



10th National Conference on P₄

P₄

Pharmaceutical care

Pharmacoeconomics

Pharmacovigilance

Patient Report outcome

In association with

ACPI-KSPOR

24th & 25th February 2018



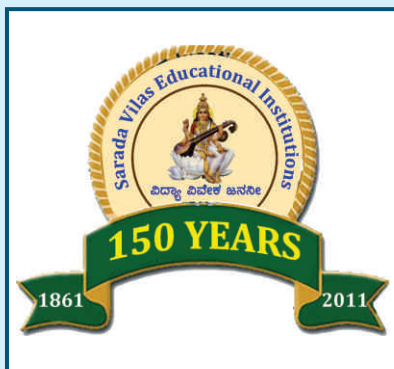
Sarada Vilas Educational Institutions®

Sarada Vilas College of Pharmacy
Silver Jubilee Celebrations

Sarada Vilas Road, K. M. Puram, Mysuru- 570 004, Karnataka, India

Ph.No. 0821- 2488612

mysoresvcop@gmail.com, www.svcop.org



MISSION

Enhancing Health through Exemplary Pharmaceutical Education,
Community Service & Research

VISION

To become internationally recognized premiere center of excellence in
academics and research in pharmaceutical sciences.



Sarada Vilas Educational Institutions

SARADA VILAS COLLEGE OF PHARMACY

Estd : 1992

Sarada Vilas Road, K. M. Puram, Mysuru- 570 004, Karnataka, India

Ph.No. 0821- 2488612

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PREFACE

Sarada Vilas College of Pharmacy (SVCP) came in to existence in the year 1992 with Diploma in Pharmacy. Subsequently Bachelor of Pharmacy, Master of Pharmacy and Pharm D course were ceremoniously inducted. Dr. APJ Abdul Kalam, the epitome of science, technology and philosophy in India graced the Pharm- D programme, “The Blessing in disguise” for all of us. The institution is highly committed to promote excellent world class pharmaceutical education, service and research.

About ISPOR

ISPOR is an international organization with the mission to promote and develop Pharmacoeconomic and Outcome Research for healthcare issues established in USA in 1995. The details regarding ISPOR is available on the website www.ispor.org

About KSPOR

Kautilys’s society of Pharmacoeconomic and Outcome Research is a national association with the vision to promote and propagate pharmacoeconomic and outcome research activities amongst students, faculty in collaboration with pharma industry, academia, hospitals and regulatory bodies.

About ACPI

Association of Community Pharmacists of India is a registered body with the objective of promoting and propagating pharmacy practice in community and public health in India. Community pharmacists shall be trained to provide comprehensive pharmaceutical care. It publishes once in 4 months a peer reviewed International Journal of Community Pharmacy. The details regarding ACPI are available on the website www.acpi.in. SVCP in association with ACPI and KSPOR is hosting the decennial P4 conference on 24th and 25th February 2018 in the royal city of Mysuru. Realizing the pivoted role of pharmacist in the health care profession, professional visionaries devised pharmacy practice and Pharm D programmes in India which has picked up the momentum over the years. Understanding the demands of the ultra modern health delivery systems and opportunities for the pharmacy graduates in government sectors, pharmaceutical houses and corporate hospitals, missionary professionals are periodically organizing P4 conference to educate, enrich, engage and produce excellent neoprofessionals in the challenging areas of Pharmaceutical care, Pharmacovigilance, Pharmacoeconomics and Patient outcome report at par with world class standards. Health economics and outcome research deliberations in this conference are anticipated to support next generation researchers. Scientific programme schedule has been meticulously planned to meet the demands of health challenges in the decades to come. Ann pharma care and wellness LLP (Limited Liability Partnership) has conducted Pharmaceutical Care workshop with an objective to impart hands on experience in order to promoted the skills of providing pharmaceutical care. Stalwart invited speakers and genius advisors have been the special attraction of this conference. More than 200 registered delegates across the country have added value to this conference

Dr. Hanumanthachar K Joshi

Convener

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HISTORY OF SARADA VILAS EDUCATIONAL INSTITUTIONS



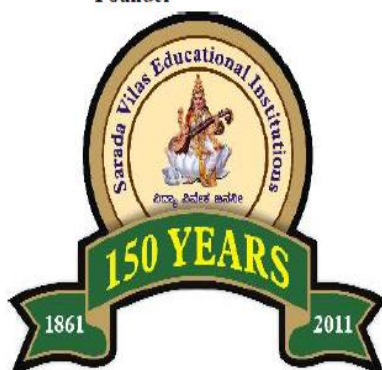
Sri Mumtaz Ali Wodeyar
Maharaja of Mysore (1794-1868)



Sri Bhakshi Narasappa
Founder



Sri Venkatakrishnaiah
(Thathaiah) Mentor



The saga of Sarada Vilas Educational Institutions began in the year 1861 when His Highness Mumtaz Ali Wodeyar, the then ruler of Mysuru State, directed Sri Rao Bahadur Bhakshi Narasappa to start an Educational Institution in Mysuru so as to make Mysuru a Centre for Education. In accordance with the desire of the King, Sri Rao Bahadur Bhakshi Narasappa started a private school named "Sarada Vilas Anglo-Sanskrit School", which was housed in a temple. Later it was shifted to another building located in Makkaji Chowka.

The shift to Modern type of education came from the "Grand Old Man" of Mysore, late Sri M. Venkatakrishnaiah (Thathaiah) during 1919, by starting Sarada Vilas High School, with himself as Secretary and the late Dr. K.R. Ramaswamy as its Head Master. Today Sarada Vilas Educational Institution imparts education in almost all fields.

SARADA VILAS COLLEGE OF PHARMACY.

The Pharmacy wing was started in the year 1992-93 with D. Pharma course and B. Pharma course was introduced in the year 2004-05. M. Pharma was introduced in the year 2010-11 and later Pharma. D course was added in the year 2012-13. The college has received many research grants from Rajiv Gandhi university of Health sciences (RGUHS), Bengaluru and Vision Group of Science and Technology (VGST), Govt. of Karnataka, Karnataka Rajya Vignana Parishath, Bengaluru.

COURSES OFFERED

- MASTER OF PHARMACY (Pharmaceutics) 2 Years
- MASTER OF PHARMACY (Pharmacognosy) 2 Years
- DOCTOR OF PHARMACY (Pharma. D) 6 Years
- BACHELOR OF PHARMACY (B. Pharma) 4 Years
- DIPLOMA IN PHARMACY (D. Pharma) 2 Years

MESSAGES FOR P4 CONFERENCE



VAJUBHAI VALA
Governor of Karnataka

No.GS 44 MSG 2018

19th February, 2018

MESSAGE

It gives me immense pleasure to know that a The "Sarada Vilas College of Pharmacy" in association with "KSPOR and ACPI" Mysore is Organising National Conference on "P4-Pharmaceutical Care, Pharmacoeconomics, Pharmacovigilance, Patient Reported Outcomes" on 24th and 25th February 2018.

I am sure that Galaxy of expert professionals across the country from academia, industry and research would be enriching the delegates during the two days deliberations.

On this grand occasion, I extend my best wishes to Organisers and wish the event a grand success.

(VAJUBHAI VALA)

Raj Bhavan, Bengaluru - 560 001. (Karnataka)

डॉ. हर्ष वर्धन
DR. HARSH VARDHAN



मंत्री
विज्ञान और प्रौद्योगिकी एवं पृथ्वी विज्ञान
भारत सरकार
नई दिल्ली - 110001

MINISTER
SCIENCE & TECHNOLOGY AND EARTH SCIENCES
GOVERNMENT OF INDIA
NEW DELHI - 110001

MESSAGE

I am glad to note that the Sarada Vilas College of Pharmacy, Mysuru is organizing National Conference on P4 – Pharmaceutical Care, Pharmacoeconomics, Pharmacovigilance, Patient Reported Outcomes” on 24th and 25th February 2018.

I extend my greetings to the organisers, participants, academicians and industry representatives for successful conduct of the Conference


(Dr Harsh Vardhan)

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PHARMACY COUNCIL OF INDIA

(Constituted under the Pharmacy Act.1948)

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

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sureshjssuni@hotmail.com
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February 10, 2018


MESSAGE

It is indeed a matter of pleasure that Sarada Vilas College of Pharmacy, Mysore, in association with KSPOR and ACPI is organizing a National Conference on "P4- Pharmaceutical Care, Pharmacoeconomics, Pharmacovigilance, Patient Reported Outcomes" on 24-25 February 2018 at Mysore.

I am sure the convention will provide a platform for expert professionals across the country and will throw light on recent trends in Pharmaceutical Care, Pharmacoeconomics, Pharmacovigilance and the latest research methods involved thereby providing scope to benefit the pharmaceutical industry.

On this occasion, I convey my best wishes and greetings and wish the conference a success.

With best wishes.


Dr. B. Suresh
President



Sri. B S Parthasarathy

President

Sarada Vilas Educational Institutions, Mysuru.

The Bhagavad Gita says that “Na GyanenSadrushampavithramIhaVidyate” which means nothing is more sacred than the Knowledge(Education). Education is the most powerful weapon which one can use to change the world. Education moulds/transforms an individual and facilitates fostering of essential principles of humanity and reasoning. We are delighted to pen the wishes for the P4 conference being organized in the SVEI campus. It is understood that this national event which has been created to provide a forum for budding pharmacists across the country to get familiarized with the advanced knowledge, skills and attitude to serve the ailing community. “Service to humanity is service to god”. Pharmaceutical Care, Pharmacoeconomics, Pharmacovigilance and Patient Report outcome are the essential complementary components of professional service to achieve intended goals of therapeutic practice to conserve and propagate better personal, societal and national health in particular global health at large. On this occasion we heartily congratulate Joshi and his team’s relentless efforts in the success of this conference. Health profession is regarded as “ever green profession”. We wish all the participants of this conference would imbibe the professional knowledge and serve the mankind to edify their bright future.



Sri. H K Srinath
Hon.Secretary
Sarada Vilas Educational Institutions,
Mysuru.

We are happy to write the message for the P4 conference being organized in our premises in association with ACPI – KSPOR. We are very sure that such interactions and deliberations guided by the professional experts would go a long way in elevating individuals and family's health. Drugs are the double edged weapons in the disease management. Pharmacist with the appropriate and right knowledge, skills and attitude play a predominant role in the therapeutic outcome as anticipated by the physician. We hope all the delegates would be greatly benefited by this conference in the royal city of Mysore. We whole heartedly wish the conference a great success.



Dr. Hanumanthachar Joshi
Principal

Sarada Vilas College of Pharmacy, Mysuru

We feel proud to host the P4 conference in our esteemed institution in association with ACPI and KSPOR, Scientific programmes / sessions have been meticulously planned with the professional experts from the academia, industry, research and practice. The theme of the conference provides an insight into the professional scenario, challenges, opportunities and promises for the budding pharmacist. Speakers across the country have readily consented to enlighten the delegates on various issues confronting the practice of pharmacy in the community and clinics/ hospitals. We appreciate the advices of Dr. Nagappa and Dr. Udupa throughout the pre conference and conference activities. Teaching, non teaching, students of our institution are the co partners in the success of this conference. We congratulate the mass media, public service providers and dear delegates for being with us to reap the fruits of this conference deliberations.



Dr. Anantha Naik Nagappa

President, ACPI

Manipal

The P4 conference are the brands of ACPI-KSPOR consortium. It is 10th conference, here we have nearly 3000 registrations, 120 Lectures and 20 workshops have been conducted. The demand for Pharm D and Pharmacy Practice professional are having a demand in Industry and Academia but we are having an expectation that there will be a growth in pharmacy practice, Pharmacoeconomics, pharmacovigilance and outcome research. These are essential for success of health care delivery along with growth of pharmacy profession. There is lot of demand for clinical Pharmacist in corporate hospital. Hope this growth continues and becomes bench mark services amongst developing countries.



Dr. N Udupa
President, KSPOR
Professor and Research Director (Health Sciences)
Manipal Academy of Higher Education, Manipal,

We congratulate and compliment your institution for organizing a National event in collaboration with ISPOR and Healthnet India. We are happy to learn that DrShailendraSaraf, Vice President-PCI is the Chief Guest. We wish great success for your event on Pharmacoeconomics.

P4 Conference Feb 2018

Local Organizing Committee

Chief Patron	Sri. B S Parathasarathy, President, SVEI
Patron	Sri. H K Srinath, Hon. Secretary, SVEI
Convenor	Dr. K Hanumanthachar Joshi, Principal, SVCP
Organising Secretary	Mr. Dinesh, Professor, SVCP
Co-ordinator	Dr. Jinesh B Nagavi, Asst. Professor, SVCP
1 Registration Committee	Ms. Nayana P Kunderi, Asst. Professor, SVCP Ms. Kalavati Jambigi, Asst. Professor, SVCP Mrs. Usha C, Attender, SVCP Mrs. Shyamala, Attender, SVCP
2 Welcome Committee	Mr. Harish K H, Asst. Professor, SVCP Dr. Aditya Parashar, Asst. Professor, SVCP Mrs. Saleena P T, Asst. Professor, SVCP Mrs. Meena, Attender, SVCP
3 Stage Committee	Mrs. V G Rajalakshmi, Asst. Professor, SVCP Mrs. Roopa G, Asso. Professor, SVCP Mr. Naveen Kumar G S, Asso. Professor, SVCP Mr. Charan C S, Asst. Professor, SVCP Dr. Linu P Baby, Asst. Professor, SVCP Mr. Preejesh Pradhakaran, Asst. Professor, SVCP Mrs. Mamatha, Asst. Professor, SVCP Mr. V P Ramesh, Attender, SVCP Mrs. Rajeshwari, Attender, SVCP
4 Souvenir & Scientific Committee	Dr. Jayanthi C, Professor, SVCP Mrs. Roopa G, Asso. Professor, SVCP Dr. Jinesh B Nagavi, Asst. Professor, SVCP Dr. Eby Mathew, Asst. Professor, SVCP Dr. Ashwini Pavithran, Asst. Professor, SVCP Dr. Nelta S Tharakan, Asst. Professor, SVCP Dr. Chachu Kuriakose, Asst. Professor, SVCP Mrs. Dhanya Maria Reji, Asst. Professor, SVCP Ms. Shafura, Lecturer, SVCP Mrs. Lakshmi, Attender, SVCP

5	Cultural Committee	<p>Mrs. V G Rajalakshmi, Asst. Professor, SVCP Mr. Naveen Kumar G S, Asso. Professor, SVCP Mrs. Chaithanya A N, Asst. Professor, SVCP Ms. KalavatiJambigi, Asst. Professor, SVCP Mrs. Keerthy, Lecturer, SVCP Mrs. Jyothi, Attender, SVCP Mrs. Saraswathi, Attender SVCP</p>
6	Accommodation Committee	<p>Mr. SubhajtGhosh, Asso. Professor, SVCP Mr. Nagendra R, Asst. Professor, SVCP Mr. Charan C S, Asst. Professor, SVCP Mr. Satish P Kittur, Asst. Professor, SVCP Mr. MagedAlkanad, Asst. Professor, SVCP Mrs. Mahadevi, Attender, SVCP</p>
7	Hospitality & Transportation Committee	<p>Mr. Venkatesh, Asso. Professor, SVCP Mr. Nagendra R, Asst. Professor, SVCP Mr. InjamanulHaque, Asst. Professor, SVCP Mr. MukunthanSanthanan, Lecturer, SVCP Mr. Akshay Kumar, Lecturer, SVCP Mrs. Venkatalakshamma, Attender, SVCP</p>
8	Press & Publicity Committee	<p>Mr. Charan C S, Asst. Professor, SVCP Mrs. Chaithanya A N, Asst. Professor, SVCP Mr. V P Ramesh, Attender, SVCP</p>

INVITATION OF INAUGURAL AND VALEDICTORY FUNCTION OF P₄
CONFERENCE



10th National Conference on P₄

Inaugural Function

Inauguration By
Dr. Shailendra Saraf
Vice President, Pharmacy Council of India

Chief Guests
Sri. B.S. Parthasarathy
President, Sarada Vilas Educational Institutions, Mysuru

Dr. N. Udupa
President, KSPOR, Manipal

Guests of Honour
Sri. H.K. Srinath
Hon. Secretary, Sarada Vilas Educational Institutions, Mysuru

Dr. Gopal Krishna Sharma
President, Himachal Pradesh State Pharmacy Council

Dr. Anantha Naik Nagappa
President, ACPI, Manipal

Presided By
Dr. Hanumanthachar Joshi
Principal, Sarada Vilas College of Pharmacy, Mysuru

Venue : Sarada Vilas Centenary Hall, Mysuru
Date : 24th February 2018 Time : 04.00 P.M.

All are cordially invited



10th National Conference on P₄

Valedictory Function

Chief Guests
Sri. B.S. Parthasarathy
President, Sarada Vilas Educational Institutions, Mysuru

Sri. C.M. Shivakumar
Regional Deputy Drugs Controller, Mysuru

Guests of Honour
Sri. H.K. Srinath
Hon. Secretary, Sarada Vilas Educational Institutions, Mysuru

Dr. Raj Vaidya
Chief Pharmacist, Hindu Pharmacy, Goa

Dr. Milind Parle
Professor & Dean, GJUST, Hisar, Haryana

Dr. N. Udupa
President, KSPOR, Manipal

Dr. Anantha Naik Nagappa
President, ACPI, Manipal

Presided By
Dr. Hanumanthachar Joshi
Principal, Sarada Vilas College of Pharmacy, Mysuru

Venue : Prof. Chinnaswamy Setty Conference Hall, Mysuru
Date : 25th February 2018 Time : 03.30 P.M.

All are cordially invited



ACPI-KSPOR

Mysuru City Chapter
10th National Conference on P4
24th & 25th February 2018
Organized By:
Sarada Vilas College of Pharmacy
Mysuru, Karnataka, India



PROGRAMME SCHEDULE OF P4 CONFERENCE

DAY 1 (SATURDAY: 24-02-2018)

WORKSHOP (9: 00 AM to 12:30 PM)

TOPIC	RESOURCE PERSONS	VENUE
Pharmaceutical care	Dr. MurgundiPradeep, Dr. KanavKhera, Dr. Sucharita, Dr. Manohar, Mr. AsimPrieyandu,	Seminar hall 1 (Auditorium)
Pharmacoeconomics		Seminar hall 2 (Seminar Hall)
Pharmacovigilance		Seminar hall 3 (B.Ed. College)

REGISTRATION (2:00 PM – 2:30 PM)

TIME	TITLE OF SCIENTIFIC SESSION	NAME OF SPEAKERS
2:30 PM to 3:00PM	Skills Development Training in Community Pharmacy – an international experiential model	Dr. B.G Nagavi
3:00 PM to 3:30 PM	Promoting Patient care by way of novel experimental models	Dr. Milind Parle

TEA BREAK (3:30 PM to 3:45 PM)

INAUGURATION (4:00 PM to 4:30 PM)

4:30 PM to 5:30 PM	KEY NOTE: Nobel Benefaction of Plants in Health Care and Newer Horizons for Research in Phytopharmaceuticals	Dr. ShailendraSaraf
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PANEL DISCUSSION-I (5:30 PM to 6:00 PM)

Chair Person: Dr. Shobha Rani
 Panelist: Dr. N. Udupa, Dr. Mohan Raj

CULTURAL EVENTS (6:00 PM to 7:00 PM)

DINNER- 7:00 PM onwards

DAY 2 (SUNDAY: 25-02-2018)		
TIME	TITLE OF SCIENTIFIC SESSION	NAME OF THE SPEAKERS
POSTER PRESENTATION (9:00 AM to 1:00 PM)		
9:30 AM to 10:00 AM	Methods in Pharmacovigilance	Dr. G Parthasarathi
10:00 AM to 10:30 AM	Causality assessment of adverse drug reactions	Dr. Ramesh M.
10:30 AM to 11:00 AM	Pharmacovigilance: Current trends in Indian Scenario	Dr. Dharini
11:00 AM to 11:30 AM	Pharmacovigilance of herbal drugs- Towards safety of herbal medication	Dr. Karthikeyan
TEA BREAK (11:30 AM to 11:45 AM)		
POSTER EVALUATION (11:45 AM to 12:15 PM)		
12:15 PM to 12:45 PM	The pharmacists' patient care process: Taught and practiced	Dr. Arul Kumaran
12:45 PM to 1:15 PM	Pharmacoeconomics aspects of public health	Dr. Guru Prasad Mohanta
LUNCH (1:15 PM to 2:00 PM)		
2:00 PM to 2:30 PM	Community Pharmacy in India	Dr. Raj Vaidya
2:30 PM to 3:00 PM	Transition in the Practice of Pharmacy- From Dispensing to Pharmaceutical care	Dr. KarthikRakam
PANEL DISCUSSION-II (3:00 PM to 3:30 PM) Chair Person: Dr. GirishTunga Panelist: Dr. AnanthaNaikNagappa, Dr. SatishKaroli		
2:00 PM to 3:00 PM	ORAL PRESENTATIONS	SEMINAR HALL
3:30 PM to 4:30 PM	VALEDICTORY CEREMONY AND PRIZE DISTRIBUTION	
4:30 PM to 5:00 PM	HIGH TEA	

BIO-SKETCH AND ABSTRACTS OF SPEAKERS

DR. B G NAGAVI



Dr. Nagavi is working as Senior Consultant & CEO of Higher Education Skill Development and Research (HESDAR) Center, Mysuru, Karnataka since Sept. 2017. From Jan 2007 to Aug. 2017 (11 years), Dr. Nagavi was working as Professor and founding Dean, RAK College of Pharmaceutical Sciences, RAK Medical & Health Sciences University, RAK, UAE. Dr. Nagavi has established a Practice based Undergraduate, MS and Research programs in Pharmacy with a team of professional experts with multinational, multiracial and multiethnic background.

He has been responsible for establishing JSS community Pharmacy in 2003 in Mysuru and developed academic based comprehensive Community pharmacy program to provide Pharma-care mainly patient counseling, drug information, ADR reporting and monitoring and health screening services in a community setup. He has guided 35 PG's and 05 Ph.D.'s. He wrote regularly in Editorial column of IJPER. He was a member of Board Directors of Asian Association of schools of pharmacy (2005-2007). He was also ExCom member (2005-2007) of Academic Section of International Pharmaceutical Federation (FIP).

He was vice president of Indian Pharmaceutical Association (IPA) from 2000 to 2006. He was Editor of Indian Journal of Pharmacy Education and Research (IJPER) from 1997 to 2007. He has about 70 national and 13 international publications. He has addressed around 20 international and more than 120 national level conferences and meetings. He has widely traveled around the globe. He is a recipient of Distinguished Teacher Award of Assoc. of Pharm Teachers of India (APTI) in 1998 and has a Patent and Trade mark registration to his credit. He is a fellow of IPA (2000) and Indian Society of Ethno pharmacology (2003). He is an honorary member of Saudi Pharmaceutical Society (2007)

In 1994, he established a comprehensive clinical pharmacy program in JSS Hospital through PG education and practice in collaboration with RGH Adelaide and University of South Australia. He has been recognized nationally and internationally for his contributions to Indian Pharmacy Practice education & research.

B.G. Nagavi graduated in Pharmacy from Govt. College of Pharmacy, Bangalore University India, in 1976 and gained Master degree in 1979 and Ph.D. in 1984 from BITS, Pilani. He has spent most of his time as teacher, researcher and administrator. As Principal of JSS College of Pharmacy, Mysore for 22 yrs, from 1985 to 2007, he led about 40 Faculty and 60 staff dedicated to provide best Pharm. education, training and research

ABSTRACT:

Skills Development Training in Community Pharmacy – an international experiential model

SDT provided in India for D. Pharm & B. Pharm students & graduates does not give explicit details, though some guidelines are provided in the regulation. Expected outcomes, processes in detail, assessment, grading etc. preceptor training etc. are not described in detail for implementation in the country with reasonable conformity.

