



Vijaya Institute of Pharmaceutical Sciences for Women

Pharmacist's Oath

I Swear by the code of Ethics of Pharmacy Council of India in relation with the community and shall acts as an integral part of health care team.

I shall uphold the laws and standards governing my profession.

I shall strive to perfect and enlarge my knowledge to contribute to the advancement of pharmacy and public health.

I shall follow the system, which I consider best for pharmaceutical care and counselling of patients.

I shall endeavor to discover and manufacture drugs of quality to alleviate sufferings of humanity.

I shall hold in confidence the knowledge gained about the patients in connection with my professional practice and never divulge unless compelled to do so by the law.

I shall associate with organizations having their objectives for betterment of the profession of Pharmacy and make contribution to carry out the work of those organizations.

While I continue to keep this Oath unviolated, may it be granted to me to enjoy life and the practice of pharmacy respected by all, at all times!

Should I trespass and violate this oath, may the reverse be my lot!

A Great Visionary...

“ Siddhirbhavati Karmaja Success is Born of Action ”

Sri Boyapati Srinivasa Appa Rao garu is an eminent industrialist with expertise in the field of education. As a Mechanical Engineer, he started various industrial units manufacturing cement machinery, agricultural implements, special casting and electrical distribution transformers. He is the initiator to come up with the first vegetable cold storage of its kind in Andhra Pradesh. He served as the President of A.P. Small Scale Industries Association. He rendered his services as a member of Central Small Scale Industries Advisory Board and State Small Scale Industries Advisory Board. He is instrumental in establishing the Siddhartha Academy of General & Technical Education by being one of its founders, and promoted various educational institutions to rise to excellence. He is actively associated with the Private Engineering Colleges' Association from its inception in 1980, which addresses the various problems faced by the private managements. He is serving the association as the President for the past six years.



**Sri Boyapati S. Appa Rao
Founder Chairman**

As one of the pioneering educationists of the city, he desires of establishing Research and Development wing for inculcating scientific outlook, humanism, the spirit of equity and reform among the student community. His objective is to produce world class engineers and pharmacists endowed with human values to serve the society and to bridge the gap between industry and the educational institutions. He aims at promoting women empowerment through educational institutions exclusively for women, which in turn help the society to grow.

Sri B.S. Appa Rao garu, laid the foundation for S.R.K. Group of Institutions which he aims to develop as model institutions for enhancing the quality of education and research. He acts as a guiding force behind the enviable success of S.R.K. Foundation. The Foundation's ascent to prominence in such a short span can be attributed to his strong will power, caliber, conviction, and his dynamic leadership, in pursuing his objectives.

His achievements and experiences speak more than words. He believes in the philosophy of education that envisages a complete man, in harmony with tradition and technology. He is endowed with an indomitable spirit to perceive a better world by realizing his vision.

* * *

A Tribute to

“ Yatra Naryastu Poojyante, Ramante Tatra Devatha ”

Smt. Boyapati Vijaya Lakshmi garu, a woman of excellence with a blend of social service and philanthropy is a blessing in disguise to the ‘Vijaya Group of Institutions’ established under the umbrella of S.R.K. Foundation. It is aptly said that behind every successful man there is a woman and it has been the proven success of Sri Boyapati S. Apparao garu, and also she is the woman behind the flourishing institutions.



Smt. Boyapati Vijaya Lakshmi

Smt. Boyapati Vijaya Lakshmi garu’s goodness lies in identifying the need of the hour to donate her property for the noble cause of ‘Women Education’. A highly qualified woman of kindness and perseverance, she has always been there in promoting the welfare programmes taken up by Vijaya Group of Institutions.

A poised woman of balanced will and empathy, she has cherished a desire to serve the poor and needy of the society. Therefore, her social milieu in combination with her service oriented nature has enabled her to participate and conduct various social service initiatives. She has extended her helping hand to the idea of Sri Boyapati S. Apparao garu, and today the seed has witnessed as a growing tree with all its blooming branches, spreading the essence of women education.

An embodiment of Indian family traditions and values, she has been an inspiration for thousands of young women engineers, pharmacists and business managers.

* * *

Chairmans Message

I pass on my good wishes to the Principal, Staff and Students for their relentless effort in bringing out their maiden venture. I wish the magazine stands as a source of guidance for the future batches of students in their choice of activities and in elevating the hidden talents among the students. It serves as a platform for exhibiting their latent creative talents and skills.



The profession of Pharmacy is a research based segment which is advancing at a fast pace. To maintain quality standards in Pharmacy education is our basic premise. Our motto is to equip our pharmacists to face the key challenges that they encounter with, in future and take a strong foothold according to the changing demands of their professional world.

I call upon the new generation faculty in the field of Pharmacy to identify the current problems and issues which need to be addressed and to predict the future performance of the students with total certainty. Consequently, they develop a true understanding and acquire knowledge, skills, and values the instructor or the institution has set out to impart. To keep themselves abreast of the rapid changes taking place in the pharmaceutical field, the magazine would be a source of the latest information to the students and faculty.

I extend my blessings to the young Pharmacists, working tirelessly to achieve their goals. I wish VEPA - The Vijaya Pharmacy", would continue to inspire the next generation with its competence and be in the pink of health.

Wish you all a bright future ahead....



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Dr. KAMINENI SRINIVAS

Minister for Health, Medical
Education & Family Welfare,
Govt. of Andhra Pradesh,
Hyderabad.



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Message

I am happy to know that the Vijaya Institute of Pharmaceutical Sciences for Women, Vijayawada is going to release its first issue of college magazine.

The pharmacist is a key component of healthcare and touches patients at every level, from high ended hospitals to the doorstep, where they provide medications in the community. Currently, there is a movement beyond the traditional production, compounding and dispensing of medication towards a more professional advisory community based pharmacy. The pharmacy profession is proving itself as the backbone of the society as far as health aspects are concerned. Pharmacists are establishing new standards of Pharma care and redefining their role towards the society.

On this privilege, I wish Vijaya Institute of Pharmaceutical Sciences for Women will continue its mission in enriching the academic environment of the state by providing quality education for women and prosperity of state and nation.

An annual magazine forms an integral part of its ensemble. It not only reflects the academic and non academic performances but also provides an opportunity to the budding writers to sharpen their literary skills.

I send my warm greetings and good wishes on the occasion. Wish you all the best in your ventures, efforts and careers.



(Dr.Kamineni Srinivas)

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PHARMACY COUNCIL OF INDIA

(Constituted under the Pharmacy Act, 1948)

Prof. B. Suresh B.Pharm, M.Sc., D.Sc.
President

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Kotla Road, Anwar-E-Ghalib Marg
P.B. No. 7020, New Delhi-110 002
Gram: FARM-COUNCIL
Tel: 011 23239184, 23231348 Fax: 011 23239184

Vice-Chancellor, JSS University
JSS Medical Institutions Campus
S.S. Nagar, Mysore 570 015
Tel: 0821 2548391
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March 20, 2015

Message

I am delighted to write this message for the college Magazine being published by Vijaya institute of Pharmaceutical Sciences for women, Vijayawada.

On this occasion, I congratulate the Principal, Faculty, staff and students for bringing out this college magazine and convey my good wishes and hope that this edition of the college magazine would be meaningful, enjoyable and memorable.

With best Wishes.


(Dr. B. Suresh)
President

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Message

I am very pleased to learn that the Vijaya Institute of Pharmaceutical Sciences for women, Vijayawada, AP, is bringing out their first college magazine in the first week of April 2015. Publishing a College Magazine or a Newsletter is a very important activity for any institution through which many objectives can be achieved. One very important objective of the magazine is to provide a platform for the faculty and students to write and publish highly informative articles, which would in turn help improve their writing skills. Interested faculty and students would also get an opportunity to hone their editing skills by taking turns to edit and produce issues of the magazine at periodic intervals. The magazine should publish activities of the college on all fronts showing the achievements and capabilities of the college faculty and students. Circulating the magazine to colleagues in various arenas of the pharmacy profession helps to publicize the college and its capabilities to various stakeholders of the profession. I sincerely wish that this college magazine would fulfill all these objectives and many more. I congratulate the college management and the principal Dr. K. Padmalatha for taking this initiative and I wish the magazine a grand success.



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V. S. V. Vadlamudi Rao

Rao V. S. V. Vadlamudi, Ph. D.
President, IPA
Hyderabad.
Mar 18, 2015



**THE INDIAN PHARMACEUTICAL ASSOCIATION
(EDUCATION DIVISION)**

Office at : S.B.D.College of Pharmacy, I Cross,
Hanumanthanagar, BANGALORE - 19.
e-mail : tvnarayana2000@yahoo.com



Message

I am happy to extend my greetings to Management, Staff and Students of Vijaya Institute of Pharmaceutical Sciences for Women, Vijayawada, AP in establishing the Institute as one of the pioneer institute imparting quality education in Pharmacy in the state of Andhra Pradesh by organising various seminars, workshops, QIP programmes etc,. Iam also delighted to know that the Institute is coming out with its Magazine VEPA-The Vijaya Pharmacy, covering numerous articles of Pharmacy and allied subjects. On this occasion I congratulate the Principal, Staff and Students of the institute and appreciate their sincere efforts, hard work and Professional involvement. I wish that the college magazine will bring out the hidden talent of the students and will provide an excellent opportunity to express their creativity with useful articles pertaining to various issues of Pharmacy and Pharmacy education.

Education system around the world is rapidly becoming globalised and there is an urgent need for institutions and people imparting professional education to upgrade and update themselves on the current scenario. IPA Education Division is playing the key role with significant achievements and always endeavors to follow the examples of the best in the world. On behalf of IPA Education Division I convey my best wishes to the management, staff and students of the Institution.



Vice-President – IPA
and
Chairman, IPA-Education Division

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Message



It gives me an immense pleasure to know that Vijaya Institute of Pharmaceutical Sciences for Women is going to release its magazine shortly.

I am happy to know that the college is contributing the needs of Healthcare System, Community Pharmacy, Clinical Pharmacy, Pharmaceutical Industries and Research & Development through Pharmacy Education. I hope the magazine will reflect the hidden potential and useful articles of students and faculty of the college.

I convey my best wishes to the Principal, Editorial members and Students for bringing out the inaugural issue of College Magazine.



Dr. U. Surya Kumari

MBBS, MD (OBGY), M.Ch (Genitourinary Surgery)
Superintendent,
Government General Hospital, Vijayawada

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Dr. Vallabhaneni Vamsi, M.V.Sc.,
M.L.A.,
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Krishna District,
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Message

I am glad to know that the Vijaya Institute of Pharmaceutical Sciences for Women is bringing out its inaugural issue of college magazine.

College magazine is an excellent concept that gives the opportunity to the students and faculty to express their thoughts and ideas. However, unlike a general college magazine that has usually literary focus, Pharmacy College should focus on healthcare and science related issues including critical review of literature, small research findings and other issues relevant to social and healthcare. I am sure that the students and faculty commit to their job in projecting themselves and the college.

I wish the publication all success.



(Dr. VALLABHANENI VAMSI)



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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA-533003, Andhra Pradesh (India)

Dr.G. V. R. PRASADA RAJU
B.E,M.E., Ph.D
REGISTRAR

Date: 01/04/2015



Message

It gives me immense pleasure to know that Vijaya Institute of Pharmaceutical Sciences for Women, Vijayawada' is bringing the 1st Magazine of the college.

On this occasion, I am very happy to note that your Institution is committed for the empowerment and uplifting of the socio-economical status of Women and thus catering to the needs of the society in Health Care Sector.

In this pursuit of excellence, I appreciate the combined efforts of the Management and dedicated Faculty/Supporting staff and confident that "Vijaya Institute of Pharmaceutical Sciences for Women" will continue to evolve consistently.

With Best Wishes,



REGISTRAR
REGISTRAR
J.N.T. University Kakinada
KAKINADA-533 003

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Director's Message

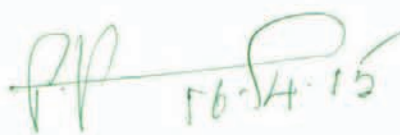


I appreciate "VEPA 2009-15 The Vijaya Pharmacy", a valiant step taken by the Principal, Faculty members, staff and students of Vijaya Institute of Pharmaceutical Sciences for Women.

The future holds a tremendous promise for students who trust in the efficacy of hard work, empower themselves with the required skills to take on the challenges of their chosen field. Today's Indian youth has to make a mark in the international job scenario.

I profoundly hope that the youth empowers future India onto the world's stage, by blending their learning experiences with professional expertise.

I wish the young professionals would explore their career possibilities to make a difference in life.



(Dr. P. Venkata Narasaiah)
Director
SRK Foundation

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Secretary's Message

As the Indian pharmaceutical sector has seen its fortunes rising well trained human resources to contribute to its growth.

We at S.R. K. Foundation caters to the innovative and realistic methods for students thriving on multi-tasking through your unbridled energy and enthusiasm that help you being productive and and fulfilling your careers.

