110 had Fistula in Ano, and 455 patients had Anal Fissure & 163 patients suffered from other diseases. During the year 2006- 2007 in Shalya Shalakyia ward up to 31 March 2007 a total of 109 patients were admitted in the allotted 20 beds to the department.

**O. T. ACTIVITIES** : Shalya O.T. :-

Kshara Sutra Ligation	-	61
Piles	-	23
Fissure in Ano	-	06
Fistula in Ano	-	29
Agni Karma	-	698
Jalaukavacharana	-	08
Others	-	03
<b>Total...</b>	-	<b>898</b>

<b>M. S. (Ayu.) Scholars</b>	<b>June-2006-2007</b>
1st year M. S. (Ayu.)	2
2nd year M. S. (Ayu.)	2
3rd year M. S. (Ayu.)	2





## DEPARTMENT OF SHALAKYA TANTRA

### INTRODUCTION :

The Shalakyia Dept. one of the eight specialities of Ayurveda deals with the three important clinical specialities i.e. Shalakyia (Ophthalmology, E. N. T. and Dentistry). With equal emphasis to theoretical as well as practical training particularly to various Ayurvedic therapeutic procedures the Shalakyia Dept. imparts the education in this speciality by following the syllabus set for M.S. (Ayu.) by the University.

### ACADEMIC ACTIVITIES :

In the year 2006-07 total 120 theory classes for shalakyia scholars were conducted for second and final year M.S. scholars. For 1st M.S. scholars 28 theory classes, 192 clinical classes and practical classes were conducted for different batches in the department. To give exposure to recent advances in modern medicine, the services of modern experts are being utilized. They are working in the department as part time teachers and teaching the students modern aspects of the various diseases. The department also conducts weekly seminars on various topics of clinical importance of both the specialities.

In Kriya kalpa various treatment procedures are done regularly. The para-surgical procedures e.g. Agni karma, Jalaukavacharana are being regularly done in the department.

In the current year Ophthalmic operating microscope has been added to the instruments and Nimi Agara (Ophthalmic O.T.) has started functioning.

### HOSPITAL ACTIVITIES :

The department maintains 20 beds in the hospital. In the year 2006 -'07 up to 31 March in the Shalakyia O.P.D. in Eye Section 5403 patients were examined where as in Dental & ENT O. P. D. 6314 patients were examined. Fundus examination, ophthalmoscopic examination, Tonometry, refraction, perimetry and Otoscopic examination are being done regularly in the patients. In the current year till date approximately more than 350 fundus examination & 1884 refractions were done.

During the year 2006- 2007 in Shalya Shalakyia ward up to 31 March 2007 a total of 109 patients were admitted in the allotted 20 beds to the department.

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

1. "A clinical study on Sitada w.s.r. to Gingivitis".

Scholar : Rajshree Unadkat,

Guide : Dr. Manjusha Rajagopala,

Co-Guide : Dr. Subrata De.

Group - A : 13 patients of this group were given Bhadramustâdi paste for local application with tooth brush followed by Ganadoosh with Nâgarâdi Kwâtha.

Group -B : 10 patients of this group were given Pratisarana of Bhadramustâdi Churna along with honey and Nâgarâdi Kwâtha for Ganadoosh for one month.

Group - C: 10 patients of this group were given Suddha Sphatika for the Ganadoosh.

### Effect of Therapies :

Out of total patients in group A who were receiving Bhadramustâdi paste and Ganadoosh,

30.77% (4 patients) were cured while 61.54% showed marked improvement in signs and symptoms. The therapy was statistically highly significant in Raktasrâva, shotha, shiryamâatâ, Krishnatâ, Dargandhya, Vedanâ and Klinnatâ; significant in symptoms Pâka and Caladanta, Whereas in group B patients who were receiving Pratisârana and Ganadoosh, no one was completely cured at the end of treatment but 10% (1 patient) were markedly improved and 70% (7 patients) were moderately improved. Statistically this treatment was highly significant on the symptoms Raktasrâva, shotha, Dargandhya, Vedanâ and Klinnatâ; significant on Krisnata and Mriduta are not significant in shiryamânatâ. Out of total patients in Group C receiving Sphatikâ jala Ganadoosh, 70% patients did not show any considerable improvement in signs and symptoms of shîtâda, while rest of 30% was mildly improved. On the basis of statistics, significant results obtained in Raktasrâva and Dargandhya, it was insignificant in Klinnatâ, shotha and Krishnatâ and it did not show any results in shiryamânatâ, Mridutâ and Chaladanta.

In nutshell, it is concluded from this study that Bhadramustâdi paste application with soft tooth brush along with Nâgarâdi Kwâtha Ganadoosh is more effective than Bhadramustâdi Churna Pratisârana and Nâgarâdi Kwâtha Ganadoosh in the management of shîtâda - Gingivitis as well as this therapy is useful in removing and controlling plaque and calculus. Thus it is better remedy for maintaining oral hygiene.

2. "A clinical study on Krimidanta w.s.r. to Dental caries management with Jatipatradi Gutika and Yavanadi Churna".

Scholar : Dr. Makbul Mansuri,  
Co-Guide : Dr. Brijesh Ruparelia.

Guide : Dr. Manjusha Rajagopala,

Total 40 patients with signs and symptoms of Krimi danta- Dental caries were registered for clinical study and randomly divided in to three groups as follows:- Group A: In this group, 13 patients were treated with Jatipatradi Gutika for local application 3 gm/day for 30 days. Group B: In this group, 11 patients were given Yavanadi Churna orally 6gm/day for 30 days. Group C: In this group, 13 patients were treated with Jatipatradi Gutika and Yavanadi Churna for 30 days.

In group A none of the patients were cured, 07.69% showed marked improvement, 61.54% (8 patients) showed moderate improvement and 30.77% patients showed mild improvement in signs and symptoms. The therapy was statistically highly significant in Dantashoola, Dantaharsha, Aniyamit Ruja and Dargandhya, whereas in group B none of the patients were cured and showed marked improvement. 9.09% (1 patient) showed moderate improvement and 90.91% (10 patients) showed mild improvement. Statistically highly significant relief was obtained in the symptoms Dantashoola, Dargandhya and Dantaharsha, and significant relief was obtained in Aniyamit Ruja. In Group C none of the patients were cured and 7.69% (1 patient) of the patients showed marked improvement. 69.23% (9 patients) of the patients showed moderate improvement and 30.77% (3 patients) of the patients showed mild improvement. Highly significant results were obtained in Dantashoola, Dargandhya, Dantaharsha, and Aniyamit Ruja. Whereas significant results obtained in Shotha.

In nutshell, the present clinical study has established that combined therapy gives better results than individual therapies. Longer duration of the treatment with oral hygiene may give better relief to the patients of Dental caries.

3. "Clinical study on Pothaki - Trachoma".

Scholar : Dr. Narayan Bavalatti,  
Co-Guide : Dr. Piyush Matalia.

Guide : Dr. Manjusha Rajagopala,

A total 49 patients with signs and symptoms of Pothaki - Trachoma were registered for clinical study and randomly divided in to two groups. Group A- Patients belonging to this group were administered with Pippalyadi eye drops in the dose of 1 drop in each eye 3 times per day for 2 months. Group B - Patients belonging to this group were administered with Ofloxacin eye drops in the dose 1 drop in each Eye 3 times per day for 2 months.

In group-A statistically significant results were found in Lacrimation (75%), Blurring of vision, (25%) Pain in eyes (71.43%), Itching (64.71%), Headache (33.33%), Burning sensation in eyes (70%), Congestion of tarsal conjunctiva (71.43%), and Follicles at Conjunctiva (56.52%) whereas group-B statistically significant result were found in foreign body sensation (83.33%), Lacrimation (92.85%), Blurring of vision (21.43%), Pain in eyes (100%), Itching (77.27), Headache (55.55%), Congestion of tarsal conjunctiva (84.21%), and Follicles at Conjunctiva (68%). Overall none of the patients were cured & markedly improved, 43.75% were got moderate improvement, 50.00% improved mildly and 06.25% were unchanged in group A , whereas in group B none of the patients were cured and unchanged, 26.67% were got marked improvement, 53.33% were moderately improved and 20% got mild improvement.

4. "Effect of Arka taila in the management of Karnasrava w.s.r. to Otomycosis".

Scholar : Anupama Patra,

Guide : Dr. Manjusha Rajagopala,

Co-Guide : Dr. Ashok Shah.

A total 36 patients with signs and symptoms of Karnasrava(otomycosis)were registered for clinical study and randomly divided into two groups. Out of 36 patients 32 had completed the course (20 patients in G-I &12 patients in G-II). Group I: Karnapurana with Arkataila(Trial group), 2-3 times/day in Luke warm condition for 100 matra (average 2 min.) & Group II: Clotrimazole ear drops (standard control), 2-3 drops 2-3 times/day.

Duration of treatment: 15 days. Follow up period was 2 months at an interval of 15 days.

Overall effect of therapy: Total 80% patients had cured in G-I and 75% in G-II,15% patients got marked improvement in G-I and 25% in G-II, 5% patients had got slight improvement in G-I therapy. Both the drugs were equally highly effective at the rate  $p < 0.001$  to treat the disease Karnasrava(otomycosis). Arkataila can be used as a better alternative for modern antifungal agent 'clotrimazole'.

**M.S. (Ayu.) Research Projects (Continued) :**

1. "Clinical evaluation of Haridra khanda and Pippalyadi taila Nasya on Pratishtyaya- Allergic rhinitis".

Scholar : Bhakti M. Chhaya,

Guide : Dr. Manjusha Rajagopala.

2. "A clinical study on the role of Dashamula taila nasya & Laghu Sutsekhara Rasa in the management of Ardhavabhedaka w.s.r. to Migraine".

Scholar : Parekh Hemal,

Guide : Dr. Manjusha Rajagopala.

3. "A clinical study on the efficacy of Phaltrikadi Ghrita (Tarpana and orally) on Timira-Presbyopia".

Scholar : Dinesh Singh Gaur,

Guide : Dr. Manjusha Rajagopala,

Co-Guide : Dr. Piyush Mataliya.

4. "A clinical study on Tarpana with and without Nasya w.s.r.to Moyopia".

Scholar : Durgesh Prasad Gupta,

Guide : Dr. Manjusha Rajagopala.

5. "Role of Tryodashanga Kwatha and Pradhamana Nasya in the management of Dushta Pratisyaya w.s.r. to chronic sinusitis".

Scholar : Varsha Chaudhary,

Guide : Dr. Manjusha Rajagopala,

Co-Guide: Dr. Sejal Mistry.

**O. T. ACTIVITIES:** Shalakya O. T. :

Ear Repair - 70

In the current year Ophthalmic O.T. started working. In the current year total 04 patients have been operated i.e. 03 Cataract (ECCE with IOL) and 01 chalazion.

**PARA SURGICAL PROCEDURES & KRIYA KALPA:**

1. Tarpana	-	243
2. Nasya	-	673
3. Karna Purana	-	17
4. Tooth Extraction	-	68
5. Scaling	-	20
6. Audiometry	-	46
7. Shirodhara	-	05
8. Netra dhara	-	26
9. Bidalaka	-	39
10. Aschyotana	-	50
<b>Total...</b>	<b>-</b>	<b>1187</b>

**PUBLICATIONS :-**

1. "Clinical study on Myopia" Published in Aryavaidyan - Aryavaidya sala Kottakal (Kerala) Seminars attended by the scholars of the department :
2. All scholars of the department took active part in various National and International seminar and workshops at various places in India. Total 8 papers were presented in various seminars.

<b>M. S. (Ayu.) Scholars</b>	<b>June-2006-2007</b>
1st year M. S. (Ayu.)	2
2nd year M. S. (Ayu.)	3
3rd year M. S. (Ayu.)	3

<b>Ph. D. (Ayu.) Scholars</b>	<b>1</b>
-------------------------------	----------



## PHARMACEUTICAL CHEMISTRY LABORATORY

### INTRODUCTION :

The Laboratory continued its broad based research activity related to quality control and standardization aspects of Ayurvedic drugs and phytochemical studies of important medicinal plants. It is also associated with various academic, research, technical and administrative activities of the Institute and University. The laboratory extended its supportive role to various departments of the Institute and also to the University Pharmacy in the drug analysis and also imparting technical guidance and knowledge of basic pharmaceutical chemistry and quality control to M.D. (Ayu.), Ph. D. (Ayu.), M.Pharm.(Ayu.) and M.Sc.(Medicinal Plants) scholars.