The Skill Development Training (SDT) will help trainee to gain knowledge and skills from pharmacists about drug purchase, storage, dispensing against prescriptions, OTC drugs, record keeping and documentation of drugs sold, patient counseling and health education. Community Pharmacy SDT model includes Preceptor, Trainee, Coordinator, Training calendar & guidelines, Training site – Community Pharmacy. Preceptors play an important role in the training of diploma / degree graduates. Skills necessary for effective precepting include Commitment to Continuous Quality Improvement, Time Management, Cultural Competence, Conflict Management, Communication Skills and Mentoring. Preceptors Role includes Establish training environment, Communicate effectively, Tailor training to suit trainee needs, Share training responsibilities, Keep training & review encounters brief & crisp & Broaden trainee responsibilities gradually

Trainee expectations include- Shall not work independently, but work under the supervision of the preceptor, Acquire skills under supervision, so that s/he will become capable of functioning independently., Report on time, stay back if necessary, take initiative to learn, Write Daily Reflective Dairy at the end of the day on all days & take sign of preceptor, Wear name badge & white apron compulsorily on all days, Ask at least 05 new questions daily in the morning , find answers to them & record in reflective dairy&Sign undertaking about expectations, duties & non- compliance & consequences. Training schedules for week 1 to 12 will be explained with program administration details.Skill should be assessed and graded for the necessary seriousness from all stake holders.Feedback to be taken from the stake holders about SDT module, Training site, Preceptor and Coordinator.

SDT module was implemented successfully in UAE for more than a decade for B Pharm students in their final year. Students gave 4.5 and above rating on scale of 5, with very useful comments & suggestions. The same will be shared.

A simple and clear qualification framework for working pharmacists is needed matching with national framework. The details will be discussed

DR. MILIND PARLE



Prof. Milind Parle is an outstanding researcher, eminent educationist and a visionary. Worked as a Professor of Pharmacology at Guru Jambheshwar University of Science and Technology (A-Grade Accredited by NAAC), Hisar (Haryana) from July 1997 to Jan. 2018. Has more than 35 years of teaching, administrative and research experience to his credit. First Pharmacist to get selected in April 1994 at All India Council for Technical Education, (MHRD), New Delhi, as a Dy. Director in view of his illustrious profile and glorious administrative experience. Developed many innovative schemes such as MODROB, TAPTECH, NBA, Criteria for granting Deemed University status to deserving institutions and QIP (Quality improvement program to upgrade qualification). Dr. Milind Parle joined Guru Jambheshwar University of Science and Technology (GJUST), Hisar, as a Reader, when the University was in infant stage and research culture was a distant dream. He has published more than 350 research articles in prestigious National and International Journals. As per Google scholar, Dr. Parle has an impressive h - index of 32, I-10 index of 62 and his research papers have more than 3200 Citations. His Research work finds space in widely cited Pharmacy Journals. such as Psychopharmacology, European J. Biomedical and Pharm. Sciences, Phytomedicine, Pharmaceutical Biology, Ethnopharmacology, Neurochemical Research etc. He presented four research papers in 20th International Conference of Alzheimer's disease held at Kyoto (Japan) in 2004. Prof. Parle was invited as a Plenary speaker by Malaysian Govt. in Aug. 2014 to share his research experience at Mara University of Technology, Puncak Alam, Malaysia. He has so far guided more than 54 M. Pharm Research projects and Fifteen Doctoral Theses. Prof. Milind Parle serves as an Expert for Pharmacy Council of India, AICTE, UPSC, NBA, ICMR, UGC, New Delhi and several Expert committees constituted for Ethical Experimentation in animals and human beings. Presently he is pursuing active Clinical Research in collaboration with senior neurologists and psychiatrists of Hisar at Shakti Neurocentre (With Dr. G. P. Burman, *MD, DM, Neurology*), (Dr. Bir Singh Yadav, *MD, DM*, psychiatrists) Shanti Mission Hospital and (Dr. Narendar Gupta), Gupta Hospital, Hisar. Prof. Parle has bagged more than 65 Best Research Paper Awards in National and International conferences. Dr. Parle was nominated as a Fellow of Hind Agri-horticultural Society (FHAS). He has been nominated as the Chief Editor of the Journal "Annals of Pharmacy and Pharmaceutical Sciences". Dr. Milind Parle has won several Prizes and laurels in Internationally Rated Chess Tournaments. Prof. Parle has represented Delhi State in National Chess Championship and is presently an Internationally (FIDE) Rated Chess player. Filed Seven Patents in the area of Psychopharmacology speak volumes of his research caliber. Parle was conferred the Best Pharmacy Teacher Award (Haryana State) for the year 2015 during second Annual Conference of Association of Pharmacy Teachers of India (APTI)

ABSTRACT:

Promoting Patient Care by way of Novel Experimental Models

Neurodegenerative disorders are on the rise due to increased life-span of human beings and stressful lifestyle. Schizophrenia is a complex, chronic and devastating neuropsychiatric disorder, which affects patient behavior, thoughts, emotions, perceptions and memory. About 1% of the population is suffering from Schizophrenia worldwide. The risk of developing Schizophrenia is almost equal in males and females but gender differences do exist in the initial age of onset of the disease. Males have tendency towards earlier onset of psychotic symptoms at the age between 15-25 years; while females have later onset between 19-35 years of age. In literature, psychotic symptoms have been classified into positive and negative types. As a matter of fact the words positive and negative signify different meanings unrelated to psychiatric disorders. They have been commonly used in psychology for describing positive and negative outlook of an individual. Since psychotic patients have a diagnosed illness therefore, it becomes irrational to use the word positive symptoms because every illness is associated with negative feelings and symptoms. Therefore, we have made a humble attempt to improvise psychotic symptoms by classifying them into four types (A, B, C and D). Where 'A' stands for Abnormal personality, 'B' stands for Bizarre behavior, 'C' stands for Cognitive decline and 'D' stands for Depressive episodes. It has been suggested that neurotransmitter (viz. dopamine, serotonin etc.) imbalance, hypo-functioning of N-methyl-D-aspartate (NMDA) receptor, oxidative stress, neuro-inflammation, mitochondrial dysfunction, over activation of microglial cells and some enzymatic alterations appear to be all responsible for the development of psychosis. First generation (typical) and second generation (atypical) antipsychotics are commonly prescribed to treat these psychotic symptoms. Typical antipsychotics are effective in treating abnormal personality traits and bizarre behavior of Schizophrenics by reducing dopamine activity however, these agents are also associated with some serious side effects like agitation, catalepsy, sedation, tardive dyskinesia, weight gain etc. Whereas, atypical antipsychotic agents are beneficial in reducing abnormal behavior, cognitive decline and depressive episodes of psychosis as they suppress the activity of dopamine and 5-HT. Furthermore, atypical antipsychotics do not show any extra-pyramidal side effects, but can precipitate agranulocytosis, cardiovascular disorders, and diabetes mellitus etc. Although, these medicines have been prescribed for several decades, most of them are not able to arrest the progression of the disorder and often evoke psychotic relapse. Hence, it warrants to discovering such medicines, which would not only provide symptomatic relief but also halt the progression of Schizophrenia. Dietary nutrients, plants and other natural products are the power house of therapeutic constituents such as lutein, rutin, β -carotene, gallic acid, stigmasterol, kaempferol, apigenin, ellagic acid, quercetin, linalool, terpinolene, ascorbic acid, myrcetin, ferulic acid, naringenin, coumaric acid etc., which can serve as complimentary medicines helpful in the management of multiple psychiatric disorders with negligible side effects. Now days, there is an upsurge in research interest aimed at discovering new medicines from natural sources using various pathophysiological targets. Animal models do help in understanding the pathophysiology of the disorder and provide a reliable approach to screen the potential of new medicines. The animal models also

generate new pertinent hypotheses related to the human disorder and open the path for innovative research. As a matter of fact, it is very difficult to design a new animal model particularly for psychiatric disorders, since the brain of animals is not as much developed as human beings. Although, there are a number of animal models of psychosis available in literature, such as Golden hamster test, foot-shock induced aggression, pole climb avoidance, brain self- stimulation, etc. but all these models have limited utility and involve torture to the animals.

With this background, we were motivated to Design and develop a New Animal Model for Screening of Anti-psychotic Medicines, which would exhibit excellent face validity, construct validity and predictive validity. The Author would be presenting a Success Story culminating in development of a Novel Experimental Model.

PROF. SHAILENDRA SARAF



Prof. ShailendraSaraf was the member, Pharmacy Council of India, New Delhi since 2007,Chairman, PG Committee of Pharmacy Council of India, Dean, Faculty of Technology at Pt. RavishankarShukla University, Raipur, C.G for fivetenure (2002-2013; 2015-2017), Director, University Institute of Pharmacy, Pt. Ravishankar University, Raipur, C.G for five tender (2002-2013), Principal (founder), B.R.N. College of Pharmacy, Mandsaur, M.P. He also have 27 years of experience in teaching and research, including.

- Active associations with national statutory/accreditation councils /bodies like, Grants Commission (UGC New Delhi), Pharmacy Council of India (PCI New Delhi), National assessment andAccreditation Council (NAAC, Banglore), National board for accreditation (NBA,

New Delhi). He was also a member, academic council and member of academic planning and evaluation board, Pt. RSU, (2002-2013). He has many high publications related to herbal drugs and noval formulations in different national and international journals and hold key positions in various reputed professional bodies like at state and national levels. He represented as national delegation in study group constituted by Pharmacy council of India to visit UK and participated in international conference at Singapore, Switzerland and UAE.

- Associated with more than 25 University as an expert/ member selection committee, Board of Studies etc. He successfully handled many research projects from various national funding agencies like UGC, AICTE, CGCOST, DST, DBT, MPCST. He was the member of editorial board/ reviewer of national and international research journals

He got many fellowship/Awards including, Senior Research Fellowship, Research Associate of C.S.I.R., New Delhi, Golden Jubilee Illustrious alumni award, Dr. P. D. Sethi Annual Award 2010, Certificate of Merit for the research paper inPharmaceutical Analysis.Best paper award by Association of Pharmaceutical Teachers of India (APTI) at 13th annual National Convention, Bilaspur , held on 3-4 October 2008 for the paper entitled. Best paper award in Indian Pharmacy Congress (IPC) in 2005 held at Hyderabad, AndhraPradesh.

DR. G. PARTHASARATHI



G. Parthasarathi is working as Professor at Department of Pharmacy Practice, JSS College of Pharmacy, Mysuru and Dean, Global Engagement at JSS Academy of Higher Education and Research. G. Parthasarathi received the Young Pharmacy Teachers Award 2000 from the Association of Pharmacy Teachers of India. In 2010 he was awarded the Shroff Memorial National Award from the Indian Hospital Pharmacists Association for his accomplishments and passionate advocacy for clinical pharmacy practice in Indian hospitals. His outstanding leadership in pharmacovigilance at national & global levels was recognized when he was nominated to be the Theme Leader for pharmacovigilance and drug use evaluation of BRICS (Brazil, Russia, India, China and South Africa) Medicines Alliance. In 2013 he was honoured to become a member of the Planning Group of the Global Vaccine Safety Initiative of the World Health Organization. G. Parthasarathi is an eminent member of many professional and academic bodies. He was the President of Asian Association for Schools of Pharmacy and Country Chair (India) of Asian Conference on Clinical Pharmacy acknowledging his dedicated contribution to clinical pharmacy practice and education in the region. He was recently elected as President, International Society for Pharmacovigilance, South Asia Chapter. Dr GP is a member of Working Group, Signal Review Panel and of Core Training Panel of Pharmacovigilance Program of India.

ABSTRACT:

Methods in Pharmacovigilance

Medicines are the most commonly used interventions for the treatment of diseases. The medicines used are expected to yield certain desirable outcomes like symptomatic relief or cure of the disease. However, in the process, it is possible that the medicines may also cause some undesirable/unexpected effects (adverse drug reactions). It is important to understand the benefits and risks associated with the use of a medicinal product. When a medicine is introduced in the market, post clinical trial for use in general public, we may not have all the information related to the safety. Hence post authorisation monitoring the safety of the medicines is important.

Pharmacovigilance is the science and activities relating to the detection, assessment, understanding and prevention of adverse effects or any other possible drug-related problems. Pharmacovigilance methods adopted to study the safety of medicines are discussed in this presentation.

Dr. M. RAMESH



Dr. M. Ramesh Dr. M. RAMESH, Professor & Head, Department of Pharmacy Practice, JSS College of Pharmacy, JSS University, Mysore, is also heading the Clinical Pharmacy Department at JSS Medical College Hospital, Mysore. He got graduation from JSS College of Pharmacy, Ooty in 1990, completed M. Pharm (Pharmacology) from the same institute in 1992 and awarded Doctorate in Pharmaceutical Sciences in April 2006 by Rajiv Gandhi University of Health Sciences, Karnataka, Bangalore. He did his postgraduate Diploma in Clinical Pharmacy from 'The Society of Hospital Pharmacists of Australia', South Australia in 1998. He received ten months training in the area of Clinical Pharmacy Practice at Repatriation General Hospital, Adelaide, Australia and was awarded 'Weary' Dunlop Fellow in Clinical Pharmacy from the same hospital. He was awarded with 'Roche Products Fellowship Award 1998' for the best research paper submitted to Board of Censors, The Society of Hospital Pharmacists of Australia. He was also awarded with 'Late Smt. V.G. Yeole Memorial Award 2005' and 'Late Shri. Ishwar N. Hukkeri Award 2010' for his research publications. Also, nine of his research papers have won the 'best paper award' in the national and international conferences.

Pioneered in assisting Khartoum College of Medical Sciences (KCMS), Khartoum, Sudan in establishing clinical pharmacy teaching and practice at KCMS and Bashair Hospital, Khartoum, Sudan. Imparted World Health Organisation Sponsored Clinical Pharmacy Training Program to pharmacy teachers from six different universities in Sri Lanka. He has authored for a textbook titled 'Pharmacist's Intervention on Medication Therapy: Impact on Healthcare Cost' published by LAP Lambert Academic Publishing, Germany. Authored for three chapters [Drug Therapy Review, Poison Information, and Drug Information] in the second edition of the textbook titled 'A textbook of Clinical Pharmacy Practice'. Currently, he holds the position of President, Indian Pharmaceutical Association, and Mysore Branch. Currently he is a Chairman of Board of Studies in Pharmacy Practice of JSS University, Mysore. Coordinated more than 40 clinical trials of various phases in different therapeutic areas including global trials. He has 50 research publications to his credit both in international and national journals. He acted as a resource person in 76 national and international workshops / seminars. Also he presented Dr. M. Ramesh Professor & Head, Department of Pharmacy Practice, JSS College of Pharmacy, JSS University, Mysore several papers in various national and international conferences. He has successfully guided 53 postgraduate Pharmacy Practice students and 2 PhD candidates, and also currently guiding 5 PhD candidates. His area of research interests includes pharmacovigilance, medication related problems and drug utilization evaluation. He is a member of various professional bodies like IPA, APTI, IHPA, and SHPA.

ABSTRACT:

Causality Assessment of Adverse Drug Reactions

The assessment and categorisation of the likelihood of a causal relationship between a suspected drug and an adverse reaction is an important component/element in pharmacovigilance. Spontaneous reporting system, in many countries, is the national system for reporting of suspected adverse drug reactions (ADRs). Like any other study method of pharmacovigilance, spontaneous reporting system is a process of data acquisition, assessment and interpretation.

Observations in individual patients experiencing adverse drug reactions in temporal association with the use of a medicine play an important role in the identification of unknown adverse reactions. Causality assessment of ADRs is the structured and standardised assessment of individual patients/ case reports of the likelihood of a causal relationship between suspected drugs and adverse medical events. In the early 1980s, in an attempt to reduce ambiguity in the evaluation of adverse drug reactions, different standardised causality assessment scales were introduced at pharmacovigilance centres in many countries around the world.

The assessment of reported ADRs takes place in 2 stages: first the assessment of individual case reports and secondly the interpretation of aggregated data. In the first stage, routine causality assessment is made, upon receipt of the case report, based on a general system that is intended for all reactions and all drugs. It assesses the possible relevance and quality of the report e.g. unknown reaction, seriousness. During the second stage of aggregated assessment, causality assessment is likely to be repeated with all available data and the use of a specific etiological -diagnostic system may be more appropriate.

Currently wide variety of causality assessment scales exist, to attribute clinical events to drugs in individual patients or in case reports, each with their own advantages and limitations. These include World Health Organisation (WHO) assessment scale, Naranjo's scale, Karch and Lasagna's scale, European ABO system and Bayesian Neural network etc; and the categorisation of causal relationship between a drug and suspected adverse reaction varies with the scale adopted. A worldwide procedure for causality assessment of suspected adverse reactions to drugs yet to be established. The causality categories vary with the countries as different countries use different causality categories. Thus, three countries have four categories, five have five, two have six and one has seven causality categories. All countries except one have a category 'possible' and all countries have a category 'certain' or 'definite'. Most countries use categories 'unlikely' or 'excluded' and unclassified or ' unclassifiable'.

WHO Collaborating Centre for International Drug Monitoring has used six different terms for causality categorisation, with a set of definitions as follows:

Certain: A clinical event, including laboratory test abnormality, occurring in a plausible time relationship to drug administration, and which cannot be explained by concurrent disease or other drugs or chemicals. The response to withdrawal of the drug (dechallenge) should be clinically plausible. The event must be definitive pharmacologically or phenomenologically, using a satisfactory rechallenge procedure if necessary.

Probable: A clinical event, including laboratory test abnormality, with a reasonable time sequence to administration of the drug, unlikely to be attributed to concurrent or other drugs or chemicals, and which follows a clinically reasonable response on withdrawal (dechallenge). Rechallenge information is not required to fulfill this definition.

Possible: A clinical event including laboratory test abnormality, with a reasonable time sequence to administration of the drug but which could also be explained by concurrent disease or other drugs or chemicals. Information on drug withdrawal may be lacking or unclear.

Unlikely: A clinical event including laboratory test abnormality, with a temporal relationship to drug administration which makes causal relationship improbable, and in which other drugs, chemicals or underlying disease provide plausible explanations.

Conditional/ Unclassified: A clinical event, including laboratory test abnormality, reported as an adverse reaction, about which more data is essential for a proper assessment or the additional data are under examination.

Unassessable/ unclassifiable: A report suggesting an adverse reaction which cannot be judged because information is insufficient or contradictory, and which cannot be supplemented or verified.

In assessing the causality, two important issues need to be considered. First, is it possible that the drug can cause the ADR? Second, has the drug actually caused the event in a given patient? Similarly, in categorising the causality relationship two determinants are to be considered. These include 1) the documentation of a case report - i.e. the completeness and the quality of data available 2) the evidence - i.e. the amount of proof in the available data with regard to the likelihood of actual role of the drug.

In general the following four different basic points can be considered in attributing a clinical adverse event to a drug.

- Temporal time relationship between suspected reaction and drug
- Dechallenge (cessation of drug)
- Rechallenge (re introduction of drug)
- Likelihood of other possible causes

All causality methods were general methods. All these scales were intended for all drugs and all types of medical event, irrespective of the clinical manifestations, the underlying mechanisms, the purpose of the assessment, or whether the reaction would be new or

established. But, causality categories developed by WHO have the advantages of being easy to use and internationally accepted.

Case causality assessment is provisional. When knowledge increases, the meaning of an apparently unusual or unexpected finding in a case report may change, and a negative argument may become a positive argument. Knowledge concerning characteristic features and mechanism of adverse drug reaction constitutes a major argument in the assessment of causality. For new adverse drug reactions, however, such knowledge is not yet available or data is limited. Therefore, the assessment of causality is, in the case of a new and unexpected reaction, even more difficult and the assessment outcome likely to be lower, compared with known reaction.

The causality assessment, in general, has its own advantages and limitations irrespective of method adopted.

The major advantages are:

- Decrease disagreement between assessors
- Classify uncertainty (semiquantitative)
- Mark individual case reports
- Improve the scientific basis of assessment

The major limitations are:

- Accurate quantitative measurement of the likelihood of a relationship is not possible
- Fails in distinguishing valid from invalid cases
- Cannot prove the connection between a drug and an event
- Fails in quantifying the contribution of a drug to the development of an adverse event
- Cannot change uncertainty into certainty
-

These limitations of the available causality assessment scales have led to a limited scientific value in assessing the causality even though few scales have been validated for its consistency and reproducibility. Thus, further analytical or experimental studies are required to confirm the actual relationship between a suspected drug and an adverse reaction and also to increase the scientific value.

DR. B. DHARINI



Patient Safety Pharmacovigilance Associate, Pharmacovigilance Programme of India (PvPI), Bangalore. Dharini completed her Doctor of pharmacy degree from JSS College of pharmacy, Ooty and her Post graduate Diploma in Pharmacovigilance from JSS university, Mysore.

She started her career in 2015 with Pharmacovigilance programme of India as a Patient Safety Pharmacovigilance Associate and currently placed at Adverse Reaction Monitoring Centre - SDS Tuberculosis and Research centre & Rajiv Gandhi Institute of Chest Disease, Bangalore. She is involved in collecting, monitoring and reporting of Adverse Drug Reactions from various Hospitals, Revised National Tuberculosis Control Program and CGHS at Bangalore and reviewing quality of ICSR's. She is also responsible for creating awareness to Healthcare professionals and public on ADR reporting.

She has 3 national publications to her credit and has been a resource person in few national forums. Her Area of interest includes ADR identification using trigger tools.

ABSTRACT:

“ PHARMACOVIGILANCE CURRENT INDIAN SCENARIO ”

Adverse drug reactions (ADRs) are one of the important causes of morbidity and mortality worldwide. Health care professionals like Physicians, pharmacist and nurses are in a position to play a major key role in pharmacovigilance programs. Understanding about What to report?, where to report ? and tools to report ADR are essential for promoting the Pharmacovigilance. The overall goal is to make the participants understand the life cycle of an ADR report and the role of pharmacist in it.

-PvPI overview

The Ministry of Health & Family Welfare, Government of India has initiated a Nation-wide Pharmacovigilance program, for monitoring Adverse Drug Reactions (ADR). The Pharmacovigilance Program of India (PvPI) was launched with a broad objective to safeguard the health of 1.27 billion people of India. Adverse Drug Reactions (ADRs) are reported from all over the country to NCC-PvPI which also works in collaboration with the global ADR monitoring center WHO–UMC, Sweden to contribute in the global ADR database.

-Tools to report.

Discussion on manual and electronic tools to report ADR

-How reporting will help in patient safety ?

Signal generation and strengthening ,Drug regulation and educating healthcare professionals' on updates.

–Pharmacist role!

In the professional front the practice of [pharmacist](#) has reached far beyond serving community from not mere preparing or dispensing of drugs but has become more patient-centric. Pharmacists contribute to the drug safety by preventing, identifying, documenting, and reporting of ADRs.

DR. KRISHNAN KARTHICKEYAN



Completed his D. Pharm and B. Pharm degree from C. L. BaidMetha College of Pharmacy, Chennai and continued to do his post- graduation M. Pharm degree in JSS College of Pharmacy, Ooty and he passed with Distinction in Pharmacy Practice (Clinical Pharmacy) specialization and also he received Prof. E. Venugopal best outgoing student Gold Medal for securing First place in M. Pharm degree under the Tamil Nadu Dr. MGR Medical University, Chennai, Tamil Nadu, India. He won many Prizes and Certificates in both curricular and extra-curricular activities.

Also he done his MBA degree in Hospital Management from Alagappa University, Karaikudi, Tamil Nadu and also completed his Post Graduate Diploma in Clinical Research course with First class from Annamalai University, Chidambaram, Tamil Nadu.