I wish the budding professionals to focus on skills in demand, which speaks about your readiness to take on the challenges ahead.

Every individual must realize his/her social responsibility and contribute his/her mite to make this world a better place to live in.

I hope Vijaya Institute of Pharmaceutical Sciences for Women, would take that extra mile to expand its horizons through its "VEPA - The Vijaya Pharmacy", as a Pharmaceutical knowledge hub.

Wish you a vibrant future ahead . . .



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Mr. B. S. Sri Krishna
Secretary



From the Principal's Desk...

I deem it a privilege to introduce the maiden issue of our college magazine “VEPA - The Vijaya Pharmacy”. As the Chinese philosopher Lao-tzu said: ‘A journey of a thousand miles begins with a single step’...

I take pleasure in releasing the first issue of “VEPA - The Vijaya Pharmacy” which is a blend of not only academic and co-curricular activities but also challenges and opportunities in a span of six years i.e., 2009-2015.

It is a matter of great pride that the consistent progress of the institution reflects the vision and mission of the Management.

“If the Lord does not build the house, in vain do its builder’s labour”

Thanks to my years in the field of Pharmacy that endeared me to discharge my duties as the Principal of Vijaya Institute of Pharmaceutical Sciences for Women, established under the umbrella of S.R.K. Foundation.

“It is not what we do, but whatever we do must be done with dedication and passion”, I extend my deepest regards to the management for encouraging and supporting me to follow my passion.

Dear students, my three decades of exposure to the field of Pharmacy since 1986 at various stages, as learner, lecturer, researcher, educator and administrator has enabled me to address the needs of the students by creating a learning environment for their all round development as ethical Pharmacists and good health care professionals in the society.

Students, we all have witnessed the role of Pharma industry on India’s economy this year. Undoubtedly, Pharma industry, being the largest and the most advanced of all industries in India providing employment to millions of skilled and eligible candidates will surely take its high stride in the coming future.

Dear students, at this juncture I only wish to say, if you desire to realize your dreams and achieve your goals, nothing is impossible. So, join hands in making India a ‘Health hub’ through our Profession.



(Dr. K. Padmalatha)

Editor Speaks

The health care we want to provide for the people we serve—safe, high-quality, accessible, person centered—must be a team effort. The new competencies will build a path to a collaborative health care workforce and the improved care that we all desire.

Carol A. Aschenbrener

“VEPA 2009-15, The Vijaya Pharmacy”, is the outcome of a magnanimous combination of the inspiration that we received from the Management and the scientific strength of the young minds.

It gave us immense confidence, as many of our aspiring friends and associates willingly contributed their research work to our maiden venture. Indeed, this is a very good sign in our times and also for the young generation.

I’m glad that our students are more enthusiastic and their response has been boundless. To select the best ones from the bounty was like an uphill task for the editorial board.

The contributors deserve appreciation for writing on various perspectives like not only health care but also on certain ethical codes that pharmacists should adhere to.

I congratulate the minds that steamed relentlessly and the effort that made “VEPA 2009-15 The Vijaya Pharmacy”, come to the fore.

We are strongly positive that our efforts in R&D also would increase the quality and lower the cost of health care, in future, bringing about great changes in the field of Pharmacy. I can only say that this is my humble and reverential token of gratitude to our Founder Chairman, for supporting me in my endeavors.

I hope the issue will be a thought-provoking, entertaining and motivating one. Also, it would certainly be a huge source of wisdom for the readers.



Momentous Moments



VEPA - THE VILLAGE PHARMACY

Neem is a precious gift from the Mother Earth. Our ancestors worshiped the Neem tree as they believed that it not only protects the health against diseases but also drives away the evil eye. Today, Indians consider it as the most versatile for its multitude of medicinal and other uses.

*The Indian poets called Neem as Sarva Roga Nivarini, and the rural Indians call it as ‘**The Village Pharmacy**’. Neem foundation states that the Neem is “tailor-made for combating the serious problems confronting mankind today”. The medicinal benefits of Neem are spoken about in the Vedas; the world’s oldest scriptures. It has provided a wide range of valuable remedies for more than 5,000 years, equally supporting the health of the humans’ and livestock on the planet.*

The majestic, deciduous evergreen Neem, the native of Indian subcontinent, is one of the world’s most effective and widely used herbs. It is easy to grow Neem in a wide range of temperatures and conditions, and the tree can live for 150 to 200 years. The knowledge about its uses and benefits has spread all over the world from India.

Neem is one of the main ingredients in every blood purification formula used in Ayurveda and it appears in most diabetic formulae as well. It is also used to cure arthritis, rheumatism, in the elimination of external and internal parasites, including malaria and various kinds of viral fevers and infections. It is an insect repellent and is reported to have exhibited the ability to control at least 125 species of pest insects.

One of the most famous uses of Neem is to prevent tooth decay and gum disease. Neem twigs have been in use for thousands of years by millions of people in India as ‘chewing sticks’ to cleanse their teeth and gums to maintain oral hygiene.

*Mahatma Gandhi encouraged scientific investigation of the Neem tree to revitalize Indian traditions, which eventually paved a way for in depth research on Neem. Acharya Narula, a research professor in the Department of Biology at The University of North Carolina, embarked on extensive research on Neem felt that Neem stands true to its Sanskrit name **Arishta** which means “**reliever of sickness**”, hence rightly called as ‘**The Village Pharmacy**’.*



VEPA - THE VIJAYA PHARMACY

‘The Vijaya Pharmacy’ is a precious gift for women from S.R.K. Foundation. The empowerment of women speaks of humanism. The luminaries who empower succeed in satisfying human needs and human interests. It is this ideology that sparked ‘The Vijaya Pharmacy’ on a marathon march of scientific progress to serve humanity.

Vijaya Institute of Pharmaceutical Sciences for Women was started in the year 2009 to mold the graduates of pharmacy, to meet the ever-increasing need in the pharma industry and health sector.

“Education, together with reproductive health, is one of the most important means of empowering women with the knowledge, skills and self-confidence necessary to participate fully in the development process”.

Pharma professionals endowed with patience, tolerance, ambience and dedication are in great need to the public health and industry in the present scenario. Our institution plays a key role in producing the individuals who make up to be a part of competent health care workforce.

As the essence of health care is human service, VIPW aims to train pharmacists who build ambience with the society, and who believe that compassion can be a powerful catalyst for healing. Our institute contributes for the significant growth of health care industry by sharing its resources with those in need.

Most change begins small but, multiple small acts of positive effort can influence a transformative change in creating the benchmarks along the journey to measure success and progress.

VIPW’s pharmacists would surely extend the horizons and scope of pharmacy practice which include more traditional roles and modern services related to health care. It is sure that they are endowed with the philosophy of joyous service for the greater good of humanity.

‘The Vijaya Pharmacy’ willfully stands as an example to the ultimate pearl of wisdom by Albert Einstein, “A man’s ethical behaviour should be based effectually on sympathy, education, and social ties and needs; no religious basis is necessary”.



VIJAYA INSTITUTE OF PHARMACEUTICAL SCIENCES FOR WOMEN



Vijaya Institute of Pharmaceutical Sciences for Women (VIPW) is a budding institution established in the year 2009 by “S.R.K. FOUNDATION” under the Chairmanship of Sri. Boyapati Srinivasa Appa Rao, a renowned Educationalist and Industrialist having more than three decades of rich experience in promoting and administering the professional colleges.

The institution is committed to provide quality education and empower women in the field of pharmacy to cater the needs of the society in health care sector and also to uplift the socio-economic status of women through quality education.

The institution is permitted by Govt. of Andhra Pradesh, AICTE – New Delhi, approved by Pharmacy Council of India-New Delhi, affiliated to JNTU Kakinada and is Certified by ISO 9001-2008.

The college is offering B. Pharmacy (100 Seats), M. Pharmacy in Pharmacology (18), Pharmaceutics (24 Seats), Ph. Analysis & Quality Assurance (24 Seats).

The institution has obtained the MOU with Government General Hospital, Vijayawada which is 730 bedded teaching hospital with more than ten departments for imparting the clinical training for Pharm D and Pharm D (Post Baccalaureate) courses commencing from 2015-16 academic year.

VISION

To become a Recognized Leader of Pharmacy Education in the State through Excellence

MISSION

To serve the State, Nation & World by producing outstanding Pharmacists

ORGANIZING COMMITTEE



Sri. B.S. Appa Rao
Chairman



Dr. P. Venkata Narasaiah
Director



Prof. Dr. K. Padmalatha
Principal



Sri. B.S. Krishna
Secretary



Mr. S. Venkateswara Rao
Sr. Asst. Professor
Academic In-charge



Mr. A. Jayarami Reddy
Asst. Professor
Campus Discipline In-charge



Mr. D. Srinu Naik
Asst. Professor
External Duties In-charge



Mrs. R. Padmaja
CA, Accounts In-charge

ANTI-RAGGING COMMITTEE



Prof. Dr. K. Padmalatha
Principal

STAFF MEMBERS



Mr. S. Venkateswara Rao
Sr. Asst. Professor



Mr. A. Jaya Rami Reddy
Asst. Professor



Dr. Vedavathi
Professor



Mrs. M. Vani
Asst. Professor



Mrs. D. Santhi Krupa
Asst. Professor

STUDENT MEMBERS



G. Aruna Bhargavi
1st M. Pharmacy



O. Anusha
1st M. Pharmacy



K. Mounika
4th B. Pharmacy



V. Sri Ranjani
3rd B. Pharmacy



R. Mounika
3rd B. Pharmacy



T. Bhavana
2nd B. Pharmacy



S. Lakshmi Tejaswari
2nd B. Pharmacy

**COMMITTEE FOR
ISO 9001:2008 CERTIFICATION**



**Management Representative (MR)
Prof. Dr. K. Padmalatha
Principal**



**Technical In-charge
Mr. A.V.S.R. Sainadh
Asst. Professor**



**Exam Cell In-charge
Mr. S. Venkateswara Rao
Sr. Asst. Professor**



**Placement In-charge
Mr. Muthu Bhoopathi
Asst. Professor**



**Admin In-charge
Mrs. P. Prameela Rani**



**Store In-charge
Mrs. M. Deva Rani**



**Library In-charge
Mrs. J. Madhavi Latha**

SCIENTIFIC COMMITTEE



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Prof. Dr. K. Padmalatha
Principal

CO-ORDINATORS



Dr. Suman Pattanayak
Professor



Dr. T. Vedavathi
Professor

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Assoc. Professor



Mr. S. Venkateswara Rao
Sr. Asst. Professor



Mr. I. Madhusudhana Reddy
Asst. Professor

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Prof. Dr. K. Padmalatha
Principal



Co -Editor

Sri. B. Sri Krishna
Secretary

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Assoc. Prof. (Lit.)



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Sr. Asst. Professor



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Asst. Professor



Mr. S. Sundar
Asst. Professor



Mr. A.V.S.R. Sainadh
Asst. Professor

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2nd M. Pharmacy



Ms. Kondabolu Deepthi
1st M. Pharmacy

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Principal & Prof., Dept. of Pharmacology

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M. Pharm.



Mrs. G. Santhi
M. Sc (Pharmacology)

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M. Pharm.



Mrs. V. Deepthi
M. Pharm.

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M. Pharm.



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Mrs. G. Vindhya
M. Pharm.

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Mr. Srinivasa Rao
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Mr. P. Sai Krishna
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Mrs. Ch. Swathi
M. Pharm.



Mr. Srinu Naik
M. Pharm.



Mrs. A.V.S. Hima Bindu
M. Pharm.



Ms. A. Charanya
M. Pharm.