### ACADEMIC ACTIVITIES :

Academic activities include taking of 31 theory and 53 practical classes (total 84 classes for M.D.(Ayu.) first year. Further practical demonstration was also carried out for the M.D. (Ayu.) scholars from Govt. Akhandanand Ayurvedic Maha Vidyalaya, Ahmedabad. 10 practical classes were taken for M.Pharm.(Ayu.) First year scholars and 20 practical classes were taken for first year M.Sc.(Medicinal plant) scholars.

### Research & Analytical study (pharmaceutical analysis of the drugs in the following studies was undertaken) :

- ◆ A comparative pharmaceutical pharmaco-clinical study : analysis of raw kasisa, kasisa bhasma. The parameters estimated were percentage of iron and iron oxide.
- ◆ A comparative pharmaceutical pharmaco clinical study : analysis of Rajat, Rajat bhasma and Rajat Sindura. The parameters estimated were percentage of Silver, Mercury and Carbon disulphide Soluble matter.
- ◆ Pharmaceutical standardization of Rasakarpura, Rasakarpuradrava its safety profile and therapeutic effect on kshudrakushtha : the parameters estimated were percentage of Mercury, Mercuric chloride, Chloride, Mercuric sulfate, and Sulfate.

### TECHNICAL ACTIVITIES.

70 Samples received from University Pharmacy were chemically analysed as for the standard protocol. HPTLC- profiling of the drugs used in the following studies was also undertaken (these studies were carried out by Dr.V.J.Shukla):

1. "A comparative pharmaceutico-pharmaco-clinical study of Shirisharishta prepared by Twaka and Sara of Shirisha w.s.r. to it's Shwasahara effect".

Scholar : Mandeep Jaiswal

HPTLC profiling of these test preparations was carried out at RRL- Jammu. The HPTLC plates brought from that Institute were subjected to densitometry scanning in this laboratory. Based on the densitogram the data generated was analyzed and interpreted. Comparison of the HPTLC profile of sapwood, heartwood and shirisha bark in the form of raw material, extracts and finish products was carried out. Total 20 components that had same Rf values were grouped with the assumption that the Rf value shall correspond to the common properties and may have the same chemical properties, in situ UV-VIS scanning was also carried out. The frequency of substances

within heartwood, sapwood, shirisha bark, respective extracts and finish product was plotted and analyzed to determine the chemical profile of the finished product.

2. "Study on extraction processes & planar chromatography of *Cissus quadrangularis* Linn".

Scholar : Manisha Sharma

The fractions obtained from three different types of extraction process viz- maceration, percolation and soxhlet extraction were subjected to HPTLC-profiling after cleaning up with alumina. This was followed by Multi Wave length sequential scanning at 100 nm interval through densitometry. In the next step in situ spectrum of the same fraction was recorded using UV-VIS spectrometry. Sensitivity of components to particular wavelength, frequency of components and super impossibility of UV-VIS spectrum was noted down.

3. "A comparative phytochemical analysis of male and female species of *Carica Papaya* Linn".

Scholar : Sandip Lunagariya M.

Phytochemical analysis through HPTLC-profiling of male and female species of *Carica Papaya* Linn., on pre-coated silica plates was carried out by developing the plates in three different solvent system followed by different method of visualization in the presence of marker compound for those components for which markers were available. The rest of the compounds were compared using densitometry and peak assignment.

4. "Phytochemical and pharmacological investigation of *Physalis minima* Linn".

Scholar : Kanaiha Kadam M.

Anti microbial principle was isolated from *Physalis minima* Linn using column chromatographic method. The fractions obtained were subjected to HPTLC-profiling using standard procedures. Frequency, area under curve and peak assignment were noted down.

5. "Study of *Jalapippali* (*Phyla nodiflora*) with special reference to its pharmacognostic and phytochemical study".

Scholar : Amrinder Kaur M.

Chromatography of *Phyla nodiflora* (L.) Green was carried out for multi-component mobile phase designing for methanol extracts. The stability of extract tested among fresh extract and sample extracted prior to three month and extraction of phenolic components using three different methods were carried out and compared through HPTLC. Presence of chemical constituent - nodifloretin, was noted.

6. "Chemical evaluation and analytical standardization of *Kushtha Rakshasa Taila* an Ayurvedic formulation".

Scholar : Tushar solanki

The sneha preparation *Kushtha rakshasa taila* used as external drug especially for *kushtha* was prepared by two different methods- 1) under direct sun light and 2) concentrating of sun light by solar cooker. Standardization of the same was done with a view to ascertain migration of marker compound in to finish product KRT1 and KRT2. Herbal ingredients used and marker compounds listed as under:

1. Kushtha- Coustnolide
2. Chitrak - Plumbagin
3. Bakuchi - Psoralen
4. Lashuna - Alanine
5. Saptaparna -b-Amyrin

As marker components were not reported in Aragvadha, fingerprinting of extracts and comparability with KRT1 and KRT2 was carried out. In KRT1 and KRT2 HPTLC- fingerprinting of unsaponifiable matter was carried out. Chromatography of Saptaparna with another solvent system was considered for separation pattern. All the above markers were found to be present in KRT-1 but in KRT-2 alanine and psoralen were found to be absent.

### **ADMINISTRATIVE ACTIVITIES :**

Staff members of the laboratory were also involved in various administrative activities related to the working of the laboratory, Institute, and University work.



## **LIBRARY**

Annual report for the year 2006-2007 period from 1st April 2006 to 31st March 2007. Library of the University made steady progress during the year under report.

Books issued 9,320 books and journals issued to 20,225 students and teachers.

Total No. of books 30,758, books purchased 1159 Rs. 3,32,324./-

Journal subscribed 32. Rs. 2,17,716/- National 26 and Inter National 6 Journal Subscribed.

- ◆ Daily Newspapers subscribed (6) Six.

### **LIBRARY USERS :**

- 1) U.G., P.G., I.A.P.S., I.M.P.S., &Ph.D. Students.
- 2) U.G., P.G. Teachers.
- 3) Administrative Staff.
- 4) Trainee Teachers & Practitioner.
- 5) Yoga, Teachers & Students.

Reading room, 22282 students took advantage of reading room of the library.

### **SUBJECT STRANGTH OF LIBRARY :**

Medical sciences, Ved, Purana, Upnishada, Sanskrit, Hindi, Gujarati, English, Literature, Yoga, Naturopathy etc.

### **COMPUTER FACILITIES :**

INFLIBNET (UGC) Ahmedabad's design software SOUL is being used in library.



## PATHOLOGY DEPARTMENT

### INTRODUCTION :

During the year 2006-2007, Pathology department was actively associated with many fold activities like research, training, technical and academic as well as administrative activity of I.P.G.T. & R.A. The brief reports of the activities are as follows.

#### ◆ **TEACHING :**

The pathology department imparts practical training in respect of various pathological investigations of blood, urine, stool, sputum and semen etc of the IPD and OPD patients of I.P.G.T.& R.A. hospital. The theoretical portion of the subject of pathology were also dealt with due attention for M.D. (Ayu.) scholars of the institute.

#### ◆ **RESEARCH :**

The department 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.) HAematological profile of animal of other departments particularly for drug toxicity was also carried out by this department.

#### ◆ **TECHNICAL ACTIVITY :**

Pathology department also run D.M.C. centre under RNTCP programme which is run by Govt. of India. In this programme examination of sputum is done for A.F.B. at our center. As per attached paper during the year 2006-2007 total 59906 various investigations were carried out from 14597 different pathological samples of blood, urine, stool, sputum, semen etc.

Sr. No	Total sample	Total investigation
OPD blood	4659	31388
IPD blood	839	6140
R.A. Test	337	337
CRP	74	74
Animal	39	195
OPD urine stool	7094	17887
IPD urine stool	1480	3810
Sputum	75	75
<b>Total....</b>	<b>14597</b>	<b>59906</b>





## PHARMACOGNOSY LABORATORY

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

### Activities :

Pharmacognosy laboratory is research oriented unit of I PG T & R A with multifarious activities listed below -

1. Teaching and guidance: M. D. (Ayu.) & Ph. D. scholar's research work.
2. Research on Ayurvedic Herbs: Pharmacognosy laboratory work.
3. Photography and Photomicrography.
4. Resource development of Ayurvedic Medicinal Plants crude drugs.
5. Maintenance of Herbarium and museum of authentic crude drugs.
6. Identification of crude drugs to be purchased for the department of Pharmacy.
7. Identification of the crude drugs selected for dissertation work by M. D (Ayu) students.
8. Participation in seminars, workshops, symposia and presentation of research papers etc.
9. Teaching and Guidance: M. Pharm and Medicinal plants science scholar's research work.

### (A) 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. In addition to the above the staff is guiding and helping M.D. & Ph. D. scholars for their thesis work.

Dr. Ushanas Bhatt conducted 21 theory & 54 practical to M. D. first year and 21 practicals second and third year M. D. scholars. In addition, he has taken 6 practicals for students from Govt. Akhandanand Ayurvedic Mahavidyalaya, Ahmedabad. During the year guidance as co-guide was given to two M. D.(Ayu.) scholars and 50 theory classes of B. Pharm. 2nd year taken by Dr. Ushanas Bhatt.

### (B) Research Activities :

The laboratory extended its supportive role to various departments of the institute for identification of crude drugs and also to the pharmacy department of the university. Established a well equipped laboratory for all pharmacognostic investigations. Plants were studied by Morphological and Microscopical characters. Dr. Ushanas Bhatt of the dept. has carried out all the work concerning the pharmacognostic aspect for the thesis for 15 students of various departments. During the period of report he has also given guidance as co-guide to two M. D. scholars.

### PHOTOGRAPHIC WORK :

Shri. Bharat B. Joshi a photo-artist of this laboratory has carried out photographic work including exhaustive photography of all drugs of plants, animal or mineral origin. The

photographs of the research work carried out by the various students and staff of the University like M. D., Ph. D. (Ayu.), M. Pharm, M. Sc. belonging to various department like pharmacognosy, pharmacology, pharmaceutical chemistry, Dravyaguna, Rasashastra, Basic Principal, Pharmacy etc. have been carried out by him. His work is summarized in short as follows.

The photographs and photomicrographs of total 53 medicinal plant species have been exposed in the research microscope of the laboratory. A total of 1548 coloured photographs and photomicrographs have been exposed during the period of report.



## BIOCHEMISTRY DEPARTMENT

### ACTIVITIES :

#### (A) Teaching :

Theory and practical classes in the subject of biochemistry were conducted during the year for the 1st M.D. (Ayu.) scholar.

#### (B) Association with clinical research :

Total 24742 special as well as routine various biochemical investigations were carried out from 4709 samples like blood, urine, etc. of OPD and IPD patients.

We had also carried out 2924 different biochemical investigations from 315 samples of an animals.

There were also investigations carried out for Ph.D. students, M. Pharm. and M.Sc. (Med. Plant) for their thesis work.

Department is also running quality control programme with “CMC External Quality Assessment Scheme” (Vellore) and has been awarded the membership for the same for year 2006-2007.



## PHARMACOLOGY LABORATORY

### Background :

The laboratory was started as a full-fledged laboratory in 1987. It has the distinction of being the only pharmacological laboratory attached to Ayurvedic PG institute in the country. It is fairly well equipped and staffed with qualified and well-trained persons. It is self sufficient to carryout most of the basic pharmacological studies. The animal house attached to the laboratory fully meets the rats and mice requirement of the Institute.

The main objective of establishing the laboratory was to undertake pharmacological studies on drugs and formulations used in Ayurvedic therapeutics to provide pharmacological basis to their clinical applications and also to elucidate toxicological profile of selected preparations, mainly mineral and metal preparations. Wherever necessary, attempts were also made to design experimental protocol to test the basic concept related research projects. Besides this it is actively involved in the teaching and organizational activities of the Institute.

### Aims and objectives of the Laboratory :

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 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 :

Thirty-nine theory and fifty-four practical classes were conducted for the first year M.D. scholars. For M.Pharm (Ayu.) 50 theory classes and 21 practical classes were held. For M.Sc. ( Med. plants) 57 theory and 13 practical classes were conducted.

### RESEARCH ACTIVITY:

#### 1. Evaluation of Shunthi Pushkaramooladi yoga for possible use as an anti-asthmatic drug.

The test drug Shunthi Pushkaramooladi yoga is known to possess anti-asthmatic effect. To provide pharmacological basis the test drug was evaluated for immunomodulation, anti-inflammatory, anti-tussive and anti-histamine activities using appropriate experimental models. The test preparation when administered with honey was found to produce significant anti-inflammatory activity against carrageenin paw oedema at a dose of 300 mg/kg- oral. At the same dose it produced significant suppression of triple anti-gen induced immunological oedema in rats. However, it did not affect anti-body formation against sheep red blood cells (SRBC) in rats, has no effect on spleen and thymus weight and cytoarchitecture of these two organs and lymph node. It also did not reduce sulfur di-oxide induced coughing in mice.

