KASTURBA MEDICAL COLLEGE
MANIPAL
(A constituent unit of MAHE, Manipal)

Dr TMA Pai
1898 - 1979
Padmashree Awardee

INSTITUTION OF EMINENCE

ISRPTCon 2023

15th Annual Conference of Indian Society for Rational Pharmacotherapeutics

CONFERENCE SOUVENIR

Organized by

Department of Pharmacology

Kasturba Medical College, Manipal

Manipal Academy of Higher Education, Manipal

Preconference workshop: 3rd Nov 2023

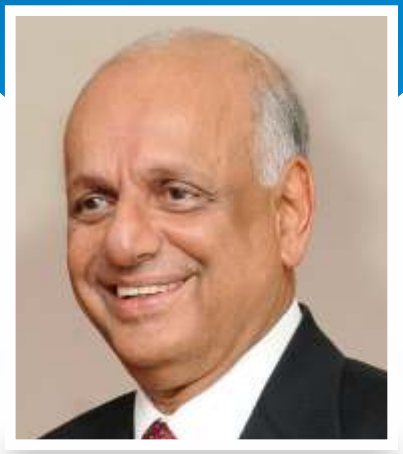
Conference: 4th and 5th November 2023

THEME OF THE CONFERENCE

Evolving Trends in Rational Use of Medicines

The Department of Pharmacology, Kasturba Medical College, Manipal is hosting the 15th Annual Conference of Indian Society for Rational Pharmacotherapeutics (ISRPTCon 2023) from 3rd - 5th November 2023. The workshops are related to topics of current interest like Pharmacoeconomics, designing electives and advances in good clinical practice and regulations. The conference will provide an update on antimicrobial resistance, real world evidence, precision pharmacology, artificial intelligence in healthcare and drug safety, advances in drug development, digital therapeutics, drug use in palliative care and special situations in addition to discussion on teaching and practicing rational use of medicines.

Message



Dr. H. S. Ballal
Pro Chancellor
Manipal Academy of Higher Education

Kasturba Medical College, Manipal is the flagship institute of Manipal Academy of Higher Education (MAHE). As a part of the 125th Birth Anniversary celebration of Dr TMA Pai at MAHE, Department of Pharmacology, Kasturba Medical College, Manipal is hosting the National Conference of Indian Society for Rational Pharmacotherapeutics (ISRPTCon 2023) from November 3-5, 2023. This conference is focused on Evolving trends in Rational Use of Medicines.

Delegates attending this national conference will witness a congregation of academicians and industry experts from different parts of India. In addition to scientific extravaganza, delegates can enjoy the scenic beauty of Manipal.

My best wishes for success of the conference.

Dated 15th October 2023

Dr. H. S. Ballal

Message

Lt. Gen. (Dr.) M. D. Venkatesh
Vice Chancellor
Manipal Academy of Higher Education

I am pleased that the Department of Pharmacology, Kasturba Manipal College, Manipal, is hosting the 15th Annual National Conference of the Indian Society for Rational Pharmacotherapeutics (ISRPTCon 2023) from November 3-5, 2023.

As per WHO "half of all medicines are prescribed, dispensed or sold inappropriately, and that half of all patients fail to take them correctly". It is important to work towards the global menace of irrational use of medicines. This conference focuses on rational use of drugs and brings together academicians, policy makers and researchers from industry to discuss the evolving trends in rational use of drugs. The conference will provide a platform that will enable the delegates to discuss the recent innovations, trends, practical challenges encountered, and the solutions adopted in the rational use of drugs.

I wish all the delegates an enriching experience in Manipal and best wishes to organizers.

Dated 15th October 2023

Lt. Gen. (Dr.) M. D. Venkatesh

Message

Dr. Sharath K Rao
Pro Vice Chancellor (Health Sciences)
Manipal Academy of Higher Education

The Department of Pharmacology, Kasturba Manipal College, Manipal, is organizing the National Conference of the Indian Society for Rational Pharmacotherapeutics (ISRPTCon 2023) from November 3-5, 2023. The theme of the conference is "Evolving trends in rational use of drugs.