DEPARTMENT OF PHARMACOGNOSY AND BIO-TECHNOLOGY



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M. Pharm., (Ph. D)



Mr. S. Sundar
B. Ph., M. Tech., (Ph. D)

GLANCE AT FACILITIES



GLANCE AT FACILITIES

GLANCE AT FACILITIES



ACADEMIC EXCELLENCE (CLASS TOPPERS)

2009-10



Ms. R. Chamundeswari
1st B. Pharmacy

2010-11



Ms. K. Deepthi
1st B. Pharmacy



Ms. G. Alekya
2nd B. Pharmacy

2011-12



Ms. Md. Meherunnisa
1st B. Pharmacy



Ms. Md. Nowrin Sultana
2nd B. Pharmacy



Ms. G. Alekya
3rd B. Pharmacy

2012-13



Ms. Abdul Rameeza
1st B. Pharmacy



Ms. Md. Meherunnisa
2nd B. Pharmacy



Ms. K. Deepthi
3rd B. Pharmacy



Ms. G. Alekya
4th B. Pharmacy

2013-14



Ms. Sh. Karishma Sultana
1st B. Pharmacy



Ms. V. Anusha
2nd B. Pharmacy



Ms. B. Naga Rani
3rd B. Pharmacy



Ms. Md. Nowrin Sultana
4th B. Pharmacy



1st B. Pharmacy- 'A' Sec (2014-2018)



1st B. Pharmacy- 'B' Sec (2014-2018)



2nd B. Pharmacy- 'A' Sec (2013-2017)



2nd B. Pharmacy- 'B' Sec (2013-2017)



3rd B. Pharmacy- 'A' Sec (2012-2016)



3rd B. Pharmacy- 'B' Sec (2012-2016)



4th B.Pharmacy (2011-2015)



B. Pharmacy (2010-2014)



B. Pharmacy (2009-2013)

M. Pharmacy



Ms. P. Praveena



Mrs. K. P. Shanthini

**Department of
Pharmacology
(2011-2013)**

Department of Pharmaceutics (2012-2014)



Ms. Tasneem



Ms. K. Swetha



Ms. K. Madhuri



Ms. R. Divya Sree

Department of PA & QA (2012-2014)



Ms. A. Rajeswari

M. Pharmacy (2013-2015)

Department of Pharmaceutics



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Department of
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Department of Ph. Analysis
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Ms. K. Vijaya Lakshmi



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Ms. N. Sunitha Devi

M. Pharmacy (2014-2016)

Department of
Pharmacology



Ms. Md. Nowrin Sultana



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Dr. Jagannath Rao, a recipient of Prestigious “Rajiv Gandhi Excellence Award, Chhatrapati Shivaji State Award and Suvarna Karnataka Seva Award” is a Doctorate in Para Psychology (UK).

Dr. Jagannath Rao has the ability to reach out to the young and old with his unique focused presentation style which has made him very popular speaker with all age groups throughout India.

He conducts the workshops on “Personality Development” to train the students about the “Secretes of Success & Mind Power” for their success and happiness in both working and social life of every individual.



Mr. L.V.Gangadhar Rao, a Commerce Graduate from Nagarjuna University, Guntur with a Post Graduation in Business Management (M.B.A) from ICAI University, Dehradun has over 15 years of rich experience in Business Development, Corporate Marketing, Corporate Communication and Training.

Mr. Gangadhar being specialized in Soft Skill Training Programmes, he has trained students and professionals at various levels of Personality Development, Presentation Skills, Team Building, Leadership Skills, Interviewing Skill, Business Communication Skills, Emotional Intelligence and Competency Building etc.





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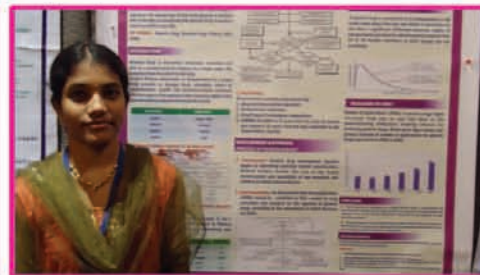


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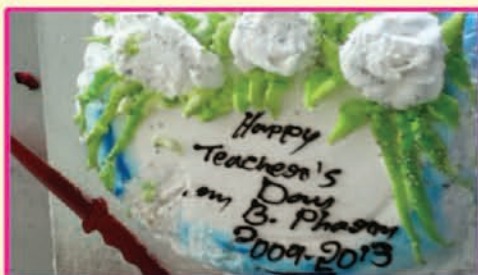
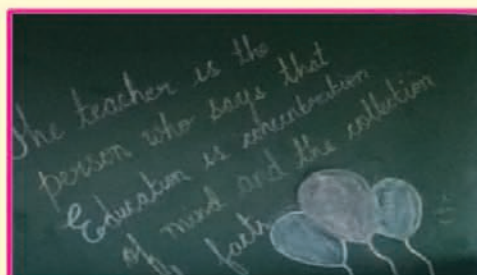


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Sparklers: They are obviously bonfires raving about success with new strength and new thoughts. They burn to emit colored flames and sparks of victory. Their motivational fire to complete is “the will to win” the desire to succeed, the urge to reach full potential. This is their key that will unlock the door to excellence.





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CULTURAL EVENTS





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3. Dr. G. Nagarjuna Reddy, Prof., & Principal, KLR College of Pharmacy, Paloncha, Khammam.
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5. Dr. D. Lakshma Reddy, Managing Director, Darwin Formulation Pvt Ltd, Vijayawada.
6. Dr. K.R.S Sambasiva Rao, Vice Chancellor Acharya Nagarjuna University, Guntur.
7. Dr. A. Prameela Rani, Prof., & Principal, University College of Pharmacy, Acharya Nagarjuna University, Guntur.
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36. Dr. V. Ramakrishna, Prof., Dept. of Pharmacognosy, KVSr Sidhartha College of Pharmacy, Vijayawada.
37. Dr. Bharati, Prof., Dept. of Pharmaceutics, KVSr Sidhartha College of Pharmacy, Vijayawada.
38. Dr. Sivareddy, Prof., Dept. of Pharmacology, KVSr Sidhartha College of Pharmacy, Vijayawada.



LIST OF PUBLICATIONS

1. S. Venkateswara Rao, K. Durga Reshma, Padmalatha K. *In -vitro* Evaluation of Salicylic Acid Release from an Ointment & Cream by Agar Plate Method. *World Journal of Pharmacy & Pharmaceutical Sciences* 2015; 4(1): 622-626.
2. A. Jaya Rami Reddy, K. Rajeswari, P. Sravani, P. Areefa, A. Ravi Kumar, V. Vallabh. Phytochemical and Anti Diabetic Activity of Aqueous Extract of *Morinda Citrifolia* Fruit in Alloxon Induced Diabetic Rats. *International Journal of Research in Pharmacy and Chemistry* 2015; 5(1): 154-156.
3. S. Venkateswara Rao, Alekhya Golla, Padmalatha K. Formulation and Evaluation of Gastro Retentive Floating Tablets of Nifedipine. *World Journal of Pharmacy & Pharmaceutical Sciences* 2014; 3(12): 975-983.
4. S. Sundar, L. Anusha, P. Hema. Comparative Study of Antibacterial Activity of Barks, Leaves and Flesh Extarcts of *Moringa Oleifera*. *International Journal of Allied Medical Sciences and Clinical Research* 2014; 2(3): 210-215.
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6. K. Padmalatha, G. Muthu Bhupathi, S. Sundar. Phytochemical Screening Study and Constipation Activity of *Spermacole hispida L* by Using *Albino Rats*, *International Journal of Pharmaceutical Sciences and research* 2014;4 (12); 4769-4774.
7. S. Sundar, V. Pooja Priya, Navya Krishna. Comparative Studies on the Antimicrobial Activity of Selected Spices. *International Journal of Research in Pharmacology and Pharmacotherapeutics* 2013; 2(2): 234-241.
8. Mamillapalli Vani, Chaitanya Prasad Meher. Simple UV Spectrometric for the Estimation of Methocarbamol in Bulk and its Formulation. *International Research Journal of Pharmacy* 2013; 4(8): 131-133.
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13. Sai Krishna Putta, T. Praveen Kumar Reddy, P.N. Deepthi, M. Jagath Sweth. Optimization and *In-vitro* Evaluation of Efavirenz Emulgel Formulation. Pharmanest 2012; 3(3): 117-128.
14. P. Sai Krishna, T. Balakrishna, Is it Possible to Trap –DNA Free Radicals using Stable Nitroxides? Research Journal of Pharmacy and Technology 2011; 4 (4): 499-501.
15. P. Sai Krishna, T. Bala Krishna. Detection of Free Radicals Using GC/MS Trapped by Proxyl Derivatives. Research Journal of Pharmacy and Technology 2011; 4 (3): 465-471.
16. Sai krishna P, Shamsheer Ahmad S, Sabareesh M, Patan Rafi Khan, Sudheer B. Formulation and Evaluation of Lisinopril Dihydrate Transdermal Proniosomal Gels. Journal of Applied Pharmaceutical Science 2011; 1(8): 181-185.
17. K. Padmalatha, G. Nagarjuna Reddy, T. Venkata Narayana. *In vitro* Protection of Rat Mesenteric Mast Cells from C 48/80 by Selected Antioxidant Herbal Extracts (Aqueous) and Antioxidant Substances. Pharmanest 2010; 1(2): 205- 212.
18. P. Sai Krishna, Ashok Kumar. A, Anil Kumar. Formulation and *in vitro* Evaluation of Mucoadhesive Microcapsules of Glipizide with Gum Kondagogu. Journal of Chemical and Pharmaceutical Research. 2010; 2(5): 356-364

* * *

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B. Ch. D. Tejaswi, III Yr B. Pharmacy

PRIZES WON AT VARIOUS CONFERENCES

S.No	Supervisor	Students	Conference Attended	Title of the Poster / Verbal	Remarks
1	Mr. S. V. Rao	Md. Jaha Sultana	POWER, 66 th IPC - 2014, Hitex Hyderabad	Indian Pharma Industry – A SWOT Analysis	3 rd Prize
2	Mr. S. V. Rao Mrs. M. Vani	Md. Jaha Sulthana	POWER, 65 th IPC - 2013, New Delhi	A Perspective on Herbal Medicine & Herbal Supplements	1 st Prize
3	Mr. S. V. Rao	V. Srirajini	National Symposium on Expt.al Ph.cology – Role in Drug Development – 2014, Sri Padmavathi School of Pharmacy, Tirupathi	Animal Experimentation in Scientific Research : A Review (Verbal)	1 st Prize
4	Mrs. D. Santhi Krupa	B. C. D. Tejaswi	National Symposium on Expt.al Pharmacology – Role in Drug Development - 2014, SPSP, Tirupathi	The Rat Brain Perfusion Technique – An Over-view (Poster)	1 st Prize
5	Mr. A. V. S. Ravi Sainadh	G. Hela Sri	National Symposium on Expt.al Pharmacology – Role in Drug Development - 2014, SPSP, Tirupathi	Screening Models for Exploring the Efficacy of Anti-diabetic Agents (Poster)	2 nd Prize
6	Mrs. M. Vani	B. Reshma Sri	National Symposium on Expt.al Pharmacology – Role in Drug Development - 2014, SPSP, Tirupathi	<i>In Vitro & In Vivo</i> Models to Evaluate Hepatoprotective Agents (Poster)	2 nd Prize
7	Mr. S. V. Rao	P. Durga	National Seminar on “Current Trends in Pharmaceutical Research” – 2014, SIMS College of Pharmacy, Guntur	Orodispersible Tablets: A New Trend in Drug Delivery (Verbal)	1 st Prize
8	Mr. S. V. Rao	K. Ratna Sravani	National Seminar on: Current Trends in Ph. Sciences-2014, V. V. Institute of Ph. Sciences, Gudlavalleru, Krishna Dist.	Solubility Enhancement Techniques: The Conventional and Novel Approaches (Poster)	1 st Prize
9	Mrs. M. Vani	S. Naga Mounica	National Seminar on: Current Trends in Ph. Sciences-2014, V. V. Institute of Ph. Sciences, Gudlavalleru, Krishna Dist.	Metabolomics: A tool for the Safety and Toxicity of Medicinal Products (Poster)	2 nd Prize

PRIZES WON AT VARIOUS CONFERENCES

S.No	Supervisor	Students	Conference Attended	Title of the Poster / Verbal	Remarks
10	Mr. Chaitanya Prasad Meher	O. Sravya, G. Neelima	National Seminar on: Current Trends in Ph. Sciences-2014, V. V. Institute of Ph. Sciences, Gudlavalleru, Krishna Dist.	Synthesis of Novel Benzimidazole Derivative & its Screening for Anti-Helmenthic Activity (Poster)	2 nd Prize
11	Mrs. M. Vani	Nuthana. K	A National Conference on Career Opportunities for Pharma Professionals in India & Abroad -2014, Nirmala College of Pharmacy, Mangalagiri, Guntur	Market accepted Ethnomedicine Practices	2 nd Prize
12	Mr. S. V. Rao	Nuthana. K	A National Conference on Re-Visioning Pharmacy Education & Research: Contemporary Issues and Future Strategies - 2014	Microspheres: A Novel Drug Delivery System	2 nd Prize
13	Mrs. M. Vani	Nuthana.K	Gora Science Centre - 2014, Atheist Centre, Vijayawada	Extraction of Eucalyptus oil	Grade A
14	Mr. S. V. Rao	Md. Jaha Sulthana* K. Durga Reshma M. Hema Latha	APAT - 2013 St. Peter's Institute of Pharmaceutical Sciences, Warangal.	Formulation and Evaluation of Metformin HCl Matrix Tablets by Natural Gum as Release Modifier (Poster)	1 st Prize
15	Mr. S. V. Rao	G. Alekhya* K. Naga Divya G. Jeevitha P. Srivalli	APAT - 2013 St. Peter's Institute of Pharmaceutical Sciences, Warangal.	Formulation and Evaluation of Gastro Retentive Floating Tablets of Nifedipine (Poster)	1 st Prize
16	Ms. D. Meena Devi	N. Mounica* R. Jyothi K. Lakshmi V. R. Kumari	Drug Regulatory Affairs & Quality Assurance - 2013, ANU, Guntur	Potential Activity of 2,5-Substituted-1,3,4-Oxadiazole Derivatives (Poster)	1 st Prize
17	Dr. K. Padmalatha	K. Sai Lakshmi* B. Harika	National Seminar on Discovery, Strategies and Challenges in Pharmaceutical Harmonization - 2012, Vignan Pharmacy College, Guntur	Monoclonal Antibodies : A Review (Verbal)	

ISOLATION OF *TRIGONELLA FOENUM GRAECUM* MUCILAGE AND ITS EVALUATION AS SUSPENDING AGENT IN IBUPROFEN & PARACETAMOL SUSPENSION

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Dept. of Pharmaceutics

Many excipients are currently available as a suspending agent. The purpose of this study is to search for economic and effective natural excipients that can be used as an effective alternative for the formulation of pharmaceutical suspensions. The study was aimed firstly to isolate the mucilage from *Trigonella foenum graecum* L. and to evaluate for phytochemical characterization of carbohydrates, mucilage, fats, alkaloids, flavonoids, amino acids and proteins. The solubility, bulk and tapped densities, pH, swelling index, angle of repose Carr's index and Hausner's ratio were studied. Suspensions of Ibuprofen & Paracetamol were prepared with different concentrations (0.5%, 1%, 1.5%, 2%, 3% and 4% w/v) of *Trigonella foenum graecum* L. mucilage and evaluated for sedimentation profile, particle size, pH, rheological behavior and In vitro dissolution studies. The results of prepared suspensions were compared with marketed suspension (Combiflam) and the studies indicate that the mucilage from *Trigonella foenum graecum* L. seeds may be used as a pharmaceutical adjuvant and as a suspending agent at 4% w/v, depending on its suspending ability and the viscosity of the resulting suspension.