#### 2. Comparative evaluation of safety and toxicity profiles of Shuddha Kasisa Churna and Kasisa Bhasma in experimental animals.

The study was carried out as per the standardized protocol of the laboratory. In acute toxicity study no mortality was observed in any of the groups that received the test compounds. The

highest dose administered was 880 mg/kg body weight. This suggests that the LD 50 dose is much higher than this dose. Further evaluation of effect on gross behaviour did not reveal any significant change indicating lack of effect on CNS and ANS.

In chronic toxicity study- the dose administered was 55 mg/kg given orally for 58 days. Parameters studied- ponderal, biochemical, haematological and histopathological. Biochemical parameters- the test drugs did not affect lipid profile, serum creatinine, protein, albumin, globulin levels, A/G ratio, SGOT activity to significant extent. Significant decrease in blood urea, serum alkaline phosphatase activity and blood glucose level was observed in Kasisa Bhasma ( KB) administered groups where as no such effect could be observed in Shuddha Kasisa churna (SKC) administered rats. KB administered group exhibited decrease in WBC count and in SKC treated group significant decrease in eosinophil count was observed- other parameters were not affected by both the drugs.

Histopathological examination showed normal cytoarchitecture of liver, heart, kidney, thymus, ovary and lymph node in comparison to control group. In both the groups mild to moderate cell and fluid effusion was observed in lungs and epithelial disruption in jejunum. In SKC treated group thinning of myometrium was observed in the uterus.

Conclusion: both the preparations did not produce serious toxic effects. There was not much difference in their toxicity profile.

### **3. Comparative evaluation of Rajat Bhasma and Rajat Sindura for anti-depressant activity in experimental animals.**

The effect of the test drugs were evaluated by employing the following tests-: open field behaviour test, behavioural 'despair' test, L-DOPA potentiation test and anti-reserpine test in mice. They were also evaluated for their effect on gross behaviour in mice. The dose administered was 10.8 mg/kg body weight of rat and 15.6 mg/kg body weight of mice. Analysis of the data obtained showed that both the test drugs Rajat Bhasma and Rajat Sindura do not possess an activity profile of classical anti-depressants. However they produced CNS stimulation and partial potentiation of L-DOPA effects.

Conclusions : both Rajat Sindura and Rajat Bhasma- do not possess ideal profile of an anti-depressant. Nevertheless they exhibit CNS stimulation and DOPA potentiation effect- which may produce anti-depressant activity in clinical settings. In this regard Rajat Sindura seems to produce better effect in comparison to Rajat Bhasma.

### **4. Experimental design to study the drug effect on 'Amavastha' in experimental animals.**

To study the concept of ama in experimental animals a model was planned on the basis of ayurvedic principles. Animals were given excessively fatty diet in the form of hydrogenated vegetable fats (dalda ghee) and cholesterol powder mixed in coconut oil. This was given so as to produce Ama in them since according to Ayurvedic principles Guru and Snigdha ahara when consumed in excess amount produce Ama in body. The animals fed on this diet were subjected to carrageenin paw oedema test and cotton pellet granuloma test along with measurement of different ponderal, bio-chemical and histological parameters. The effect of this diet on different parameters and effect of test drugs- Pippali churna and Yogaraja guggulu on diet induced changes was noted down. Hyperlipidemic diet did not potentiate carrageenin paw oedema or cotton pellet granuloma formation. Both produced moderate but non-significant decrease in paw odema

and moderate but non-significant increase in cotton pellet granuloma formation. Thus this part of the study did not corroborate our earlier findings that hyperlipidemic diet potentiates FA arthritis. This may be due to different nature of the inflammatory conditions in these models.

Hyperlipidemic diet induced changes in organ weight: spleen weight was significantly decreased and this decrease was not affected by test drug administration. Similarly decrease in kidney weight was observed- this effect was also not antagonized by test drugs. Moderate increase in liver weight was observed; test drug further increased the liver weight. The weight of thymus and heart remained un-affected.

Hyperlipidemic diet induced changes in biochemical parameters in liver homogenate: no effect was observed on liver catalase activity and total protein content. Glutathione content of liver was moderately elevated and lipid peroxidation was found to be decreased to moderate extent. Pippali churna was found to produce moderate increase in catalase activity and glutathione content in the liver homogenate while producing 23% decrease in the lipid peroxidation. This shows that it decreases free radical generation and enhances free radical scavenging- a good attribute of amahara drugs. In contrast to this Yogaraj guggulu did not affect catalase activity and glutathione content while enhancing lipid peroxidation.

Hyperlipidemic diet induced changes in biochemical parameters in serum: serum cholesterol level was elevated to significant extent, triglycerides level rose moderately, HDL-cholesterol showed only a marginal increase; blood urea level decreased significantly. Blood sugar level, serum creatinine level and total protein content remained un-affected. This indicates that the diet used in the study was capable of inducing hyperlipidemic state. Both the test drugs further elevated serum cholesterol level; while Pippali elevated serum triglycerides level yogaraj guggulu produced moderate and statistically non-significant reduction. Thus the activity profile observed in this regard did not correlate well with the concept of hyperlipidemia is equivalent to enhanced ama state. In the present study a statistically significant 29.62% decrease in blood urea level was observed in comparison to normal control rats. This was completely antagonized by the administration of Pippali churna and moderately reversed by Yogaraj guggulu administration. This throws up the possibility that this parameter can be employed to assess the ama accumulating effect of a hyperlipidemic diet along with serum cholesterol level. The finding that urea formation decreases during hyperlipidemic condition is noteworthy and it is interesting to ascertain the exact mechanism of the process.

Conclusions : it may be hypothesized that hyperlipidemic condition may lead to enhancement of inflammation of immunological origin while not-interfering with inflammation of non-immunological origin. Among the parameters studied blood urea level seems to fit the parameter, which is useful for the estimation of Amavasta. Further studies on these lines using different experimental conditions those involving both hyperlipidemic and normal conditions are necessary before making an unequivocal proposition in this regard.

##### **5. Comparative evaluation of Panchatikta Ghana (PTG) and Gomutra Shoddhita Guggulu (GSG) for anti-hyperlipidemic activity.**

Aim and objective: the study was undertaken to evaluate and compare the anti-hyperlipidemic activity in two well known preparations- PTG and GSG.

The study was undertaken in rats fed hyperlipidemic diet based on the standardized protocol in the lab. The effect of this diet on different bio-chemical, ponderal and

histopathological parameters was noted along with modifying effects of test preparations on these parameters. The dose employed was 270 mg/kg; oral for both the drugs. The duration of administration-22 days.

Results and conclusions: feeding of hyperlipidemic diet lead to significant elevation of serum total cholesterol, serum triglycerides level, ALPase, SGOT and SGPT activity. Other bio-chemical parameters studied were not affected (7). Histopathological study showed mild fatty changes in liver and heart while no change could be observed in kidney and aorta. Administration of PTG failed to antagonize any of the hyperlipidemic diet induced biochemical changes. However the micro-fatty changes observed in heart and liver were antagonized. GSG did not affect serum total cholesterol level significantly, however it antagonized the observed elevation in serum triglycerides level. HDL- cholesterol level was found to be elevated in this group. Histopathological changes were also antagonized. This clearly indicates that GSG has better activity profile in comparison to PTG. In fact PTG failed to produce any effect- the reason for not observing desired effect in this preparation needs to be probed.

## **6. Psychopharmacological evaluation of Mamsyadi ghrita for possible sleep promoting effect.**

Aim and objective: the study was carried out to find out whether pharmacological basis exist for the use of Mamsyadi Ghrita as sleep promoting formulation.

Studies carried out: the test formulation was studied in the following tests-gross behaviour test, hypnotic potentiation test, elevated plus maze test and open field behaviour test employing standard procedures. Dose- 5,2g kg- given oral.

Results and conclusions: the test preparation exhibited weak CNS depression in gross behaviour and open field behaviour tests; it showed moderate but statistically non-significant prolongation of pentobarbitone sleeping in mice. It exhibited anti-anxiety effect in elevated plus maze. The present pharmacological evaluation of Mamsyadi Ghrita failed to provide an unequivocal evidence for the presence of ideal sleep promoting property in it. Though moderate hypnotic potentiation was observed it is not sufficient to categorize the drug as ideal though it is suggestive of the fact that there is potential for further improvisation. However presence of anti-anxiety activity may be helpful in the sleep promotion.

## **7. Comparative evaluation of Guduchyadi Ghrita (GG) and Bhringarajadi Ghrita for (BG) adaptogenic and psychopharmacological activities.**

Aim and objective : to determine which of the two test formulations has better adaptogenic and psychopharmacological effects.

Studies carried out: evaluation against forced swimming stress induced changes in bio-chemical, haematological and ponderal changes. Psychopharmacological tests carried out were- gross behaviour test, behavioural despair test, L-DOPA potentiation test, elevated plus maze test and chronic fatigue syndrome test. Dose employed-1.8g/kg given oral in rats and 2.6g/kg- oral in mice.

Results and conclusions : Both GG and BG produced mild hypo - activity in gross behaviour test. GG produced significant reduction in behavioural despair, and non - significant decrease in chronic fatigue syndrome related -duration of immobility, potentiated L-DOPA effects and produced anti - anxiety activity in elevated plus maze test. In contrast to this BG

produced only moderate potentiation of L-DOPA effect. This indicates presence of significant anti-depressant and anti-anxiety activity in GG and its absence in BG. In the adaptogenic activity evaluation both the preparations did not affect stress induced hypothermia and changes in RBC related parameters. Forty nine percent decrease in ulcer index was observed in GG treated group while BG showed only a marginal effect. Almost 42% decrease WBC count was observed in GG. The activity profile indicates presence of moderate degree adaptogenic activity. The test preparations did not antagonize stress-induced elevation in SGOT, ALPase activity, elevation in serum total cholesterol and decrease in serum triglycerides and blood sugar level. They also did not influence the serum level of serum dehydroepiandrosterone sulphate level. Over all analysis of the data indicates presence of significant anti-depressant, anti-anxiety and moderate adaptogenic activity in GG. BG is devoid of such effects.

#### **8. Comparative pharmacological evaluation of two sample of Shitivaraka (Celosia argentea) Linn collected from two places (Anupa and Jangala) for possible use as anti-asthmatic activity.**

**Aim and objective:** the objective was to compare the activity profile of shitivaraka obtained from two places- Anup desha and Jangala desha to determine possible eco-pharmacological difference.

**Studies carried out:** immunomodulation effect - influence on anti-body formation against SRBC, triple antigen induced immunological oedema for CMI-modification effect, anti-inflammatory and anti-histaminic activity (on isolated guinea pig ileum). Dose 540mg/kg in rat.

**Results and conclusions:** Anupa desha Shitivartaka produced non-significant decrease in anti-body formation and anti-inflammatory activity; significant suppression of immunological oedema was observed in this sample. It did not produce any anti-histaminic activity. In Jangala desha shitivartaka administered group only moderate and non-significant suppression of immunological oedema was observed while no effect was observed on other parameters. The results obtained show better effect in the Anup desha sample with respect to CMI-suppression. Thus there seems to be an eco-pharmacological difference with respect to expression of biological activity in this plant.

#### **9. Evaluation of Chakramarda beeja Churna; Gomutra bhavita Chakramarda beej churna and Haridra churna -in a battery of tests relevant to their efficacy in the treatment of eczema.**

**Aim and objective:** Evaluation of test drugs in tests relevant to the treatment of eczema along with comparison of the activity profile.

**Studies carried out:** evaluation of seed powder of three drugs mentioned above at a dose of 540 mg/kg given by oral route, for anti-inflammatory, immunomodulation and anti-histaminic activities.

**Results and conclusions:** the data obtained showed that the test drugs have moderate CMI suppression and weak to moderate anti-inflammatory activity which may be responsible for their clinical efficacy. Addition of Gomutra did not result in potentiation of immunosuppression activity however moderate potentiation of anti-inflammatory activity was observed. None of the test drugs produced modulation of anti-body formation and anti-histaminic activity. Further increase in dose might have given better effect. It would be better to re-evaluate it again with different doses.

## 10. Comparative pharmacological evaluation of *Heliotropium indicum* Linn and *Heliotropium ovalifolium* Forsk- with reference to their clinical application in the treatment of tonsillitis.