This conference will enable researchers across the country to exchange their thoughts on rational use of drugs. This platform will boost faculty, researchers and industry to join hands for promotion of rational drug use in our country which is imperative to reduce the morbidity, and mortality from communicable as well as non-communicable diseases, in addition to contain the treatment expenditure. This conference shall host keynote lectures, symposium, poster/oral presentations, other interactive and informal exchanges. Besides academicians, a galaxy of experts from industry with their rich experience is the highlight of this conference.

I congratulate the organizers and wish this conference a great success.

Dated 15th October 2023

Dr. Sharath K Rao

Message

Dr Padmaraj Hegde
Dean, Kasturba Medical College
Manipal Academy of Higher Education

With great delight, I announce that Department of Pharmacology of Kasturba Medical College, Manipal is organizing the Annual National Conference of Indian Society for Rational Pharmacotherapeutics (ISRPTCon 2023) from November 3-5, 2023.

This conference will engage delegates from academic institutes and industry to share their experiences and expertise. It will provide a stage to established and emerging researchers from across the country to share and demonstrate their research to national audience. A platform to develop, connect and network with various researchers to find innovative solutions to prevent irrational prescribing will be witnessed here. In this scientific fest which is a part of 125th Birth Anniversary celebration of Dr TMA Pai at MAHE, I welcome all the delegates and wish this conference a great success.

Dated 15th October 2023

Dr Padmaraj Hegde

Message

Dr. Smita Shenoy
Organizing secretary-ISRPTCon 2023

On behalf of the Department of Pharmacology, Kasturba Medical College, Manipal, I welcome you all to the Preconference workshop and 15th Annual National Conference of Indian Society for Rational Therapeutics (ISRPTCon) from 3rd to 5th Nov 2023.

The preconference workshops consist of topics relevant to recent times, namely, Design and decode Pharmacoeconomics, Advances in GCP and regulatory applications and Roadmap to designing electives. The conference will provide an update on various topics in line with the theme 'Evolving trends in Rational Use of Medicines'. Delegates will share their scientific presentations and students will get an opportunity to participate in the Pharmacology Quiz competition. This conference will provide a platform for students, faculty and industry experts to interact with each other and develop a professional network.

We look forward to your active participation in ISRPTCon 2023 and hope this event will be a memorable one!

Dated 15th October 2023

Dr. Smita Shenoy

Message

Dr. Bharti Chogtu Magazine
Joint organizing secretary-ISRPTCon 2023

With great pleasure, I convey that Department of Pharmacology, Kasturba Medical College Manipal, Manipal Academy of Higher Education, is hosting the National Conference of Indian Society for Rational Pharmacotherapeutics Conference (ISRPTCon 2023) from November 3-5, 2023. This conference will provide an opportunity to brainstorm on various aspects of drug prescribing and on evolving trends in promotion of rational drug use. The conference will commence with a series of workshops where delegates will get hands on training to upgrade their skills.

This scientific gathering will provide delegates with an opportunity to have collaborations and set up research networks with prominent researchers and academicians from across the country.

I wish all the delegates an enriching and exciting experience in Manipal.

Dated 15th October 2023

Dr. Bharti Chogtu Magazine

Dr C D Tripathi

President - ISRPT
Professor and Head of
Pharmacology Government
Institute of Medical Sciences
Greater Noida, UP

Dear Colleagues

It gives me immense pleasure to welcome all the delegates attending the annual ISRPTCon 2023, the 15th Annual Conference at Kasturba Medical College, Manipal Academy of Higher Education, Manipal

Rationale therapeutics is the core concept of the ISRPT and the Society was envisaged to propagate it. The theme of the conference "Evolving Trends in Rational Use of Medicines" signify the changing process in achieving the rationale therapeutics. We must work continuously towards achieving it, though this concept at times not easily appreciated by patients, healthcare providers, policy makers, or the public.