KEYWORDS: Suspending agents, Sedimentation volume, Rheology, Phytochemical tests and In vitro dissolution studies.

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FORMULATION DEVELOPMENT AND *IN VITRO* EVALUATION OF SUSTAINED RELEASE MATRIX TABLETS OF OFLOXACIN

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The present study was aimed for formulation development and *in vitro* evaluation of sustained release matrix tablets of Ofloxacin to achieve sustained drug release. Sustained release matrix tablets of Ofloxacin were prepared by wet granulation method using Chitosan, HPMC K 100 M and Sodium alginate as polymer, PVP-K30 in isopropyl alcohol as granulating agent. The prepared tablets were evaluated for thickness, diameter, hardness, weight variation, friability and drug content uniformity. It was found that the results comply with official standards. The *in vitro* release was studied using pH 1.2 HCl and pH 6.8 phosphate buffer solution. The *in vitro* release study revealed that the prepared tablets were able to sustain the drug release. The release kinetics studies showed that the release was diffusion controlled and the *n* values obtained from the Korsmeyer-Peppas model showed that the release mechanism was non-Fickian type. Stability studies indicated that the developed tablets were stable and retained their pharmaceutical properties at 40°C (RH = 75%) for a period of 4 months.

KEYWORDS: Sustain release, Wet granulation, Non-Fickian diffusion and *In vitro* release.

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FORMULATION AND EVALUATION OF CEFPODOXIME PROXETIL FLOATING TABLET USING NATURAL POLYMERS

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Dept. of Pharmaceutics

The present work was aimed at the development and evaluation of Floating matrix tablets of Cefpodoxime Proxetil to prolong the gastric residence time and simultaneously to reduce the doses and its toxic effects. The tablets were prepared by direct compression technique, using polymer such as Hydroxy propyl methyl cellulose (HPMC K100M) and natural gums like xanthane gum and gellan gum in different combinations with sodium bicarbonate as gas generating agent. Tablets were evaluated for hardness, uniformity of weight, friability, drug content, floating lag time (FLT), duration of buoyancy and *in-vitro* drug release for 12 hr. The effect of polymer concentrations on buoyancy and drug release pattern was also studied. A lesser FLT and a prolonged floating duration could be achieved by varying the amount of effervescent and using different polymer concentrations. The optimized formulation followed the Higuchi release model and showed non-Fickian diffusion mechanism. It had no significant change in physical appearance, drug content, floatability or *in-vitro* dissolution pattern after storage at 45° C at 75 % RH for three months.

KEYWORDS: Gastric residence time, Floating lag time, Duration of buoyancy and *in-vitro* drug release.

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FORMULATION AND *IN VITRO* EVALUATION OF DICLOFENAC SODIUM TRANSDERMAL FILM: INFLUENCE OF DIFFERENT POLYMERS ON DRUG RE- LEASE RATES

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The present research work was performed to optimize the polymer concentration for controlled skin permeation of Diclofenac sodium in the form of transdermal film. The Diclofenac Sodium transdermal films were prepared by Solution Casting Method with HPMC K₄M, HPMC 10,000 cps, Ethyl cellulose and Eudragit RL 100GG as polymers in different compositions. The dried films were analyzed for their physicochemical characteristics and Skin irritancy study, Dissolution studies, *In vitro* skin permeation studies and Drug release kinetics. The results of skin irritation studies showed negligible erythema and indicate that the formulations prepared were non-irritant to skin. The formulated transdermal films were subjected to *in vitro* skin permeation study across rat skin using Franz diffusion cell. It is clearly observed that drug release was in controlled manner. The films (F6) consisting of HPMC K₄M & Eudragit RL 100 and Propylene glycol as plasticizers demonstrated sustained and controlled release of the drug. The R^2 values are higher for Higuchi's model compared to Hixon Crowell cube root law for the film of formulation F6. Hence Diclofenac sodium release from film of formulation F6 followed diffusion rate controlled mechanism.

KEYWORDS: Solution casting, Erythema, Franz diffusion cell, *In vitro* skin permeation and Release kinetics.

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FORMULATION AND *IN VITRO* EVALUATION OF ESOMEPRAZOLE LOADED MICROSPHERES AS COLON TARGETED DRUG DELIVERY

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The present study was aimed to formulate Esomeprazole loaded microspheres for colon specific drug delivery. Microspheres were formulated to prevent the gastric degradation of drug so as to improve the bioavailability of drug. Esomeprazole loaded microspheres for controlled drug delivery by Coacervation phase separation technique were prepared employing gelatin and ethyl cellulose as release retardants. The microspheres were investigated for various parameters like Scanning electron microscopy (SEM), Differential scanning calorimeter (DSC), Particle size, Entrapment efficiency, Percentage yield, *In vitro* drug release and release kinetics. The non aggregated microspheres with spherical shape were observed. Particle size was determined by optical microscopy and the results indicate that the mean particle size increases with increase in polymer concentration. The drug release in 0.1N HCl was not exceeding 5.8% and it had explained the acid stability of gelatin microspheres in 0.1N HCl. Then the cumulative percentage release in pH 6.8 PBS was observed that the higher drug release from formulation F7. The higher drug release was possible due to presence of lower concentration of the polymer. The R^2 values are higher for Higuchi's model compared to Hixson Crowell cube root law for the formulation F7. Hence Esomeprazole release from formulation F7 followed diffusion rate controlled mechanism.

KEYWORDS: Gastric degradation, Bioavailability, Scanning electron microscopy, Differential scanning calorimeter and Acid stability.

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DEVELOPMENT AND VALIDATION OF RP-HPLC METHOD FOR QUANTIFICATION OF OSELTAMIVIR PHOSPHATE IN PHARMACEUTICAL FORMULATIONS

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Influenza is considered to be one of the life threatening infectious diseases. In some countries seasonal influenza affects annually up to 40% of the population and 500 million people die from it worldwide every year. The worldwide use of oseltamivir phosphate has increased dramatically since the outbreak of H₁N₁ virus (Swine Flu) in April 2009. The objective of present work is to develop a simple RP-HPLC method for estimation of oseltamivir phosphate in pharmaceutical formulation. The chromatography system used a reversed phase C₈ column with dual wavelength absorbance detection at 220 nm. The mobile phase consisted of acetonitrile and phosphate buffer (pH adjusted to 6.0 using ortho phosphoric acid) in the ratio of 60:40 % v/v at flow rate of 1.0 ml/min. The linearity range was found to be 5-30 µg/ml. The accuracy data has been proven that the percentage recovery is within the limit of 98 to 102 % and % RSD value is below 2 %. The average percent recoveries obtained as 98.57-100.8%, indicating that the method was accurate. The developed method was found to be precise as the % RSD values for intra-day and inter-day precision studies found were less than 2 %. It was concluded that the method could be useful for quality control of oseltamivir phosphate in pharmaceutical formulation.

Keywords: Influenza, RP-HPLC method, Linearity, Precise and Quality control

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FORMULATION AND EVALUATION OF ORODISPERSIBLE TABLETS OF ALPRAZOLAM

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Alprazolam is one of the most widely used drug in the treatment of anxiety disorders and in anxiety associated with depression. In the present work, orodispersible tablets of alprazolam were prepared using two super disintegrants (sodium starch glycolate and croscarmellose sodium) and two sublimating agents (camphor and ammonium bicarbonate) at different concentrations. The prepared batches of tablets were evaluated for flow properties, hardness, friability, drug content uniformity, wetting time, water absorption ratio, *in vitro* disintegration time and *in vitro* dissolution studies. All the formulations showed acceptable results. The results revealed that the formulations containing croscarmellose sodium have good *in vitro* disintegration time (49 sec), water absorption ratio (19.6) and wetting time (256 sec) compared to sodium starch glycolate. Among the formulations prepared by croscarmellose sodium, the formulation (F5) containing 10% of croscarmellose sodium as superdisintegrant and 20% ammonium bicarbonate as sublimating showed good *in vitro* disintegration time (19 sec), wetting time (150 sec) along with good release profile (100% in 8 min) compared to the marketed tablet (Alprest). Further drug excipient compatibility was confirmed by FT-IR studies. It can be concluded that the orodispersible tablets of alprazolam with better biopharmaceutical properties could be obtained using formulation F5.

Key Words: Alprazolam, Superdisintegrants, Sublimating agent, *in vitro*, *in vivo* and FTIR

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PHYTOCHEMICAL & *IN VITRO* ANTIUROLITHIATIC STUDIES ON THE LEAF EXTRACTS OF *BAUHINIA VARIEGATA L.*

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Dept. of Pharmacognosy

The aim of the present study is to carry out fluorescence analysis, phytochemical extraction, preliminary phytochemical screening, estimation of total flavonoids, tannins, alkaloids, steroids saponins and *in vitro* antiurolithiatic studies on the aqueous and ethanolic extracts of leaf of *Bauhinia variegata*. The results of fluorescence analysis indicate that the powder on treatment with 50% H₂SO₄ shows dark brown colour under UV. The results of preliminary phytochemical screening indicated the presence of saponin glycosides, tropane alkaloids and acidic compounds. The results of quantitative determination indicated that the aqueous extract contains highest amount of flavonoids expressed as 54.6 mg/gm equivalents of quercetin, maximum amount of tannins in ethanolic extract as 56.30 mg/gm equivalents of quercetin, equal amounts of alkaloids are present in both extracts as 25mg/gm equivalents of atropine sulphate, steroids and saponins in lowest amount. The *in vitro* antiurolithiatic activity was studied as percentage inhibition of stones by nucleation, growth and aggregation assays for aqueous and ethanolic extracts at 200-1000 µg/ml taking cystone tablets as standard. The results indicated that the inhibition of growth of crystals increased with increase in concentration of the extract. Therefore, the plant claimed to possess antiurolithiatic activity and further *in vivo* studies as well as isolation of individual compounds responsible for the activity are necessary.

Key words : Fluorescence, Quantitative determination, *in vitro*, Antiurolithiatic study, Phytochemical extraction.

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ANTIMICROBIAL ACTIVITY OF AMINOGLYCOSIDE ANTIBIOTICS COMBINED WITH CLOVE AND GINGER

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Dept. of Biotechnology

The present study was aimed to study the antimicrobial activity of clove, ginger as methanol, and ethanol extracts alone and in combination with aminoglycoside antibiotics such as Streptomycin, Kanamycin, Gentamicin, Amikacin. The activity was analyzed by the agar disc diffusion method against three gram negative microorganism like *E. coli*, *Pseudomonas aeruginosa*, *Serratia marcescens*. The zones of inhibition obtained from the different agar plates were measured by antibiotic zone reader. According to the zone of inhibition observed in the entire agar plates, the methanol extract of clove and ginger with the gentamicin showed maximum zone of inhibition 27 mm against *S. marcescens*. The methanol extract of clove and ginger with kanamycin showed zone of inhibition 23 mm against *S. marcescens*. The ethanol extract of ginger with Gentamicin showed zone of inhibition 30 mm against *P. aeruginosa* and methanol extract of ginger with Amikacin showed zone of inhibition 16 mm against *P. aeruginosa*. The methanol extract of ginger showed lowest antimicrobial activity 12 mm against *E. coli*. Combination of ginger and clove extracts with aminoglycoside antibiotics produced increased antimicrobial activity than the clove, ginger extracts separately. This was the new method of approach to decrease the resistance of antibiotics against microorganisms. The large varieties of compounds produced by plants which have proven antimicrobial effect may be studied for their microbial resistance modifying action.