Aim and objective: *Heliotropium indicum* Forsk is used as substitute for the *Heliotropium indicum* Linn, due to non-availability of the latter, if the activity profile of both the plants is similar than it would provide rational for the substitution of the latter species by the former.

Studies carried out: anti-pyretic, anti-inflammatory, immunomodulation and anti-microbial activity evaluation (in vitro). For in vivo experiments ghanavati of the whole plant was used in the dose of 270 mg/kg.

Results and conclusion: the first objective was to ascertain whether two test plants *Heliotropium indicum* Linn and *Heliotropium ovalifolium* Forsk possess pharmacological activities that can provide basis for the therapeutic application. The study shows that both have weak anti-inflammatory activity and weak to moderate anti-pyretic activity. But both have strong CMI suppression effect. This indicates that they can be helpful in the treatment of allergic conditions. With regards to pharmacological activity profile both were equi-active except that *Heliotropium ovalifolium* Forsk has better anti-pyretic activity. The second objective was to ascertain the possibility of substituting *Heliotropium indicum* Linn with *Heliotropium ovalifolium* Forsk since the availability of the former is less. In this regard the study indicates that *Heliotropium ovalifolium* Forsk is a very good substitute to *Heliotropium indicum* Linn. In fact for anti-pyretic effect it is better than the latter. Further both have almost similar magnitude of CMI suppression effect.

Anti-microbial activity evaluation in in-vitro conditions against clinical isolates from throat swabs showed that both the plants are moderately active against different strains of bacteria studied. The important point to be noted is that the plants are active against *Staphylococcus* strains that were resistant against many well known anti-biotic like penicillins like amoxycillin, cloxacillin, penicillin, G, and combinations like Ampicillin and sulbactam and Ampicillin, Cloxacillin and quinolones like ciprofloxacin, sparfloxacin and ofloxacin. This should be considered as an important piece of data. This clearly shows that both the plants can be successfully employed for the treatment of tonsillitis - they may be effective in refractory conditions also. Thus over all data indicates that *Heliotropium ovalifolium* Forsk is a good substitute to *Heliotropium indicum* Linn and can be successfully used in the treatment of tonsillitis and other pyretic conditions due to infection. Thus this can be considered as an evidence for the efficacy of the plants in the treatment of boils. Further studies are required to ascertain the efficacy of the plants against scorpion sting, snakebite and rheumatism.

## 11. Comparative evaluation of three samples of *Shirisharishta* prepared with *twak*, *kashtha* and *sara* for different pharmacological activities relevant to their utilization in asthma.

Aims and objective: *Shirisha* is considered as one of the most useful drugs for the treatment of respiratory disorders in Ayurveda. With a view to find out which is the most suitable part in the plant for the preparation of *Shirisharishta* the present comparative study was undertaken.

Studies carried out: *Shirisharishta* prepared by three easily available parts of *Shirisha* i.e. *Twaka*(bark), *Kashtha* (sapwood) and *Sara* (heart wood), were evaluated for anti-inflammatory, immunomodulatory, anti-tussive, and anti-histaminic activities.



Results and conclusions : analysis of the data generated is carried out taking all the factors in to consideration in a comprehensive manner-. Among the three the best activity profile, from the point of view of efficacy in asthma, is that of Shirisharishta made out of Sara, which exhibited anti-inflammatory, CMI suppression, anti-histaminic and anti-tussive activities; the next best profile is that of Shirisharishta made out of Kashtha which has anti-inflammatory, CMI suppression and moderate anti-tussive effects . The other sample- Shirisharishta made out of Twaka can also be useful since it has moderate CMI suppression and anti-tussive activities. Thus it can be suggested that Shirisharishta made out of Sara is the ideal Arishta for the treatment of asthma. The better effect observed in this sample may be due to presence of higher concentration of active principles in this sample especially epi-gallocatechin gallate in comparison to others as evident from the HPLC studies on the final products.

## **12. Comparative toxicity evaluation of Rasakarpoora and mercuric chloride in experimental animals.**

Aims and objective: Rasakarpoora is used in the diseases like dysentery, skin diseases, syphilis etc., and also as an immunomodulator. Sometimes it is administered in combination with other products. It is a very toxic drug hence, if it is not prepared properly and /or used in higher dose it is likely to cause serious toxic effects. It is chemically similar to Mercuric chloride, but not completely. Hence a chemically pure Mercuric chloride manufactured by Ranbaxy pharmaceuticals was taken as standard reference drug to undertake comparative toxicological evaluation.

Studies carried out: detailed acute, chronic and local toxicity studies were carried out.

Results and conclusions: Lethal dose of Rasakarpura could not be determined since no death could be observed even at the dose of 20.28 mg/kg body weight which is forty fold in comparison to TED. Similar type of results was obtained with Mercuric chloride also. In contrast to this chronic administration resulted in mortality.

On systemic administration all the animals died in 5 X TED administered group in both the test drug given groups. At TED dose level Rasakarpoora has less proclivity to produce toxicity in comparison to mercuric chloride. However just increasing the dose by two fold increases the toxicity potential significantly. Though the severity of the toxic effects is less in Rasakarpoora treated group is less nevertheless it produces serious toxicity. Five fold increase in the dose leads to mortality of all the animals in both the groups. Though histopathological study shows that the severity of the toxic effects is less in Rasakarpoora treated group in comparison to mercuric chloride group, the magnitude of toxicity produced is severe enough to cause mortality in 100% animals. The mortality is due to multiple organ failure. At non-fatal dose, the most notable toxicity observed is drastic decrease in spermatogenesis some times with degenerative changes. In this regard both the samples have almost equal potential. At higher doses mercuric chloride has the tendency to cause inflammation of the myocardium, which is less in Rasakarpoora. Thus both the drugs have severe toxic potential and Rasakarpoora at lower doses has comparatively less tendency to produce toxicity. If it is used clinically it should be in the least possible desired dose and only for a minimum period. Long-term administration of any mercurial preparation should be avoided.

Local external application of both the drugs did not cause drastic toxicity. However there is a tendency to cause spermatogenesis decrease. The other possible toxicity is the renal functioning; hence these preparations should not be administered to persons with renal insufficiency.

Observation of changes in histopathological and bio-chemical parameters indicates that the mercuric chloride either in pure form or in the form of Rasakarpoora gets absorbed in to systemic circulation. It should not be applied to open lesions for this may enhance systemic absorption to significant extent. Even for external application the drug should be applied in the minimum possible dose and for minimum possible duration.

### **PUBLICATIONS :**

Paper accepted in : Afr. J. Traditional, Complementary and Alternative Medicines. To be published in the issue of : (2007) 4 (3). INDIAN SYSTEMS OF MEDICINE- A BRIEF PROFILE- Ravishankar, B and Shukla, V.J.

### **GUEST LECTURE DELIVERED (DR. B.RAVISHANKAR):**

1. Role of Pharmacology in the field of Ayurveda- present status and future requirements- National Workshop on Scope and Emerging Trends in Ayurvedic Pharmacy. Organized by Institute of Ayurvedic Pharmaceutical Sciences, Jamnagar. 1st August, 2006.
2. A review of the safety aspect of some mineral preparations used in Ayurvedic therapeutics. Workshop on "Ayurvedic Medicines and Practices" ( Nov 13-14- 2006) PERD Centre, Ahemdabad.
3. Aspects of Ayurveda and Herbal Medicine- from the Modern Practitioner Perspective- NIMACON- 2007- Aurangabad (Feb.- 2007).



## **MODERN MEDICINE TEAM**

- (1) Medical Examination, diagnosis and following check up of O. P. D. I. P. D. as well as research patients with advise about their relevant clinical investigations and their interpretation.
- (2) Electro - Cardio- Gram - ECG diagnosis of various heart patients.
- (3) **Teaching and Education :**  
Clinical - bed - side education and clinical discussion with M. D. Ayu. Students.
- (4) **Research & Thesis Work :**  
M. D. Ayu. and Ph. D. students assisted for their thesis and research works.



**I.P.G.T. & R.A. HOSPITAL****ACTIVITY :**

The P. G. hospital is a mandatory and integral component of the Institute of Post Graduate Teaching and Research. The clinical and conceptual research and training is given in the Institute through this hospital. Concurrently the society's sick section gets benefit of such research. On the other hand the scholars of Ayurved get a high level platform of study and training in this hospital supported by all the modern medical backups, comprising of modern scientific laboratories viz. Pathology, Biochemistry, Pharmacognosy, Pharmaceutical Chemistry and Sonography, Roentgenology, ECG, Dentistry, Optometry etc.

Modern Medical doctors' expertises are also available to the research scholars doing their MD/MS and Ph.D research works. They are Surgeon Gynaecologist, Sonologist, Radiologist, Paediatrician, Otorhinolaryngologist, Ophthalmic Surgeon etc.

This hospital has a good number of patients' strength having 150 bedded full fledged IPD. The hospital provides well known pure and high standard Ayurvedic Medicines free of charge.

**HOSPITAL ADMINISTRATION :**

The Director is the ex-officio Hospital Superintendent. He is supported by a R.M.O, who is an expert and experienced professional in the Hospital Administration. Nursing services are supervised by the Matron.

**PATIENT STATISTICS :**

- (i) This hospital is a one of the famous hospital in Jamnagar city for providing treatment for the chronic and incurable diseases. The O.P.D. statistics are as under.

	Male	Female	Children	Total
New Cases	24988	25870	3979	54837
Old Cases	33712	37365	3777	74854
<b>Total</b>	<b>58700</b>	<b>63235</b>	<b>7756</b>	<b>129691</b>

The O.P.D. average is 450 patients (approx.) day.

- (ii) The I.P.D. statistics are as under :

Sr. No.	Department	Bed Allotted	No. of Patients		
			Admitted	Expires	Discharged
01.	Kayachikitsa	28	322	-	304
02.	Panchakarma	34	382	1	402
03.	Shalya Shalakyia	20	119	-	122
04.	Maulik Siddhanta	26	109	-	109
05.	Rasa Shastra & B.K.	10	53	-	50

06.	Drvaygaguna	10	69	-	71
07	S.R.P.T.	14	292	-	291
08.	Kaumarabhritya	04	183	-	189
09.	Special Cabin	04			
The patients of Sp. cabin have been included in the respective departments					
<b>Total</b>		<b>150</b>	<b>1529</b>	<b>1</b>	<b>1538</b>

(iii) Total number of X-Rays conducted by this unit are as under :

**Total no. of case**

Film size 12" x 15"	901
Film size 10" x 15"	655
Film size 8" x 15"	176

**Total number of films 1336**

(iv) Various type of sonographies are done in this unit supported by qualified sonologist. Total 211 patients were examined.

(v) Rural Health Services Program: (OPD statistics) - IPGT&RA as part of extension services is running an OPD at SASOI - Village nearly 30 Kms away from the Campus. Dr B R Patel and his team of PG & Ph.D. students are regularly conducting OPD at this Village. Patients are provided free check ups and medicines. During the period in question following number of patients was examined.

Old Case	New Case	Male	Female	Child	Total
1315	386	915	701	85	1701

**Diagnostic and treatment camp**

As part of extension activities, Institute is organizing various diagnostic and treatment camps in rural and urban areas. As part of the activity on 28-29.08.2006 Institute has sent a team of students for attending a camp during Chikungunia epidemic in Ahmedabad and examined more than 400 patients and provided them treatment. On 24.12.2006 a diagnostic camp has been organized at Jam Raval village 100 Km. away from Jamnagar city and 278 patients have been provided diagnostic and treatment support. On 17.01.2007 a camp for the diagnosis of osteoporosis has been organized in the Institute itself and 241 patients have been examined for Bone Mineral Density and they were provided treatment wherever it was required.

**FUTURE PLANS :**

1. The hospital is provided with computers and all the datas are to be computerised for the benefit of research scholars. The next step is to train the administrative and technical staff for computer expertise.
2. Restructuring the Hospital Administrative set up with an emphasis upon OPD services.



## INTERNATIONAL ACTIVITIES

Institute of Post Graduate Teaching & Research in Ayurveda is conducting various programmes for the foreign nationals along with training for WHO fellows. During the reporting year following short term training programmes were carried out at I.P.G.T. & R.A for International Scholars in coordination with International Center for Ayurvedic studies (ICAS), Gujarat Ayurved University, Jamnagar.

### **M D course in Ayurveda :**

One student from Bangladesh has completed M.D.(Ayu) course in Kayachikitsa during the year 2006 - 07. One student from Sri Lanka has been admitted in M.D. (Ayu) course in Kayachikitsa under ICCR scholarship programme of Government of India.

Dr. A B Thakar, Sr. Lecturer, Dept of Panchakarma, I.P.G.T & R.A. coordinated the programme.