He participated in various Conferences, Seminars and Workshops and presented many research papers in conferences at both National and International level.

He participated as Speaker representing India in Asian Association of Schools of Pharmacy Conference organized by Haiphong University of Medicine and Pharmacy, Haiphong City, Vietnam in 2016 and for the same he received full amount from DST-SERB International Travel Grant and also he has been resource person and organizing member in various National events.

He is having more than 20 research papers to his credit, and more than 10 years of experience in Pharmacy Practice teaching and research.

ABSTRACT:

PHARMACOVIGILANCE OF HERBAL DRUGS- TOWARDS SAFETY OF HERBAL MEDICATION

The science and activities relating to the detection, evaluation, understanding and prevention of adverse drug reactions or any other drug-related problems. "Pharmacovigilance" is the term derived from two terms **Pharmakon** means drug and **Vigilance** means to watch. The need for Pharmacovigilance is for Humanitarian concern, ADR May cause sudden death, Promoting rational use of medicines and adherence. The ethics is to know of something that is harmful to another person who does not know, and not telling, is unethical. The ADRs is one of the leading cause of death. 5% of adults are allergic to one or more medications, 6 – 10% of ADRs result from a drug allergy, 3% of hospital admissions are due to ADRs, 28% of ADRs are preventable, Drugs associated with ADRs: 29% analgesics, 10% sedatives, 9% antibiotics and 7% antipsychotics. Herbal medicine is use of plants for medicinal purposes and the study of such use. Plants have been the basis for medical treatments through much of human history, and such traditional medicine is still widely practiced today. The World Health Organization estimates that 80 % of the population of some Asian and African countries presently use herbal medicine for some aspect of primary health care. The use of herbal remedies is more prevalent in patients with chronic diseases such as cancer, diabetes, asthma and end stage renal disease. Multiple factors such as gender, age, ethnicity, education and social class are also shown to have association with prevalence of herbal remedies use.

In India the herbal remedy is so popular that the government of India has created a separate department AYUSH, under the Ministry of Health & Family Welfare. The National Medicinal Plants Board was also established in 2000 by the Indian government in order to deal with the herbal medical system. A number of herbs are thought to be likely to cause adverse effects. Some unwanted reactions due to herbs can be: side effects usually detectable by pharmacodynamics and often predictable, reactions occurring as a result of overdose, over duration, tolerance, dependence-addiction which can be detectable either by pharmacodynamics or Pharmacovigilance, hypersensitivity, allergic and idiosyncratic reactions which detectable by pharmacovigilance, mid-term and long-term toxic effects including liver, renal, cardiac and neurotoxicity also genotoxicity and teratogenicity which is detectable by in vitro and in vivo toxicological studies or by pharmacovigilance. The safety of herbal medicines has become an issue for the regulatory authorities, as serious effects have been reported, including hepatotoxicity, renal failure and allergic reactions. Systematic pharmacovigilance is essential to build up reliable information on the safety of herbal medicines for the development of appropriate guidelines for safe effective use. Herbal medicines are traditionally considered harmless since these belong to natural sources. However, this is not true as there are several case reports of adverse reactions of herbal drugs mentioned in published literature.

The World Health Organisation recognizing the growing importance of the use of herbal medicines worldwide developed guidelines for the monitoring of herbal safety within the existing pharmacovigilance framework. Some countries accept traditional, experience based evidence while others consider herbal remedies as dangerous or of questionable value.

Medicinal herbs as potential source of therapeutics aids has attained a significant role in health care system all over the world for human beings not only in the diseased condition but also as potential material for maintaining proper health. A major factor impeding the development of the medicinal plant based industries in developing countries has been the lack of information on the social and economic benefits that could be derived from the industrial utilization of medicinal plants. The monitoring the safety of herbal medicinal products, in the market or in the pipeline, will definitely go a long way in restoring the confidence of their safety. This topic aims to provide a comprehensive and critical overview of the current state of pharmacovigilance activities for herbal medicines at the national and global levels. It will explore in depth the challenges that pharmacovigilance of herbal medicines presents, consider relevant emerging issues and what steps could and should be taken to improve safety monitoring for herbal medicines in the future.

Dr. K.S.G. ARULKUMARAN



He is working as the Vice-Principal - KMCH College of Pharmacy from August 1996-Till date. Coimbatore, Tamil Nadu. He was the member (Internal Auditor) ISO 9001 – 2000 Certification, Inspector of Pharmacy Council of India, New Delhi (PCI), Inspector of the TN Dr. M.G.R. Medical University, Chennai. He was awarded with “Best teacher award” from The TN Dr MGR Medical University during the year 2011, “Research Excellence Award” from Doctor ThangsProducts,GMP certified herbal Pharmaceutical Manufacturer Coimbatore, Tamil Nadu , Received “Best Alumni Award” from Sri Ramakrishna Institute of Paramedical Sciences, Coimbatore, Tamil Nadu, Received “Best Faculty Award” from Kovai Medical Center Research and Educational; Trust. Coimbatore. He presented a Scientific paper at National University of Singapore (NUS), Singapore on the topic ‘*Cassia Roxburghii* seed galactomannan: Potential binding agent for pharmaceutical formulations’, National University of Taiwan (NTU) Taipei, Taiwan on the topic ‘A Study on Superdisintegrant Property of Various Banana Powders and Its Formulation as Fast Dissolving Tablet’, a research paper at Lumbini, Nepal on the topic ‘A Novel suspending agent for pharmaceutical formulation from natural source’. He got opportunity to Visit USA for a workshop/seminar as a visiting scholar at University of Southern California (USC), Los Angeles, USA from January 5 through February 1, 2017. He was the editorial committee member of Indian Journal of Pharmacy and Pharmacology and Journal of Pharmaceutical and Medicinal Chemistry.

ABSTRACT:**The pharmacists' patient care process: taught and practiced**

The objective of high quality, cost-effective and accessible health care for patients is achieved through team based patient-centered care. Pharmacists are integral part of the health care team and the profession of pharmacy is continuing its evolution from a principal focus on medication product distribution to expanded clinically-oriented patient care services. As a result of this professional evolution, the importance of, and need for, a consistent process of care in the delivery of patient care services has been increasingly recognized by the profession at large. Pharmacists have unique training and expertise in the appropriate use of medications and provide a wide array of patient care services in many different practice settings. These services reduce adverse drug events, improve patient safety, and optimize medication use and health outcomes. Pharmacists contribute to improving patients' health by providing patient care services as authorized under their scope of practice and facilitated by collaborative practice agreements. The foundation for the pharmacist's patient care process is embedded within the pharmaceutical care model developed by Hepler and Strand in the 1990s. However, there is variability in how this process is taught and practiced. To promote consistency across the profession, national pharmacy associations used a consensus-based approach to articulate the patient care process for pharmacists to use as a framework for delivering patient care in any practice setting.

Dr. GURU PRASAD MOHANTA



Dr. Guru Prasad Mohanta have a teaching experience of 31 years in the field of teaching and research and a 2 year programme management and administration as Technical Officer (Essential Drugs and Medicines) in WHO – India Country office. He is an expert member, administrative and social pharmacy and ethics group of federation of Asian pharmaceutical associations, member of Pharm D Review Committee, Pharmacy Council of India, member of Pharmacovigilance Cell and Former Coordinator for National Pharmacovigilance Programme – for Peripheral centre, Vice President, Community Pharmacy Division, Indian Pharmaceutical Association, member of Pharmacy & Therapeutic Committee, Rajah Muthiah Medical College Hospital, Annamalai University. He supervised CSIR Senior Research Fellowship for a Project on Tumour Specific Targeting of Anticancer Drugs, Completed WHO Funded on Estimation of Medicines' Requirement, Completed EPN supported Infection Control Intervention project and Completed project "Development of new Erythromycin Derivatives" Under UGC and ICMR funding, as co-investigator. He published in 115 International Journal, 77 National Journal, 267 Popular Articles. *He Contributed to personal Column "Know Your Medicine" in fortnight supplement of The New Indian Express for four years (2004-2008). He had a RADIO TALK on ORS and Zinc in Paediatric Diarrhoea, AIR, Puducherry.* He attended 19 International Conference and 52 National Seminars. He was the Resource Persons for Drug Management / Pharmacoeconomics / Rational Drugs Use/Clinical research and *Organized several programmes on Drug Store Management for pharmacists (under WHO – India Programme on Essential Drugs in association with DSPRUD) and Serving as Inspector of Pharmacy Council of India.*

ABSTRACT:

PHARMACOECONOMICS ASPECTS OF PUBLIC HEALTH

Medicines are one of the most important components of Health Care System. Concern about the cost of medical care in general, and the medicines in particular, are currently being expressed in public health care systems. There is a general focus on providing quality care within limited financial resources. Medicines consume substantial portion of health budget: three – fourth in out of pocket expenditure and 10 – 20% of health expenditure in public systems in our country. Study has shown that out of pocket expenditure on healthcare forced people to reduce other essential expenditures on food, education and health. The cost of medicines is thus an important factor in the health care expenditure.

There have been some initiatives at country level including the price capping on all essential medicines under the Drugs Price Control Order. The Drugs Price Control Order 2013 for the first time introduced the terminology ‘Pharmacoeconomics’. The DPCO has brought down the prices of all medicines listed in the National List of Essential Medicines. But there are aberration too in the implementation. There are examples of low potency products (same molecule and same manufacturer) have higher or comparable price to that of high potency products. This is just because the low potency product is not in the Essential Medicine List and hence free pricing.

Once safety, efficacy and quality of medicines available in the market are established, it is the turn of cost of medicines that should be the determining factor for drug selection. A simple determination of price is inadequate for determining the actual cost of medicines for the health care system. The pharmacoeconomics provides a series of evaluating tools for assessing the medicines and their alternatives to select the most beneficial alternatives with minimum cost to the system.

The disease burden of least developed and developing countries poses significant public health challenges. With low availability of essential quality medicines in public health facilities, patients turn to private sectors where prices of generic medicines are 2 to 3.5 times higher than international reference price. In developed countries, there is one or other form of reimbursement of medicines expenditure. But very little such schemes are available in least income countries including India. The patients either pay from their pocket or the government pays for treatment in public health are systems. The economic evaluation of drug cost and therapy provides excellent opportunity to optimize the drug use and drug budget. Decision makers are increasingly dependent on clinical economic data to guide policy formulation and implementation.

The National Health Policy 2017 aims at increasing public expenditure on health to 2.5% of GDP in a time bound manner by 2025. Simple increasing public health care funding would not ensure quality care. The implementation of Pharmacoeconomics principles help. The pharmacoeconomic tools are increasingly used in the science and art of preventing disease, prolonging life, promoting, protecting and improving health for all through the organized effort of the society. Pharmaceutical public health concerns in development of medicine

policy, local treatment protocol, development of essential medicines' list, medicine use review, and pharmacovigilance. The pharmacoeconomic tools, like cost minimization and cost effectiveness analysis, are handy in assessing medicines for suitability of using them in public health care systems.

Dr. RAJ VAIDYA



He was Chief Pharmacist at Hindu Pharmacy, Panaji (A Community Pharmacy run by my family, since 1911), Since June 1989 till date (28+ years). He was Vice President at Goa State Pharmacy Council from 2013-2018, Special Invitee Member, Advocacy Group at Indian Pharmaceutical Association, Executive Committee from 2012-2018, Vice President & Chairman of Indian Pharmaceutical Association – Community Pharmacy Division, Hon. Treasurer and Hon. Secretary of Voluntary Health Association of India (India's largest health NGO). He was the member of National level advisory committee for "Engagement of Community Pharmacist in Pharmacovigilance" from 2016-17 and Institutional Animal Ethics Committee, Goa College of Pharmacy from 2013-2017 and chairman of Institutional Review Board, Sangath (a Mental Health NGO) from 2013-2017. He was the author of 'Prepared the Good Pharmacy Practice training manual for community pharmacists in SEA region, for SEARPharm Forum'. He presented paper on Study of potency indication in trade names of fixed dose combinations in India at Indian Pharmaceutical Congress, Manipal, 2010 and Assessment of over-the-counter medicine labels in India for patient information at Indian Pharmaceutical Congress, Manipal, 2010. He delivered several talks at International Conferences like "Managing Risks, reducing costs – what is the impact of the individual pharmacist?" at FIP Congress, Hyderabad, "Pharmacies and presence of pharmacists – country perspective at FIP Congress, Bangkok. He attended various International Seminars like, FIP Congress in September 2011 at Hyderabad - India, The Role of Education in Rational Use of Medicines in December 12 – 14, 2007 at Bangkok - Thailand, 2nd Regional Conference on GPP policy and plans in April 10 – 12, 2008 at April 10 – 12, 2008. He was the Team leader for project on 'Accreditation of Pharmacies in India' (Indian Pharmaceutical Association in collaboration with Drugs Controller General of India & W.H.O. India Country Office), Involved in advocacy for improving the professional status and standard of pharmacy profession in India, In the Editorial Board of Pharma Times, official publication of IPA, Formulate a Quiz and Crossword page in Pharma Times. His achievement includes, Young Achiever's Award in 2005/Hyderabad – India, Hero for Health award for South East Asia in 2006/New Delhi – India, IPA Fellowship Award in 2007/Mumbai – India, IPA Fellowship Award in 2007/Mumbai – India, Fr. Tong Memorial Centenary Award (for contribution to public health) in 2015/New Delhi – India

ABSTRACT:**COMMUNITY PHARMACY IN INDIA – GROUND ZERO**

Community pharmacy in India has a long way to go in India. There are plenty of hurdles and grossly neglected ground realities, making the situation difficult for professional pharmacy practice to step up pace. However all is not lost – there are pharmacists who have realized that professionalism not only is a passion, but earns respect and accolades from the public. Indian pharmacy chains are also making a big difference to pharmacy practice. Online pharmacies, though illegal are unfortunately permitted to openly function in our country. The challenges before the pharmacy profession are huge. What is the role for Pharm.D. graduates in the current scenario ? Nothing short of a national revolution can transform the pharmacy profession in India from the trader outlook to a professional outlook.

Dr. KARTHIK RAKAM



He is currently working as the Associate Director at Tychee Innovations, Hyderabad, India and President Pharmacon Society for Pharmacy Practice. previously worked as Assistant Professor, Department of Pharmacy Practice, Sri Venkateshwara College of Pharmacy, Madhapur, Hyderabad for a period of 2 years and 9 months. He can design optimal therapeutic regimen in complicated cases of TB, HIV. Expertise in Individualization of dose in Renal and Hepatic Impairment, Analyse patient case sheets and make interventions. Made 85 interventions during the internship. Check the prescription for clinically significant Drug Interactions, ADRs and make necessary adjustments and experienced and skilled in providing clinical pharmacy services like Prescription audit, Drug Indenting, IV admixtures preparation. He guided various PROJECTS like Development of IV admixture and infusion guidelines, a study on incidence, prevention and management of complications associated with the urinary catheter use in a tertiary care hospital, Analysis of poisoning cases and their management at a tertiary care centre. He was awarded with Organizer and resource person for a 3 day Pharmaceutical Care and Clinical Pharmacy workshop organized in collaboration with SreeVidyanikethan College of Pharmacy, Tirupathi on 22st, 23nd and 24th Jan 2018, Oral and Poster Presentation evaluator at AICTE sponsored International conference on Challenges, Opportunities and Newer Directions of Pharmacovigilance and Clinical Research in India organized by Parul University, Vadodara on 5th and 6th January 2018, Winner of oral presentation at International symposium on Pharmacogenomics and Pharmacoeconomics in health care system, held at RBVRR college of Pharmacy June 2016, Winner of National level case study competition conducted by IPA on the occasion of World Pharmacist Day 2015, Founder of Pharmacon Groups on WhatsApp which includes over 3500 members representing various facets of Pharmacy profession the group has over 50 reputed doctors actively taking part in Pharmacology and Pharmacotherapy discussions. He conducted various workshops at Gollapudi, Vijayawada 26th Jan 2018, SCS College of Pharmacy, Harpanahalli 19th Jan 2018, Nova College of Pharmacy, Jangareddygudem, 30th Nov 2017, Sri Venkateshwara College of Pharmacy, Chitoor 23rd Nov 2017. He have avolunteer experience at Founded an organization called 'Havens of Humanity' through which I aim to Educate, Nourish, Rejuvenate and Inspire Children.

ABSTRACT:**TRANSITION IN THE PRACTICE OF PHARMACY - FROM DISPENSING TO PHARMACEUTICAL CARE**

The profession of Pharmacy has evolved over the years. Earlier it was, Traditional Pharmacy where the orientation was on drug product and onus was on compounding and dispensing the medicine. Later the concept of Clinical Pharmacy came, where the focus was on reviewing the patients' charts and resolving drug therapy problems. Now the Pharmacy has progressed towards Pharmaceutical Care, where in a pharmacist works in collaboration with the doctor, patient and other health care professionals, to design, implement and monitor a therapeutic plan that will produce specific therapeutic outcomes in the patient. My session would cover practical cases where as a pharmacist I resolved drug therapy problems and provided pharmaceutical care

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DRUG UTILIZATION EVALUATION IN STROKE PATIENTS

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ABSTRACT

Objective: Identifying the risk factors and assessing the utilization of drugs in Stroke patients.

Methods: A prospective study was carried out over a period of 3 months in a tertiary care hospital.

Results: A total of 120 patients were analysed in the study. The incidence of Ischemic stroke (79%) was greater compared to Hemorrhagic stroke (21%) and the prevalence is higher in males (66%) than females (34%). The most predominant age group was found to be 61-80 years. Other risk factors like sedentary lifestyle, poor socioeconomic status may also play a key role in the occurrence of Stroke. The prescribing pattern in Ischemic stroke includes Hyperlipidemic (87%), Anti-platelets (72%), Oral glycerol (63%), Anti-hypertensives (50%) followed by other classes of drugs. In Hemorrhagic stroke, Mannitol (97%), Oral glycerol (95%), Calcium channel blockers (70%), Ceftriaxone (66%) are prescribed most often.

Conclusion: This study on the process of drug utilization focuses on the prescribing, dispensing, administering of drugs and its associated events covering the aspects of drug utilization. Appropriate prescribing may promote cost effectiveness and outcome from the drug therapy whereas it may decrease the morbidity and mortality rates. Further research is needed to understand the prescribing patterns of drugs in Stroke patients.

Keywords: Ischemic stroke, Hemorrhagic stroke, Risk factors, Drug utilization

**REVIEW ON DIFFERENT SEVERITY SCALE AND MANAGEMENT OF ACUTE
POISONING**

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ABSTRACT

Intentional and accidental poisoning are frequently seen in developing countries, in order to assist the physician to diagnose the patient and predict the outcome, an effective severity scoring is very essential. The severity scale considers only the observed clinical signs and symptoms rather than estimating the risk or hazards on the basis of parameters such as amount ingested or serum/plasma concentration. The scoring must be done at the time of hospitalisation prior to the treatment that helps the physician to standardise the treatment. In general the severity grades are classified into four groups: none(0); minor(1); moderate(2); severe(3); fatal(4). Presently Glasgow coma scale and APACHE II score are randomly used to assess and predict the severity of the patient. Paradeniya organophosphorus poisoning scale is particularly used for assessing the severity of organophosphorus poisoning. Management of acute poisoning initiates with gastric lavage or whole gut irrigation using absorbents such as Fuller's earth, bentonite or activated charcoal and is followed by symptomatic treatment. In renal insufficiency haemodialysis or haemoperfusion are recommended. Death is mainly due to respiratory failure in case of pesticide poisoning. Gastric lavage is not recommended for corrosive substances. Ingested poison is identified by the objective evidences and specific antidote is administered.

Keywords: severity scale, Glasgow coma scale, APACHE II, POP Scale, gastric lavage, renal insufficiency, respiratory failure.

A REVIEW ON CIRCADIAN PATTERN VARIATION OF STROKE ONSET

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ABSTRACT

Stroke is a devastating and disabling cerebrovascular disease with significant amount of residual deficit leading on to economic loss. The stroke onset may vary by season, day of the week, and time of day. The temporal pattern of stroke occurrence in humans has been recognized that, the ischemic stroke occur with a maximal peak in the morning hours, and a second minor peak in the evening, whereas, intracerebral hemorrhage has a higher occurrence rate in the afternoon, with rare observation at the night time, also hemorrhage has a circadian variation with a higher in sleeping group than awake. This may be due to biological factors such as blood pressure (with physiological nocturnal decrease and morning increase), haemostatic balance (with increased platelet aggregability, hypercoagulability, increased level of haematocrit with hyper viscosity of blood in morning). Several exogenous factors such as seasonal variation, physical activity, diet and sleep/wake cycles can influence stroke occurrence. It was long believed that the neurons within the Suprachiasmatic nucleus controls all the body circadian rhythm cycles serving as "master clock". These mechanisms regulating circadian rhythmicity might help to explain the phenomenon of circadian variation in stroke occurrence.

Keywords: Circadian pattern, Ischemic stroke, intracerebral hemorrhage.

**A PROSPECTIVE STUDY ON CLINICAL PROFILE AND MANAGEMENT OF
COMMUNITY ACQUIRED PNEUMONIA**

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ABSTRACT

Objective: The aim of the study was to access the various factors influencing and the various prescribing trends followed in CAP patient.

Methods: A prospective observational study was carried out on CAP patient in tertiary care hospital for a period of 3 months.

Results: A total of 100 patients with CAP were involved in study. The prevalence of disease was higher in males (70%) than females (30%) with significant occurrence in age group of 50-60 years (80%). Smoking (50%), co-morbid diseases like diabetes mellitus (10%), HIV (10%), cardiovascular disease (10%), alcohol consumption (10%), socio-economic status (10%) were the major risk factors. Most of the patients were presented with fever (50%), cough (30%) tachypnea (10%) tachycardia (10%). Prescribing pattern is based on guidelines- Infectious Disease Society of America (IDSA) and American Thoracic Society (ATS). Most prescribed drugs are macrolide (30%) and cephalosporin antibiotics (50%).

Conclusion: The study emphasize that incidence was found to be higher in males the major risk factor associated was age, smoking ,and co-morbid disease.Enhanced public awareness about the condition and comprehensive approach in management is mandatory.

Keywords: community acquired pneumonia, clinical profile, co-morbid disease, drug utilization review.

**A PROSPECTIVE STUDY ON RISK ELEMENTS AND QUALITY OF LIFE IN
STROKE PATIENTS**

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ABSTRACT

Objective: The purpose of this research was to identify the major risk factors and to assess the health related quality of life in Stroke patients.

Methods: A prospective study was carried out for a period of 3 months in a tertiary care hospital.

Results: A total of 100 patients were included in the study. Among them, Ischemic stroke and Hemorrhagic stroke accounts for 81%, 19% respectively. Modifiable risk factors like hypertension(62%), diabetes (37%), smoking(39%), non-modifiable risk factors such as age(61-80), male gender(71%), family history of Stroke and potentially modifiable risk factors like alcohol(35%) may increase the risk. Hemiparesis (83%) and slurred speech (56%) were the prominent manifestations in Stroke patients. Health related quality of life was assessed by Barthel index and Modified Rankin scale. In Barthel Index, the degree of impairment in functional activities was found more towards constant care (70%) followed by institutional care. According to Modified Rankin Scale, 75% of moderately severe disability was found as the functional outcome.

Conclusion: This study helps to identify the risk elements and the degree of disability in Stroke patients. Thus providing awareness and minimising the disease burden in patients.

Keywords: Ischemic stroke, Hemorrhagic stroke, Risk Factors, Health related quality of life.

**A PROSPECTIVE STUDY ON CLINICAL PROFILE AND MANAGEMENT OF
CHRONIC OBSTRUCTIVE PULMONARY DISEASE**

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ABSTRACT

Objectives: The purpose of research is to identify various demographic data associated with the occurrence of COPD and to review the drugs prescribed to COPD patients

Methods: A prospective observational study was carried out on COPD patients in a tertiary care hospital for a period of three months.