KEYWORDS: Antimicrobial activity, Ginger, Clove extracts, Aminoglycosides, Agar plates

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EFFECT OF L - TYPE CALCIUM CHANNEL BLOCKER NIMODIPINE AND T - TYPE CALCIUM CHANNEL BLOCKER FLUNARIZINE ON LOCOMOTOR ACTIVITY IN RATS

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Dept. of Pharmacology

The human musculoskeletal system also known as the locomotor system is an organ system that gives humans the ability to move. Calcium ions play an essential role in regulating skeletal & smooth muscle contractility. The main aim and objective of this study was to evaluate dose dependent and comparative locomotor effect of L-type calcium channel blocker Nimodipine and T-type calcium channel blocker Flunarizine on locomotor activity by using digital actophotometer. The study was approved by IAEC. Healthy albino wister rats of either sex were selected and the grouping was done. Control group received normal saline, two groups received two doses i.e., 3.9 mg/kg and 7.8 mg/kg body weight of Nimodipine while another two groups received two doses 1.3 mg/kg and 2.6 mg/kg body weight of Flunarizine. The animals were then observed for spontaneous motor activity and then statistical analysis was done by using unpaired 't' test. L-type calcium channel blocker Nimodipine showed dose dependent depressant effect on locomotor activity in digital photo-actometer while the T- type calcium channel blocker Flunarizine showed no effect on locomotor activity. According to statistical evaluation Nimodipine has got significant values ($P < 0.05$) whereas Flunarizine has shown insignificant values ($P > 0.05$). The study proves that, the effects of one subtype of antagonist should not be extrapolated to another subtype because drugs belonging to different subtypes have different pharmacological effects. However, detailed studies are required to establish their benefits at molecular level.

Key words: L-Type and T-Type Calcium Channels, Locomotor Activity, Nimodipine, Flunarizine, Musculoskeletal system

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INFLUENCE OF PROPRANOLOL ON THE GLUCOSE LOWERING EFFECT OF GLIBENCLAMIDE AND METFORMIN IN NORMAL AND ALLOXAN INDUCED DIABETIC RATS

K. L. N. Rupa, K. Sri Lakshmi, K. Nuthana, K. Spoorthi, P. Durga, A.V. S. Ravi Sai Nadh

Dept. of Pharmacology

Patients have many concerns on multiple medications including prescription errors, the cost of medications and possible adverse effects. Significantly, 58% of patients receiving multiple medications experience drug interactions which adversely affect their health. The present study was undertaken to verify the possible interaction if any between antihypertensive Propranolol and antihypoglycemic Metformin and Glibenclamide in both healthy and diabetic rats. Individual effect of propranolol, Glibenclamide and metformin on blood glucose level and effect of repeated treatment of propranolol for 14 days on the hypoglycemic activity of Glibenclamide and metformin in normal and diabetic animals were studied. Administration of propranolol for 14 days has potentiated the hypoglycemic effect of Glibenclamide and metformin throughout the study, but repeated administration of propranolol significantly increased the hypoglycemic activity of Glibenclamide and metformin in diabetic animals. The individual treatment with Glibenclamide, Metformin and in combination with propranolol showed insignificant alteration in liver weight and kidney weight. But there was a significant amelioration in combination groups. The findings suggested that readjustment of dose and frequency of administration of oral anti-diabetic agents may be made when they are used simultaneously with antihypertensive agents such as propranolol. It is further required to establish the influence of propranolol on the pharmacokinetic parameters of oral antidiabetic agents in human volunteers.

Key words: Hypoglycaemic, Glibenclamide, Propranolol and Metformin.

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VALIDATED UV SPECTROPHOTOMETRIC METHOD FOR QUANTIFICATION OF ACETAZOLAMIDE IN PHARMACEUTICAL FORMULATIONS

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Dept. of PA & QA

An accurate and precise UV spectrophotometric method was developed for the quantification of acetazolamide in pharmaceutical formulations. It was completely soluble in methanol and hence methanol was selected as the solvent for acetazolamide to obtain UV spectrum in the range of 200-400 nm. Acetazolamide showed maximum absorbance at 265 nm using methanol as blank. The calibration curve was linear over a concentration range from 6.0 to 16.0 µg/mL with $R^2 = 0.9993$, indicating that the proposed method was linear. The LOD and LOQ values were found to be 0.05 µg/mL and 0.14 µg/mL, respectively. The percentage recovery values were found to be 100.93-101.63 with %RSD of <2%, which indicates that the proposed method was accurate. The intra-day and intermediate precision were determined by analyzing the samples of acetazolamide at a concentration of 8, 10 and 12 µg/mL. The low % RSD values obtained from the analysis of tablets indicated that the method was highly precise. It was concluded that the validated method was precise, accurate and could be useful for the routine quality control of acetazolamide in pharmaceutical formulations.

Keywords: Acetazolamide, Spectrophotometry, Pharmaceutical formulations, Quantification

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SYNTYHESIS, CHARECTERISATION AND ANTIMICROBIAL ACTIVITY OF NOVEL SCHIFF AND MANNICH BASAES OF ISATIN DERIVATIVES

G. Muthubhoopathi, B. Keerthi, Juhi Peswani, Mettu Sowjanya, M. Sowjanya, P. Binduja

Dept. of Medicinal Chemistry

The isatin derivatives can give its pharmacological action after reacting with Schiff and Mannich bases. The Schiff bases of Isatin derivative were prepared from the condensation reaction between amino compounds and Isatin. Schiff bases are aldehyde- or ketone-like compounds in which the carbonyl group is replaced by an imine or azomethine group. Mannich base were synthesized from Schiff base by reacting with secondary amine. In this present study, the starting material isatin was allowed to react with aromatic amines which contain different functional groups in the para position such as chloro, nitro, acid and methyl. The end product of this reaction was Schiff base of isatin. The Schiff bases of isatin were allowed to react with dimethyl amine and diethyl amine for getting the Mannich bases of isatin derivatives. In this study 8 different Schiff and Mannich bases of Isatin derivatives were obtained and their structures were identified by using FTIR, which helps to know the functional group present in the synthesized compounds. The synthesized compounds were evaluated to know the antimicrobial activity based on the presence of the different aromatic amines in their structures and was compared with the standard drug streptomycin. The novel Schiff and Mannich bases of Isatin derivatives showed significance difference from standard drug in zone of inhibition especially it was found more in the chlorine substituted compounds. It can be observed that the antimicrobial activities were compared with the standard drug streptomycin and found that the synthesized compounds had showed more activity than the standard. The present study was performed to enhance the antimicrobial activity and minimize the dose and side effects that were caused due to the over dose of marketed standard drugs.

Key words: Isatin, Schiff and Mannich base, FTIR, Antimicrobial Activity, Streptomycin

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SOLUBILITYENHANCEMENT OF OLMESARTAN MEDOXOMIL BY SOLID DISPERSION TECHNIQUE

A.V.S.HIMABINDU

Dept. of Pharmaceutics

Bio pharmaceutical classification of drugs is based upon the solubility and absorbability of drugs. The drugs which are poorly soluble are aimed to enhance their solubility. There are various techniques for enhancement of solubility. The present work is the preparation and evaluation of solid dispersions to enhance the solubility, dissolution rate and oral bioavailability of poorly soluble drug - Olmesartan medoxomil by using various super disintegrants (SSG, CCS and CP) in different ratios (1:1, 1:3 and 1:5) by Physical Mixing and Solvent Evaporation Method. Then the best solid dispersions are developed into tablet formulation and evaluated. The order of increase in dissolution rate with various superdisintegrants is $SSG > CP > CCS > MCC$ with Olmesartan medoxomil. Drug dissolution from all solid dispersions followed first order kinetics. The results show that 96.79 ± 1.06 % drug release was obtained within 30 min from the solid dispersions prepared by solvent evaporation method of Olmesartan medoxomil: SSG in 1:5 ratios. Tablets were prepared with best solid dispersions by direct compression method by using microcrystalline cellulose (MCC) as direct compressible vehicle, mannitol as diluent and talc and magnesium stearate as lubricant and glidant. The physical characters were reported as hardness - 2.5kg/sq.cm, D.T. - 96 sec, friability - 0.22% and assay - 96.79%. Dissolution of tablets having solid dispersion prepared with SSG is 96.79 ± 1.06 % within half an hour. So that there will be maximum dissolution of the drug from the formulation and in turn, it increases the bioavailability of the drug. All formulated tablets employing solid dispersions in super disintegrants exhibited rapid and higher drug dissolution when compared to normal tablets, formulation with pure drug and also commercial tablets of Olmesartan medoxomil. A 4.73 and 15.47 fold increase in $De_{30\%}$ and dissolution rate (K_1) were observed with formulation F5 and in turn, it increases the bioavailability of the drug.

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NANOTECHNOLOGY IN HEALTHCARE SYSTEM

INTRODUCTION

The term “nanotechnology” is commonly used to refer to the creation of new objects with nanoscale dimensions between 1.0 and 100.0 nm. Functionalities can be added to nanomaterials by interfacing them with biological molecules or structures. The size of nanomaterials is similar to that of most biological molecules and structures; therefore, nanomaterials can be useful for both *in vivo* and *in vitro* biomedical research and applications. The application of nanotechnology in healthcare system can bring important benefits for patients and for society. It enables the early and more precise diagnosis of diseases and improve the efficacy of medical therapies. Improved targeting of drugs to diseased organs and cells through nanotechnology can reduce the side effects and improve the efficacy of the drugs. Nano enabled Point-of-Care diagnostics and improved medical imaging technologies for both diagnosis (minimally invasive) and intervention can help identify diseases early and enable precise and effective intervention, resulting in lower costs for the healthcare system.

NANOTECHNOLOGY IN HEALTHCARE SYSTEM

The application of nanotechnology in the field of healthcare system has taken great attention in recent times. Many treatments available today take a lot of time and are expensive. Whereas, using nanotechnology, quicker and much cheaper treatments can be developed. These applications can remarkably improve the current treatments of some diseases and help save the lives of many.

1. Drug Delivery System

Nanobots are robots that carry out a very specific function and are just several nanometers wide. They can be used very effectively for drug delivery. Normally, drugs work through the entire body before they reach the disease affected area. Using nanotechnology, the drug can be targeted to a precise location which would

make the drug much more effective and reduce the chances of possible side effects.

2. Disease Diagnosis

Nanobiotech scientists have successfully produced microchips that are coated with human molecules. The chip is designed to emit an electrical impulse signal when the molecules detect signs of a disease. Special sensor nanobots can be inserted into the blood under the skin where they check blood contents and warn of any possible diseases. They can also be used to monitor the sugar level in the blood.

3. Prevention of Diseases

a. Heart-attack: Nanobots can be used to prevent heart-attacks by removing the fat deposits in the blood vessels (Harry, 2005).

b. Tumors: Nanomaterials have been investigated into treating cancer. The therapy is based on “cooking tumors” principle. Iron nanoparticles taken as oral pills attach to the tumor and release the magnetic field to heat up and literally cook the tumors from inside out (Chawla JS, Amiji MM., 2002).

c. Tissue Reconstruction: Nanoparticles can be designed with a structure very similar to bone, nerve or any tissue. The created bone-like nanoparticles (Silva, 2004) inserted into the body in a paste form arrive at the fractured bone, assemble themselves to form an ordered structure which later becomes part of the bone (Adhikari, 2005). Another key application of nanoparticles is the treatment of injured nerves. Samuel Stupp and John Kessler (2004) at Northwestern University in Chicago have made tiny rod-like nano-fibers called *amphiphiles*. They are capped with amino acids and are known to spur the growth of neurons and prevent scar tissue formation. Experiments have shown that rat and mice with spinal injuries recovered when treated with these nano-fibers.



Nanobots - Monitoring Sugar Level



Nanobots - Preventing Heart attack

NANOTECHNOLOGY IN MEDICINE

The implications of nanotechnology go much further for example: 1. **Nanocrystalline** silver is used as an antimicrobial agent in the treatment of wounds 2. **Qdots** are used to identify the location of cancer cells in the body 3. **Nanoparticles** are used to deliver chemotherapy drugs directly to cancer cells to minimize damage to healthy cells 4. **Nanoparticles** are also used to detect the infected cells with various diseases 5. **Nanoshells** are used to destroy cancer cells with minimal damage to surrounding healthy cells by concentrating the heat

from infrared light 6. **Nanotubes** are used to provide a structure for new bone material to grow in case of broken bones 7. Super paramagnetic iron oxide nanoparticles are used for magnetic resonance imaging 8. **Nanopowders** are used to increase bioavailability of poorly soluble drugs 9. Nanohydroxyapatite for **implant** coatings and bone substitution 10. **Nanosensors** for point-of-care diagnostics.