### **Introductory course in Ayurveda :**

For last fifteen years I.P.G.T. & R.A. is conducting three month introductory courses for Foreigners. Till date about 85 international scholars have participated in such courses, one student from each of USA, Italy, UK & Myanmar have joined the course conducted during November 1<sup>st</sup> 2006 to January 25<sup>th</sup> 2007. Nearly 300 theory and practical classes were arranged during the training programme along with field visits.

### **Panchakarma Training Programme for Traditional Doctors from Bhutan :**

A Panchakarma training programme for traditional doctors from Bhutan was conducted at I.P.G.T & R.A for four months from 15th January 2007. Five students have participated in the training programme.

Dr. A B Thakar, Sr. Lecturer, Dept of Panchakarma, I.P.G.T & R.A. coordinated the programme.

### **Training Programme of WHO fellows on Ano rectal fistula care & management (Ksharasutra) :**

A training programme for WHO fellows on Anorectal fistula care & management (Ksharasutra) was conducted from 5th March 2007 to 16th March 2007, at I.P.G.T & R.A. Two students from Nepal took participation in this training programme.

Dr. Manjusha R. I/c HOD, Dept of Shalya, I.P.G.T & R.A. coordinated this training programme.

### **Preparation of Guidelines for basic training and safety in Ayurveda and other Traditional Systems of Medicine held at Milan, Italy during 20-23 November, 2006**

As per the permission granted by the Department of AYUSH, Ministry of Health & F.W., Govt. of India Dr. M.S. Baghel, Director, I.P.G.T. & R.A., Gujarat Ayurved University, Jamnagar participated in WHO Consultation.

From India, Dr. S.S. Savrikar, Vice-Chancellor, G.A.U., Jamnagar, Dr. V.K. Joshi, Varanasi, Dr. V.V. Prasad, New Delhi, Dr. G.C. Gaud, New Delhi and I have participated. Total 10 participants were there in Ayurveda Group.

During the discussions, 3 sets of practitioner courses and two sets of therapist courses were finalized. A separate document for Ayurvedic pharmacy education and safety has also been finalized and 3 different sets of courses on Ayurvedic pharmacy for pharmacists were proposed.

Category 1 - Type I full-fledged practitioner course of 4500 hrs with 1000 hrs supervised clinical practice.

Category 1 - Type II full-fledged practitioner course of 1500 hrs with 500 hrs supervised clinical practice for medical doctors.

Category 1 - Type III Limited practitioner course of 2500 hrs with 500 hrs supervised clinical practice.

Category 2 - Type I Panchakarma Therapist course of 1000 hrs with 500 hrs supervised clinical practice.

Category 2 - Type II Ayurvedic Dietician course of 1000 hrs with 500 hrs supervised clinical practice.

Three different sets of courses on Ay. Par. separated for Pharmacist, dispenser and whole seller was proposed.

After the presentation of the reports by respective groups, WHO authorities have expressed their opinion and felt that, the duration of these courses is very long & are to be prepared for the countries where Ayurveda is not practiced at higher level. They expressed fear about chances of non-acceptance of the courses if need and demand are not considered. Hence this point must be taken into consideration while discussing future course of action for Ayurvedic training courses in foreign countries.

### **Akhanda Samhita Path :**

As per every year this year also I.P.G.T. & R.A. has conducted the complete Samhita pathan programme. The programme was held on September 2006 - 2007 in the common hall of the P.G. Boy's hostel, I.P.G.T. & R.A. The programme consisted of the continuous reading of "Ashtang Hridaya" till its completion. The previous year witnessed the reading of Sushruta Samhita.

The programme was inaugurated by Hon'ble Vice Chancellor Dr. S. S. Savrikar, I/c. Director and Dean Prof. P. P. Sharma, teaching faculty, scholars of M.D. (Ayu) / M.S. (Ayu), Ph.D., M.Sc. Medicinal plants (Ayu), M.Pharm (Ayu) were present on the occasion.

At the eve of the completion of programme, Hon'ble Vice Chancellor, I/c. Director and Dean and Head of the B.P. Department graced the occasion and shared their experiences with the scholars. The occasion came to an end with a resolve to continue this kind of programmes in the near future too.

### **Weekly Seminar:**

Total 41 weekly seminars of M. D. (Ayu.) MS. (Ayu.) scholars were conducted from different specialities in the academic year 2006-2007.

Name of the Department	No. of Seminars	Name of the Department	No. of Seminars
Basic Principles	05	Kaumarbhritya	02
Dravyaguna	04	Striroga & Prasutitantra	04
Rasashastra & B. K.	06	Shalya	02
Kayachikitsa	09	Shalakyia	04
Panchakarma	05	<b>Total...</b>	<b>41</b>



## PGT-SELF FINANCE COURSE CELL, I.P.G.T. & R.A.

In conformity with the convention that IPGT and RA should be the only agency to impart PG education in the University - PG courses offered by the erstwhile IAPS and IAMPS were transferred to IPGT and RA. To take care of this necessity PGT-Self Finance Course Cell was established in 2006. M. Pharm (Ayu) course was merged with the Department of RSBK and IAMPS was merged with Department of Dravyaguna of IPGT and RA to take up the responsibility of offering M. Sc (Medicinal Plants) course. Teaching and course related research work were the main activities of this cell.

### Academic activities:

During the years 2006-2007 both theory and practical classes were conducted regularly according to the timetable. Examinations were conducted by Gujarat Ayurved University as per the schedule. Seven students each in first and second M. Sc (Medicinal plants) and nine each in first and second year M. Pharm (Ayu.) took examination during the year.

### Student admission:

Seven candidates from different parts of the country were admitted to first year M.Sc., (Medicinal plant sciences) course during the year. For first year M. Pharm (Ayu.) course nine candidates were given admission. Among them seven were from B. Pharm (Ayu.) quota and two candidates were from modern B. Pharm quota.

### Research activities :

Various Research projects were allotted to students in the final year M. Sc. and final year M. Pharm (Ayu.) course. The selection of topics was mainly on the basis of their utility in the scientific utilization of medicinal plants used in Ayurveda.

### Research studies carried out as part of M.Sc. (Ayu. Medicinal Plant) dissertation assignment.

### MEDICO-BOTANY- DIVISION :

#### Dravyaguna :

1. Dravyavignaniya of Plant Methika *Trigonella foenum- graecum*.

Scholar : Dr. Divya J. Patel,  
Co-guide : Shri. A.P.G.Pillai.

Guide : Dr. (Mrs.) T. N. Pandya,

This study focused on the Dravyagunavigyana aspects of Methika. It included discussion of importance of medicinal plants and derivation of the word METHIKA. Review of Ayurvedic and modern literature and research work carried out on the plant so far have been critically analyzed. For establishing the correct identity of plant material the pharmacognostical study is considered very essential hence these aspects have also been studied.

### AGRICULTURE-DIVISION :

#### Medicinal Plants Cultivation :

2. Effect of Nitrogen and Micronutrients on Growth and Yield of Isabgol (*Plantago ovata*, Forsk) Var. Gujarat Isabgol -2.

Scholar : Ubale Ratnadeep Gangaram,  
Co-guide : Mr. Saroj Kumar V.

Guide : Dr. (Mrs.) M. G. Chauhan,

This study involved investigation of effect of nitrogen and micronutrients on growth and yield of Isabgol (*Plantago ovata*. Forsk) variety Gujarat Isabgol 2. The results obtained indicate that applications of nitrogen influences many characters like spike emergence, dry weight of the biomass except plant height. The interaction between nitrogen application and micro nutrients was found to be non significant.

### **Pharmaceutical sciences- Division :**

#### **Department of Phytochemistry :**

#### 3. Phyto-Pharmacological Investigation of *Physalis minima* Linn.

Scholar : Dr. Kanhaiya R. Kadam, Guide : Dr. V. J. Shukla.

In this study a new method is developed to extract alkaloids from *Physalis minima* Linn., which are among the most important groups of secondary metabolites. A method with surfactant, where properties of wetting, dispersion, solubilisation and emulsification reduce the solvent and time necessary for the extraction of alkaloids from *Physalis minima* Linn has been described with actual demonstration. The extracts were analyzed for different chemical parameters.

The study confirmed efficiency of extraction of alkaloids using surfactants. Some of the fractions exhibited anti-microbial activity against clinical isolates confirming the plant's utility as anti-microbial agent.

#### 4. Study on Extraction Processes & Planar Chromatography of *Cissus quadrangularis* Linn.

Scholar : Manisha Sharma, Guide : Dr. V. J. Shukla,  
Co-guide : Shri. A.P.G.Pillai.

The three conventional methods of extraction frequently employed are maceration, percolation and soxhlet continuous extraction. This study was undertaken to ascertain which of the above three methods is ideal with respect to *Cissus quadrangularis* Linn. The obtained extracts were subjected to chromatographic and spectral analysis. The study indicated necessity of selection of proper stationary phase and solvent system to determine chemical profile of a plant.

#### 5. A Comparative Phytochemical Analysis of Male and Female Species of *Carica papaya* Linn.

Scholar : Sandip M. Lunagariya, Guide : Dr. A. J. Baxi.

The study was undertaken to study the influence of gender on the chemical profile of *Carica papaya* Linn. The comparative HPTLC- based chromatograms of methanol extract of the samples obtained by using different solvent systems and detecting methods shows differences in their chemical constituents. The result shows that two compounds are common in both the sample at Rf 0.17 and 0.26. The amounts of both the compounds are high in male species and it covers maximum area % in the chromatogram i.e. 30.54% and 66.97% respectively while in case of female it covers 34.83% and 39.98% of area respectively. Based on the data obtained it can be concluded that the number of the phytoconstituents in female is higher than male where as the amount of the phytoconstituents is higher in male as compared to female species.

#### **Department of Pharmacognosy :**

The Pharmacognosy Laboratory attached to IPGT and RA has been co-opted to serve as the Department of Pharmacognosy for the Institute.



6. Pharmacognostic Investigation of various market samples of Umbelliferous fruits with special reference to *Daucus carota* Linn.

Scholar : Saurabh Sharma,  
Co-Guide : Shri A.P.G. Pillai.

Guide : Dr. Malati G. Chauhan,

In this study pharmacognostic aspects of *Daucus carota* have been analyzed as an example of Umbelliferous fruit. Umbelliferous plants are so named because of the arrangement of their flowers i.e. Umbel/Umbrella shape. Characteristic features of fruit and seeds of the plant were determined taking into consideration two fruit and seed profile of the family as a whole.

7. Comparative Pharmacognostical Studies of *Abutilon indicum* Sw. & *Abutilon glaucum* Sw. Seeds (Malvaceae)

Scholar: Jyoti Dixit,  
Co-Guide: Shri A.P.G. Pillai.

Guide : Dr. Malati G. Chauhan,

Controversy exists with regards to the correct identity of the classical plant Bala. Hence it is essential to evaluate the morphological and microscopical character of seeds of different candidate plants to differentiate one from another. To begin with seeds *A. indicum* Sw. and *A. glaucum* Sw. were selected for their macro and microscopic characters, which include their powder study also. The seed surface in *A. indicum* Sw. is blackish brown, it is pitted and stellate hairs are more located near the stropheole unlike the seeds of the *A. glaucum* Sw., the texta of which is reddish brown in colour and the surface is covered with stellate hairs. With the help of trichomes the sections and powders of both these seeds can also be easily differentiated. The length of the arms of stellate trichome in *A. indicum* Sw. are shorter unlike those of *A. glaucum* Sw., where they are almost double in height than that of the former. Cluster of calcium oxalate crystals are present in cells of endosperm in *A. indicum* Sw. only and not found in *A. glaucum* Sw.

**Research studies carried out as part of M. Pharm (Ayu.) dissertation assignment :  
Ayurvedic Pharmaceutics (Rasashastra and Bhaishajya Kalpana).**

1. A comparative Pharmaceutico-Analytical study of Kwatha prepared by different methods W.S.R. to Rasnasaptak Kwatha.

Scholar : Pankaj Shukla,  
Co-Guide : Mr. Amit Joisar

Guide : Dr. P. K. Prajapati,

The present work deals with the preparation of Rasnasaptak kwatha by two methods. In one method the kwatha was prepared by taking all the drugs and water volumetrically. The study was also extended to preparation of ghana from the respective kwatha and comparative study was done. Then the ghana was converted to dip-bag form. In the conceptual part different concepts of extraction have been discussed along with providing information about the ingredients. Details of two standards operative procedures (SOP) employed are given in pharmaceutical study section. The products were subjected to different types of analysis. Analysis of the data show that volumetric kwatha took less time to prepare as compared to the gravimetric kwatha. The yield of Ghana was less in the former. The yield of Ghana in both the method was sticky till drying. Most of the parameters indicate Dip-bag form of Kwatha is more convenient for the patient with respect to quantity to be consumed, taste, smell and palatability.