Results: A total of 100 patients with COPD was included in study. Prevalence of disease was higher in males (80%) than females (20%) with significant occurrence in age group of 50-60 years (80%). Most of the patients were identified as smokers (80%). Co-morbid disease like diabetic mellitus (3%), hypertension (4%), kidney disease (3%) and occupations like industrial (5%) and agriculture (5%). Common symptoms include breathlessness (60%), chronic cough (20%) and sputum production (20%). The prescribing pattern was based on Global Initiative for Chronic Obstructive Lung Disease (GOLD). The prescribed drugs are short acting β_2 agonists (50%) and long acting β_2 agonist (30%).

Conclusion: The study accent that incidence was found to be higher in males. The major risk factor associated was age, smoking and co-morbid disease. Enhanced public awareness about the condition and comprehensive approach in management is inevitable.

Keywords: chronic obstructive pulmonary disease, clinical profile, co-morbid disease, drug utilization review.

PP007
A REVIEW OF INFLUENCE ON LIVER ENZYMES AND CHOLINESTERASE
LEVELS IN PESTICIDE POISONING

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ABSTRACT

Pesticides are one of the major sources of poisoning, among which organophosphate poisoning is common. Acetylcholine esterase (AChE) hydrolyses acetylcholine (ACh) to Choline and acetic acid after its release. Organophosphate Compounds (OPC) are potent inhibitor of AChE leading to elevated ACh level with prolonged stimulation of local receptors and subsequent paralysis of nerve or muscle. Toxic features of acute OP poisoning include excess cholinergic activities (both muscarinic and nicotinic effects) and CNS effects. The muscarinic effects include bronchoconstriction with wheezing and dyspnoea, excess salivation and lacrimation, bradycardia, pulmonary oedema, hypotension, and nicotinic effects include fasciculation, weakness, hypertension, tachycardia and paralysis. The CNS effects are restlessness, tremor, headache, slurred speech, delirium, drowsiness, ataxia and convulsions. Respiratory failure is the most common cause of death. Hypoxia due to seizure, hypothermia, renal failure, hepatic failure also contributes to the risk of mortality. Organophosphate toxicity is indicated by the decrease in RBC-cholinesterase level by 50% of normal. Liver enzymes like Alanine amino transferase(ALT), aspartate amino transferase (AST), Alkaline phosphate(ALP), Bilirubin(both conjugated and unconjugated) and pseudo cholinesterase has a vital role in detecting the hepatotoxicity due to pesticide poisoning.

Keywords: pesticide poisoning, organophosphate poisoning, acetylcholine, CNS effect, respiratory failure, liver enzymes.

A REVIEW OF PREVALANCE AND PATTERN OF ACUTE POISONING

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ABSTRACT

Acute poisoning is defined as the occurrence of deleterious effects resulting from exposure to foreign chemical agents intentionally or unintentionally. According to WHO statistics estimate 2012, globally there were 193,460 deaths due to unintentional poisoning and 370,000 deaths due to pesticide poisoning which accounts one-third of world's suicide. In developed countries the most common poisoning agents are house hold poisoning agents and prescribed drugs, whereas agrochemicals are the widely exposed poisoning in developed countries. In India, majority of the rural population are dependent on agriculture. Due to lack of surveillance, ease availability, improper storage and lack of awareness about agrochemical agents pesticide poisoning are common. The most gradually observed poisoning are organophosphates, organochlorides, carbamates, pyrethroids, herbicides and rodenticides. In Mysore district of Karnataka, OP poisoning is most common among which Chlorpyrifos and trizophos are frequently seen. Rodenticide is the second most common poisoning in developing countries and is associated with significant mortality and morbidity. Strict surveillance, proper storage and awareness about such compounds can minimize the occurrence of poisoning to a limit.

Keywords: Acute poisoning, Pesticide poisoning, Chlorpyrifos, Trizophos.

**RETROSPECTIVE STUDY ON THE EFFECT OF COMORBID CONDITIONS AND
PREVALENCE OF ISCHEMIC HEART DISEASE IN QUATERNARY CARE
HOSPITAL.**

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ABSTRACT

Background: The coronary arteries supply blood to the heart muscle & no alternative blood supply exists, so a blockage in the coronary arteries reduces the supply of blood to heart muscle. Most ischemic heart disease is caused by atherosclerosis, usually present even when the artery lumens appear normal by angiography. Most patients have more than one health condition, and therefore the assessment of comorbidity is important for patient care, for quality assurance, & for the evaluation of therapy. Comorbid diseases may affect multiple clinical outcomes, including mortality, functional capacity, quality of life, & cost. Comorbid conditions in a patient with coronary disease may affect outcome directly or indirectly by reducing the patient's physiologic reserve and thereby increasing the risk of adverse outcome of coronary disease.

Methodology: The Study was conducted at Medical Records Department, BGS Gleneagles Global Hospital, Bengaluru. Patients with Ischemic Heart Disease & comorbid conditions like Diabetes mellitus, Hypertension, & other conditions were selected for the study. The patients who were admitted from June 2016- December 2017 data were collected. The data was later analyzed by Chi-square test and the results were calculated.

Results: The number of Patients who had Hypertension are 85 (43%), Diabetes Mellitus 86 (42%), Hyperlipidemia 46 (22.6%) and IHD 30 (15%). The Relative risk for 1415 Hypertensive patients were found to be 10.8 times at risk of having IHD if they continue with uncontrolled blood pressure. The Relative risk for 1474 Non-smokers were found to be 9.97 times at risk to have IHD if they continue smoking. The Relative risk for 1081 Non alcoholics were found to be 8.1 times at risk of having a IHD if they continue to drink. The Relative risk for 2333 non hyperlipidemic patients was found to be 2.53 times at risk of getting IHD if they continue to be hyperlipidemic. The number of people who were suffering from IHD was 0.94% in the quaternary care hospital. Chi-Square Test: There is a strong relationship between the presence of risk factors DM, HTN & IHD.

Conclusion: The study showed that the risk factors present in IHD patient increases the chances of stroke & other life threatening conditions. The risk factors must be controlled & prevented accordingly.

Keywords: comorbid conditions, ischemic heart disease, quaternary care hospital.

**A SURVEY ON IMPACT OF ANEMIA ON MENSTRUATION AND
DIETARY INTAKE OF ADOLESCENCE ATTENDING SECONDARY
GOVERNMENT SCHOOL.**

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ABSTRACT

Introduction: Adolescence (10-19 years of age) is critical period of life characterized by significant changes like increasingly pulsatile secretion of gonadotropins, change in body contour and development of brain.

Objectives: To improve the quality of life of adolescent's girls in govt. Schools according to their dietary intake and menarche conditions. To determine the prevalence of anemia among vegetarians & non-vegetarians in adolescent girls. To decrease or reduce the risk of anemia due to menarche in adolescent.

Methods: It is Ambispective Observational Study conducted in Government schools for about a period of 2 years with a sample size of 356 students were taken and evaluation for anemia, dietary intake and menarche are done

Results: From the data analyzed the severity of anemia was decreased in 2017 compared to 2016. It is seen more in adolescent girls above age 13years. The Hemoglobin percentage was increased in 2017 it is 23%(83) at lower stage of anemia, 69%(246) at moderate stage of anemia and 7%(25) at severe stage of anemia than 2016 it is 42%(150) at lower stage of anemia, 52%(187) at moderate stage of anemia and 4 %(17) severe stage of anemia.

Conculsion: The study concludes that a majority of the girls had clinically obvious nutritional efficiency diseases. Problems related to menstruation, dietary intake are quite frequent and often result in the interruption of the daily routine of the adolescent girls; therefore it is important that school officials and school health programme, staff recognize these problems and need to be sensitive to their problems.

PP011
A REVIEW ON CHANCES OF REDUCTION IN CARDIOVASCULAR RISK BY
DRAKSHARISHTA IN INDUCED DIABETIC CONDITION

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ABSTRACT

The objective of the present study was to evaluate the effect of Draksharishta-T and Draksharishta-M prepared by traditional and modern methods respectively and Dabur Draksharishta on fasting blood glucose and serum lipid profile in alloxan induced diabetic rats. Oral administration of Draksharishta-T, Draksharishta-M and Dabur Draksharishta (2 ml/kg p.o.) for 21 days caused a significant decrease in fasting blood glucose (FBG) and showed significant rise in blood glutathione level (GSH) in diabetic rats. Glibenclamide was used as a standard antidiabetic drug (10 mg/kg, p.o). These preparations also caused significant reduction in serum cholesterol, LDL and triglycerides and showed significant rise in serum HDL level in diabetic albino rats. Thus all these preparations were able to maintain the tested parameters near to the normal level significantly.

Key words: Cardiovascular risk, Blood glucose, anti-diabetic, Glutathione, Lipid profile, Draksharishta, alloxan

**A REVIEW ON EFFECTIVE AYURVEDIC DRUGS AND FORMULATION USED
IN OSTEO ARTHRITIS PATIENT'S**

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ABSTRACT

Osteoarthritis is a degenerative joint disease which affect commonly in weight bearing joint. Usually knee joint, lumbar spine and ankles are usually get affected. The disease is characterised by joint pain, swelling in the joint stiffness, Restrictions of movement, deformities and crepitus. Ayurveda systems of medicine are affectively treating chronic disorder like osteoarthritis. Certain Ayurveda drugs and formulation are found effective in alleviating the sign and symptoms of OA. Single herbs like gugulu (*Commiphora mukul*), Shalaki (*Boswellia serrata*), Lashuna (*Allium sativum*), Rasna (*Pluchea lanceolata*), Devadaru (*Cedrus deodar*), Nirgundi (*Vitex negundo*) Bala, Punarnava (*Boerhavia diffusa*) and formulation like Yogaraj guggulu, Kaishor guggulu, Adityapak gugulu, Amrutadi guggulu, Gokshura guggulu, Tryodashanga guggulu and external application like Maha Narayan taila, Pancha guna taila, Sudha bala taila, Maha masha taila, Nirgundi taila are effective in the management of Osteoarthritis. These medication are having the action like Rasayana, vedanasthapana, Vatahara, Anulomana, Virechana, Nadibalya, and dhatu poshana. The present poster include the Ayurvedic drugs and formulation effective in the management of Osteoarthritis explained scientifically.

Keywords: -Osteoarthritis, Single herbs, Formulation, Ayurvedic Medicine

A REVIEW ON IMPACT OF TECHNOLOGY IN PROVIDING PHARMACEUTICAL CARE ON HEALTH RELATED OUTCOMES IN PATIENTS WITH CHRONIC KIDNEY DISEASE ASSOCIATED WITH HYPERTENSION.

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ABSTRACT:

A randomised controlled prospective clinical study was conducted in BHIMAVARAM, to assess the impact of technology in providing pharmaceutical care on health related outcomes in patients with chronic kidney disease associated with hypertension. A total of 1470 patients with chronic kidney disease associated with hypertension were randomly allocated to intervention (737) and control group (733). Structured education disease, management of symptoms and as pill reminders, were delivered on daily basis. Every activity/message was prescheduled on monthly basis depending on the feedback received through Interactive voice response system. Patients were followed up at 6th month during a schedule visit. Effectiveness of the intervention was assessed in terms of biomarker quantification, health-related quality of life, medication adherence, disease knowledge and healthcare utilization. . Data collected at baseline and at the 6th month assessment was coded and entered into SPSS_ software version 17 for statistical analysis. . In this study, Intervention group 92.8% had almost achieved good adherence after 6 months. There is an appreciable significance difference ($P < 0.05$) in creatinine, in the intervention group when compared with the control group. The enhanced patient outcomes as a result of the Technological involvement in pharmaceutical care programme in the present study demonstrate the value of an automated clinical pharmacy service in achieving the desired health outcomes for huge patient population with chronic diseases like CKD and HTN. The present study therefore clearly demonstrated the need to implement integrated pharmaceutical care programmes by the clinical pharmacists in different hospital sites in India for the purpose of improving health outcomes for patients.

Keywords: Pharmaceutical care, short message service, pill reminders, interactive voice response systems, chronic kidney disease, hypertension,

PP014

**A REVIEW ON DEVELOPMENT AND IMPLEMENTATION OF MEDICATION
THERAPY MANAGEMENT (MTMS) AT A TERTIARY CARE HOSPITAL IN
SOUTH INDIA, BHIMAVARAM**

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ABSTRACT

Medication therapy management(MTM) is medical care provided by pharmacists whose aim is to optimize drug therapy and improve therapeutic outcomes for patients. (i) To Implement MTM service at a tertiary care hospital. (ii) Identification of Barriers in Implementation of the program. (iii) Assessment of Outcomes of MTM service. (iv) Follow up of the service. A prospective study was conducted in inpatient departments of Cardiology, General medicine and Nephrology Departments. Patient demographics and drugs prescribed data were collected and analysed. Along with this interaction with the patient were also done whenever required. Collection of patients details like Demographics, medical, surgical history, current and past medical history. Comprehensive review of the medications (MTR), Preparation of Personal Medication Record (PMR), Development of patient focussed medication action plan (MAP) and providing to the patient. Discussion and meeting with other health care professionals about the optimization of therapy. To conclude, it is evident from the present study that, MTM services provided by the pharmacist/student pharmacist suggests the need of clinical pharmacist in every hospital setting to meet the standard criteria in minimizing the risk of medication-related problems and improving the patient health outcome for better quality of life.

Keywords: Medication Therapy Management (MTM) service, Medication Therapy Review, Personal Medical Record, Medication Action Plan.

**A REVIEW ON PRESCRIBING PATTERN OF PSYCHIATRIC DRUGS IN
COMMONLY OCCURRING PSYCHIATRY DISORDERS IN A TERTIARY CARE
HOSPITAL, BHIMAVARAM.**

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ABSTRACT:

Background: The expanding field of psycho-pharmacology is constantly seeking new and improved drugs to treat psychiatric disorders. Although psychotropic drugs have had a remarkable impact in psychiatry, their utilization, effectiveness, and side effects in the clinical practice need continuous study. The present study was thus designed to analyse the pattern of psychotropic drugs prescription in a tertiary care hospital, bhimavaram.

Methods: A 6-month prospective observational clinical study was carried. The study enrolled a total of 64 cases to investigate the prescribing pattern of psychotropic medications using a predesigned format.

Results and Conclusions: In our study major psychiatry disease was found to be anxiety. In Anxiety patients present with Generalized anxiety disorder were 61% and Panic disorder were 38%. Our study reported that maximum number of anxiety and depression patients were commonly prescribed with combination of SSRI + Benzodiazepines, and maximum number of patients with mood disorder were commonly prescribed with Antipsychotics followed by Benzodiazepines and SSRI's ,maximum number of Schizophrenia patients were commonly prescribed with Atypical Antipsychotics followed by combination of Typical antipsychotic agent + Antimuscarinic agent.

Keywords: Psychiatric drugs, tertiary care.

ASSESSMENT OF DRUG INTERACTIONS IN A TERTIARY CARE HOSPITAL.

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ABSTRACT

Back Ground: Drug interactions (DIs) represent an important and widely under recognized source of medication errors. Drug interactions are an important cause of adverse drug events (ADEs), increased risk of hospitalization and higher health care costs. Polypharmacy is prevalent in India which is associated with increased potential for ADRs, ADEs, DDIs and inappropriate prescription.

Objective: To assess the drug-drug interactions in the department of medicine.

Methodology: A Prospective and Observational study was carried out in a rural tertiary care teaching hospital in the department of medicine over a period of 9 months. Patients who met the inclusion criteria were enrolled for the study and followed up till date of discharge. PDDIs were assessed using Drugreax-® system; literature like Stockley's and Drug Interaction Facts. Patients were regularly monitored for the occurrence of DDIs in them by Clinical Pharmacist. A brochure was prepared based on DDIs identified and distributed to health care professionals.

Results: Out of 160 patients a total of 279 PDDIs were identified in 117(73.1%) patients. The mean age of patients having PDDIs is Mean \pm SD: 59.65 \pm 13.18 ranging from 21 to 95 years. Majority 164(58.4%) of PDDIs observed were of moderate level of severity, 66(23.7%) were major and 43(15.4%) were of minor level of severity. Males had more number of PDDIs while females have more number of PDDIs (6-10) per patient. 47.7% of PDDIs has significance rating 1 & 2. The common drug interaction pairs were aspirin-clopidogrel, digoxin-furosemide, furosemide-hydrocortisone and furosemide-aspirin. 17 patients (10.6% of the total patients) have been identified to have 27 actual interactions. The mean age of patients having actual interactions is Mean \pm SD: 62.52 \pm 8.17 ranging from 41-75 years. These actual DDIs were more in females which states that females are more susceptible to ADEs due to DDIs.

Conclusion: The study concluded that the rate of PDDIs in medicine department inpatients is high, even if the number of actual drug interactions is less; it still resulted to pose a threat to patient's medical condition. Monitoring of PDDIs is the need of the hour to increase the drug safety in patients. Clinical Pharmacist Services combined with other health care professionals would help in providing a better patient care.

Key words: Drug-Drug Interactions (DDIs), Adverse Drug Events (ADEs), Potential Drug-Drug Interactions (PDDIs).

**A DESCRIPTIVE STUDY ON ASSESSMENT OF RELATIONSHIP BETWEEN THE
DIETARY BEHAVIOURS AND BMI IN A GROUP OF SCHOOL STUDENTS IN
BHIMAVARAM MANDAL, WEST GODAVARI DISTRICT ANDHRA PRADESH.**

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ABSTRACT:

Dieting, the deliberate selection of food to control body weight or nutrient gain. Body mass index is a simple index of weight- for-height that is commonly used to classify over weight and obesity in adult's .It is defined as a person's weight in kilograms divided by the square of his height in meters [kg/m²]. The study was aimed to assess the relationship between the dietary behaviors and BMI in a group of school students in Bhimavaram Mandal. It is a descriptive study that was conducted in primary and high school level students. In this a simple language questionnaire based on dietary behaviours was asked and the behavior was calculated by using NHS choices. The study was conducted in 12,500 students in which males are 755 and females are 560 and the results are 28% students are underweight, 19% students are overweight and normal were around 53%. The knowledge were tested, in which 73.1% know the healthy eating through the classwork and 15.7% know the ways to lose weight, at the sametime 7% know the ways to gain weight. From this study, it is concluded that children who are leaving in rural areas are prone to malnutrition. Therefore attention should be given on intervention of malnutrition.

Keywords: BMI, Dietary, Malnutrition, and knowledge.

A REVIEW ON BIPOLAR DISORDER

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ABSTRACT:

Bipolar disorder is also known as maniac depression disease. It is generally characterized by swings in emotion which refers to as cycles that effect a person's ability to function on a day-to-day basis. These cycles can cause extreme upswings in emotion called as mania and interspersed with extreme downswings called depression. Based on severity of cycles (or) mood episodes it is divided into four distinct categories: 1.Bipolar disorder-I, 2.Bipolar disorder-II, 3.cyclothymic disorder, 4.mixed bipolar disorder. It is a 6th leading cause of disability worldwide and has a lifetime prevalence of about 3% in general population. It is generally seen in 15-19yr adolescents and rarely occurs in adults. Mood, behavioral, cognitive, psychological symptoms can be seen in these patients. Major management involves psychosocial therapy and lithium is the drug commonly used. Recent considerations state that females are more prone than males.

Keywords: cyclothymic, cognitive, emotion, depression, lithium.

PP019
**A REVIEW ON POLYPHARMACY IN ELDERLY-A GLOBAL HEALTH
CHALLENGE**

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ABSTRACT

The threat of polypharmacy in elderly has heightened over the past few years as older people are particularly prone to adverse consequences due to multiple co-morbid conditions, age-related physiological changes altering the pharmacokinetic and pharmacodynamics characteristics of many drugs, by taking medications with no clear benefit, duplication of therapy, and omission of beneficial medications. With the focus on medication safety in high-risk situations, polypharmacy and transitions of care, the Third Global Patient Safety Challenge Medication Without Harm was formally announced by WHO on March 2017 with the overall goal to reduce severe, avoidable medication-related harm by 50% over the next 5 years. Polypharmacy is particularly detrimental when an individual takes multiple pharmacologic agents for an extended period of time, particularly at high doses, without being monitored which results in number of undesirable health outcomes including reduced quality of life, adverse drug reactions, drug-drug interactions, non-adherence, hospitalisation, increased risk of geriatric syndromes (falls, hip fractures, incontinence, malnutrition, cognitive impairment, delirium) and mortality. Human error is also likely to be exacerbated due to the complexity of patient's medication regimes. A lack of familiarity with some newer drugs, particularly those initiated in secondary care, may aggravate these issues still further. Clinical trials have repeatedly shown that individualized pharmacy review can reduce polypharmacy in older patients. Deprescribing is being promoted as a tool for optimizing drug therapy in patients with polypharmacy, especially in elderly patients, and is recommended to be included in the prescribing processes for all healthcare professionals. Multiple validated tools are available for use to ensure appropriate medication use in older adults such as Beers criteria, STOPP (Screening Tool of Older Persons' potentially inappropriate Prescriptions) criteria, START (Screening Tool to Alert doctors to Right Treatment) criteria etc. It is evident from studies that pharmacists working directly or collaboratively to improve medication use and management in older populations can lead to positive outcomes such as reduced ADRs, improved measures of prescribing quality, appropriate medication use, compliance with care recommendations, and reduction in the total number of medications. Therefore, in global health care systems, teams caring for elders should involve pharmacists to optimize pharmacotherapy.

Keywords: Polypharmacy, ADR, Medications

A REVIEW ON JUNK FOOD – ITS EFFECT ON CHILDREN BHIMAVARAM

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ABSTRACT

Background: "Junk food" is a pejorative term for food containing high levels of calories from sugar or fat with little protein, vitamins or minerals. Use of the term implies that a particular food has little "nutritional value" and contains excessive fat, sugar, salt, and calories. Fast food has become a prominent feature of the diet of children in India and, increasingly, throughout the world. However, few studies have examined the effects of fast-food consumption on any nutrition or health-related outcome.

Objective The aim of this study was to test the hypothesis that fast-food consumption adversely affects dietary factors linked to obesity risk.

Result: On a typical day, 30.3% of the total sample reported consuming fast food. Fast-food consumption was highly prevalent in both genders, all racial/ethnic groups, and all regions of the country. Controlling for socioeconomic and demographic variables, increased fast-food consumption was independently associated with male gender, older age, higher household incomes, non-Hispanic black race/ethnicity, and residing in the North. Children who ate fast food, compared with those who did not, consumed more total energy (187 kcal; 95% confidence interval [CI]: 109–265), more energy per gram of food (0.29 kcal/g; 95% CI: 0.25–0.33), more total fat (9 g; 95% CI: 5.0–13.0), more total carbohydrate (24 g; 95% CI: 12.6–35.4), more added sugars (26 g; 95% CI: 18.2–34.6), more sugar-sweetened beverages (228 g; 95% CI: 184–272), less fiber (–1.1 g; 95% CI: –1.8 to –0.4), less milk (–65 g; 95% CI: –95 to –30), and fewer fruits and non-starchy vegetables (–45 g; 95% CI: –58.6 to –31.4). Very similar results were observed by using within-subject analyses in which subjects served as their own controls: that is, children ate more total energy and had poorer diet quality on days with, compared with without, fast food.

Conclusion: Consumption of fast food among children in the India seems to have an adverse effect on dietary quality in ways that plausibly could increase risk for obesity.