NANOTECHNOLOGY: FUTURE APPLICATIONS

Nanotechnology is set to increase rapidly over the coming years. Researchers are developing customized nanoparticles that can deliver drugs directly to diseased cells in the body. Further, the nanorobots may be programmed to repair specific diseased cells, functioning in a similar way to antibodies in our natural healing processes; may be applied to perform surgery at the cellular level, removing individual diseased cells and even repairing defective portions of individual cells; and for the significant lengthening of the human lifespan by repairing cellular level conditions that cause the body to age.

CONCLUSION:

Nanotechnology is still in its early stages. The applications discussed in this article have been developed and are under practice all over the world in the patient care. Further research in this field may open new gates for many more treatments and many diseases that do not have cures today may be cured by nanotechnology in the future.

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INSULIN PEN- AN INSULIN INJECTION DEVICE: A REVIEW

INTRODUCTION :

Diabetes is a controllable disease but its prevalence continues to increase world wide. As insulin therapy remains a mainstay in the treatment of both type 1 and type 2 diabetes, careful consideration of the method of delivery is important to ensure patient and provider satisfaction. Optimization of glycemic control is a fundamental aspect of diabetes management. The rate of diabetes related microvascular complications are significantly decreased when glycemic control is improved. The prevalence of diabetes mellitus (DM) in the elderly population currently represents almost one half of the overall diabetic population. Treatment of DM often requires a multidrug regimen that includes insulin therapy; however, due to concomitant comorbidities such as dementia, vision loss, neuropathies, poor mobility, and poor manual dexterity. Elderly patients are at high risk for hypoglycemia and other dosing errors that are associated with insulin administration. Insulin pen devices have been shown to provide more reliable, accurate, and simplified dosing, and therefore may be a safer, easier, and more acceptable method of insulin delivery in the elderly population. This article describes the various insulin pen devices available today and the potential advantages of these devices in the elderly population.

INSULIN PEN :

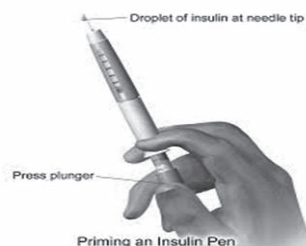
Insulin pens look similar to oversized ink pens, making them potentially convenient with discreet way of carrying insulin. The pen cap is removed and a needle is attached while using an insulin pen. The pen is “primed” to ensure that insulin is flowing through the



pen properly and that there is no air in the cartridge or needle.

After priming, the actual dose of insulin to be administered is dialed in using a dial or dose knob. The needle is inserted into the skin, and the dose is delivered slowly by pressing on the dose knob. It is important to hold the pen in place and to continue pressing the dose knob while counting slowly to five, the needle should be removed slowly from the skin to ensure that no insulin leaks out. Pen needles are intended for single use and should be discarded after usage.

Insulin pens should never be stored with the needle attached because doing so may allow insulin to leak out or to form air bubbles in the insulin cartridge. Between uses, the pen's cap should be put on to protect the insulin cartridge. In-use pens or pen cartridges should not be stored in the refrigerator because of the possibility that condensation will form in the insulin container. Most pens hold 300 units (3 ml) of insulin and deliver doses in one-unit increments, with up to 60 to 80 units per dose. The NovoPen Junior and the HumaPen Luxura HD deliver insulin in half-unit increments. One of the biggest advantages of insulin pens is accurate dosing. Ease of use is another advantage of pens over syringes because they require





less manual dexterity and coordination, and they may be easier to use for people with low vision.

DIFFERENT TYPES :

Like syringes, pen needles also come in a variety of needle gauges and lengths. However, pen needles are slightly thinner and shorter than syringe needles making the injections more comfortable.

Prefilled Pens: Prefilled, plastic, disposable insulin pens have a self-contained insulin cartridge. Several different types of insulin are sold in prefilled pens.

InnoLet: While most insulin pens look like writing pens, the InnoLet looks more like a kitchen timer with a big round dial. The big dial with large, easy to read numbers makes the InnoLet easier to use for some people with visual difficulties or dexterity problems. In addition, the relatively large size of the device also may make it easier to hold securely against the skin while administering insulin doses, particularly for people with arthritis, tremors, or shaky hands. The InnoLet holds 300 units of insulin.

Durable Pens: Insulin pens that use replaceable cartridges of insulin are also available. Most reusable pens are made of metal with the same features as disposable pens and a comparable cost.

Several studies investigated for dosing accuracy between pens resulted in good accuracy. Though Insulin pens differ in the force required to inject an insulin dose, the differences in the injection force between insulin pens are relatively small.

Conclusion :

Insulin pen devices offer an alternative to the traditional insulin vial-and-syringe method. Insulin administration by means of an insulin pen is easier and more convenient; found to be less painful than the traditional method; often associated with greater patient preference and social acceptability. By overcoming all barriers to insulin administration, insulin pens have shown an increase in medication adherence and ultimately aid in improving glycemic control. The pens should be offered to all patients who require insulin therapy.

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IN-SILICO DRUG DESIGN

Drug discovery and development is an intense, lengthy and an interdisciplinary endeavor. It is mostly portrayed as a linear, consecutive process that starts with target and lead discovery, followed by lead optimization and pre-clinical *in vitro* and *in vivo* studies to satisfy a number of pre-set criteria for initiating clinical development. For the pharmaceutical industry, the number of years to bring a drug from discovery to market is approximately 12-14 years and costing up to \$1.2 - \$1.4 billion dollars. Traditionally, drugs were discovered by synthesizing compounds in a time-consuming multi-step processes against a battery of *in vivo* biological screens and further investigating the

promising candidates for their pharmacokinetic properties, metabolism and potential toxicity. Such a development process has resulted in high attrition rates with failures attributed to poor pharmacokinetics (39%), lack of efficacy (30%), animal toxicity (11%), adverse effects in humans (10%) and various commercial and miscellaneous factors. Today, the process of drug discovery has been revolutionized with the advent of genomics, proteomics, bioinformatics and efficient technologies like, combinatorial chemistry, high throughput screening (HTS), virtual screening, de novo design, in vitro, in silico ADMET screening and



structure-based drug design. Drug design and development is the blend of several stages like 1) Identification of target disease 2) Identification of drug target 3) Establishment of testing procedures 4) Finding a lead compound 5) Study of structure activity relationships (SAR) 6) Identification of a pharmacophore 7) Optimising target interactions 8) Optimising pharmacokinetic properties 9) Toxicological and safety tests 10) Chemical development and production 11) Patenting and regulatory affairs 12) Clinical trials.

In silico methods can help in identifying the drug targets via bioinformatic tools. They can also be used to analyze the target structures for possible binding/ active sites, generate candidate molecules, check for their drug likeness, dock these molecules with the target, rank them according to their binding affinities, further optimize the molecules to improve binding characteristics. The use of computers and computational methods permeates all aspects of drug discovery today and forms the core of structure-based drug design. High-performance computing, data management software and internet are facilitating the access of huge amount of data generated and transforming the massive complex biological data into workable knowledge in modern day drug discovery process. The use of complementary experimental and informatics techniques increases the chance of success in many stages of the discovery process, from the identification of novel targets and elucidation of their functions to the discovery and development of lead compounds with desired properties. Computational tools offer the advantage of delivering new drug candidates more quickly and at a lower cost. Major roles of computation in drug discovery are; (1) Virtual screening & de novo design, (2) In silico ADMET prediction and (3) Advanced methods for determining protein-ligand binding.

Significance of in-silico Drug Design

As structures of more and more protein targets become available through crystallography, NMR and

bioinformatics methods, there is an increasing demand for computational tools that can identify and analyze active sites and suggest potential drug molecules that can bind to these sites specifically. Also to combat life-threatening diseases such as AIDS, Tuberculosis, Malaria etc., a global push is essential. Millions for Viagra and pennies for the diseases of the poor is the current situation of investment in Pharma R&D. Time and cost required for designing a new drug are immense and at an unacceptable level. According to some estimates it costs about \$880 million and 14 years of research to develop a new drug before it is introduced in the market. Intervention of computers at some plausible steps is imperative to bring down the cost and time required in the drug discovery process.

Structure Based Drug Design

The crystal structure of a ligand bound to a protein provides a detailed insight into the interactions made between the protein and the ligand. Structure designed can be used to identify where the ligand can be changed to modulate the physicochemical and ADME properties of the compound, by showing which parts of the compound are important to affinity and which parts can be altered without affecting the binding. The equilibrium between target and ligand is governed by the free energy of the complex compared to the free energy of the individual target and ligand. This includes not only the interaction between target and ligand but also the solvation and entropy of the three different species and the energy of the conformation of the free species.

Virtual screening and de novo design play an important role within the pharmaceutical industry in lead discovery process. Virtual screening refers to computational screening of large libraries of chemicals for compounds that complement targets of known structure which could be tested experimentally. Since, the virtual screening takes place in the three-dimensional active site of the target; it is also called as structure-based virtual screening. De novo design attempts to use the



unliganded structure of the protein to generate novel chemical structure that can bind.

Fragment based discovery is based on the premise that most ligands that bind strongly to a protein active site can be considered as a number of smaller fragments or functionalities. Fragments are identified by screening a relatively small library of molecule (400-20,000) by X-ray crystallography, NMR spectroscopy. These structures of the fragment binding to the protein can be used to design new ligands by adding functionality to the fragments or by incorporating features of the fragment onto existing ligands.

In silico ADMET prediction

The phrase “drug-like” generally means molecules which contain functional groups and/or have properties consistent with the majority of known drugs. Lead structures are ligands that typically exhibit suboptimal target binding affinity. There is a difference between leads and drugs which can be expressed as follows: Lead structures exhibit, on average, less molecular complexity (less molecular weight, less number of rings and rotatable bonds), less hydrophobic (lower ClogP and LogD74) and have lower polarizability (less CMR). Leads should display the properties like (1) Relatively simple chemical features, amenable for combinatorial and medicinal chemistry optimization efforts; (2) Membership to a well-established SAR (structure-activity relationship) series, wherein compounds with similar structures exhibit similar target binding affinity; (3) Favorable patent situation; and (4) Good ADME (absorption, distribution, metabolism and excretion) for further development in the drug discovery process.

Leads discovered using virtual screening and de novo design methodologies needs to be optimized to produce candidates with improved bioavailability and low toxicity. Studies have indicated that poor

pharmacokinetics and toxicity are the most important causes of high attrition-rates in drug development and it has been widely accepted that these areas should be considered as early as possible in the drug discovery process, thus improving the efficiency and cost-effectiveness of the industry. Resolving the pharmacokinetic and toxicological properties of drug candidates remains a key challenge for drug developers. Evaluation of drug-likeness involves prediction of ADMET (absorption, distribution metabolism, excretion, toxicity) properties and these predictions can be attempted at several levels:

1. *In vitro*–*in vivo* using data obtained from tissue or recombinant material from human and pre-clinical species.
2. Inter-species, *in vivo*–*in vivo* using data from pre-clinical species.
3. *In silico* or computational predictions projecting *in vitro* or *in vivo* data.

In silico prediction of drug-likeness at an early stage involves evaluation of various ADMET properties using computational approaches like QSAR or molecular modeling. A number of studies may be performed to find out the properties which make a drug distinct from other chemicals. Availability of large databases of drug or drug-like molecules, e.g. CMC (Comprehensive Medicinal Chemistry), MDDR (MACCS-II Drug Data Report), WDI (World Drug Index) provides useful information about the properties of drugs. A deeper understanding of the relationships between important ADME parameters and molecular structure and properties is needed to develop better *in silico* models to predict ADMET properties. Some of the ADME properties evaluated using *in silico* models are; intestinal permeability, aqueous solubility, human intestinal absorption, human oral bioavailability, active transport, efflux by P-glycoprotein, blood-brain barrier permeation, plasma protein binding, metabolic stability, interactions with cytochrome P450s and toxicity.

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ALOPECIA - A COMMON PROBLEM

Hair loss is one of the common problems seen in today's generation. It is also called as Alopecia areata (AA) or spot baldness. Baldness is mainly caused due to clogging of hair follicles. It is an autoimmune disease in which hair is lost from some or all areas of the body, usually from the scalp due to the body's failure to recognize "self" and destroys its own tissue as if it were an invader. People can have this type of hair loss at any age. Baldness, at a very young age, is a sign of unhealthy hair. It often begins in childhood. It is the most noticeable problem in men, less common in women which can be caused by several reasons or a combination of various factors like hormonal changes, excessive consumption of Vit-A, tight hair styles, trauma, anemia, lack of iron and proteins, aging and heredity, junk foods, pregnancy and menopause, thyroid disorders, birth control oral contraceptives, short or long-term illness, scalp infection, excessive use of hair dryer, anabolic steroids, stress and tension, cancer treatment, quick weight loss etc.