Irrational use of medicines is a one of the major health issues globally. WHO estimates that more than half of all medicines are prescribed, dispensed, or sold inappropriately, and that half of all patients fail to take them correctly. The inappropriate use of medicines results in wastage of our scarce resources and widespread health hazards. Evidences are there that 50% of all prescribing errors are potentially preventable, and there are studies indicating about the limited knowledge of prescriber regarding the concept of pharmacology and pharmacotherapy, one of the reasons for prescription errors. Rational use of medicines requires that "patients receive medications appropriate to their clinical needs, in doses that meet their own individual requirements, for an adequate period of time, and at the lowest cost to them." Thus, whenever, medicines are prescribed, their selection to treat a clinical condition should be based on Evidence Based Medicines and considering: the efficacy, safety, indication and cost.

In India we have number of descriptive studies regarding irrational use of medicines, but there is need to develop and validate some tools not only to understand the root cause but also to minimize irrational use of medicines.

We all recognise the tremendous efforts the organiser has put into success of conference. The ISRPTCon 2023 through preconference workshops and deliberations during conference will provide valuable insight into evolving trends in pharmacological concept of rational pharmacotherapeutics. I sincerely hope that eminent faculties and scientists will enrich the participants through their wisdom and knowledge.

I am confident that the conference will help in the spread of concept of rational therapeutics. I wish you all a great success for the conference.

Dated 15th October 2023

Dr C D Tripathi

Dr. Vijay Motghare

Vice President of ISRPT
Former Professor and Head of
Pharmacology,
GMC Nagpur.

I am extremely delighted to learn that the Department of Pharmacology, Kasturba Medical College, Manipal is organizing the 15th Annual Conference of Indian Society of Rational Pharmacotherapeutics from 3rd November to 5th November 2023 with preconference workshop on 3rd November and conference on 4 - 5th November with the theme 'Evolving Trends in Rational Use of Medicines'. I truly believe this workshop and conference will serve the purpose of producing effective and well trained professionals in the field of pharmacology. My hearty congratulations to the Department for the excellent scientific program.

I convey my best wishes for the grand success of this event.

Dated 15th October 2023

Dr. Vijay Motghare

Dr Sandeep Kaushal

General secretary-ISRPT

Dean Academics
Professor and Head,
Department of Pharmacology,
Consultant, Comprehensive Epilepsy Care Clinic,
Principal Investigator, Clinical Pharmacology Unit,
Convenor, Medical Education Unit,
Member Secretary, Institutional Ethics Committee,
Dayanand Medical College and Hospital,
Ludhiana-141001, Punjab, India.
Secretary General, Indian Society for
Rational Pharmacotherapeutics

Vice President, Medical Pharmacologists Society

It is a matter of great privilege that Department of Pharmacology, Kasturba Medical College, Manipal is organizing the 15th Annual National Conference of Indian Society for Rational Therapeutics, 2023 (ISRPTCon2023) from 3rd to 5th November, 2023.

The theme "Evolving trends in the rational use of medicine" is quite apt with the current scenario where discovery of new diseases (man-made or otherwise) and an equal opportunity to repurpose the existing medicines and modify our drug development process to meet the challenge has been exemplified during covid times.

The organizers have planned three pre-conference workshops regarding important aspects of current pharmacology: Good Clinical Practices, Pharmacoeconomics, Designing Electives. The two tracks have been planned keeping in mind the separate needs of academia and industry and at the same time as an opportunity to young pharmacologists to have a bird's eye view of both diverse streams of pharmacology.

I, on behalf of the ISRPT family congratulate Prof Smita Shenoy and her entire organizing team members of ISRPTCon2023 who volunteered and accepted the challenge to organize the conference. Hope this academic, traditional, and gastronomic annual festival of learning is to your liking.