Key words : fast food , obesity, dietary composition, diet quality ,energy intake

A REVIEW ON REPORTING ADVERSE EFFECTS IN CLINICAL TRIALS

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ABSTRACT

All clinical studies must be reviewed and approved by an IRB before the study is initiated, in accordance with the requirements of Protection of Human Subjects, Institutional Review Boards, and Investigational New Drug Application. After the initial review and approval of a clinical study, an IRB must conduct continuing review of the study at intervals appropriate to the degree of risk presented by the study, but at least annually. The primary purpose of both initial and continuing review of the study is “to assure the protection of the rights and welfare of the human subjects. An aggregate analysis of a series of AEs that are commonly associated with the underlying disease process that the study intervention is intended to treat (e.g., deaths in a cancer trial), or that are otherwise common in the study population independent of drug exposure (e.g., cardiovascular events in an elderly population) may reveal that the event rate is higher in the drug treatment group compared to the control arm. In this case, the AE would be considered an unanticipated problem. In the absence of such a finding, the event is uninterpretable.

Key words:adverse effects, clinical trials, Institutional Review Boards

PP022
**A REVIEW ON EFFECT OF BONE HEALING BY NSAID'S AND NON NSAID'S IN
PAIN CONTROL TREATMENT IN ORTHOPAEDIC TRAUMA CASES.**

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ABSTRACT

Background: A fracture usually results from traumatic injury to bones causing the continuity of bone tissues or bony cartilage to be disrupted or broken. In acute pain after fracture or during the postoperative period after fracture fixation, NSAIDs play an important role due to their pronounced analgesic potency, anti-inflammatory effects, and lesser side effects compared to opioids. Therefore, this study aimed to determine the effect of bone healing by NSAID's and comparing it with NON NSAID's in pain control treatment in orthopaedic fracture.

Method: A total of 70 orthopaedic trauma patients were included in the study and conducted in orthopaedic wards, O.P department and Arogyasri office of BHIMAVARAM hospitals. Data is collected by screening of Daily chart review, reviewing clinical data and findings, consulting physician. The outcomes were calculated using Relative risk and chi-square test statistical methods.

Conclusion: It was concluded that there was a marked association between non-union and the use of NSAIDs after injury ($p < 0.00001$) and 3.75 times more delayed union of fractures was noted in patients who were treated with NSAIDs than patients treated with NON-NSAIDs and whose fractures had united

Keywords: Fracture, orthopaedic truma patients, NSAIDs and non-NSAIDs

A REVIEW ON ANTI-NICOTINE VACCINATION

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ABSTRACT

Nicotine is the main substance responsible for dependence on tobacco-containing products, which have a heavy impact on the public health of developed as well as non-developed countries by being a main etiologic factor for the induction of cardiovascular diseases and tobacco-related cancer. A vaccine against nicotine induces antibodies against the molecule, intercepting the nicotine on its way to its specific receptors. The binding of the antibody to nicotine in turn significantly diminishes the nicotine concentration in the brain shortly after smoking. At the end of 2003, three companies were in early clinical development of an anti-nicotine vaccine: Xenova (TA-NIC), Nabi (NicVAX) and Cytos (Nicotine-Qbeta. Nicotine, a compound naturally occurring in tobacco, is sterically very similar to the ubiquitous signaling molecule acetylcholine. It stimulates a heterogeneous group of nicotinic receptors of the adrenal glands, the neuromuscular gaps, and the brain. Like other dependence-inducing drugs, it increases the dopamine level in the nucleus accumbens of the brain. Compared with other medications for smoking cessation, the vaccine concept has some unique advantages: The vaccine effect lasts for years, whereas receptor-antagonist-based medications with their typically short half-life may no longer be taken by the patient once withdrawal symptoms develop. Antibodies do not cross the blood–brain barrier and no secondary effects through interaction with brain receptors are expected.

Keywords: Tobacco products, vaccine against nicotine, smoking cessation.

PP024

**A REVIEW ON ASSESSMENT OF DRUG USE PATTERNS AND QUALITY OF
LIFE IN HEMODIALYSIS PATIENTS**

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ABSTRACT

Patients on hemodialysis are highly dependent with several comorbid conditions who often have unsatisfactory rehabilitation, poor prognosis and suffer additional burdens including invasive interventions and time commitment. Patients suffer from further losses in professional, social, sexual and psychological contexts, in addition to physiological and emotional shocks felt at the time of diagnosis and during the course of treatment. Hence a study is conducted to assess the drug use patterns and QoL (SF-36) in HD patients (n=105). Hypertension (100%) was found to be the most common comorbid condition followed by anaemia (85.71%), DM (60%), CAD (33.33%), Hyperlipidaemia (26.67%) and Hypothyroidism (14.8%). Among drug use patterns antihypertensives (100%), anticoagulants (100%) and erythropoietin (100%) were most commonly prescribed. The present study revealed that the study sample undergoing hemodialysis had lower health related QOL scores for all the 8 domains for the first assessment compared to the second assessment. But there was no significant difference between the two assessments. After the follow up, in both males and females, all the domain scores were found to be improved to some extent. In males and females, after follow up, the domain namely bodily pain was more improved followed by vitality, general health, role physical, social functioning, role emotional and mental health.

Keywords: Drug use pattern, quality of life, hemodialysis patients

PP025

**A REVIEW ON PRESCRIBING PATTERNS AND HEALTH RELATED QUALITY
OF LIFE IN PATIENTS WITH HYPERTENSION IN A TERTIARY CARE
HOSPITAL**

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ABSTRACT

The present study was aimed to know the prescribing patterns to identify the benefits of single and combination therapy by using prescription, and also Health Related Quality of Life in patients with Hypertension, by using European Questionnaire-5D scale. Total number of patients evaluated for the study were 50 [25-female;25-male].In prescription,CCBs (62%) were most commonly prescribed as a single drug therapy compared to other classes of drugs in current, past & discharge medication. Among combinations, Diuretics and ARBs have been prescribed 47%, followed by CCBs & Beta blockers (30%), Diuretics & ACE inhibitors (13 %), diuretics &CCBs (8%). Patients having age group of 30-49 showed 100% in morbidity, self-care, usual activities, while 30% in pain/discomfort, anxiety/self-care dimensions during pre-admission period, while post admission showed 100% in all 5Dimensions. Almost all age groups have improved their health in post admission when compared to pre-admission period.

Keywords: Hypertension, health related quality of life, prescribing patterns, EQ-5D

A REVIEW ON CLINICAL PHARMACIST FOR BETTER PATIENT CARE

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ABSTRACT:

Involvement of clinical pharmacists (CP) in healthcare helps in providing mainly involved in better patient care. CPs play a role in improving the clinical outcome and reducing the unwanted effect of drugs in patients which would otherwise result in failure of drug therapy. CP is an important part of multidisciplinary healthcare team. Various studies shown that involvement of CP in the better patient care has improved. The prevalence rate of T2DM is 9.8% and cardiovascular disease (CVD) is a major health issue and the 9 months pharmaceutical care program significantly reduced cardiac risk scores and the 5-year probability risk of developing CHD in T2DM patients.

In case of asthma, primary goal of therapy is not patient satisfaction, but rather, better control of symptoms and decreased hospitalizations. In United States the prevalence of asthma in adults is approximately 7%, and 9% of asthma patients require hospitalization. The intervention includes patient education, assessment and optimization of drug therapy. The studies shown that CP has a major role in the management of high risk asthma.

Osteoporosis is a major health problem in worldwide, pharmaceutical care improved the knowledge, QOL and satisfaction in Malaysian postmenopausal osteoporotic women, it is showing that pharmacists interventions and special care provided by the CP shown to have the potential improvement in bone health.

Warfarin is the most widely prescribed oral anticoagulant. Warfarin related bleeding is the most significant burden in the worldwide. Most of the patients will not have much knowledge about warfarin. The Australian government funded home medicine review [HMR], the main objective of HMR include improving patient knowledge and understanding about medications and it therefore provides an opportunity for pharmacists to offer warfarin education in patients' own homes.

Randomized control trials [RCT]s of health services research interventions conducted in non-academic practice settings can have a major impact on our health care system.

Keywords: Clinical pharmacist, patient care

**A REVIEW ON PRESCRIPTION PATTERN AND QUALITY OF LIFE IN
PATIENTS WITH MIGRAINE**

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ABSTRACT

Background and objectives: Migraines are prevalent globally and are one of the leading neurological reasons sought for medical care.(1) Results from the World Health Organization Global Burden of Disease Study 2010 showed that migraine was the fourth most disabling medical disorder among women and the seventh most disabling medical disorder overall worldwide.(2) Migraine is generally considered as a disabling disease that can significantly reduce the quality of life (QOL) of persons affected by it. Measurement of QOL has emerged as an important complementary approach that can aid in the management of migraine. Thus this study aimed to study the prescribing pattern of drugs used in the management of migraine at study site and to measure the QOL of migraine sufferers.

Methods: A prospective observational study was carried out in the out- patient Department of Neurology, Medical College, Calicut for a period of 6 months. Patients were enrolled according to the study criteria. Patient history were collected and recorded. Patients' migraine headache intensity were measured using visual analogue scale (VAS) ranging from 0-10. To determine the QOL patients were asked to complete the Migraine-Specific Quality of Life Questionnaire (MSQ Version 2.1) and scores were calculated.

Results: A total of 66 patients were included in the study. Migraine was predominantly found in female population (89%) with a prevalence in the 4th decade of life.79% of the study population suffered from migraine without aura. Bilateral type headache (53%) was common as compared to unilateral headache (34.8%). Abortive and preventive combination were received by 53% whereas 45% and 1.5% received preventive and abortive treatment respectively. NSAIDs (Non-steroidal anti-inflammatory drug) combined with antiemetic were prescribed in 42.4% and analgesics alone in 13.6%. For prophylaxis, Beta-blockers were most commonly used (77.3%) followed by antidepressants (40.9%) and calcium channel blockers (25.8%).The mean scores for role function-restrictive (RR), role function-preventive (RP), and emotional function (EF) subscales of QOL was 52.54, 56.36 and 59.48 respectively. A statistically significant association was present between associated symptoms, precipitating factors in relation to QOL.

Conclusion: The present study showed that combination of abortive and preventive therapy was used as mainstay of treatment. Migraine sufferers experienced a significantly lower QOL scores.

Key words: migraine, quality of life, prescription pattern, Migraine-Specific Quality of Life Questionnaire

**A REVIEW ON A PROSPECTIVE STUDY ON ADVERSE DRUG REACTION AND
REPORTING OF ADR IN UROLOGY AND EMERGENCY MEDICINE
DEPARTMENT OF A TERTIARY CARE HOSPITAL**

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ABSTRACT

Aim and objective: To detect and analyze ADR in urology and emergency medicine department of a Tertiary Care Hospital and to assess the barriers involved with reporting ADR.

Methods: The study was a Prospective; observational study was conducted using a specifically designed study proforma. The study was conducted in patients who were admitted in Department Of Urology and Emergency Medicine Units of a tertiary care teaching hospital. The study was carried out for a period of one year. ADR's were identified using the online drug information websites like Micromedex®, MEDSCAPE and Drug Information Handbook 2005-2006, Meyler's Side Effects of Drugs 12th Edition and Text Book of ADR's 4th Edition to promote greater sensitivity in the survey.

Results: A total of 233 patients were interviewed, from 141 patients were selected. 29 ADRs were reported with an incidence rate of 20.22%. Male [N= 17 (58.62%)] predominance was noted over females[N=12(41.37%)]. The study results showed that antibiotics [10(34.44%)] were the most common class of drug which causes ADRs, in majority of the patients, followed by analgesics [5(17.24%)], antiplatelet [3(10.34%)].

Conclusion: As per the findings, adverse drug reactions in hospitals are common and some of them results increase in healthcare cost. Lack of time and workload on the Health Care Professionals were found to be important barriers in reporting ADRs in the hospital. So implementation of pharmacovigilance cell and use of pharmacy service can promote safe use of drug in hospitals. Active involvement of well trained clinical pharmacist for detecting ADR and creating awareness in healthcare professionals and patients could improve the scenario in under reported hospital.

Keywords: ADR, Urology, Emergency Medicine Unit, Healthcare Professionals

A REVIEW ON ASSESSMENT OF RISK FACTORS INFLUENCING FUNCTIONAL OUTCOMES IN CEREBRAL STROKE PATIENTS USING MODIFIED RANKIN SCALE

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ABSTRACT:

A prospective observational study was conducted at Shivaranjani Superspeciality hospital, Bhimavaram, to assess the functional outcomes in cerebral stroke patients using modified Rankin Scale (mRS)-9Q questionnaire and to evaluate the difference in patient functional improvement according to their age, gender, severity, type of stroke and co-morbid conditions using mRS scores. Data on 90 cerebral stroke patients were analyzed according to patient's age, gender, type of stroke, severity and co-morbid conditions. Initial and final mRS scores and progress in patient's functional abilities were recorded, compared and analyzed. Patients presented with high mRS scores (mean- 3.46 ± 0.83) before the initiation of medical therapy indicating moderately severe disability and was minimally high in the following patients subgroups- age >65 years (3.31 ± 1.20), females (3.44 ± 0.91), hemiplegic patients (3.50 ± 0.81), ischemic stroke patients (3.53 ± 0.83) and patients with 2 or more co-morbid conditions (3.46 ± 0.76). The mean mRS score at the end of the medical therapy was 2.05 ± 1.04 showing significant functional gain of 1.41 in mRS scores. Individual medical therapy if initiated on time and to the extent of patient needs proved to be useful in all the patients regardless of their age, gender, co-morbid conditions, severity and type of stroke.

Keywords: Cerebral stroke, modified Rankin Scale, Functional outcomes

**IMPACT OF CLINICAL PHARMACIST IN MANAGEMENT OF BIO-FILM
MEDIATED SURGICAL SITE INFECTIONS**

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ABSTRACT: Surgical Site Infections is caused by pathogenic bacterial strains that are commonly associated with bacterial biofilm formation through which individual bacteria may attach and mounting evidence suggest that 99% bacteria resides in this film. [3] Bacteria that cause perioperative infection include coagulase-negative staphylococci, staphylococcus aureus, streptococci, enterococci, pseudomonas and anaerobes. [1] **Case report:** A 30 year-old-male was admitted to the hospital with complaints of pus discharge from right hip and fever. He had a history of road traffic accident and Open Reduction Internal Fixation done in right side acetabulum. Pus culture yields growth of MDR acinetobacter species and started intravenous Colistin 6 million units loading dose and followed by 3 million units twice daily considering both culture reports. 4th day next pus culture report came suggesting the growth of enterococcus and methicillin resistant coagulase-negative staphylococci sensitive to Linezolid. Considering the most causative agents in typical cases are gram positive organism, Linezolid infusion 600 mg twice daily was added to the therapy. [2]. Repeated culture reports yield the growth of:

- 15th day- methicillin resistant coagulase-negative staphylococci
- 32nd day-Gram negative non-fermentor and Klebsiella
- After 28 days Colistin and linezolid were de-escalated to Imipenam-cilastatin 1 gm thrice daily according to culture report.
- 41st day- Enterococcus
- After repeated culture showed enterococcus species Vancomycin infusion 1 gm thrice daily was added to therapy and later de-escalated to twice daily.
- 51st day- Enterococcus
- 65th day-Proteus mirabalis and Pseudomonas species
- Stopped Imipenam and de-escalated to piperacillin-tazobactam 4.5 gm thrice daily according to culture report.
- 75th day-Stopped all antibiotics and he was discharged to home with asymptomatic wound, no pus discharge, afebrile, no pain and no other complaints.

Conclusion: Even though repeated cultures showed different resistance and sensitivity pattern, the antibiotic therapy was judiciously managed considering the evidence based reports and understanding the microbial pathogenesis of biofilm formation. This case shows high importance of clinical pharmacist in multi-disciplinary team and management of medication.

Keywords: Clinical pharmacist, Bio-film mediated surgical site infections.

PP031
A REVIEW ON APPLICATION OF STEMCELL THERAPY FOR PARKINSON'S DISEASE

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ABSTRACT

Cell replacement therapies in Parkinson's disease (PD) aim to provide long-lasting relief of patients' symptoms. Main pathophysiology in PD is a degeneration of Nigrostriatal dopaminergic neurons. Studies in patients with PD using transplantation of human fetal ventral mesencephalic (hfVM) tissue in the striata (Rich in post mitotic dopaminergic neurons) have provided proof-of-principle that such grafts can restore striatal dopaminergic (DA-ergic) function. The transplants survive, reinnervate the striatum, and generate adequate symptomatic relief in some patients. However, the initial clinical trials lacked homogeneity of outcomes and resulted in the development of graft-induced dyskinesias in a subgroup of patients. Although recent knowledge has provided insights for overcoming these obstacles, it is unlikely that transplantation of hfVM tissue will become routine treatment for PD owing to problems with tissue availability and standardization of the grafts.

Keywords: Stem cell therapy, parkinson's disease, dopaminergic neurons.

PP032

A REVIEW ON SUDDEN INFANT DEATH SYNDROME

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ABSTRACT

Sudden infant death syndrome (SIDS) continues to be the most common cause of postneonatal infant death. SIDS is a complex, multifactorial disorder, the cause of which is still not fully understood. However, much is known now about environmental risk factors, some of which are modifiable. These include maternal and antenatal risk factors such as smoking during pregnancy, as well as infant-related risk factors such as non-supine sleeping position and soft bedding. Emerging evidence also substantiates an expanding number of genetic risk factors. Interactions between environmental and genetic risk factors may be of critical importance in determining an infant's actual risk of SIDS. Although no practical way exists to identify which infants will die of SIDS, nor is there a safe and proven prevention strategy even if identification were feasible, reducing exposure to modifiable risk factors has helped to lower the incidence of SIDS. Current challenges include wider dissemination of guidelines to all people who care for infants, dissemination of guidelines in culturally appropriate ways, and surveillance of SIDS trends and other outcomes associated with implementation of these guidelines.

Keywords: postneonatal, multifactorial disorder, maternal, antenatal riskfactors.

A REVIEW ON STRAIGHT BACK SYNDROME

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ABSTRACT

The straight back syndrome, consisting of loss of normal upper thoracic spinal curvature associated with cardiac murmurs and radiographic cardiomegaly is considered a form of 'pseudoheart disease' which has been attributed to squashing of the heart in the reduced AP diameter of the chest. During an 18-month period 31 patients referred to a cardiologist were found to have a straight back. Forty-five relatives were subsequently examined and 27 were found also to have a straight back. Palpitations and chest pain were the commonest symptoms. On the lateral chest radiograph the distance from the middle of the anterior border T8 to a vertical line connecting T4 and T12 was found to be significantly reduced compared to controls, and a value less 1.2 cm is indicative of a straight back. Of the 58 subjects with the syndrome, 39 (67 per cent) had clinical and/or echocardiographic evidence of mitral valve prolapse. Respiratory function testing revealed no significant abnormality. HLA typing showed no association with a particular HLA antigen but indicates that the straight back syndrome is inherited as an autosomal dominant condition and suggested that the antigenic determinants may be located on chromosome 6. We conclude that the straight back syndrome should no longer be considered a form of pseudoheart disease and patients should be investigated for associated mitral valve prolapse and their relatives screened.

Keywords: pseudo heart, cardiac murmurs, thoracic spine, squashing.

A REVIEW ON GUILLAIN BARRE SYNDROME

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ABSTRACT

Guillain-Barré syndrome consists of a group of neuropathic conditions characterized by progressive weakness and diminished or absent myotatic reflexes. Guillain-Barré syndrome is believed to result from an aberrant immune response that attacks nerve tissue. This response may be triggered by surgery, immunizations, or infections. The most common form of the disease, acute inflammatory demyelinating polyradiculoneuropathy, presents as progressive motor weakness, usually beginning in the legs and advancing proximally. Symptoms typically peak within four weeks, then plateau before resolving. More than one-half of patients experience severe pain, and about two-thirds have autonomic symptoms, such as cardiac arrhythmias, blood pressure instability, or urinary retention. Advancing symptoms may compromise respiration and vital functions. Diagnosis is based on clinical features, cerebrospinal fluid testing, and nerve conduction studies. Cerebrospinal fluid testing shows increased protein levels but a normal white blood cell count. Nerve conduction studies show a slowing, or possible blockage, of conduction. Patients should be hospitalized for multidisciplinary supportive care and disease-modifying therapy. Supportive therapy includes controlling pain with nonsteroidal anti-inflammatory drugs, carbamazepine, or gabapentin; monitoring for respiratory and autonomic complications; and preventing venous thrombosis, skin breakdown, and deconditioning. Plasma exchange therapy has been shown to improve short-term and long-term outcomes, and intravenous immune globulin has been shown to hasten recovery in adults and children. Other therapies, including corticosteroids, have not demonstrated benefit. About 3 percent of patients with Guillain-Barré syndrome die.

Keywords: Myotatic reflexes, immunisation, cardiac arrhythmias, nerve conduction.

A REVIEW ON THYROID DYSFUNCTIONS IN FEMALES

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ABSTRACT

Thyroid dysfunction is the medical condition which results in impaired functioning of thyroid gland. Its increased risk is found in female that is every 1 out of 8 female suffer thyroid dysfunction with a ratio of 1:5 in comparison to men. 1.6 billion of world population and 42 million of Indian population are at the risk of thyroid dysfunction, among which 80% of all the thyroid cases constitutes women. Major thyroid dysfunction is hypothyroidism, hyperthyroidism, goiter, Hashimoto's disease and thyroid cancer. Thyroid cancer is the fifth most cancer in the women. Women are 5 to 8 times more likely to develop thyroid dysfunction due to the age, lifestyle and environmental effect in addition autoimmune disorder change in Iodine² metabolism serum thyroid binding protein increased renal iodine loss and estrogen induced risk in thyroxine binding globulin, development of maternal goiter especially in iodine deficiency area in women. The most seen complication of thyroid dysfunction in female is sudden weight gain in puberty, menstrual cycle imbalance, polycystic ovarian syndrome, infertility. Our review article focuses on the prevalence, risk factors and its complications of thyroid dysfunction in female.

Keywords: Thyroid dysfunction, hypothyroidism, prevalence, risk factor, hyperthyroidism.

**CLINICAL PHARMACIST: THE MAJOR SUPPORT TO INDIAN HEALTH CARE
SYSTEM IN NEAR FUTURE:A REVIEW**

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ABSTRACT:

Introduction: In this world of specialization and globalization ,clinical pharmacy services in India are still in infancy.Clinical pharmacy ,has emerged as one of the latest branches of pharmacy in 21st century.It can also be explained as a part of pharmacy in which the clinical pharmacists provide patient care that optimizes the use of medication,promotes health,wellness and disease prevention through effective application of knowledge,professional skills, and ethics they also offer Unvariable support in the development of a final prescription with better patient management and enhanced safety.Increasingly,medical practice is baring a team effort with a specialized skill matrix,concentrating on multifaced support for patient management

Contemporary pharmacy practice reflects an evolving paradigm from one in which the pharmacist primarily supervises medication distribution and counsel patients to a non-expanded and team based clinical role activities to provide patient care ,medication therapy management, adverse drug reaction management ,ward round participation, drug interaction identification,therapeutic drug monitoring,drug information and poison information services,drug policies, medication chart writing,drug health improvement, drug utilization and evaluation and disease prevention activities, pharmacovigilances, clinical research teaching, conducting awareness programmes in rural areas regarding disease prevention and management. As the profession is in budding stage in the country, the patients, physicians, nurses, other healthcare providers, recruiters in pharmaceutical industries, prospective students, and their parents have numerous questions about this profession and study course.

Objective: This article is to create awareness about clinical pharmacy services and to introduce the role of clinical pharmacy services emphasizing the importance of clinical pharmacists in the Indian health care system .It also delineates the role of clinical pharmacists in hospitals, in pharmaceutical/contract research companies, in community services and it also tells about the related myths and facts. Prospective job opportunities for Clinical pharmacists , present challenges and the possible solutions are elaborated as well.