Based on the area of hair loss, alopecia is classified as a. Alopecia areata monolocularis (occur anywhere on the head as only one spot). b. Alopecia areata multilocularis (in multiple areas). c. Ophiasis (occur at the circumference of the head as a wave). d. Alopecia areata barbae (limited to the beard). e. Alopecia totalis (whole hair on the scalp). f. Alopecia universalis (whole body hair, including pubic hair). Among all types, Alopecia areata totalis and universalis are rare.

Signs and symptoms of baldness include receding hairline, hair thinning, hair fall on pillow, while shampooing and combing etc., circular bald patch on top of the head, full body hair-loss, rapid and excessive loss of hair, incomplete hair loss on scalp. Rapid weight loss, stress, white spots, dents, and roughness on nails also are the signs of alopecia. It can be diagnosed by dermatologists by physical verification of scalp, microscopical testing of hair follicles, blood tests and skin biopsies to confirm the disease. There is no cure for alopecia. Hair often re-grows on its own. But, treatment can help the hair re-grow more quickly. The following treatment can be given:

Corticosteroids: This medicine suppresses the immune system. It may be topical application i.e, cream, lotion or ointment. The patient applies the medicine to the bare spots. Less often patients take corticosteroid pills. Patients should receive shots every 3 to 6 weeks. Hair growth begins about 4 weeks after the last shot. Sometimes, it takes longer. But corticosteroid pills can have serious side effects.

Minoxidil: A hair re-growth medicine, minoxidil 5% may help some patients re-grow their hair. Both children and adults can use it. Patients apply it twice a day to the scalp, eye brows and beard. New hair may start to grow in about 3 months.

Anthralin: This medicine alters the skin's immune function. The patient applies a tar like substance to the skin and leaves it on for 20 to 60 mins.

Diphencyprone (DPCP): This medicine is applied to the bald skin. It causes a small allergic reaction like redness, swelling and itching. So this allergic reaction is due to tricking the immune system, causing to send white blood cells to the surface of the scalp. This fights the inflammation. It also prevents the hair follicles from going to sleep, and loss of hair.

Preventive Measures:

Do's: Managing the hair with proper care - oiling hair once in a week, practicing warm oil (coconut oil) massage to scalp to increase blood circulation and stimulate hair growth.

Rub the scalp with juice of garlic, onion, or ginger on a regular basis, use of medicated, protein-rich shampoos and conditioners, comb the hair gently, tie the hair with soft and loose bands, adequate sleep, regular exercise, improve water intake, use of supplements to avoid baldness, consumption of fresh fruits and vegetables, foods rich in proteins, omega-3 fatty acids, vitamin C, iron, and zinc.

Dont's: Frequent combing, combing on wet hair, tight hair styles, constant use of hair dryers, frequent hair dyeing (only after every 6-8 weeks), usage of hair-styling gels, usage of harsh shampoos, usage of too hot water to wash hair strands, over-scrubbing of scalp while shampooing, exposure to dust and sun, chemical treatments on hair, having junk foods, alcohol, carbonated beverages, dieting, stress and tension etc.

Conclusion: Alopecia is one of the common problems seen in today's generation. One need not be emotional and tensed up as it is not a life threatening disease. As it is well known that, prevention is better than cure care must be taken by exercising the do's and don't's.

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HEALTH HAZARDS THROUGH POULTRY CHICKEN

Chicken is one of the most common liking food among many of the animal foods world wide. Most of the people including children as well as adults enjoy the taste and versatility of chicken in many forms like curry, pakoda, roast, stew or barbecued chicken.

The chicken is one of the worst offenders when it comes to food poisoning. Many of us have either experienced this first hand or know someone who has suffered from this nasty illness. Since 1940s, antibiotics have played a critical role in protecting the public health, and are responsible for saving millions of human lives. About 90% of antibiotics produced in the world are given to farm animals. The use of antibiotics by the modern food animal industry resulted in the development of drug-resistant bacteria. Such resistant bacteria reach the general population in infected form of animal food.

Antibiotics are used regularly in animal feed at a rate of 2 to 50 grams per ton for improved performance, increased growth rate and a lower mortality rate in general. The levels of antibiotics are often increased to 50-200 grams/ton or more when specific diseases are being targeted. Chlortetracycline, procaine penicillin, oxytetracycline, tylosin, bacitracin, neomycin sulfate, streptomycin, erythromycin, lincomycin, oleandomycin, virginamycin, and bambarmycins are most commonly used antibiotics in poultry feed. Other chemicals are also used as antiprotozoal agents to prevent coccidiosis and histomoniasis in chickens. Tetracycline and penicillin show improvement in egg production, feed efficiency and hatchability. Chlorotetracycline, oxytetracycline and penicillin also show an improved growth rate.

On regular usage of antibiotics over a period of time in animals, they retain the strains of bacteria which are resistant to antibiotics. These bacteria proliferate in the

animal. The resistant bacteria are transmitted to the other animals, thus forming a colonization of antibiotic resistant bacteria. The bacteria flourish in the intestinal flora of the animal, as well as, in the muscle. The feces of the animal also often contain the resistant bacteria. Transfer of the bacteria from animal to human is possible, when the bacteria ingested as meat, on cleaning the animal fecal matter, or in slaughterhouses during slaughter. After initial transmission and infection to humans, it transmits to other humans by many ways. Multiple infections could potentially produce a super-germ which is resistant to many drugs due to resistance sharing between bacteria.

The bacteria develop resistance by any one or more mechanisms which include, 1. Decreased cell permeability to the drug - the cell can change its membrane structure so that the drug cannot enter the cell and perform its function. 2. Alteration in the drug binding site - by changing the structure of the membrane surface, the alteration in the binding site. 3. Active transport of the drug molecules out of the cell. 4. Enzyme or pathway alteration - the cell can change the pathway or enzyme used to carry out its processes or it can bypass the enzyme.

Salmonella and *campylobacter* are the two most common bacteria infecting poultry forms. *Salmonella* can cause typhoid fever and food poisoning. The symptoms include: Fever, nausea, vomiting, diarrhea, and abdominal pain. Other infections which can be caused by *salmonella* include: bone infections (osteomyelitis), joint infections (arthritis), infection of the sac containing the heart (pericarditis), infection of the tissues which cover the brain and spinal cord (meningitis), hepatitis, lung infections (pneumonia).



Chloramphenicol was the first antibiotic successfully used to treat salmonella food poisoning. Ampicillin and trimethoprim-sulfonamide have been used successfully in the treatment of infections caused by chloramphenicol-resistant strains. Newer types of antibiotics, such as cephalosporin or quinolone, are also effective.

Campylobacter jejuni is another most common cause of bacterial food borne illness. Studies have revealed that *campylobacter* can contaminate the chicken body up to 98 percent. Symptoms of food poisoning from *Campylobacter* include: Diarrhea with blood, fever, nausea, vomiting, abdominal pain, headache, muscle pain. The long-term consequences of *Campylobacter* infection are arthritis, appendicitis, infection to the specific parts of the body, including the abdominal cavity, the heart, the central nervous system, the gall bladder, the urinary tract, or the blood stream. *Campylobacter* infections usually resolve after about a week, although treatment with antibiotics can shorten the course of the illness. Patients with *Campylobacter* poisoning should drink lots of fluids to stay hydrated as long as the diarrhea lasts. Antidiarrheal medication may also help lessen symptoms.

One out of six cases of *campylobacter* infection is resistant to the antibiotic. In the world almost all strains of *staphylococcal* infections are resistant to penicillin and newer drugs. Researchers found that chicken treated with quinolone antibiotics were being colonized by *campylobacter* bacteria

resistant to the drug and those bacteria were passed to humans. Virginiamycin in feed develops resistance in *enterococci*. They generally do not cause diseases and so there is no inherent risk involved with the development of resistance to antibiotics in *enterococci*. However, they become very dangerous if their resistance transfer to other bacteria in human wounds, catheter infections and other hospital-acquired contagions.

Generally poisoning due to poultry food occurs due to 1. The contamination of cooked food with uncooked raw chicken, 2. Improper cooking of chicken i.e., which has not been cooked at the correct length of time and temperature, 3. Failure to allow chicken to defrost thoroughly, and 4. Eating chicken after the 'sell by' date.

Precautions to avoid food poisoning due to poultry chicken

1. Avoiding the meat and eggs from the farms where chicks are routinely fed antibiotics.
2. Washing hands before and after handling poultry.
3. Ensuring that any frozen chicken has been completely defrosted before use.
4. Storing chicken at the right temperature in the fridge.
5. Keeping cooked and raw chicken separate.
6. Making sure that, food is cooked thoroughly, especially meat to kill the bacteria.

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STOAMCH FLU IN CHILDREN

Stomach flu or Acute Gastro Enteritis (AGE) is a diarrheal disease of rapid onset, with or without nausea, vomiting, abdominal pain and fever in children. It is caused by virus (*Rotavirus, norovirus, adenovirus*), bacteria (*Salmonella, shigella, E.coli*), and protozoans (*Giardialamblia, Entamoeba histolytica*). AGE is the second leading killer of children. The common risk factors include contaminated food or water; eating improperly cooked food, travel to high risk areas, living around poor sanitation, malnutrition, and exposure to un-cleaned pets, direct contact with fecal matter etc. Signs and symptoms include diarrhea, vomiting, dehydration, malaise, abdominal cramps, fever, fatigue, loss of appetite, weight loss, weakness etc.

On severe or prolonged episode of diarrhea that contains blood or mucus, fever of 102°F or higher, repeated vomiting, or refusal to drink fluids, abdominal pain, dry or sticky mouth, few or no tears when crying, sunken eyes, sunken soft spot (fontanelle) on top of the head, lack of urine or only a very small amount of dark yellow urine for 6 to 8 hours in an infant etc., doctor should be consulted for the symptomatic as well as causative treatment.

Preventive measures are immunization against virus and safety instructions to families. Such instructions must

include hand hygiene, breastfeeding the infants, to avoid raw or under cooked meat and fish, to use boiled water for drinking and cooking, to avoid food from unprotected sources, to avoid washing of the pet cages or bowls in the same sink that are used to prepare family meal, to keep pets' feeding areas separate from family dining areas, to wash fruits and vegetables before using, to cover food and drinking water, to wash hands frequently with soap etc.

Oral rehydration therapy, a medical treatment consisting of liquid solutions given orally, designed to counteract dehydration must be started immediately. A basic oral rehydration therapy solution is composed primarily of salt (1 tsp), sugar (8 tsp), and water (1 liter).

Drugs used are Antiemetics (Ondansetron, Metachlorpropamide, Dimenhydrinate and Dexamethasone) and Antidiarrheals (Diphenoxylate, Loperamide, Kaolin-pectin mixture, Polycarbophil, Attapulgit). Antimicrobial therapy is useful in cases of culture-proven pathology (Cotrimoxazole, Ampicillin). Zinc supplements and Probiotics (*Lactobacillus acidophyllus, Bifidobacterium lactis*, and *Saccharomyces boulardii*) may also be included in the therapy.

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PAPAYA LEAF EXTRACT - A GOOD REMEDY FOR DENGUE

DENGUE is a viral infection caused by four dengue viruses (DENV) DEN 1, DEN 2, DEN 3, DEN 4. It is an RNA virus of the family Flaviviridae; genus Flavivirus. All spread by a species of mosquito known as the *Aedes aegypti* and *Aedes albopictus*. Dengue means "**BONE-BREAKING FEVER**" in Swahili language (East Africa). This disease is asymptomatic in children and adults at initial stage followed by very high fever, severe headache, retro-orbital pain, joint pains, internal bleeding, myalgia, arthralgia, thrombocytopenia etc. Thrombocytopenia being a common feature, the platelet count falls below 130,000

cells/micro ml while the normal range is 150,000 - 450,000 cells/micro ml of blood. The vast decrease in platelet count is due to platelet-lysis caused by virus which is due to the development of increased vascular permeability and plasma leakage.

Dengue virus is more prevalent in Goa, Gujarat, Karnataka, Maharashtra, Delhi, West Bengal etc. This virus spread mostly in urbanized villages (58.5%) compared to rural villages (41.2%). There is no specific allopathic treatment or anti-viral agents to treat dengue. Several vaccines are being developed for dengue but so



far none of them were found effective. But based on *old folk cure*, researchers in India have managed to discover a good remedy for dengue which is none other than *papaya leaf*.

CARICA PAPAYA belongs to the family *Caricaceae*. Since ancient times papaya plant is used to treat many diseased conditions. Every part of it has its own importance in curing number of diseases. Papaya seeds have bactericidal properties, ripe fruit cures ring worm infections, unripe fruit lowers blood pressure, increases milk production in nursing mothers and also act as aphrodisiac and induction of abortion.