2. A comparative Pharmaceutical and Analytical study of Apamarga Kshara prepared by different methods.

Scholar : Vijay Hinsu,  
Co-Guide : Dr. V. J. Shukla

Guide : Dr. Biswajyoti Patgiri,

In this study, an attempt was made to prepare different samples of Apamarga Kshara by classical methods and to compare them on the basis of Pharmaceutical as well as Analytical study parameters. For achieving a standardized product, in the present study we tried to standardize all the critical stages, viz. (1) Raw material standardization (2) In process standardization (3) Finished product standardization. Authenticated materials were used in the study. Validation Master Protocol (VMP) which included both equipment validation and process validation was prepared as part of SOPS.

### **Ayurvedic Plant Sciences (Dravyaguna Vigyan) :**

3. Study of Jala-Pippali (*Phyla nodiflora* Linn., Syn. *Lippia nodiflora* Rich.) with special reference to its Pharmacognostic and Phytochemical study.

Scholar : Amrinder Kaur,  
Co-Guide : Dr. V. J. Shukla

Guide : Prof. P. P. Sharma,

This study covers different aspects of the plant Jala-pippali. Ayurvedic literature review was undertaken to obtain information on *Jala-pippali*. Modern literature review was undertaken to gather information regarding botanical name, brief description of the family verbenaceae, vernacular names, distribution and plants description, chemical constituents with their structural formula, action and uses. Macroscopical aspects of root, stem and leaf were studied. Microscopic profile of the root and stem was studied to define the characteristic features. Fourth part of the study dealt with Analytical aspects. This chapter deals with physico-chemical parameters and results of qualitative test. Chromatography was done for multi component mobile phase designing of different extracts. The phenolic components of the extracts were evaluated using U.V. visible spectrophotometer. Quantitative estimation of tannin was also done.

4. Pharmacognostical and Phytochemical evaluation of two varieties of seeds of *Punica Granatum* Linn. (Punicaceae)

Scholar : Priyanka B. Patel,  
Co-Guide : Dr. M. G. Chauhan.

Guide : Prof. P. P. Sharma,

Two cultivated varieties of Dadima were compared with the help of macroscopical, microscopical and phytochemical evaluation. The dried seeds were taken for the study. The dissertation contains literature review based information on different aspects of the plant. Both the varieties were subjected to morphological microscopical and phytochemical studies. The data generated during the study showed differences between the two varieties with respect to chromatographic profile.

### **Pharmacognosy & Phytochemistry of Ayurvedic Drugs :**

5. Pharmacognostic and Phytochemical evaluation of four *Cassia* seed drugs used in skin disease.

Scholar : Renu chib,  
Co-Guide : Shri. A. P. G. Pillai.

Guide : Prof. M. G. Chauhan,

A comparative study of seeds of four cassia species used in the treatment of skin disorders was undertaken. From the morphological characters a person well versed in the observation of botanicals can identify the seeds easily but microscopy was not found much informative for exact identification except the sizes of the cells of the tissue in the testa, which was measured by quantitative microscopy to evaluate the exact variety microscopically. The percentage of fixed oil was found more in *C. obtusifolia* as compared to *Cassia tora* and almost similar in *C. occidentalis* and *C. sophera*. The T.L.C. study revealed that fixed oil constituents of all the 4 seeds are almost similar and steroidal content of *C. obtusifolia* is higher as compared to *C. tora*. Similarly, steroids in *C. occidentalis* and *C. sophera* are almost similar. Chemical and histochemical tests revealed presence of anthraquinone only in *C. obtusifolia* and absent in *C. tora*. *C. occidentalis* and *C. sophera* were almost similar. Estimation of Anthraquinone in all the 4 seeds is essential to take further decision to use them as substitutes.

6. Pharmacognostical & Phytochemical study on varieties of Gunja [*Abrus precatorius* Linn]

Scholar : Priti Pandya,

Guide : Prof. M. G. Chauhan,

Co-Guide : Dr. P. P. Sharma.

A comparative study was carried out on three varieties of Gunja. Morphologically differences were observed with respect to number, colour and length of the legumes. Differences were also observed in the microscopic profile with respect to palisade, pigment area, parenchyma in the testa and staining with phloroglucinol. In physico-chemical study, difference among the three varieties was observed with respect to extractive values, ash value, and loss on drying. Preliminary phytochemical studies revealed the presence of carbohydrates, alkaloids, flavanoids, terpenes, tannins, proteins and anthraquinone glycosides in all three plants where anthocyanins are only present in scarlet red and black variety seeds and absent in the white variety seeds. Quantitative estimation of alkaloids as total alkaloid indicates that, the black variety seeds have more percentage of alkaloid content than the red or white seeds. TLC study revealed no difference in the profile.

**Pharmaceutical Analysis & Standardization of Ayurvedic Drugs :**

7. Chemical evaluation and analytical standardization of Kushtha Rakshasa Taila an ayurvedic formulation.

Scholar : Solanki Tushar N.,

Guide : Dr. V. J. Shukla.

The present study was undertaken on two samples of Kushtha Rakshas Taila- prepared by two different methods to establish standards for evaluating its quality. KRT-1 was prepared by exposure to sunlight and where as KRT-2 was prepared by exposing to artificial light. The study included review of available literature, collection of information about different aspects of standardization and quality control, information on sneha kalpana, avartana process and profile of the ingredients of Kushtha Rakshas Taila. The analytical data obtained during the study showed differences in the profile. Acid valued increased by ten fold in KRT-1 indicating increase in total fatty acid content. TLC studies revealed the presence of constunolide in Kushtha; plumbagin, Q-amyrin acetate and alanine is chittrak, saptaparna and lasuna. Bakuchi revealed presence of psoralen. Analysis of the overall data shows that ideal method of preparation of KRT is through exposure to sunlight.

**8. Quality control and Analytical Standardization of Jatyadi Ghrita - An Ayurvedic formulation.**

Scholar : Uttam Kumar Gupta,  
Co-Guide : Mr. Amit N. Joisar

Guide : Dr. A. J. Baxi,

This study is devoted to standardization of Jatyadi Ghrita. The first phase of the study comprised of raw material and finished product analysis in comparison to market samples. Analysis of the data showed higher moisture content, higher specific gravity and higher refractive index in market samples in comparison to lab samples. Further, higher acid value and less saponification value was observed in one of the market samples. Market samples showed rancidity and higher iodine value. HPTLC - analysis showed qualitative similarity but quantitative variation. The data show variation in market samples and emphasize need for standardization.

**Pharmacology & Toxicology of Ayurvedic Drugs :****9. Hepatoprotective activity evaluation of Rohitaka Ghrita.**

Scholar : Rohit Goyal,

Guide : Dr. B. Ravishankar,

Co-Guide : Dr. V. J. Shukla

The study includes information on different aspects of the test formulations. These include information given in classical and modern literature, chemical and activity profile of different ingredients, review of the methods employed in hepatoprotection activity evaluation and the concept of hepatic disorders in Ayurveda and their modern correlates. This experimental part comprises evaluation of the efficacy of Rohitaka ghrita as a hepatoprotective agent against two well known toxicants- paracetamol and carbon tetrachloride (CCl<sub>4</sub>) in rats. Effect of test drug administration on toxicant induced changes in ponderal, biochemical (both in serum/tissue homogenate) and histopathological parameters has been presented. The data generated, surprisingly, indicated presence of strong hepatoprotective activity in the ghrita- which is used as vehicle per se. The test preparation showed mild to moderate protection at lower dose level (4g/kg-po) and moderate to good effect at higher dose level (8g/kg-po).

**Ph. D. Students :**

**Preliminary admission has been granted to 6 students. The synopsis submitted by the candidates is under evaluation.**

**Medico Botanical Study Tour :** An educational tour, for the students of the first and final year M. Sc. (Ayu. Medicinal Plants), was undertaken to Southern Gujarat during 2nd Oct. to 12th Oct. 2006 under the leadership of Shri. A. P. G. Pillai & Shri. Chandima. The group visited National Research Centre for Medicinal & Aromatic Plants and Agricultural University - Anand to acquire the knowledge regarding Agro-techniques for Medicinal & Aromatic Plants cultivation. Later they also visited Forest areas of Rajpipla, Dang and Saputara for Botanical identification of various Medicinal Plants including Botanical garden at Waghai and Various Ayurveda Pharmaceutical Industries located at Saputara district.



## OTHER CURRICULAR ACTIVITIES

### GENERAL INFORMATION :

At present the institute is having 9 departments offering post graduate degree in 13 specialties. Total number of faculty members is 19 including 8 female teachers. Services of Visiting Professors and guest lecturers are being utilized due to shortage of regular teaching faculty. There are five well equipped laboratories viz. Pathology, Bio-chemistry, Pharmacology, Pharmacognosy, Modern Medicine, and Pharmaceutical Chemistry. These are headed by the qualified technical staff who help the research scholars for their research projects.

During the month of April, admission process for PG was started and total 1186 students appeared for all India entrance examination in which 32 students including one foreign National were admitted for MD /MS course for the academic session of 2006 -07. Total 132 scholars of M.D. and Ph.D. are studying in the institute; among them 50 are females. Out of these students two have been nominated by the Govt. of India and one Sri Lankan student was admitted under ICCR scholarship. 03 SC, 02 ST, 02 OBC / SEBC candidates were admitted during the year 2006-07 in M.D. (Ayu) / M.S. (Ayu) course conducted by this Institute. This Institute is also conducting M Pharma (Ayurved) and M Sc (Ayurvedic Med Plants) course under Self Finance scheme.

Year 05-06	Boys	Girls	Total
First M. D.	20	12	32
Second M. D.	16	16	32
Third M. D.	19	15	34
Ph. D.	11	02	13
M. Sc. Med. Plant	05	01	06
M. Pharm (Ayu)	11	04	15

In the month July Examination of MD /MS course was conducted and 30 students appeared for examination and result was 100%. During the year 14 scholars of this Institute have been awarded degree of Ph.D.

### 51st Foundation Day Celebrations of I.P.G.T. & R.A.

On 51st foundation day i.e. 20th July-2006 a National Workshop on Rogavijnan was organized. Total 230 delegates from various parts of the country participated in this programme. During these two days total nine eminent scholars of Ayurveda from all over the country delivered guest lectures in four scientific sessions.

On the occasion Dr. P.M. Mehta memorial lecture was delivered by Vd. Y.G. Joshi, Eminent Ayurvedist and Ex. Principal, Tilak Ayurveda Mahavidyalaya, Pune on "Anshasha kalpana of doshas - problems in diagnosis and their applied utility in the management of diseases".

Two symposia on following subjects were also organized in which nine subject experts from different parts of the country expressed their views.

1. Role of modern diagnostic tools in Ayurvedic diagnostics and treatments.
2. Ayurvedic diagnostic & assessment protocols, an ideal Rogi - Roga Pareeksha Patra

**Workshop on Roganidaana Syllabus** - During this program a special session was organized to discuss the syllabus of this subject at PG level. This session was attended by PG

teachers of more than 6 PG centers. After the discussions suggestions for the revision of M.D. (Ayu) syllabus of Rgoavijnan were prepared.

### **Guest lectures**

During the year 2006 - 07 following guest lectures were organized by the Institute:

1. Dr. Krishna Narayan Pandey, Jt. Director, Rajbhasha, Department of AYUSH, New Delhi has delivered guest lecture on *Sanskrit Bhasha ka Hindi Evam Kshetriya Bhashao me prayoga.* (01.02.2007)
2. Dr. Philipp Moss, Project Officer, Department of Indology, University of Bonn Germany has delivered guest lecture on Philosophy and medicine in early classical India. On 08.02.2007
3. Shri Vithalbai Ukani, Chairman, Vasu Pharmaceutical Pvt. Ltd. has delivered guest lecture on Management of Osteoporosis and Renal Disorders. (28.03.2007)
4. Prof. Chaturbhuj Bhuyan, President of Indian Proctology society & Head of the Shalya Shalakya Department, Gop Bandhu Ayurved Mahavidyalaya, Puri has delivered guest lecture on Ksharakarma & its scope in proctology. (02.08.2007)

### **Guest Lectures on Teaching Methodology**

Foundation Day of Gujarat Ayurved University is celebrated on 5th January of every year. On this occasion one guest lecture series was organized and following speakers delivered lectures.