Conclusion: Clinical pharmacists are going to be the major support to the Indian healthcare system in near future; the reasons being:

- (1) Clinical pharmacists are beneficial in many ways to improve healthcare; Clinical pharmacists have already proved their importance in western countries
- (2) India was never officially and efficiently exposed to Clinical pharmacists; so launching of Clinical pharmacists shall revolutionize the country's healthcare scenario.

PP037
IMPACT OF CLINICAL PHARMACISTS ON MINIMIZING DRUG RELATED
PROBLEMS (DRPs)

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ABSTRACT:

Clinical pharmacists play a key role in providing services from dispensing to individualized patient care to improve the overall therapy outcomes. Medications are required for prevention, diagnosis and treatment of diseases, but their use has associated Drug Related Problems (DRPs). A DRP is an event involving drug therapy which interferes with the expected therapy outcomes. In order to focus the role of the clinical pharmacist on patient therapy outcome, monitoring the DRPs is mandatory. It mainly includes monitoring incidences of DRPs for untreated indications, improper drug selection, sub-therapeutic dosage, failure to receive medication, medication overdosage, adverse drug reactions, drug interactions and medication use without indications. Appropriate and necessary interventions by clinical pharmacist in collaboration with other health care professionals helps in preventing the DRPs. Each year DRPs result in patients' withdrawal of medication therapy globally, which can be prevented by the involvement of clinical pharmacists monitoring the same. DRPs constitute a major health problem because of their consequences on morbidity and mortality along with economic implications by increasing overall cost of care. Main outcome measures are achieved and identified by clinical pharmacist by making therapeutic recommendations and the rate at which these recommendations are implemented. Hence, to achieve reduction in the drug related problems, routine participation of clinical pharmacists in various clinical settings is needed which facilitates the identification of DRPs and can prevent their occurrence.

Key words: clinical pharmacist, DRPs, therapy outcomes

A REVIEW ON THE CLINICAL PHARMACIST ROLE TO IMPROVE CLINICAL OUTCOMES IN INTENSIVE CARE UNIT: A PROSPECTIVE INTERVENTIONAL STUDY

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ABSTRACT

Introduction: Patient safety is one of the major concerns of healthcare professionals, especially in an intensive care setting. For identifying risk factors for adverse events and drug-related problems (DRPs), a clinical pharmacist (CP) has worked in the medical/surgical ICUs of a tertiary hospital and has assessed the route and frequency of administration, dose, compatibility, dilution, drug interaction, adverse drug reactions, infusion time and indication.

Objectives: To analyze and to access the impact and effectiveness of clinical pharmacist in Critical care unit. The study also evaluates the interventions made by clinical pharmacist for optimizing the quality of pharmacotherapy and pharmaceutical care.

Methods: A prospective interventional study was conducted in medical/surgical ICU over 6 month period. All identified medication errors and drug related problems were categorized and interventions were analyzed.

Results: A total of 300 patients were included during the study period. Out of which 67.3% were adults, 28% were geriatric and 4.6% were pediatric population. A total of 415 medication errors were documented whereof prescription errors were 76.14% (n=316) in which dose/dosage errors were 43.35%(n=137) and drug without indication accounted for 29.75% (n=94). Other than prescription errors, administration errors accounted for 5.78% (n=24) and drug-drug interactions were 2.17 % (n=9). Adverse drug reactions were reported and included 14.22% (n=59). 415 interventions were made for 300 patients admitted in the critical care for which 354 interventions were accepted by the consultants and multi-disciplinary team. Among the interventions made by the clinical pharmacist, the major interventions included stopping of irrational drugs used in the ICU-36.14% (n=150), dose/dosage adjustments were 20% (n=83), drug added 10.36% (n=43). Dose adjustment for renal, hepatic patients were done for 17 patients (4%). Escalation and de-escalation of antibiotics were done for 7 patients (1.6%).

Conclusion: Clinical pharmacist as a part of multidisciplinary team in our study was associated with a substantially lower rate of medication errors due to prescription errors, administration errors, dispensing errors, drug interactions, transcription errors and drug incompatibilities. We concluded that the study was successful, well accepted, and further expanded, evidencing the clinical pharmacist role as member of a team.

Keywords: clinical pharmacist, intensive care unit

**A REVIEW ON SPUTUM BACTERIOLOGY AND ANTIBIOTIC SENSITIVITY
PATTERN IN ACUTE EXACERBATION OF COPD PATIENTS**

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ABSTRACT

Background: Acute exacerbation of chronic obstructive pulmonary disease (AECOPD) is an acute event characterized by a worsening of the patient's respiratory symptoms that is beyond normal day to day variations and leads to a change in medication. Exacerbations of COPD are associated with considerable physiological deterioration and increased airway inflammatory changes that are caused by various factors such as viruses, bacteria and possibly common pollutants. It is estimated that more than 40% of all exacerbations in India are caused by bacterial infections. Antibiotic sensitivity test of the isolates were determines the sensitivity of microorganisms to specific antimicrobial drugs. Using specifically targeted antibiotics helps to decrease the frequency of drug resistant bacteria evolving.

Objective: To identify the bacteria predominantly causing the acute exacerbation of COPD in our region and the antibiotic sensitivity pattern of these organisms.

Methodology: A prospective observational study was conducted among 180 patients admitted to pulmonary medicine department in a 500 bedded tertiary care teaching hospital in Kerala, South India (n=180). Bacterial infections of AE-COPD were analyzed .Sputum samples were subjected to culture study and laboratory results of patients were documented into the data entry form. Data collected was analyzed using SPSS version 2.

Result & Discussion: Out of 180 patients, maximum number (134) belonged to the age group of 60-79 years. Out of which 138 (76.7%) were males and 42 (23.3%) were females. In this study 77.78% were Gram-negative bacteria and 22.22% were Gram-positive bacteria. The most common gram negative pathogenic bacteria isolated in sputum culture were *Klebsiella pneumoniae* (27.29%), followed by *Pseudomonas aeruginosa* (24.68%), *Acinetobacter* (11.69%). The most commonly isolated gram positive organisms were *S.pneumoniae* followed by *S.aureus*. Amikacin (76%) followed by gentamycin and meropenem is used to treat infections caused by *Klebsiella pneumoniae*. *P.aeruginosa* is the next mostly isolated bacteria which are sensitive to amikacin followed by ciprofloxacin and piperacillin-tazobactam. *S.pneumoniae* is most sensitive to penicillin followed by cefazolin.

Conclusion: *Klebsiella pneumoniae* is most isolated organism, which is sensitive to amikacin.

Keywords: Sputum, Antibiotic, COPD

A REVIEW ON ROLE OF CLINICAL PHARMACISTS IN DETECTION AND PREVENTION OF MEDICATION ERRORS IN GENERAL MEDICINE WARD OF A TERTIARY CARE HOSPITAL

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ABSTRACT

Introduction: The role of clinical pharmacists in the care of hospitalized patients has evolved over time, with increased emphasis on collaborative care and patient interaction. Clinical pharmacists are uniquely trained in therapeutics and provide comprehensive drug management to patients and providers (includes physicians and additional members of the care team).

Objective: The study evaluated the frequency and type of medication errors in prescriptions and role of clinical pharmacists in detection and prevention of these errors.

Methods: A prospective interventional study was conducted in general medicine ward over 6 month period. All identified medication errors and drug related problems were categorized and interventions were analyzed.

Results: A total of 330 adult and geriatric patients were admitted in the general medicine ward during the study period. 353 pharmaceutical interventions due to drug-related problems were documented. Medication errors accounted for 66% ($n= 233$), whereof prescription errors 81.9% ($n=191$) administration error was 16.7% ($n= 39$). Drug-drug interactions were 4.5% ($n= 16$), and adverse drug reactions documented were 29.4% ($n= 104$). Drug dosing adjustment done by the clinical pharmacist included 119 (33.7%), drug stopped includes 148 (41.9%), drug added accounted 53 (15%). Out of 353 interventions 33 were unapproved by the physician whereas 320 interventions were approved by the prescribers.

Conclusion: Medication errors are common problems in medical wards that their frequency can be restricted by the intervention of clinical pharmacists. We concluded that the study was successful, well accepted, and further expanded, evidencing the clinical pharmacist role as member of the team.

Keywords: Medication errors, clinical pharmacist, general medicine ward

PP041
ROLE OF CLINICAL PHARMACIST IN RECTIFYING
MEDICATION ERRORS AND RATIONALISATION OF PRESCRIPTION BY
APPROPRIATE DRUG SELECTION IN ORTHOPEDIC UNIT

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ABSTRACT:

Introduction: Medication-related problems are common which is responsible for considerable costs, morbidity and mortality of hospital admission, whereas two-thirds of these events are preventable. Pharmaceutical care provided by clinical pharmacists in the orthopedics ward by suggesting the most appropriate drugs for the patient through individualizing drug therapy allowed multiple layer of patient protection thereby reduced the potential risks of medication errors.

Objective: Role of clinical pharmacist in detection and prevention of medication errors, ADRs and proper selection of antibiotics were evaluated in the study.

Methods: A prospective interventional study was conducted in orthopedics ward over a time period of 3 months by monitoring 140 patient medical records. Drug related problems were identified, categorized and rectified.

Results: A total of 140 patients were included during the study period. Out of which 72.8% were adults, 23.5% were geriatric, 1.42% were pediatric population and 2.8% were adolescents. A total of 293 medication errors were documented where of prescription errors were 44.6% (n=116), dispensing errors were 0.76% (n=2), administration error accounted for 1.53% (n=4), frequency error 14.6% (n=38), length of treatment 13.8% (n=36), wrong route 64 (24.6%). Drug-drug interactions were 1.02% (n=3). Adverse drug reactions were reported and included 10.2% (n=30). 293 interventions were made for 140 patients admitted in the orthopedic ward for which 278 interventions were successful and was accepted by the consultants and multi-disciplinary team. Among the interventions drug stopped were 33.1 % (n=97), dose/drug changed were 20.13 % (n=59) and iv to oral included 15.3% (n=45).

Conclusion: We concluded that the study was successful, well accepted, and further expanded, evidencing the pharmacist role as member of a team.

Keywords: Clinical Pharmacist, Medication errors, ADR

PP042
THE CURRENT SCENARIO OF CLINICAL PHARMACIST IN INDIA: A REVIEW
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ABSTRACT

Introduction: The Profession of pharmacy is an Integral part of the health care team. In fact without adequate supervision, the assurance of quality of any system is not possible; clinical pharmacy has emerged as one of the latest and unmapped discipline of pharmacy in the 21st century. Pharmacies with well-organized practice can go a long way to ensure quality health care for the patient. In the past, pharmacists were responsible for dispensing medications only. Slowly, the traditional role of pharmacists is expanding and now pharmacists are playing a role as a vital team member in the direct care of patients, especially the new generation pharmacists who have Pharm. Ds. Pharmacists play a major role in providing healthcare services by means of community pharmacy services in rural areas where physicians are not available or where physician services are too costly for meeting the healthcare necessities. The existence of clinical pharmacists in medical rounds could support physicians in optimizing pharmacotherapy. This novel profession in India extends its diversions to good manufacturing practices, procurement/preparation/distribution of medication, reporting ADRs/ ADEs and on the whole to a very promising aspect of patient healthcare service. The state of clinical pharmacy in India is in the transformational state showing serious positive promising changes in the past couple of years. Even hospitals have started distinguishing the importance of clinical pharmacy and have taken initiatives for making it possible although at a budding stage. The clinical pharmacy branch of pharmacy is surely attaining new heights in regard to patient care services which have certainly increased the services and satisfaction to the patients. Many reforms are yet needed to improve job satisfaction among Indian pharmacists such as higher salaries, more job opportunities in government offices, recognition of pharmacists as health care professionals and changes in the Pharm. D and pharmacy curriculum.

Objectives: The objective of this article is to represent current scenario of pharmacy in India, and to aware on the recognition of the importance of clinical pharmacist, scope for pharmacist in hospital, consultancy, industry, internet. It emphasizes on current syllabus of pharmacy, drawbacks of current syllabus. It also represents flaws in pharma and the recommendations to resolve to some extent.

Conclusion: This article looks at the current issues with the pharmacy profession in India and provides possible recommendations to improve job satisfaction among India pharmacists.

ROLE OF PHARMACIST IN MEDICATION ADHERENCE: A REVIEW

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ABSTRACT

Medication adherence is defined by the World Health Organization as "the degree to which the person's behavior corresponds with the agreed recommendations from a health care provider. Medication adherence is the voluntary cooperation of the patient in taking drugs or medicine as prescribed, including timing, dosage, and frequency. Adherence signifies that the patient and physician collaborate to improve the patient's health by integrating the physician's medical opinion and the patient's lifestyle, values and preferences for care. Some reasons for non adherence are involuntary, such as forgetfulness. Some are voluntary, such as fear of adverse events or a negative attitude toward medications in general. Other reasons include high cost; complex regimen; lack of education; poor quality of life; busy schedule; poor patient–physician relationship; not understanding the disease severity and drug effectiveness, depression; stress. Non adherence to medication for chronic diseases leads to worse therapeutic outcomes, higher hospitalization rates, and increased health care costs. Patients with chronic conditions often must take more than one medication indefinitely for maintenance, and their adherence to their therapeutic regimen tends to decrease over time. clinical pharmacist can for improve medication adherence by various techniques such as educate patient on importance of adherence , about the disease severity and disease state management. For better medication adherence Health care professionals should identify practically possible strategies to improve medication adherence within the limits of their practice eventually enhancing therapeutic outcome

keywords: medication adherence, effects of non adherence, Role of pharmacist

ROLE OF CLINICAL PHARMACIST IN ANTIBIOTIC RESISTANCE: A REVIEW

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ABSTRACT

Introduction: Antibiotics or antimicrobials are active substances of synthetic or natural origin which destroy microorganisms, suppressing their growth or their ability to reproduce in animals or humans. Antimicrobial resistance (AMR) is a natural process. It occurs when microorganisms evolve to be able to resist the medicine that has been used to combat them. Resistant microorganisms can survive or even grow in the presence of a concentration of antimicrobial that is usually sufficient to inhibit or kill non-resistant microorganisms of the same species.

Objectives: To understand the potential role of clinical pharmacist in optimisation of antibiotic use in patients.

Causes of AMR:

- Overuse/misuse of antibiotics in patients
- Incompletion of prescribed antibiotic course
- Overuse of antibiotics in livestock and fish farming
- Poor infection control in hospitals and clinics
- Lack of hygiene and poor sanitation
- Lack of new antibiotics being developed

Why is AMR a problem?

AMR causes treatment failure that contributes to:

- Additional side effects
- Longer hospital stays
- Reduced quality of life
- Economic burden
- Increased morbidity and mortality

Future of AMR:

Four factors that will largely determine the future extent of AMR have been analysed:

- Pathogen and microbial ecology
- Prescribing and dispensing practices
- Population characteristics
- health care policy

Role of clinical pharmacist in the battle against AMR:

- Taking action in main areas such as surveillance, prevention of communicable diseases and infection control through the responsible use of antimicrobial agents.
- Research and development of alternative products and/or new antimicrobial medicines.
- Protection, supervision and promotion of public and animal health.
- Comprehensive collaboration between government and health professionals to improve antimicrobial stewardship.
- Control of antimicrobials in food from animal production.
- Factors influencing the development of AMR and the interactions between them.

Result: Clinical pharmacists are essential in the battle against antibiotic resistance, and in promoting the implementation of effective antibiotic stewardship programs in order to support the more rational use and control of antimicrobial drugs.

Conclusion: The addition of a dedicated clinical pharmacist to an active team has been shown to benefit patients by reducing medication errors and length of hospital stay, encouraging oral medication and ensuring appropriate drug choice.

**PATIENT COMPLIANCE ON ANTIPLATELET DRUGS AFTER PERCUTANEOUS
CORONARY INTERVENTION**

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ABSTRACT:

Background: Coronary artery disease is the major cause of mortality and morbidity throughout the world. CHD is a disease caused by the damage in blood vessels, supplying the heart, one of the important treatments of CHD is percutaneous coronary intervention (PCI), particularly drug-eluting stent (DES) placement.

Objectives: To evaluate the relationship between non-compliance and health status and medication affordability and to evaluate and counsel the patient in order to improve the compliance.

Methods: A interventional study on 100 patients was carried out for a period of 6 months in patients taking anti platelet drugs after PCI. Patient demographic and other data were collected using data collection form, moriskey medication adherence scale and questionnaire was used to measure the patient medication adherence, all data were analysed using SPSS version(23) and statistical significance for our study was analysed by standard 2 tailed t-test and chi square test and bivariate logistic and multiple logistic regression.

Result: In our study total of 100 patients were selected for interview and data was collected (from March to April 2017). Their mean age was 57.51 ± 9.81 year, 87.82% were males and 12.18 were females. Scores of the moriskey adherence scale range from 0 to 8. Respondents were categorized as compliant or non compliant, based on the score the proportion of compliant patients was 69.00% and the proportion of non compliant was 31.00%.

Conclusion: Clinical pharmacist can improve patient outcomes by monitoring drug therapy and educate the patients regarding the medication used. The pharmacist could offer effective patient care by means of their intervention in pharmaceutical care and hence improved patient compliance.

Keywords: Moriskey medication adherence scale, Questionnaire, Statistical package for social science (SPSS), Compliance of patients.

**PHYSICAL & CHEMICAL STABILITY OF VITAMIN K1 IN DIFFERENT BLOOD
VOLUME EXPANDERS AT VARIOUS STORAGE CONDITIONS**

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ABSTRACT

Background: Vitamin K1 a fat-soluble vitamin activates factors involved in blood clotting. It is a photosensitive vitamin. Clinically, vitamin K1 is used in haemorrhagic problems as infusion. We were interested to study the degradation pattern of vitamin K1 in different blood volume expanders at different storage condition.

Materials and Methods: Vitamin K1 (Kenadion) injection, normal saline, HPLC instrument. Vitamin K1 injection at 3 µg/mL was prepared and stored in room light at 19 °C, wooden carton at 37 °C and refrigerator at 5 °C.

Results and Discussion: Reconstituted preparation of vitamin K1 stored in refrigerator at 5°C had slow degradation when compared to the other preparations stored in wooden carton and room light at 37° C and 19° C respectively. At half an hour the contents were evaluated and the percentage concentration of vitamin K1 at different storage conditions were found to be at room temp. (19°c)87.18%, Wooden Carton(37 °C)67.18%, and Refrigeration(5 °C)93.67% .

Conclusion: Fat-soluble vitamin K1 is affected by light. Temperature an important factor affecting the stability of vitamin K1 in reconstituted solutions other than the light.

Key words: Vitamin K1, diluent, light, and temperature.

PP047

**EMERGENCY MEDICATION FOR ASPIRIN OVER DOSING WITH CO-
AGULOPATHY AND ORAL BLEED– CASE STUDY**

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ABSTRACT

A 80-year Female patient showed typical symptoms of Bilateral TMJ arthritis, Stomatitis, Glossopharyngeal neuralgia, Paresthesia/Anxiety/Depression, Left sciatica and on examination the patient is conscious& oriented, Blood pressure is elevated(140/90), increased pulse rate (98BPM). The patient is undergone with the management of Self over dosing of aspirin with coagulopathy and oral bleed, Gout, Hypothyroidism, Glossopharyngeal neuralgia, Osteoporosis/left Sciatica. Past medical history includes Diabetes mellitus, Menopause, Hypertension, Stomatitis. The oral bleed is due to overdose of Aspirin (since 10 years).

Keywords: Bilateral TMJ arthritis, Stomatitis, Glossopharyngeal neuralgia, Paresthesia, Anxiety, Depression, Sciatica, Coagulopathy, Hypothyroidism.

PP048

CASE STUDY ON GUILLIAN BARRE'S SYNDROME

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ABSTRACT

Guillian barre's syndrome is also known as acute inflammatory non-myelinating multiple neuropathic syndrome. It is one of the post infectious auto immune disease and may also be accompanied by auto immune disorders. The syndrome is generally characterized by sudden and unpredicted onset of symptoms such as stinging sensation and may lead to paralysis which usually starts in the lower extremities that would ascend to upper limbs towards the torsoregion. According to epidemiological data the prevalence of syndrome is between 1or2 in 100000 people with slightly more male individuals affected than females. In neurological studies we generally observe loss or decreased tendon reflexes. In the poster i am going to present a case study of 51 years old female patient admitted with the complaints of inability of walking since 4 days, weakness, altered sensorium, right bell's palsy, etc. The patient underwent CSF examination and nerve conduction studies and diagnosed to have guillian barre's syndrome.

Key words: Neuropathic syndrome, stinging sensation

PP049
DRUG UTILIZATION PATTERNS IN PICU AT A TERTIARY CARE HOSPITAL
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ABSTRACT

Drug utilization research is an essential part of pharmacoepidemiology as it describes the extent, nature and determinants of drug exposure.¹ The World Health Organization (WHO) in 1997 defined drug utilization as the marketing, distribution, prescription and use of drugs in a society, with special emphasis on the resulting medical, social and economic consequences. Drug use is a complex process. In any country a large number of socio-cultural factors contribute to the ways drugs are used. The complexity of drug use means that optimal benefits of drug therapy in patient care may not be achieved because of underuse, overuse or misuse of drugs.³ Inappropriate drug use may also lead to increased cost of medical care, antimicrobial resistance, adverse effects and patient mortality. The objective is to evaluate drug utilization patterns in Paediatric Intensive Care Unit [PICU] at a tertiary care hospital. The present study was a prospective, observational one that spanned for a period of 6 months from march 2013 – august 2013. This study was conducted with the approval of Institutional Ethics Committee This study reveals areas of irrational prescribing that need to be addressed with intervention programs. Assessment of WHO core prescribing indicators for drug utilization studies in PICU of secondary care hospital has revealed useful information that are reflective of the quality of health care provided by this unit. The prescribing practices in this study are not in par with WHO prescribing indicators as suggested by polypharmacy (2.94 drugs per encounter), over use of injections (69.59%), lack of generic prescribing (% of drugs prescribed by generic name is 19.84), lack of awareness of essential drug list.

Keywords: polypharmacy, drug utilization

PP050

**PRESCRIPTION PATTERN OF ANTIBIOTICS IN PEDIATRICS WITH
RESPIRATORY TRACT INFECTIONS AND GASTRO INTESTINAL TRACT
INFECTIONS**

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ABSTRACT

A prospective study was conducted in department of pediatrics at tertiary care hospital for a period of 6 months (January 2017 to June 2017) to assess the drug use pattern of antibiotics in pediatrics with respiratory tract and gastrointestinal infections and measure drug use pattern in pediatrics according to WHO prescribing indicators.

Prescriptions and symptoms regarding respiratory tract infections and GI infections in pediatrics with different age groups were entered in the preformed proforma and analyzed.

A total number of pediatrics enrolled were 150 (n=150), where males were 77 (52%) and females were 73 (48%). In this study, the percentages of antibiotic administration in pediatrics were in the following order: Cephalosporin (40%); Penicillin's (29%); Fluoroquinolones (18%); Amino glycosides (8%) and Macrolides (5%).

To conclude, the study revealed that the pediatric patients below 1 year of age received maximum number of antibiotics which were more for the cases of respiratory tract infections than gastrointestinal tract infections especially upper respiratory tract infections.

Key words: Prescription Patterns, RTI, GITI, Antibiotics,

PP051

OLD DRUGS – NEW ADR'S

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ABSTRACT

Medicines prescribed to public have to be tested adequately by regulatory authorities, and health care professional should contribute towards the process of pharmacovigilance for reporting ADR'S. Old drugs' often showing new ADR'S which are to be studied. Spontaneous reporting of suspected ADR'S became an important means to promote reasonable warning signs. Post marketing studies give statistical data for ADR'S detection.