Papaya leaf extract has a variety of properties like larvicidal, anticancer, anti-oxidative, anti-inflammatory, hepatoprotective and anti-sickling effect in sickle cell disease etc. In treatment of dengue fever also it is effective against virus. The possible mechanism of action of it in treating dengue is by treating the thrombocytopenia associated condition. It may be acting

through membrane stabilizing property and insulating the blood cells against stress-induced destruction. Extract contains components like papain, cystatin, ascorbic acid, flavanoids, phenols, glucosinolates etc. and several minerals which optimize the mineral deficiency caused by virus and boost up the immune cells against virus.

The fresh aqueous extract prepared by grinding the well cleaned green raw papaya leaves after removing the stem part and other fibrous matter, filtered through cloth was given at the dose of 30 ml approximately to the patient for every 8 hr had showed enormous increase in platelet count within 2 days of treatment.

Papaya being abundantly available natural source with potent action than synthetic drugs must be subjected to thorough research to understand the mechanisms involved in curing dengue fever. Studies must be carried out to establish its safety while treating pregnant women with dengue as raw papaya fruit is abortifacient.

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THE ROLE OF A PHARMACIST IN THE SOCIETY

Pharmacy is a profession that is expanding in new directions to meet the health care needs of the humans all over the globe. Pharmacists and Doctors of Pharmacy practice Pharmacy in the field of health science for safe and effective use of medication. They also practice in a variety of other settings include industry, wholesaling, research, academia, military and government sectors. Historically, the fundamental role of pharmacists as health care practitioners was to check and distribute drugs to doctors that they prescribed to patients. In modern society, pharmacists advice patients and health care providers on the selection, dosages, interactions and side effects of medication. Thus they act as a learned intermediary between a prescriber and a patient. One of the most important role that pharmacists are currently taking on is direct responsibility for patients and their disease states, managing their medication to improve the status of the patients health. Pharmaceutical care has many benefits beside the most common role of a hospital pharmacist i.e., to instruct and counsel on the proper use and effects of the prescribed medicines, those include i) The decreased medication errors ii) Increased patient compliance in medication regimen iii) Better chronic disease state management including hypertension and other

cardiovascular disease risk factors iv) Establishment of strong pharmacist patient relationship to lessen long term costs of their medical care v) Assessment of medication management in patients and in referring patients to physicians vi) Clinical medication management including reviewing and monitoring of medication regimens vii) Health monitoring and advice on the treatment of common ailments and diseases states viii) Compounding medicines ix) Supervising and coordinating pharmacy technicians and other staff x) Oversight of dispensing medicines on prescription xi) Education and counseling for patients and other health care providers on proper use of medicines xii) Referrals to the other health professions if necessary xiii) Promoting public health by proper immunization.

Ethical concerns: Pharmacists reduce the emotional burden of the patients by suggesting proper use of the prescribed medicine. They give individual preference on personal or cultural considerations. Their aim is to enhance long-term outcome, and they are on the constant look out to help the society in many ways as their action plan ensures the humane treatment of the humans.

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CAREERS IN PHARMACY

The word *pharmacy* is derived from the Greek word *pharmakon* meaning “drug”, “medicine” or “poison”. It is the science and technique of preparing and dispensing drugs. It is a health profession that links health sciences with chemical sciences.

Careers in Pharmacy include:

1. Pharmacist: Pharmacist responsibilities include a range of care for patients, from dispensing medications to monitoring patient health and progress to maximize their response to the medication. Pharmacists also provide expertise about the composition of drugs, including their chemical, biological, and physical properties and their manufacture and use. They ensure drug purity and strength and make sure that drugs do not interact in a harmful way.

2. Clinical Pharmacy: Clinical pharmacists work in a hospital as part of a medical care team. They typically counsel patients with a physician and help to determine which medications and doses would be most effective for different patient's conditions.

3. Community Pharmacy: Pharmacists provide important counseling services, such as the proper selection of over-the-counter medications and/or referral to other health care providers.

4. Nuclear Pharmacy: Nuclear pharmacists are responsible for measuring and delivering the radioactive materials which are used in digital imaging (MRI, CT) etc.

5. Government Agencies: Local, state and federal governmental agencies such as the National Institutes of Health, the Food and Drug Administration, the Veterans Administration, Banks, Insurance companies and the Armed Forces require the expertise of skilled pharmacists.

6. Pharmaceutical Industry: Modern pharmaceutical industry recognizes the need for technical proficiency among its production, quality control and marketing personnel. Many pharmacists go on to obtain postgraduate degrees in order to meet the technical

demands and scientific duties required in pharmaceutical manufacturing.

7. Drug Researcher: The role of drug researcher includes design of new drug therapies using natural or synthetic ingredients, invent new ways to use existing drugs to treat different types of diseases, to study how disease affects the body and what causes some people to develop certain types of disease, study how the human body responds to medications.

8. Manufacturing Chemist: The pharmaceutical production companies need pharmacists to obtain license for manufacturing. Graduates of pharmacy with 18 months of experience in manufacturing are treated as competent technical staff under Drugs and Cosmetics Act which regulates the Drug Industries.

9. Quality Control/Quality Assurance: Quality Assurance is a total process for assuring the quality of pharmaceutical products as per standard specified in National or other approved pharmacopoeias. The graduates with aptitude in analysis of pharmaceuticals and handling of sophisticated instruments find the job interesting.

10. Government Analyst: The medicines that have been sampled either from manufacturing units or retail drug stores are tested in government drug testing laboratories. The graduate pharmacists can join these government laboratories as government analyst.

11. Clinical Research: The purpose of clinical research is to evaluate whether the medication is safe and effective when it is used for the disease under question. Clinical trials also tell us what is the appropriate dose and route of administration.

12. Medical Communications/ Information: Pharmacists critically analyze and evaluate evidence-based medicine, collaborate and network with key opinion leaders from industry, managed care, and academia to create promotional and educational programs, manage client expectations while effectively integrating key messages into programs for healthcare professionals, respond to external inquiries from patients and/or healthcare professionals, create and manage



question-response databases for marketed products.

13.Regulatory Affairs: The medicines are not only required to be effective but must be safe and of assured quality. In order to assure efficacy, safety and quality, the entire pharmaceutical scenario, from manufacturing to sale of medicines, is regulated by the central and state government through a process of licensing and inspecting. The pharmaceutical graduates can join the government services usually through public service commission as Drug Inspectors. They have promotional scopes to grow up to the rank of Drug Controller.

14.Medical Transcription: The medical transcriptionist types the information on a computer or word processor edit and clarifies any grammatical errors. Experienced transcriptionists proofread medical reports to point out errors or discrepancies and to make necessary corrections. To decrease the possibility of patients receiving improper or damaging treatment, transcriptionists must have the ability to comprehend and accurately transcribe assessments of patients.

15.Sales and Marketing: Pharmacists with an interest in sales and administration can combine this with their technical background in pharmacy by serving as medical service representatives. These representatives call on a variety of health care professionals to explain the uses and merits of the products their firms produce. Pharmacists are employed as sales representatives, supervisors, and administrators in wholesale drug firms.

16.Pharma-Biotechnology: The biotech industry is a

newer sector. Biotechnology with the application of pharmaceutical science solves problems, improve processes to develop and manufacture new products. In India this sector is at rapidly growing stage.

17.Academic Pharmacy: They are involved with teaching, research, public service, and patient care. Pharmacists after post graduation have the option to teach. Pharmacy practice faculties have significant responsibility for patient care, in addition to their work in teaching and research.

18.Health Policy Makers: Pharmacist may be involved in various categories of health policies, including personal healthcare policy, pharmaceutical policy, and policies related to public health such as vaccinations, awareness programme, tobacco control promotion etc.

19.Specialized Area Opportunities: Pharmacists with expertise in specialized areas such as consulting, legal practice, journalist, drug information, poison control and pharmacy affairs are becoming more in demand as the profession evolves.

20.Higher Studies with Research Fellowship: One may pursue higher studies (M.Pharm/ Ph.D) in India or abroad with research grant in order to make their careers even more lucrative and challenging. The qualifying examinations are GPAT, GRE, TOEFL, FPGEE, NAPLAX etc. The funding agencies are AICTE, CSIR, DST, DBT, EMBO, ICMR, INCNE, The Lady Tata Memorial Trust, TWAS, Japan Society for the Promotion of Science etc.

:::: Thank you all for choosing Pharmacy as a Career ::::

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AWARE!!!!!! DON'T GET STRESS.

A lot of things can cause stress. You may feel stress when you go on a job interview, take a test, or run a race. These kinds of short-term stress are normal. Long-term (chronic) stress is caused by events that last over a long period of time, like problems at work or conflicts in the family. Chronic stress can lead to severe health problems.

Major Health Problems underlying Tension

Heart Disease. Stress can directly increase the heart rate and blood flow that causes the release of cholesterol and triglycerides into the blood stream which can trigger serious heart problems, including heart attacks. People who have chronic heart problems need to avoid acute stress.

Asthma. Many studies have shown that stress can increase the asthma. Some evidence suggests that a parent's chronic stress might even increase the risk of asthma to children.

Obesity. "Stress causes higher levels of the hormone cortisol which increase the amount of fat that's deposited in the abdomen. Excess fat in the belly produce more health problems than fat on the legs or hips.

Diabetes. Stress affect the diabetic people in two ways, firstly it increases unhealthy eating and excessive drinking. Secondly, stress seems to raise the glucose levels of people with type 2 diabetes directly.

Headaches, Depression and Anxiety. Stress is considered one of the most common trigger for headaches — not just tension headaches, but migraines as well. Obviously, chronic stress makes the person to get into depression and anxiety.

Gastrointestinal Problems. Stress doesn't cause ulcers but however, it can make them worsen. Stress is also a

common factor in many other GI conditions, such as chronic heartburn (or gastro esophageal reflux disease, GERD) and irritable bowel syndrome (IBS).

Alzheimer's Disease. Research estimates that stress might worsen Alzheimer's disease, causing its brain lesions to form more quickly. Researchers speculate that reducing stress has the potential to slow down the progression of the disease.

Accelerated Aging. Stress seemed to accelerate aging for about 9 to 17 additional years.

Relaxation Techniques

•**Meditation.** Regular meditation alters the brain's neural pathways, making the person more resilient to stress.

•**Deep Breathe.** Deep breathing counters the effects of stress by slowing the heart rate and lowering blood pressure.

•**Social Interaction.** Social network is one of the best tools for handling stress. One can get a fresh perspective while keeping the interaction strong.

•**Tune in to Your Body.** Mentally scan the body to get a sense of how stress affects it each day and do self assessment. This helps to control the cause of stress.

•**Laugh Out Loud.** A good belly laugh doesn't just lighten the load mentally but also lowers cortisol, body's stress hormone, and boosts brain chemicals called endorphins, which changes the mood. Watching the favorite sitcom or video, reading favourite books or comics, etc help in decreasing stress.

•**Crank up the Tunes.** Research shows that listening to soothing music can lower blood pressure, heart rate, and anxiety.

Positive attitude will surely help to keep good health

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Mr. G. Muthu Bhoopathi

Asst. Prof., Dept of Ph. Chemistry.



KNOW YOUR SELF

Everyone distinguishes himself or herself by name. The command of a name and its importance has long been memorialized in prose, poetry, novels and religious books. Name is the grouping of several letters of an alphabet. Every word of your name has some inherent meaning. The words of the name influence the person's character.

Instructions: Find out the meaning of each letter of your name from the below hints and then connect all the meanings. It describes YOU. If you have double or triple letters, just count the meaning once.

- ❖ **A** = You can be very quiet when you have something on your mind.
- ❖ **B** = You are always cautious when it comes to meeting new people .
- ❖ **C** = You definitely have a partier side in you, don't be shy to show it.
- ❖ **D** = You have trouble trusting people.
- ❖ **E** = You are a very exciting person.
- ❖ **F** = Everyone loves you.
- ❖ **G** = You have excellent ways of viewing people.
- ❖ **H** = You are not judgmental.
- ❖ **I** = You are always smiling and making others smile.
- ❖ **J** = Jealously.
- ❖ **K** = You like to try new things.
- ❖ **L** = Love is something you deeply believe in.
- ❖ **M** = Success comes easily to you.
- ❖ **N** = You like to work, but you always want a break.
- ❖ **O** = You are very open-minded.
- ❖ **P** = You are very friendly and understanding.
- ❖ **Q** = You are a hypocrite.
- ❖ **R** = You are a social butterfly.
- ❖ **S** = You are very broad-minded.
- ❖ **T** = You have an attitude, a big one.
- ❖ **U** = You feel like you have to equal up to people's standards.
- ❖ **V** = You have a very good physique and looks.
- ❖ **W** = You like your privacy.
- ❖ **X** = You never let people tell you what to do.
- ❖ **Y** = You cause a lot of trouble.
- ❖ **Z** = You're always fighting with someone.

Collected by-
Mr. S. Venkateswara Rao
Sr. Asst. Prof

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