1. Dr. Chetna Desai, Associate Professor, Dept. Of Pharmacology, B.J. Medical College, Ahmedabad - Importance of teachers training and teaching methodology in medical science.
2. Dr. Bhadrayu Vachhrajani, Director, Academic Sataff College, Saurashtra University - Teaching methodology.
3. Dr. M. A. Santwani & Dr. Rajendra Thakar has delivered guest lectures on awareness regarding AIDS and its control.

### **CME Programme**

One day CME programme has been organized in Institution by Himalaya Drug Company in April 2007. Lecture on Quality assurance was delivered by Dr. Vijendra Prakash, Manager CME service, Himalaya Drug Company.

### **All India essay competition**

An all India essay competition for the P.G. scholars of Ayurveda was conducted. Result of which was declared on the occasion of closing ceremony of the Golden Jubilee Celebrations. Dr Bazil Codozo Jamanagar, Dr M Krithiga of Bijapur and Dr Baibhav Dadu - Jamnagar were awarded I, II, III prizes respectively.

### **Akhanda Samhita Path**

As per every year this year also I.P.G.T. & R.A. has conducted the continues and complete Samhita pathan of the continuous reading of "Ashtang Hridaya" till its completion.

**Foreign visits of institute officers** - Preparation of Guidelines of basic training and safety in Ayurveda and other Traditional Systems of Medicine at Milan, Italy during 20-23 November, 2006. As per the permission granted by the Department of AYUSH, Ministry of Health & F.W., Govt. of India Dr. M.S. Baghel, Director, I.P.G.T. & R.A., Gujarat Ayurved University, Jamnagar along with

Dr. S. S. Savrikar, Vice-Chancellor, G.A.U., Jamnagar participated in WHO Consultation on drafting of guidelines of basic training and safety in Ayurveda, Chinese Medicine and other Traditional Systems of Medicine at Milan, Italy during 20-23 November, 2006. After discussion 3 sets of practitioner courses and two therapist courses were finalized. A separate document for Ayurvedic pharmacy education and safety has also been finalized. Three categories of Pharmacy courses were proposed i.e. Pharmacist, dispenser and whole seller.

### **Nomination in working group for 11th five year plan**

Hon'ble Vice Chancellor Dr. S.S. Savrikar, has been nominated in the Task Force for the Working Group on AYUSH Education constituted by Planning Commission to access the Health Systems including AYUSH for eleventh Five Year Plan (2007-2012). Dr. H.M. Chandola, Reader, Dept. of Kayachikitsa has been nominated in Working Group of Planning Commission to access the Public Health Systems including AYUSH and attended its first meeting held on July 24, 2006.

### **ACADEMIC ACTIVITIES :-**

- \* Total 41 weekly seminars were organized, on every working Thursday in which final year post graduate scholars presented their research work.
- \* Total 442 theory classes & 365 practical classes were conducted for first year M.D.(Ayu.) scholars while total number of theory classes for second & third year scholars was 1072.
- \* Total 726 practical classes were conducted for these students by various departments.
- \* Academic tour of Dept. of R.S.& B.K. was organized in November 2006.

### **RESEARCH ACTIVITIES :-**

1. Total 34 research projects of M.D.(Ayu.) & M.S. (Ayu.) were carried out. Number of Ph.D. research projects approved during the year was 12.
2. Apart from these regular research activities following research projects are in progress. Project on various aspects of Punarnavadi Mandoor is going on in the different departments of the institute.
3. Project to prepare SOP of 10 Herbo Mineral Formulation sponsored by Dept. of AYUSH is being carried out in the department of R.S.&B.K.
4. Project on Drug Standardization is going on in Pharmaceutical Chemistry lab. This project is also sponsored by Dept. of AYUSH.

### **INDUCTION OF NEW UNITS AT I.P.G.T. & R.A. :-**

**IT Centre** - Institute has established IT centre for the knowledge update of P.G. Scholar and faculty members of I.P.G.T. & R.A. through internet. Total 16 terminals has been made available for this purpose.

**Nimi Agara** - In the current year Ophthalmic operating microscope has been added to the instruments and Nimi Agara (Ophthalmic O.T.) has started functioning.

**Family Planning Unit** - Under the department of Stri Roga & Prasuti Tantra Family Planning Unit has been established in January 2007. Patients visiting P.G.T. hospital are being advocated for the different methods of contraception and Condom is distributed at free of cost.



**GUJARAT AYURVED UNIVERSITY, JAMNAGAR**  
**INSTITUTE FOR POST GRADUATE TEACHING**  
**& RESEARCH, JAMNAGAR**  
(PLAN A/C)  
**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 2006-2007, by Gujarat Ayurved University, Institute of Post Graduate Teaching & Research, (Plan Accounts), Jamnagar. We hereby certify that the closing balance as on 31st March, 2007 for the above is as under:

<b>Un-utilised Opening Balance as on 01.04.2006</b>		<b>Rs. 43,55,283.00</b>
<b>Add :</b> Grant Received during the year 2006-07		Rs. 56,45,000.00
Bank Interest received during the year 2006-07		Rs. 1,10,146.00
Ayu Journal Income		Rs. 920.00
House rent recovery		Rs. 4,939.00
	<b>Total..</b>	<b>Rs. 1,01,16,288.00</b>
<b>Less: <u>Expenditure Incurred :</u></b>		
Direct expenses	Rs. 33,38,036.00	
Indirect expenses	Rs. 2,41,406.00	
Capital expenditure	Rs. 62,38,957.00	
	<b>Total Expenditure...</b>	<b>Rs. 98,18,399.00</b>
<b>Closing Balance as on 31-03-2007</b>		<b>Rs. 2,97,889.00</b>

For detail of above referred incomes and expenditures refer to the audit report of even dated together with Balance Sheet as at 31st March, 2007 and Income & Expenditure account for the year ended on that date.

Jamnagar  
Date :

Sd/-  
**For D. S. Varia & Co.**  
Chartered Accountants



## 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, 2007 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 2007 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 D. S. Varia & Co.**  
Chartered Accountants

# GUJARAT AYURVED UNIVERSITY,

I. P. G. T. & R., JAMNAGAR

Non-Plan Account

Balance Sheet as at 31<sup>st</sup> March, 2007

Particulars	Schedule	Amount Rs.
<b>SOURCES OF FUNDS:-</b>		
CAPITAL FUND	1	90,857,553
INCOME & EXPENDITURE ACCOUNT (PLAN)	2	17,499,624
INCOME & EXPENDITURE ACCOUNT (NON-PLAN)	3	155,369
		<b>108,512,546</b>
<b>APPLICATION OF FUNDS:-</b>		
FIXED ASSETS (PLAN & NON PLAN)	4	108,099,161
CURRENT ASSETS, DEPOSITS & CASH & BANK BALANCE (PLAN)	5	297,889
		<b>297,889</b>
CURRENT ASSETS, DEPOSITS & LOANS & ADVANCES-(NON-PLAN)	6	33,350
CASH & BANK BALANCES (NON-PLAN)	7	171,164
		<b>204,514</b>
CURRENT LIABILITIES & SECURITY DEPOSITS (PLAN)	8	-----
CURRENT LIABILITIES & SECURITY DEPOSITS (NON-PLAN)	9	89,018
<b>WORKING CAPITAL</b>		413,385
		<b>108,512,546</b>
NOTES TO ACCOUNTS	18	-----

AS PER OUR AUDIT REPORT OF EVEN DATED ATTACHED HEREWITH

JAMNAGAR :

Date :

Sd/-

**For D. S. Varia & Co.**

Chartered Accountants

Sd/-

**Accounts Officer,**

I. P. G. T. & R.

Gujarat Ayurved University,  
Jamnagar.

Sd/-

**Director,**

I. P. G. T. & R.

Gujarat Ayurved University,  
Jamnagar

**GUJARAT AYURVED UNIVERSITY,**

I. P. G. T. &amp; R., JAMNAGAR

**Plan Account****Income + Expenditure Account for the year ended on 31<sup>st</sup> March, 2007**

Particulars	Schedule	Amount Rs.
<b>INCOME:</b>		
DIRECT INCOME	10	5,645,000
INDIRECT INCOME	11	1,11,066
<b>TOTAL INCOME</b>		<b>57,56,066</b>
<b>EXPENDITURE:</b>		
DIRECT EXPENSES	12	33,28,014
INDIRECT EXPENSES	13	2,41,406
<b>TOTAL EXPENDITURE</b>		<b>35,69,420</b>
NET SURPLUS OF INCOME OVER EXPENDITURE FOR THE YEAR		<b>21,86,646</b>
NOTES TO ACCOUNTS	18	

AS PER OUR AUDIT REPORT OF EVEN DATED ATTACHED HEREWITH

Sd/-

JAMNAGAR :

Date :

**For D. S. Varia & Co.**  
Chartered Accountants

Sd/-

**Accounts Officer,**  
I. P. G. T. & R.  
Gujarat Ayurved University,  
Jamnagar.

Sd/-

**Director,**  
I. P. G. T. & R.  
Gujarat Ayurved University,  
Jamnagar

# GUJARAT AYURVED UNIVERSITY,

I. P. G. T. & R., JAMNAGAR

Non - Plan Account

Income + Expenditure Account for the year ended on 31<sup>st</sup> March, 2007

Particulars	Schedule	Amount Rs.
<b>INCOME :</b>		
DIRECT INCOME	14	5,71,90,205
INDIRECT INCOME	15	2,96,193
<b>TOTAL INCOME</b>		<b>5,74,86,398</b>
<b>EXPENDITURE :</b>		
DIRECT EXPENSES	16	5,59,73,257
INDIRECT EXPENSES	17	22,43,980
<b>TOTAL EXPENDITURE</b>		<b>5,82,17,237</b>
<b>NET SURPLUS OF INCOME OVER EXPENDITURE FOR THE YEAR</b>		<b>(7,30,839)</b>
NOTES TO ACCOUNTS	18	

AS PER OUR AUDIT REPORT OF EVEN DATED ATTACHED HEREWITH

JAMNAGAR:  
Date :

Sd/-

**For D. S. Varia & Co.**  
Chartered Accountants

Sd/-

**Accounts Officer,**  
I. P. G. T. & R.  
Gujarat Ayurved University,  
Jamnagar.

Sd/-

**Director,**  
I. P. G. T. & R.  
Gujarat Ayurved University,  
Jamnagar

**GUJARAT AYURVED UNIVERSITY,**

I. P. G. T. &amp; R., JAMNAGAR

**Plan Account****Schedule to and Forming Part of Balance Sheet as at 31<sup>st</sup> March, 2007**

<b>Particulars</b>	<b>Amount Rs.</b>
<b>SCHEDULE : 1 CAPITAL FUND:-</b>	
CAPITAL FUND	9,08,57,553
	<b>9,08,57,553</b>
<b>SCHEDULE : 2 INCOME &amp; EXPENDITURE ACCOUNT:-</b>	
ADD : OPENING BALANCE OF INCOME OVER SURPLUS	1,53,12,978
ADD : SURPLUS OF INCOME OVER EXPENDITURE FOR THE YEAR	21,86,646
	<b>1,74,99,624</b>
<b>SCHEDULE: 4 FIXED ASSETS:</b>	
ANIMAL HOUSE	29,98,516
AQUA WATER PURIFIER	17,081
BOYS HOSTEL	47,09,981
BUILDING AT SASOI	24,97,566
BOOKS PERIODICALS	5,46,832
COMPOUND WALL & FENCING SASOL	4,44,980
COMPOUND WALL P.G.T	2,60,193
COMPUTER	3,03,557
COMPUTER PRINTER	56,000
COM WALL STAFF QUARTER P.G.T.	3,17,279
EQUIPMENT (KUMARBHRUTYA)	3,28,165
EQUIPMENT COMPUTERS	89,15,223
FURNITURE	1,27,81,301
GEYSER & ELEC FAN (STUDENT HOSTEL)	1,01,755
GLASS GREEN HOUSE SASOI	16,00,000
HOST STAFF QUARTER P.G.T.	1,69,40,192
HOST.INT.SCHOLAR	34,42,868
INTERNATIONAL HOSTEL PH2	31,95,800
I.S.HOSTEL PART-2(W.I.P.)	60,09,410
LABORATORY EQUIPMENT	8,84,018
LADIES HOSTEL P.G.T.	54,47,201
LIBRARY BUILDING	9,58,286
NEW WARD PH. 3 P.G.T.	95,81,716
PANCHKARMA BLOCK PH.4.P.G.T.	67,74,806
P.G.T BUILDING	26,68,704
P.G.T.GUEST HOUSE	14,84,700
STAFF QUARTER SASOI B.G.P.G.T.	4,44,619