According to PVPI, a total of 37 ADR'S were reported from different parts of India in 2017. Among them it was interestingly found that 70-80% of ADR'S were shown by old drugs. Since we all know that prior to the release of any drug into market, pre-marketing clinical trials were confined to a small group of population. Pre-marketing trials are able to provide information about the benefits of drugs but do not manage to establish a safety profile. The hospitalization because of ADRs in a few nations is about or more than 10%. Furthermore, it is evaluations that 10-20% of the healing center inpatient experiences ADRs.

The constant monitoring of approved drugs has to become one of prime duties of each and every health care professional and patients / consumers in order for us to prevent long term toxicities and adverse effects leading to an improvement in therapeutic outcomes in a patient. Proper and successful checking of ADRs, i.e., pharmacovigilance, is the main most ideal approach to shield the general wellbeing.

Key words: ADR'S, PVPI, Pharmacovigilance, Health care professional.

DIABETES CAUSED BY VIRUS

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ABSTRACT

The most popular hypothesis circulating within and beyond the scientific community is that viral infections enhance or elicit autoimmune disorders such as type 1 diabetes. Indeed, viruses can injure β -cells and have been isolated in pancreatic tissues from diabetic patients. However, accumulating evidence suggests that the opposite scenario, which is prevention or amelioration of type diabetes, might be at least as common an outcome of viral infection. Here, we discuss epidemiological and experimental evidence for the main mechanisms accounting for the role of viruses in type 1 diabetes to better understand the complex relationship between viral infections and autoimmune diabetes. A significant number of viruses have been associated with type 1 diabetes, including enteroviruses such as Coxsackievirus B (CVB), but also rotavirus, mumps virus, and cytomegalovirus. Rubella virus has been suggested to cause type 1 diabetes,

Key words: viral infections, type 1 diabetes, β -cells, rubella, rota virus.

**A CROSS SECTIONAL STUDY TO ANALYZE THE PREVALENCE OF
HYPOTHYROIDISM,ITS COMORBIDITIES AND TO EVALUATE THE
ADHERENCE LEVELS OF PATIENTS TO LEVOTHYROXINE THERAPY**

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ABSTRACT

Background: Hypothyroidism is a condition in which the thyroid gland does not make enough hormones that are needed for metabolism and energy use. It is one of the common metabolic disorder which results in slower rate of metabolism, if left undiagnosed and untreated.

Aim: To analyze the prevalence of hypothyroidism and its comorbidities based on the causes and to know the adherence levels of patients to the levothyroxine therapy under thyroid dysfunction and dyslipidemia guidelines of Indian thyroid society.

Methodology: This was a cross sectional, interview based observational study conducted over a period of 7 months in which inclusion criteria consists of levothyroxine consuming patients for at least three months prior to enrollment , hypothyroid patients over 12- 60 years of age and exclusion criteria included patients who were shortlisted for surgery .Demographic details, data pertaining to etiology of hypothyroidism, the dose of levothyroxine used, comorbid conditions and concomitant medications , Lithium or amiodarone usage in patients were also documented.

Results: A total of 341 patients, females contribute to 53.1% of total prevalence and males 46.9% of total prevalence. 32% of the study population suffered from primary hypothyroidism. It was also found out that levothyroxine was given along with so many other medication classes with cardiovascular system drugs being the most prescribed medications. Regarding adherence to thyroid dysfunction and dyslipidemia guidelines of Indian thyroid society, only 18 patients out of 59 patients who have elevated levels were subjected to tests for hypothyroidism.

Conclusion: This study warrants the inclusion of thyroid profiling as a compulsory evaluation parameter in all patients who are obese and in those who report elevated lipid profiles. Higher prevalence in female population in this study calls for larger studies focused on the female population.

Key words: Hypothyroidism, levothyroxine, Indian thyroid society, Adherence.

**A COLLABORATIVE LOW DOSE ASPIRIN STUDY IN PREGNANCY AND
TRETMENT OF PREELAMSIA AND FETAL GROWTH RETARDATION**

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ABSTRACT

Preeclampsia is a common complication of the second half of pregnancy that can progress to various dangerous maternal crises. It also leads to intrauterine growth retardation [IUGR] and fetal death. Preeclampsia is associated with deficient intravascular production of prostacyclin and with excessive production of thromboxane. Thus low dose of aspirin (LDA) is widely used and well tolerated anti platelet treatment, which irreversibly inhibits almost all platelet cyclooxygenase activity, thereby blocking synthesis of the vasoconstrictor and platelet aggregating agent thromboxane. Hence a randomized, placebo-controlled trial was designed to provide reliable evidence about the overall safety of LDA use in pregnancy and to find out whether the treatment really produces worthwhile effects on morbidity and on fetal and neonatal mortality. 9364 women were recruited into the trial from 213 centers in 16 countries over 5 years. Women were assigned treatment with either 60mg film coated aspirin tablet daily or a matching placebo tablet (containing microcrystalline cellulose and corn starch). The dose of aspirin was chosen to keep side effects to a minimum and yet to be sufficient to inhibit maternal cyclooxygenase dependent platelet aggregation and was one that had been reported to prevent preeclampsia. Women were asked to take the study treatment every day until delivery unless advised by their doctors. Finally the study concluded that LDA was not associated with significant increases in placental hemorrhages or in bleeding during preparation for epidural anesthesia. It was also safe for the fetus and newborn infants with no evidence of an increased likelihood of bleeding. Thus LDA appears justified in pregnant women thought to be at high risk of early onset preeclampsia that is before 32 weeks of gestation.

Key words: Low dose aspirin, pregnant women, preeclampsia.

**A PROSPECTIVE OBSERVATIONAL STUDY OF MEDICATION ERRORS IN A
MULTISPECIALTY HOSPITAL, ERODE**

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ABSTRACT

Background: A medication error is any preventable event that may cause or lead to inappropriate medication use or cause patient harm while the medication is in the control of the healthcare professional, patient or consumer. Serious medication errors are uncommon, but it is salutary that it took so long to recognize that remedial action was needed. It is pertinent that the patient must actually receive the medication for it to be called a medication error.

Aim: The aim of this study was to identify medication errors and to evaluate the cause and frequency of medication error if any in the diabetology and general medicine departments of a multispecialty hospital, Erode.

Methodology: The data was collected from both in and out-patients. A total of 865 prescriptions were selected from diabetes and general medicine departments over 10 months for analysis. Prescriptions from men accounted to 58.72% and that of women were 41.28%. **Results:** Out of the total 865 patients, 61 patients experienced at least one type of error. Lack of awareness and improper work procedures made way to medication errors. Errors were mainly caused by clinician (2.1%), pharmacist (1.4%), nurse/Drs.Assistant (1.2%) and others (2.2%). The main cause of medication error was inadequate staff education (4.5%).

Conclusion: This prospective study concludes that the commonly occurring medication error is prescription error, lack of drug knowledge and dispensing error. These errors could be reduced by simple changes to existing procedures or by implementing automated technologies in the prescriptions, dispensing and administration processes. The study also showed that communication barriers and lack of knowledge was paramount for the genesis of this error. The addition of a clinical pharmacist can be considered as an essential requirement in such a scenario to identify and to prevent the medication errors. The medication errors are insidious failures that cause silent damage to the health of the patients as well as the quality of the delivery of healthcare to the patients that may be avoided by the intervention of pharmacist.

Keywords: Medication error, clinical pharmacist, prescription

PP061

USAGE OF BIONOC EYE

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ABSTRACT

Objective: To treat the patients who are suffering from macular degeneration problem and retinitis pigmentosa.

Results: The results found that 89 percent of the subjects involved in the trial could see significantly better after using the device, which is known as Argus II, and 80 percent had their quality of life improved. It's an exciting result, as the device works in a similar way to the cochlear implant - or 'bionic eye' - which has helped restore hearing to hundreds of thousands of people.

Conclusion: About 1.5 million people worldwide have retinitis pigmentosa, a disease characterized by degeneration of photoreceptors, the cells in the retina that are sensitive to light. The invention and implementation of artificial life could help those people. Bionic eye may not restore the vision completely but can help patients to at least find their way, recognize faces, read books, above all lead an independent life.

Keywords: electrodes, microchip, camera, glasses, ophthalmology.

OVER THE COUNTER DRUG: CURRENT SENERIO IN INDIA

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ABSTRACT

Self-care and self-medication practices are essential component of health care systems. The use of over the counter medication is a part of the self-medication process. OTC treat a variety of illness and their symptoms include pain, cough, cold, diarrhea, constipation, acne and other. Some OTC medicines have active ingredients with the potential for misuse at higher than recommended dose. The popularity of OTC medications use among patients may increase the abuse potential of OTC medication. Individuals who commonly abuse certain non-prescription medication are likewise diverse varying in age demographics and overall health status. Background: The drug abuse is of great concern, because the OTC drugs have no legal recognition in India. At present, drugs are classified as schedules H, H1, G, and K cannot be sold without a doctor's prescription. The drugs that are in these schedules are considered high risk and mainly used for the treatment cancer. But due to lack of a separate schedule for list for OTC drugs, drug abuse has been increased and at present our country has 11th position in global OTC market having an average of 16.3% annual growth rate and estimated that it will reach 9th position in five years. With these circumstances Central Drugs Standard Control Organization (CDSCO) is expected to opt 100 more drugs from prescription only (which mainly includes medicines for cold, fever and certain types of allergies) to OTC. OTC drug still possess a risk for developing an addiction. Abusing over the counter drug is one of the serious problem faced by society. So we made an attempt to review about OTC drugs and its abuse. Introduction: Over the counter drugs are the medications sold directly to a consumer without prescription from the health care professionals and registered medical practitioner. The term over the counter somewhat counter intuitive since in many countries these drugs are placed on the shelves in self services area of the store. Over the counter drug are acceptable in non-serious ailment and are sought to be favored because of ease of availability, but the main factor is the OTC abuse. So the pharmacist should play an important role of an advocate in guiding patient while recommending over the counter medicines. Commonly misused OTC drugs - Analgesics (acetaminophen), Cough products (dextromethorphan), Motion sickness (Dramamine), Decongestants (pseudoephedrine), Laxatives (loperamide). Now at present the most commonly misused drugs are DXM and loperamide (Imodium). DXM drugs when used in prescribed dosages, cold and cough medicines are safe and provide relief from the symptom. Loperamide contained opioid, which is cheap and easy to buy at drug store. The decongestant (phenylephrine & pseudoephedrine) relieve stuffy nose. If used for more than 3 days' body becomes dependent on the drug. This drug is often greatly misused for preparation of methamphetamine which is very dangerous. Conclusion: Currently there is a misuse of high risk drugs as there are no separate regulations. Names of drugs that cannot be sold over the

counter are not there. Hope the new OTC list of drugs which are going to add in the schedules of the Drugs and Cosmetics act should minimize the drug abuse rather than helping the pharma companies to make profit. Awareness about medicines is not high in the urban and rural areas. Reading labels is not a habit and people blindly follow that what doctor say. It is important to read the labels. Also, there are drugs which require inputs from pharmacists before administration.

Keywords: Self-medication, non-prescription, drug abuse

PHARMACOVIGILANCE IN HERBAL DRUGS! A CHALLENGE

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ABSTRACT

There is an increasing awareness at several levels of disease its treatment and treatment outcomes including side effects. Alternative treatment modalities, herbal drugs, formulations and practices are widely accepted and used not only in India but across the globe. Herbal agents are generally regarded as safe, though there are no scientific evidences for such claims. Several problems relate to the ways in which herbal medicines are named, perceived, sourced, and utilised have been associated with herbal medicine. Herbal therapeutics in management and treatment of diabetes, rheumatism, hepatic disorders and other mild to chronic diseases and disorders is widely accepted however the adversities are difficult to recognize. The myth that nature is safe and can be safely consumed without even a physician's prescription has led to large-scale self-medication all over the world; often leading to disappointing end-results, side-effects, or unwanted after-effects. The current model of pharmacovigilance and its associated tools have been developed in relation to synthetic drugs, applying these methods to monitor the safety of herbal medicines presents unique challenge. This may be because of differences in the use of nonorthodox drugs which may pose special toxicological problems, when used alone or in combination with other drugs. The purpose of pharmacovigilance is to detect, assess, and understand, and to prevent the adverse effects or any other possible drug-related problems, related to herbal, traditional, and complementary medicines. Systematic pharmacovigilance is essential to build up reliable information on the safety of herbal medicines for the development of appropriate guidelines for safe effective use.

Key words: herbal agents, rheumatism, pharmacovigilance.

ROLE OF CLINICAL PHARMACIST IN MEDICATION ERROR: A REVIEW

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ABSTRACT

"A medication error is any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of the health care professional, patient, or consumer. Such events may be related to professional practice, health care products, procedures, and systems, including prescribing, order communication, product labeling, packaging, and nomenclature, compounding, dispensing, distribution, administration, education, monitoring, and use." Although medication errors can occasionally be serious, they are not commonly so and are often trivial. However, it is important to detect them, since system failures that result in minor errors can later lead to serious errors. Reporting of errors should be encouraged by creating a blame-free, non-punitive environment. Errors in prescribing include irrational, inappropriate, and ineffective prescribing, underprescribing and overprescribing (collectively called prescribing faults) and errors in writing the prescription (including illegibility). Clinical pharmacist (CP) who provide patient care that optimizes the use of medication and promotes health, wellness and disease prevention. CP mainly involved in better patient care, which is a system of care in which patients are placed in units on the basis of their needs. Clinical pharmacist having the major role and great importance in reducing the medication error which are well known problem in hospital. The clinical pharmacy interventions can have an important role in reducing adverse drug events and their activities can be effective for reducing medication error. Pharmacist may engage in repeat prescribing for stabilized patients with chronic conditions; prescribing from a limited formulary agreed upon collaboratively by physician and pharmacist; Prescribe discharge medication; Adjust quality and frequency as per jointly developed protocols; Order laboratory tests and modify drug therapy accordingly; and Implement agreed patient specific clinical management plan.

Keywords: medication errors, types of errors, role of clinical pharmacist

**STUDY OF MEDICATION ADHERENCE AND EVALUATION OF MEDICATION
ERRORS IN A TERTIARY CARE HOSPITAL.**

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ABSTRACT

Introduction: Medication adherence refers to whether patients take their medications as prescribed. Medication adherence is a leading issue and a huge burden in our current health care system. A medication error is any preventable event that may lead to inappropriate medication use.

Objectives: To study the rate of medication adherence, identify the different types of medication errors, professionals involved in medication errors and to ensure the management of medication errors.

Methodology: A Prospective observational study was conducted for a period of six months in a tertiary care hospital among inpatients, meeting the inclusion criteria. A specific format was designed and used. The collected data has been used for accessing the medication errors committed by nurse, care taker or patients.

Results: Out of 200 cases 119 (59.5%) were identified as adherent, moderately adherent were found to be 46 (23%) and 35 (17.5%) were not adherent. 134 cases had medication error in total, out of which 79 (59%) patients were adherent, 35 (26.1%) were moderately adherent and 20 (14.9%) were not adherent. Which shows that most of the patients were adherent to their medication. . Age wise categorization was done and it was found that the patients of age group >60 comprising about 21% contributed to the maximum number, with the least percentage of age group (0-10) comprising about 9% of the total subjects enrolled in the study. Amongst 200 patients, maximum numbers of 78(39%) patients were from medicine ward followed by 31(15.5%) patients from surgery ward. Out of 200 cases 134 (67%) cases were reported with medication errors and rest of the 66 (33%) were reported without medication errors. Out of 200 cases 70 (35%) were found to be nursing errors, 62 (31%) were PG errors, pharmacist errors were 2 (1%), and physicians errors found 61 (30.5%). A total of 28 (14%) cases were managed and remaining 106 (53%) were not managed amongst 200 cases, which indicates majority of the cases were not managed.

Conclusion: Errors and faults which occur during prescribing, administering and dispensing of drugs are most preventable errors. Illegible handwriting of prescriptions is one of the primary causes of medication errors which can be minimized by using printed prescription.

Systems-oriented interventions increase awareness of risk among healthcare personnel. Medication errors can only be prevented and reduced by focusing on the system as a whole, not on the individual clinician or nurse.

Key words: Medication adherence, medication error, health care systems.

PP066

**EVALUATION OF DRUG UTILIZATION IN ASTHMA AND CHRONIC
OBSTRUCTIVE PULMONARY DISEASE (COPD) PATIENTS UNDER THE
INFLUENCE OF CLINICAL PHARMACIST**

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ABSTRACT

Introduction: Drugs play an important role in improving human health and promoting well-being. Drug Utilization Evaluations (DUE) or Medication Utilization Evaluations (MUE) is defined as an ongoing, systematic process designed to maintain the appropriate and effective use of medications. **Objectives:** Evaluation of drug therapy in the treatment of Asthma and COPD patients, to emphasize the role of clinical pharmacist in the prevention of Asthma and COPD, to assess the patient education through KAP questionnaire. **Methodology:** A prospective and observational study was carried out over a period of six months in medicine department at Shri.B.M.Patil Medical College, Hospital and Research Centre, Vijayapur. A total of 72 and 150 prescribed cases, meeting the inclusion criteria of Asthma and COPD respectively were monitored and assessed. **Results:** In our study it was found that out of 72 asthma patients 42 (58.33%) were male and 30 (41.66%) were female, indicates men were more susceptible. Similar statistics were observed with COPD too. The route of administration of anti-asthmatics is concerned In our study it was observed that oral route was the mostly preferred route (45.60%) followed by inhalation (32.5%) and parenteral route (22.00%), similarly in COPD patients also oral route was the most preferred one i.e., 294 (44.5%) followed by inhalation 256 (38.7%) and parenteral 110 (16.6%). Our study shows that majority of asthma patients 42 (58.33%) received multiple drug therapy (>4 drugs) followed by 4 drugs 22 (30.55%) and 3 drugs 6 (8.33%) and 2 drugs (2.77%). In the same way out of 150 COPD patients, majority of them 104 (70.6%) received multiple drug therapy (>4 drugs) followed by 4 drugs 41 (27.3%), 3 drugs (2%). In our study we assessed the both Asthma and COPD patients Knowledge, Attitude and Practice regarding their disease in that out of 72 Asthma patients 42 showed improvement and 25 did not show many changes. Similarly out of 150 patients 93 patients showed improvement and 57 did not show any improvement due to their habits. **Conclusion:** Drug utilization in Asthma and COPD were evaluated in patients who were admitted in general medicine ward. In that majority of patients were prescribed with multiple drug therapy out of which oral route was the most preferred one. The concept of patient education is well established in developed countries, but yet to be initiated in developing country like India. Provision of patient education by the clinical pharmacist was well received and encouraged by the patients and medical fraternity.

Thus patient education may help in reducing the mortality and morbidity from asthma and COPD.

Key words: Asthma, COPD, Drug Utilization Evaluation, Patient education.

PP067

**IMPACT OF PHARMACIST INTERVENTION ON KAP IN DIABETIC
HYPERTENSIVE PATIENTS TOWARDS SELF CARE AT A RURAL
COMMUNITY PHARMACY SETTING**

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Abstract

Introduction: Diabetes and hypertension are the chronic disorders causes several complications leading to end organ damage, poor control of the disease, and impaired health related quality of life and augmented health care expenditures. Unhealthy lifestyle, rapid westernization, poor knowledge, negative attitude and poor practices are some of the important risk factors towards poor disease management. Knowledge about diabetes mellitus and hypertension, appropriate attitude and practice are vital to reduce the prevalence and morbidity of the disease.

Objectives: The main objective of this study wasto assess knowledge attitude practice (KAP) of study patients towards self care and to address issues with respect to KAP among study patientsand to identify contributing factors towards reduced self careand to assess the impact of pharmacist intervention.

Methods: A community pharmacybased prospective observational cum interventional study was carried out in diabetic hypertensive population who visited to the selected rural community'sfor in Vijaypur district and were assessed for diseases related KAP from base line to two consecutive follow ups.

Results: A total of 140 [70.7% male and 29.3% female] cases meeting the inclusion criteria of Diabetichypertensivediagnosis were studied.Majority of the study population belongs to age group of 55-64 years and also with the diagnosis of diabetic hypertensive [50.7%]. Level of Knowledge:The level of good knowledgewas 8 (5.7 %) at baseline, 84 (60.0 %) at first follow-up, 137 (97.9 %) at second follow-up. The knowledge score was increased after pharmaceutical care intervention (97.9%).Level of Attitude: The level of good attitude was 12 (8.6 %) at baseline, 120 (85.7 %) at first follow up, 126 (90.0 %) at second follow up. The attitude score was increased after pharmaceutical care intervention (90%).Level of practice: The level of good practice was 7 (5.0 %) at baseline, 124 (88.6 %) at first follow up, 134

(95.7 %) at second follow up. The practice score was increased after pharmaceutical care intervention (95.7%).

Conclusion: Our study concludes that improving the patient's knowledge, attitude and practice about their disease can improve the patient knowledge about disease, life style modifications, practice towards the disease, blood pressure control, blood glucose control and the medication adherence behaviour, which in turn improves the therapeutic outcomes after the pharmaceutical care interventions. Thus this study emphasizes the potential role of the pharmacist as patient educator in the management of diabetes and hypertension.

Key words: Diabetes mellitus, Hypertension, Knowledge, Attitude, Practice

PP068

**EVALUATION OF ANTIBIOTIC USE IN POST OPERATIVE CARE IN A
TERTIARY CARE HOSPITAL**

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ABSTRACT

Introduction: Antibiotics are frequently used in surgical patients as approximately 30% of patients undergoing surgery will develop post-operative surgical site infections. A study of prescription patterns is an important tool to determine rational drug therapy and maximize utilization of resources.

Objectives: The main objective of this study was to evaluate patient antibiotic related need and the pattern of prescribing in the post-operative care, conjointly minimizing Drug Related Problems and rationalizing prescriptions in the light of World Health Organisation prescribing indicators. This study was done to assess role of pharmacist in quality prescribing of antibiotics in post-operative patients.

Methods: A Prospective observational study was carried out for six months duration in post-operative care in a tertiary care hospital, Vijayapura. Results: A total of 1107 drugs were prescribed through 110 prescriptions of which 303 were antibiotics, 609 drugs were from the essential drug list, 128 drugs were prescribed by generic name and 979 drugs were prescribed with brand names. Out of 303 antibiotics 248 drugs were given in parenteral route, 54 drugs were given in oral route and one ointment; 51 antibiotics prescribed for Indicative therapy and 252 for prophylaxis. In this study antibiotic prescription does not comply with the WHO prescribing indicators. Major 29 Drug interactions were found followed by 10 adverse drug reactions, 9 unnecessary use of drugs and 5 over and underutilization.

Conclusion: The use of antibiotics which were mostly given empirically was too high. However use of culture and sensitivity and more strict prescription pattern should be followed in order to overcome the bacterial antibiotic resistance which is a potential threat for the use of antibiotics. Polypharmacy was also high at the hospital due to this more drug interactions and adverse drug reactions were seen. According to WHO prescribing indicators deviation was seen from the standard antibiotic prescription due to irrational prescribing in the post-operative care. The active involvement of clinical pharmacist can play an important role to ensure appropriate medication prescribing practices, and a monitoring of prescribing

pattern of prescribers by the concerned bodies may further ensure appropriate use of antibiotics.

Key words: Drug Related Problems; World Health Organisation prescribing indicators; Antibiotics.

PP069

A REVIEW ON PRENATAL ACETAMINOPHEN EXPOSURE AND BEHAVIORAL PROBLEMS IN CHILDREN

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ABSTRACT

Acetaminophen (paracetamol), a non steroidal anti-inflammatory drug (NSAID) most commonly used for relieving pain and fever which is available as over the counter (OTC) medication. Its use in pregnancy raises high risk for hyperkinetic disorder and attention deficit hyperactivity disorder (ADHD) like behaviours in children (6 years of age). This may also harm the development of sex organs in unborn male foetus. Prolonged use of paracetamol (2 weeks or more) may contribute to an increased risk in boys born with undescended testicles. Frequent paracetamol use in the late pregnancy (20-32 weeks) is also associated with wheezing in children of 30- 42 months and eczema in children of 18-30 months and asthma. But data are lacking on possible effects of prenatal exposure on wheezing in early childhood. It is better to avoid paracetamol use in pregnancy, instead try home remedies like lukewarm bath, increased fluid intake, adequate rest, use of prenatal vitamins, maintaining good ventilation etc to reduce fever and prenatal massage, application of arnica gel, Frankincense essential oil ,prenatal yoga and acupuncture etc to relieve pain.

Keywords: Acetaminophen, Pregnancy, hyperkinetic disorder, children, behavioral problems.

PP070

**A REVIEW ON HERBAL MEDICINES INDUCED STEVENS JOHNSON
SYNDROME**

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ABSTRACT

Stevens Johnson Syndrome (SJS) is a type of allergic reaction that usually occurs due to medications. It is a severe type of Erythema Multiforme which is a skin disease that appears with skin eruptions, and blisters. SJS can lead to death when it is untreated. SJS is mainly caused by drugs. Herbal medicines are also responsible for this syndrome. It has been reported with the use of 'ginseng'-containing products as well as belladonna, Ginkgo biloba, extracts of thuja, coneflower and wild indigo for the treatment of fever, flu, cold, throatpain, pneumonia and mental retardation problems. Mainly the people who are consulting traditional healers are the victims of SJS. In several countries like India, China there is a common practice of following these traditional healers. However, these may help them widely. But unknowingly some of them are affected by the adverse reactions of the herbs. It may be due to the unrefined processing of these drugs, any exposure to the environmental factors like grasses, pollen and may be due to any interactions (like drug-drug interactions, drug-food interactions, etc). Early identification of the offending drug is necessary for early withdrawal and to prevent the recurrences of such a devastating illness.

Keywords: Stevens Johnson Syndrome, Adverse reactions, Herbal medicines, Allergic reactions, Skin problems.

PP071
A REVIEW ON ASSOCIATION BETWEEN ORAL CONTRACEPTIVE USE AND
RISK OF HYPERTENSION

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ABSTRACT

Oral contraception is an important and widely acceptable contraceptive method worldwide. Its use not only decreases unwanted pregnancies but also generates many known contraceptive health benefits, including improving menorrhagia and dysmenorrhea and reducing premenstrual dysphoric disorder symptoms. But recently oral contraceptive use could be related to adverse health issues such as cervical cancer, hypertension, breast cancer, and ischemic stroke. Hypertension is one of the most prevalent and etiologically significant risk factor for cardiovascular disease. Long term use of oral contraceptive is associated with increased systolic and diastolic blood pressure.

Keywords: Oral contraceptives, Hypertension, Cardiovascular disease.

PP072

**PREVALENCE AND ANTIBIOTIC RESISTANCE PATTERN OF URINARY
TRACT INFECTION IN A TERTIARY CARE HOSPITAL**

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ABSTRACT:

Urinary tract infection is the most frequent disease for which patient seeks a medical care. The aim of the study is to determine etiology of UTI and investigate the prevalence of UTIs and also the spectrum of antimicrobial resistance of isolates from patients in tertiary care hospital. We reviewed all the cases of UTI in patients between 18 to 60 years of age who were admitted in K.R hospital. We recorded age, sex, culture and sensitivity results, risk factors causing UTI and past medical history. A total of 35 patients had samples positive for a UTI. Ceftriaxone was most commonly used for empirical therapy for UTI among inpatients in our hospital. *Escherichia coli* was the most commonly isolated bacterial pathogen in patients. Other isolated organisms were *S. aureus*, *Pseudomonas aeruginosa* and *Klebsiella aeruginosa*. Resistance rate to Ofloxacin, ceftriaxone and nitrofurantoin was generally low as compared to other tested antibiotics. Regular monitoring is required to establish reliable information about susceptibility pattern of urinary pathogens for optimal empirical therapy of patient with UTI.

Keywords: Antimicrobial resistance pattern, prevalence and urinary tract infection.

PP073

**FORMULATION AND EVALUATION OF ATORVASTATIN CALCIUM
POLYMERIC MICELLES**

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ABSTRACT

The objective of the study was to formulate and evaluate Atorvastatin Calcium (AC), polymeric micelles (PMs), an antilipidemic agent by the use of thin film hydration technique. 3 mg of AC and 60 mg of PEG 6000 was taken as optimum amounts as suggested by Historical data design, and predicted particle size (nm), drug loading (%) and encapsulation efficiency (%) were 14.11 nm, 19.98% and 95.5% respectively. Optimized formulation showed a particle size of 15.09 nm, drug loading 20.37% and encapsulation efficiency 94.45%. Smooth surfaced spherical micelles were observed by SEM image. Percentage cumulative drug release from the optimized formulation (F7) was 97.12% at the end of 12 h. The release kinetics for most of the formulations indicated that drug release followed Korsmeyer-Peppas model and Non-Fickian diffusion mechanism. F7 was found to be stable for 3 months. It can be concluded that AC PMs formulation has significantly prolonged the release of the drug up to 12 h. By thin film hydration technique, the drug Atorvastatin calcium was successfully prepared into sustained release PMs.

Keywords: Polymeric micelles, Atorvastatin Calcium, PEG 6000, Historical data design, thin film hydration.

PP074

**ASSESSMENT OF KNOWLEDGE ATTITUDE AND PRACTICE ON HEALTH
HAZARDS FROM BLUE LIGHT AMONG COLLEGE STUDENTS**

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ABSTRACT

The journey of yellow light (medium wavelength i.e. 570- 590 nm) to blue light (high wavelength i.e. 450-495nm) we consider as a beneficiary and quality product (cost and energy saving) but we are unaware to their hazards to the human being the light source even though screen of mobile tab laptop, LED etc. blue light very near to our eye emit high fluorescence, these artificial light affecting our eye as well as daily activity. This blue light gives feel like day light; in this case eye send a message to brain this is not a time to sleep. Our future may suffer from smart phone blindness. Use of laptop or mobile at the time of night in dark may produce sleep disorder to metabolic disorder. Our biological clock also called as circadian rhythm naturally regulate by natural light and temperature which is also disturb due this artificial sources of light even create artificial temperature too. We have collected total number of 110 data sheets from students. Data is collected by forming a set of questionnaires that includes knowledge attitude and practice type questions. All the students are assessed for a single time. After the data collection we assess the students by marking on questions. In which on the basis of awareness or knowledge 24 (26.4%) have good knowledge 49 (53.9%) have sound knowledge and 36 (39.6%) do not have enough knowledge about blue light and health hazards. In the same manner we assess attitude and practice data and find out association between them. We find out that there is no relation or association between knowledge and attitude and other side knowledge and practice on practical information.

Key words: Blue light, smartphone blindness, circadian rhythm, association

PP075

**RISK BENEFITS ANALYSIS OF SELF-MEDICATION OF ANTIBIOTICS AMONG
COLLEGE STUDENTS.**

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ABSTRACT

In India self-medication with antibiotics for minor sign and symptoms to treat moderate disease is common. It may be due to the free antibiotics without any prescription or lack of affordable health facility in India. Not only may this be due to ignorance of common people towards the medication. We did a small project on risk benefit analysis of self-medication of antibiotics among college students of Sarada Vilas College of Pharmacy Mysuru. We had collected the data from prepared questionnaires about self-medication of antibiotics and its behavior and knowledge. It was the course of approximately 2 months for the collection of data for analysis. Then we finalized the data in the form of 2x2 risk benefit analysis table. We have collected total number of 70 data collection forms in which our results show that 26(18.2%) of students think about self-medication of antibiotics is risky but beneficial, 20(14%) think it is beneficial but not much risky. Our third category students 14(9.8%) think that self-medication is not only risky but also not beneficial. And remaining 10(7%) think it is neither risky nor beneficial.

Key words : Risk, benefit, self-medication, antibiotics.

FORMULATION AND EVALUATION OF FAST DISSOLVING TABLETS OF CINNARIZINE USING VARIOUS SUPERDISINTEGRANTS

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ABSTRACT

The aim of this study was to develop fast dissolving tablets of cinnarizine by direct compression method. Micro crystalline cellulose (MCC) as diluent and super disintegrants, such as croscopollose (CP), sodium starch glycolate and croscarmellose sodium (CCS) were used. Fast dissolving tablets disintegrate or dissolve rapidly within few seconds due to maximized pore structure in the formulation or by the action of superdisintegrants. Infrared (IR) spectroscopy was performed to identify the physicochemical interaction between drug and polymer. IR spectroscopy showed that there was no interaction of drug with polymer. Various pre-compression parameters such as angle of repose, bulk density, tapped density, compressibility index, Hausner's ratio were carried out to study the flow properties of powder in order to achieve uniformity of tablet weight and the values were found within acceptable limits. The powder mixtures were compressed into tablet using punch tablet machine. The formulated tablets were evaluated for hardness, thickness, weight variation, friability, % drug content, wetting time, water absorption ratio, invitrodisintegration time, in vitro dispersion time, invitrodrug release and all the values were found within permissible limits. The formulation M12 containing croscopollose (8%) as superdisintegrant and MCC as diluent was found to be the optimized formulation on the basis of wetting time, in vitro disintegration time and in vitro drug release. Stability studies were carried out at $25^{\circ}\text{C} \pm 2^{\circ}\text{C} / 60\% \pm 5\% \text{ RH}$ and $40^{\circ}\text{C} \pm 2^{\circ}\text{C} / 75\% \pm 5\% \text{ RH}$ for a period of 60 days for the selected formulations.

Keywords: Fast dissolving tablets, cinnarizine, superdisintegrants, diluent.

**THE EFFECTS OF ORAL HYPOGLYCEMICS AND POLY HERBAL PRODUCTS
ON MARKERS OF INSULIN RESISTANCE IN DIABETICS**

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ABSTRACT

Background

The oral Hypoglycemics drugs (OHG) are well known on their effects to reduce insulin resistance. Similarly, several poly herbal products (PHP) also claim for decrease insulin resistance in type 2 diabetics. As the PHP lacks scientific evidences on its safety, efficacy, quality benchmarks, control over insulin resistance is yet to be studied.

Hypothesis

We hypothesized that PHP would not reduce insulin resistance in type 2 diabetics. Hence, the markers of insulin resistance body mass index (BMI) and waist-hip ratio (WHR) would not positively respond to PHP treatment.

Methods

A total of 199 patients with type 2 diabetes mellitus were enrolled who met inclusion and exclusion criteria. The patient's body weight, height, waist and hip measurements were recorded at every 30±3th day over 6 months. Then, the BMI and WHR were calculated from standard formulas. The average values of both groups were compared by use of paired sample 't' test and significance was set at $p<0.05$.

Results

The BMI and WHR values were reduced significantly ($p<0.05$) in patients used OHG only. The patients used only PHP were observed to be reduced but was not statistically significant ($p>0.05$).

Conclusion

The insulin resistance was not improved in patients used only PHP against patients used only OHG.

Key words: Poly herbal products, oral hypoglycemic drugs, Insulin resistance, Body Mass Index, Waist-Hip ratio

AN ULTRAVIOLET-VISIBLE (UV-VIS) TECHNIQUE FOR THE QUANTITATIVE DETERMINATION OF GUGGULSTERONE ISOMERS (GUGGULSTERONE E AND Z) IN *Commiphora Wightii* (Arn.) BHANDARI: AFTER SHODHANA IN DIFFERENT MEDIUMS

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ABSTRACT

The ayurvedic practitioners are prescribing guggul in single or compound form to treat several ailments since a long time in India. Guggulsterone content of guggul gum resin is responsible for lipid-cholesterol lowering and anti-cancerous activities, which had made it popular among clinical practitioners and pharmaceutical industries. Shodhana is one among the samaskaras which is used for purifying and potentiating of the drug. There are different media explained in Ayurvedic literature for *Shodhana* of *Guggul* and according to those media of purification the quality and pharmacological properties of *Guggul* may vary. The present study was conducted on an UV-VISIBLE Spectro-photometric quantification of Guggulsterone isomers (Guggulsterone E & Z) of guggul obtained by shodhana in four different mediums. For quantitative estimation of Guggulsterones E & Z, guggul gum resin was extracted with Ethyl acetate and the ketonic fraction was isolated from natural mixtures. Percentage of Guggulsterone in the sample was determined by calibration curve of standards E & Z Guggulsterone. The results show difference in percentage of guggulsterone content in each shodhitaguggul from raw guggul. So we can conclude that the different shodhana process with specific shodhanadravya affects percentage of guggulsterone content and all these data can be revealed from simple and easily accessible UV-Vis Spectrophotometric method.

Key word: *Guggul*, Shodhana, Guggulsterone, UV-VIS Spectrophotometry.

PP079

THE EXISTANCE OF DELUSIONAL PARASITOSIS

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ABSTRACT:

Delusional parasitosis also known as Ekbom syndrome (ES) is a psychological disorder, where the individuals start to feel that they are being infested by bugs, or insects. The skin infestation is in contrast to the cases of actual parasitosis like DemodexFolliculorum which can be spotted through diagnostic or laboratory test. It is primarily associated with monopsychiatric illness like bipolar disorder, schizophrenia, depression, anxiety disorders which makes it quite complicated. People below 50 years of age affected by this disease and male to female ratio stands for 1:3. The neurochemical changes in individual leads to delusional parasitosis that can be diagnosed by classic match box and specimen signs. A combination of psychiatric and psychosomatic therapy helps the individuals to overcome this mental disorder.

Key words: delusional parasitosis, Ekbom syndrome, DemodexFolliculorum

PP080

A REVIEW ON VITAMIN D IN INFLAMMATORY BOWEL DISEASE

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ABSTRACT

Inflammatory bowel disease (IBD) is the group of intestinal disorders that cause prolonged inflammation of digestive tract. IBD consists of Crohn's disease and Ulcerative colitis. Anemia, iron deficiency and hypo-vitaminosis D are well known comorbidities in IBD. IBD patients are at the risk of a number of vitamin and mineral deficiencies. Vitamin D has a vital role in maintaining bone health, mineralization and for fracture prevention it has its role also in a number of autoimmune disease. Vitamin D has a potential role as immune modulator, disease modifier and bone health in IBD patients. Vitamin D deficient patients are at high risk of fractures and low bone density especially if they have long standing disease. Vitamin D shows a potential role in the management of IBD, the supplementation is inexpensive, safe and lead to improvement of quality of life. As IBD are increasing and the common medications are not effective for most patients.

Keywords: Inflammatory Bowel Disease (IBD), Vitamin D, Crohn's disease, Ulcerative Colitis.

PP081

STATIN AS POTENTIAL THERAPEUTIC DRUG FOR ASTHMA

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ABSTRACT

Statin are lipid lowering agents that also exhibit pleiotropic effect in decreasing oxidative stress and inflammation. Statins inhibitor of hydroxymethylglutaryl co enzymes A reductase can inhibit the mevalonate pathway and the synthesis of downstream intermediate including farnesyl /pyrophosphate(FPP)and geranylgeranyl pyrophosphate (GGPP),which post translationally modify small guanosinetriphosphatases (GTPase). GTPase may play role in the pathophysiology of asthma , because they could enhance airway smooth muscle contraction and proliferation and increase airway hyperresponsiveness. Statins will counter airway remodeling by mitigating airway epithelial changes, checking subepithelial fibrosis , inhibitoryinfluence on the contractile regulatory proteins . statins will reduce airway inflammation due to α 3-fold action , role of nitric oxide , decreased inflammatory cytokine production , reduced airway inflammatory cells influx.In statin users,it has been proved that the use of statins may worsen the conditions of asthma including increased night awakening and a greater increase in day-time symptoms than non users,It doesn't mean that patient with asthma,who need to take statin should stop taking this drug. But it does mean that they should be treated aggressively.

Key words: Statin, asthma, HMG COA reductase inhibitor

A REVIEW ON AUTISM RISK IN PRENATAL EXPOSURE TO DRUGS

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ABSTRACT

Autism is a mental condition, present from early childhood characterized by great difficulty in communicating and forming relationships with other people. The objective of our review is to evaluate the risk of autism in prenatal exposure to drugs. The etiology of autism is unknown, although prenatal exposures have been the focus of epidemiological research. The factors associated with autism risk were found to be advanced parental age at birth, maternal prenatal medication use, bleeding, gestational diabetes. The factors with the strongest evidence against role in autism risk include previous fetal loss, maternal hypertension, proteinuria, pre-eclampsia and swelling. The studies using prenatal optimality scales provide some evidence to suggest that drug exposure during pregnancy may increase the risk of autism. An increased risk of autism were found among infants whose mothers took a certain category of antidepressant medication- selective serotonin reuptake inhibitors (SSRI's)- during first trimester of pregnancy. Other medications that develop autism include anti-seizure medications like valproic acid, terbutaline, anti-ulcer drug, misoprostol, antipsychotics, ethanol, cocaine, thalidomide etc.

Keywords: Autism, Valproic acid, Terbutaline, Selective serotonin reuptake inhibitors, Thalidomide, Misoprostol, Cocaine, Ethanol.

PP083

EFFECTIVENESS OF PCSK9 OVER OTHER LIPID LOWERING AGENT

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ABSTRACT

PCSK9 is a new type of lipid lowering therapy approved by Food and Drug Administration in 2015. PCSK9 (Proprotein Convertase Subtilisin/Kexin type 9). These drugs work differently, this PCSK9 inhibitors target a protein in the liver called Proprotein convertase subtilisin kexin 9, by reducing the amount of PCSK9 in body to remove cholesterol more efficiently. By preventing LDL receptor destruction, LDL-C levels can be lowered 50-60% above that achieved by statin therapy alone. This has less long term safety data also this is very expensive and given by injection only. Pralvent (Alirocumab) and Repatha (Evolocumab) are the two PCSK9 inhibitors available. Cardiovascular disease (CVD) is the leading cause of death in USA and India. Over the past few years, studies have shown a very strong correlation between low-density lipoprotein cholesterol (LDL-C) levels and the development of CVD, mainly due to the key role of LDL-C in the atherosclerotic process. The treatment of hypercholesterolemia has been primarily based on statin use. Indeed, statins have successfully served their purpose as a very effective lipid lowering medication class of 25 years since their introduction. However, a significant number of very high risk patients fail to achieve the LDL-C targets despite statin treatment necessitating the development of new agents for additional LDL-C lowering.

Key words: PCSK9, Atherosclerotic process, LDL-C, Hypercholesterolemia.

PP084

NALOXONE OVERDOSE AND RISK OF DEATH : A REVIEW

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ABSTRACT

Naloxone is a competitive antagonist at opioid receptors. It can be administered to reverse effects of an opioid overdose. When Naloxone is given to healthy volunteers with no recent opioid exposure it has no clinical effect. If Naloxone is given to someone who is unresponsive for a reason other than opioid toxicity, Naloxone is extremely unlikely to cause harm. The greatest risk is transient opioid withdrawal symptoms in someone who is opioid dependent. About 10% of people who overdose on opioid and are treated with naloxone die within a year. It does not save the life of every person to whom it is given, because an unknown number would survive but an unknown number of them died after a year.

Keywords: naloxone, opioid toxicity, antagonist.

PP0085

INFLUENCE OF YOGA PRANAYAMA ON SINUSITIS

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ABSTRACT

The state in which the mucous membrane of the paranasal sinuses get inflamed due to an allergic reaction or infection is called sinusitis. Swelling membranes may block the drainage into the nasal cavity increasing the fluid pressure in the paranasal sinuses, it leads to sinus headache. Some time the pain becomes very severe and is accompanied by irritation in the eyes. There is excessive sneezing, watering of the nose and blockage of one or both the nostrils heaviness of the head. Many times breathing becomes difficult and one has to struggle for every breath, voice is also affected. Chronic state of sinusitis may also cause in initiation of several other respiratory diseases and becomes uncontrollable through conventional medical devices.

Yoga being increasingly used as an adjuvant therapy for various conditions based on research done in the past many decades. This paper attempts to focus on the scientific basis of some yoga practices such as Neti and Nada pranayamas that may help in the prevention and management of sinusitis. This can help us understand the mechanisms through which this yoga practices can help as an adjuvant therapy in preventing and managing sinusitis. This provides us the confidence to use these therapies as an inexpensive and safe method even in primary health care setting.

Keywords: Sinusitis, Chronic, Neti, Pranayama, Nasal Irritation.

PP086

ANTIOXIDANT AND BIOACTIVITY OF WHEAT GRASS

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ABSTRACTS

Triticum aestivum (Wheat grass juice) has high concentrations of chlorophyll, amino acids, minerals, vitamins, and enzymes. Fresh juice has been shown to possess anti-cancer activity, anti-ulcer activity, anti-inflammatory, antioxidant activity, anti-arthritic activity, and blood building activity in Thalassemia. It has been argued that wheat grass helps blood flow, digestion, and general detoxification of the body due to the presence of biologically active compounds and minerals in it and due to its antioxidant potential which is derived from its high content of bioflavonoids such as apigenin, quercetin, luteoline. Furthermore, indole compounds, amely choline, which known for antioxidants and also possess chelating property for iron overload disorders. The presence of 70% chlorophyll, which is almost chemically identical to haemoglobin. The only difference is that the central element in chlorophyll is magnesium and in hemoglobin it is iron. In wheat grass makes it more useful in various clinical conditions involving hemoglobin deficiency and other chronic disorders ultimately considered as green blood.

Keywords: Triticum aestivum, antioxidant activity, anti-arthritic activity

PP087

**A REVIEW ON SYNTHESIS OF FLUORO- SUBSTITUTED BENZOTHAZOLES
INCORPORATED WITH SUBSTITUTED PYRIMIDINES FOR
PHARMACOLOGICAL SCREENING.**

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ABSTRACT:

Heterocyclic compounds analogues and derivatives have wide attention due to their useful biological and pharmacological properties. Benzothiazoles are aromatic heterocyclic nuclei in many marine as well as natural plant products. Riluzole(6-trifluoro methoxy- 2-benzothiazolamine) was found to interfere with glutamate neurotransmission in biochemical, electrophysiological and behavioural experiments. As benzothiazole belongs to the family of bicyclic heterocyclic compounds it is having benzene nucleus fused with five- membered ring comprising nitrogen and sulphur atoms i.e. thiazole and have wide range of biological properties including anticancer, antimicrobial, antidiabetic, antitubercular activities. With the help of benzothiazole many therapeutic agents can be synthesized. Introduction of fluorine into an organic molecule, forms the strong carbon- fluorine bond and increased lipid solubility. Due to its high electronegativity it leads to dramatic changes in biological activities and known to used as antimalarial, antiinflammatory and antitubercular. Pyrimidines being an integral part of DNA and RNA impacts diverse pharmacological properties as effective bactericide and fungicides and its derivatives know to display antimalarial, antileishmanial activities. Thiazole derivative of pyrimidines have much efficacy as analgesic, antifungal, antitubercular, antimalarial, antitumour, cytotoxic and anticancer agents and are synthesized by various methods.

Key words: Benzothiazole, Riluzole, antileishmanial, antitumour, cytotoxic.

PP088

A REVIEW ON MINERAL AND BONE DISORDER ASSOCIATED WITH CKD

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Abstract

MBD is a disorder characterized by abnormal calcium and phosphorus levels in blood that affects the bone and thereby results in bone problems

Mineral and bone disorder in CKD patients occur when damaged kidneys and abnormal hormone levels cause calcium and phosphorus levels in patient blood to be out of balanced .

Mineral and bone disorder occur in patients with CKD and those patients renal failure and receiving dialysis

Keyword: - Renal osteo dystrophy, chronic renal failure, End stage renal disease {ESRD}