Particulars	Amount Rs.
TRIGARBHKUTI BUILDING	24,20,000
WARD BLOCK PH.3 O.P.D.P.G.T.	95,36,539
TRIBUG KUTIR,PGT GUEST HOUSE,INTER.CALLERS GUEST HOUSE	23,92,000
	<b>10,80,59,288</b>
<b>SCHEDULE: 5 CASH &amp; BANK BALANCES :-</b>	
BANK ACCOUNT -S.B. A/C 20280	2,97,889
	<b>2,97,889</b>
<b>SCHEDULE : 8 CURRENT LIABILITIES :-</b>	
.....	-----
<b>SCHEDULE: 10 DIRECT INCOMES :-</b>	
GRANT IN AID	56,45,000
	<b>56,45,000</b>
<b>SCHEDULE :11 INDIRECT INCOMES:-</b>	
BANK INTEREST/COMMISSION	1,10,146
AYU JOURNAL INCOME	920
	<b>1,11,066</b>
<b>SCHEDULE :12 DIRECT EXPENSES :-</b>	
AYU JOURNAL EXPS.	2,000
BOOKS & ABSTRACT FOR THESIS	62,375
OUT SOURCING	5,84,356
PUNARNVADI PROJECT	72,783
RAILWAY COOLIE & TRANSPORT CHARGES	19,740
REVENUE ESTABLISHMENT EXPENSE	10,83,652
SEMINAR	47,157
SEMINAR OF NATIONAL SYMPOSIA EXPS.	1,51,057
5TH INTERNATIONAL SEMINAR EXPS.	1,42,919
SALARY EXPS.	11,53,275
APC PROJECT OF RAS. SHA.	8,700
	<b>33,28,014</b>
<b>SCHEDULE :13 INDIRECT EXPENSES :-</b>	
DEAN'S CAR EXPENSES	2,41,406
	<b>2,41,406</b>

JAMNAGAR :

Date :

Sd/-

**For D. S. Varia & Co.**

Chartered Accountants

Sd/-

**Accounts Officer,**

I. P. G. T. & R.

Gujarat Ayurved University, Jamnagar.

Sd/-

**Director,**

I. P. G. T. & R.

Gujarat Ayurved University, Jamnagar.

**GUJARAT AYURVED UNIVERSITY, JAMNAGAR**  
**INSTITUTE FOR POST GRADUATE TEACHING**  
**& RESEARCH, JAMNAGAR**  
**(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 2006-2007, 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, 2007 for the above is as under:

<b>Un-utilised Opening Balance as on 01.04.2006</b>	<b>Rs.</b>	<b>11,07,793</b>
<b>Add :</b> Grant Received during the year 2006-07	Rs.	5,58,92,207
Direct Income	Rs.	12,97,998
Indirect Income	Rs.	1,39,005
Deduction made in Stipend to MD Student	Rs.	15
Security Deposit	Rs.	-----
Recovery from Staff Advances	Rs.	40,550
H.R.R	Rs.	56,822
University fee collection & library deposits.	Rs.	5,250
<b>Total....</b>	<b>Rs.</b>	<b>5,85,39,640</b>
<b>Less : <u>Expenditure Incurred :</u></b>		
1. Direct Expenses	Rs.	5,61,02,449
2. Indirect Expenses	Rs.	22,43,980
3. Capital expenditure	Rs.	21,547
4. Deposit Refund (Net)	Rs.	500
<b>Total Expenditure</b>	<b>Rs.</b>	<b>5,83,68,476</b>
<b>Closing Balance as on 31.03.2006</b>	<b>Rs.</b>	<b>1,71,164</b>

For detail of above referred incomes and expenditures refer to the audit report of even dated together with Balance Sheet as at 31st March, 2007 and Income & Expenditure account for the year ended on that date.

JAMNAGAR :  
Date :

Sd/-  
**For D. S. Varia & Co.**  
Chartered Accountants

# GUJARAT AYURVED UNIVERSITY,

I. P. G. T. & R., JAMNAGAR

## Non-Plan Account

Schedule to and Forming Part of Balance Sheet as at 31<sup>st</sup> March, 2007

Particulars	Amount Rs.
<b>SCHEDULE : 3 INCOME &amp; EXPENDITURE ACCOUNT :-</b>	
OPENING BALANCE B/FD	8,86,207.79
ADD : SURPLUS OF EXPENDITURE OVER INCOME FOR THE YEAR	(7,30,838.79)
CLOSING BALANCE C/FD	<b>1,55,369.00</b>
<b>SCHEDULE : 4 FIXED ASSETS :</b>	
LIBRARY BOOKS & PERIODICALS	15,827.00
FURNITURE & FIXTURE	24,046.00
	<b>39,873.00</b>
<b>SCHEDULE: 6 CURRENT ASSETS, DEPOSITS &amp; LOAN &amp; ADVANCES:-</b>	
<b>ADVANCES TO STAFF:</b>	
ADVANCES OF REGISTRATION FEES	3,700.00
ADVANCE ON REVENUE(D.G.PANCHOLI)	5,000.00
FESTIVAL ADVANCE	18,150.00
FOOD GRAIN ADVANCE	6,500.00
	<b>33,350.00</b>
<b>SCHEDULE : 7 CASH &amp; BANK BALANCES :</b>	
BANK ACCOUNT -C.A/C 135	1,71,164.00
	<b>1,71,164.00</b>
<b>SCHEDULE : 9 CURRENT LIABILITIES :</b>	
UNIVERSITY FEE COLLECTION	
MEDICAL EXAMINATION FEES	34,000.00
LIBRARY DEPOSIT	1,200.00
OTHER DEDUCTION	15.00
<b>SECURITY DEPOSITS</b>	
SECURITY DEPOSITS	41,303.00
HOSTEL DEPOSITS	12,500.00
	<b>89,018.00</b>
<b>SCHEDULE : 14 DIRECT INCOMES :</b>	
HOSPITAL CLINICAL CHARGES	62,972.00
HOSTEL RENT, ELECT.CHGS. & MAINT. INCOME	4,23,700.00
INFORMATION FILING FEES	1,476.00
M.D. ADM. FORM FEE INCOME	5,73,000.00
PHD. ADMISSION FEES	8,400.00



Particulars	Amount Rs.
PHD. FORM FEES	1,350.00
PHD. TERM FEES	57,700.00
SEMINAR OF NATIONAL SYMOSIA INCOME	23,400.00
THESIS SUB FEES	1,46,000.00
<b>GRANT IN AID :</b>	
GRANT IN AID FROM GOVT. OF INDIA	5,58,92,207.00
	<b>5,71,90,205.00</b>
<b>SCHEDULE :15 INDIRECT INCOMES :-</b>	
<b>RECEIPTS FROM STUDENTS :</b>	
EXAMINATION FEES	75,800.00
<b><u>OTHERS :</u></b>	
MISCELLANEOUS RECEIPTS	1,97,793.00
TENDER FORM FEE	22,600.00
	<b>2,96,193.00</b>
<b>SCHEDULE : 16 DIRECT EXPENSES :</b>	
P.G.FOUNDATION DAY	-
BOTANICAL GARDEN(SASOI)	1,09,395.00
DAILY WAGES	1,20,427.00
D.D.C.(DIET) EXPENSES	3,98,516.00
D.D.C.(DRUGS) EXPENSES	19,46,169.00
ENCASHMENT OF LEAVE	7,22,900.00
EXAMINER REMU & T.A.D.A BILL	3,77,852.00
LABORATORY EXPENSES	62,580.00
M.D.ADM.FORM FEE EXP	1,05,917.00
RESEARCH FELLOWSHIP TO P.H.D.STUDENT	17,39,764.00
STIPEND TO M D STUDENT	1,31,28,373.00
<b>CONTINGENCIES :</b>	
ADVERTISEMENT EXP (CONT)	6,21,012.00
ANIMAL PURCHASE AND MAINTENANCE EXP	1,30,615.00
ELECTRICITY CHARGES & ELECTRICAL GOODS EXPENSES	15,41,819.00
FURNITURE & FIXTURES EXPENSES	827.00
GAS CYLINDER REFILING CHARGES	95,789.00
HOSPITAL CONTINGENCIES	2,85,746.00
LABORATORY CHEMICALS & GLASSWARES EXPENSES	1,74,294.00
THESIS EXPENSES TO MD AND P H D STUDENTS EXP	2,24,936.00
<b><u>SALARY EXPENSES :-</u></b>	
SALARY (ADM. & TEACHING) EXPENSES	2,30,36,850.00
SALARY (HOSPITAL PHARM) EXPENSES	1,07,63,180.00
BONUS EXPENSES	3,86,296.00
	<b>5,59,73,257.00</b>

Particulars	Amount Rs.
<b>SCHEDULE : 17 INDIRECT EXPENSES :-</b>	
AUDIT EXPS	36,066.79
BUILDING REPAIRS EXPENSES	50,906.00
COMPUTER EXP. INCL. STATIONERY. MAINT. EXP& ZEROX	14,733.00
CLOTHING EXPES.	75,054.00
CONTINGENCIES	2,500.00
COURT FEES	60,030.00
INFORMATION ACT 2005 EXP.	20.00
MACHINERY MAINTENANCE & REPAIRS	1,12,926.00
RECOGNIZATION FEES	65,000.00
REIMBURSEMENT OF MEDICAL BILLS	46,634.00
X RAY EXP INCL REPAIRS EXP.	32,338.00
MISCE. EXP	1,86,775.00
POST AND TELEGRAPH EXPENSES	23,500.00
PRINTING CHARGES	1,24,928.00
RLY. FREIGHT & TRANSPORT, COOLLIE EXP.	6,428.00
STATIONARY EXPS.	1,14,109.00
TELEPHONE EXP.	75,962.00
WATER CHARGES	3,60,340.00
LIVERIES TO CLASS & HOSPITAL CONTINGENCEIS	97,709.00
DIESEL OIL AND REPAIRS TO AMBULANCE AND TATA SUMO	1,20,385.00
LIFT EXPENSES	66,730.00
GUEST EXPENSES	5,310.00
<b><u>SEMINAR EXPENSES :-</u></b>	
SEMINAR EXPENSE	11,555.00
<b><u>TRAVELLING EXPENSES :-</u></b>	
TRAVELLING EXPENSES(STAFF)	3,47,549.00
TRAVELLING EXPENSES(OTHER COMM)	96,278.00
TRAVELLING EXPENSES(SMC/SAC PG BOARD)	1,10,214.00
	<b>22,43,979.79</b>

JAMNAGAR :

Date :

Sd/-

**For D. S. Varia & Co.**

Chartered Accountants

Sd/-

**Accounts Officer,**

I. P. G. T. & R.

Gujarat Ayurved University,  
Jamnagar.

Sd/-

**Director,**

I. P. G. T. & R.

Gujarat Ayurved University,  
Jamnagar

**GUJARAT AYURVED UNIVERSITY,  
I. P. G. T. & R., JAMNAGAR  
(Plan & Non-Plan Accounts)**

**SCHEDULE-18****NOTES TO ACCOUNTS****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 are stated at cost and no Depreciation has been provided in the books of accounts.

**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. Traveling Expenses are approved by the concerned Account Officer, No supporting is found in most of the vouchers. Traveling Expenses are approved by the Account officer on the oath of the concerned person to which the expenses relates. No vouchers are checked by the concerned Accounts department also.
3. Bank Reconciliation was done for the financial year 2006-2007, the unreconciled difference of Rs. 1,63,597.56 has been booked as a miscellaneous income as on 01-04-2007, since it is a difference of Preceding many years and it is now not possible to give the details of this difference (I. P.G.T.& R.-NON PLAN).
4. Bank Reconciliation was done for the financial year 2006-2007, the unreconciled difference of Rs. 20,765.42 has been booked as a miscellaneous income as on 01-04-2007, since it is a difference of Preceding many years and it is now not possible to give the details of this difference (I. P.G.T.& R.- PLAN).
5. 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.
6. 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.

	<b>Plan Account</b>	<b>Non Plan Account</b>
<b>Grant Income</b>	<b>56,45,000</b>	<b>5,58,92,207</b>
<b>Unutilised Portion</b>	<b>2,97,889</b>	<b>1,71,164</b>

As per our audit report of even date attached herewith

JAMNAGAR :

Date :

Sd/-

**For D. S. Varia & Co.**

Chartered Accountants

Sd/-

**Accounts Officer,**

I. P. G. T. & R.

Gujarat Ayurved University, Jamnagar.

Sd/-

**Director,**

I. P. G. T. & R.

Gujarat Ayurved University, Jamnagar.