This conference in the academic city of Manipal with a quiz, poster and platform competition, renowned speakers from pharmacology and allied specialities of academia and industry will assuredly give an opportunity to all students of pharmacology," young" and "not too young" to learn, unlearn and relearn new concepts and updates in the field. This experience will sharpen and improve your ability as well as enrich your skills in tune with the times and collective experience.

Let the relearning of pharmacology i.e., ISRPT Conference 2023 begin with a bang in November!

Dated 15th October 2023

Dr. Sandeep Kaushal

Patrons

Dr. Ramdas M Pai
Chancellor, MAHE, Manipal

Dr. Ranjan R Pai
Chairman, Manipal Education and Medical Group (MEMG)

Dr. H S Ballal
Pro-Chancellor, MAHE, Manipal

Lt. Gen. (Dr) M D Venkatesh
Vice Chancellor, MAHE, Manipal

Dr. Sharath K Rao
Pro Vice Chancellor- Health Sciences, MAHE, Manipal

Dr. P Giridhar Kini
Registrar, MAHE, Manipal

Dr. Padmaraj Hegde
Dean, Kasturba Medical College, Manipal, MAHE, Manipal

Dr. Avinash Shetty
Medical Superintendent , Kasturba Hospital, Manipal

Organizing committee

Organising Secretary:

Dr. Smita Shenoy
Professor and Head, Department of Pharmacology, KMC Manipal

Joint Secretary:

Dr. Bharti C Magazine
Additional Professor, Department of Pharmacology, KMC Manipal

Advisor:

Dr. Shubadeep Sinha
Senior Vice-President, Head (Global)- Clinical Development and Medical Affairs, Hetero Group of Pharma Companies, Hyderabad

Registration Committee:

Dr. Meena Kumari, Dr. Amrita Parida, Dr. Chandini Rao

Scientific Committee:

Dr. Shalini Adiga, Dr. Veena Nayak, Dr. Vasudha Devi,
Dr. Sangita Kamath, Dr. Ramya Kateel, Dr. Shivani Singh

Food and Cultural Committee:

Dr. Bharti C Magazine, Dr. Sadhana Holla,
Dr. Reena Sherin Parveen, Dr. Harshini

Transport & Accommodation:

Dr. Shiva Prakash G, Dr. Sonin Santhosh, Dr. Adithya

Website design & IT coordinator:

Dr. Shiva Prakash G, Dr. Shreya Hegde, Ms. Ashwini

Souvenir & Certificates:

Dr. Amrita Parida

Quiz:

Dr. Veena Nayak, Dr. Sangita Kamath

TEACHING FACULTY

Department of Pharmacology
KMC Manipal

POST GRADUATES AND RESEARCH SCHOLARS

Department of Pharmacology
KMC Manipal

NON-TEACHING STAFF

Department of Pharmacology
KMC Manipal

REGISTRATION COMMITTEE

ISRPTCon-2023

SCIENTIFIC COMMITTEE

ISRPTCon-2023

STAGE AND FOOD COMMITTEE

ISRPTCon-2023

TRAVEL AND ACCOMMODATION COMMITTEE

ISRPTCon-2023

Preconference Workshop Program Schedule:

3rd November 2023

Workshop number	Title	Facilitator
Workshop 1	Design and Decode the Pharmacoeconomic Studies	Dr Santosh Taur and team
Workshop 2	Advances in GCP and regulatory applications	Dr Subhadeep Sinha and team
Workshop 3	Roadmap to designing of electives	Dr Sandeep Kaushal and team

Conference Program Schedule:

ISRPTCON 2023: DAY 1(4th November 2023)			
08.00 - 09.00 AM	**Breakfast** (Dr TMA Pai Hall 1, first floor) **Registration** (Dr TMA Pai auditorium, third floor)		
Track 1 - Academic track (Dr. TMA Pai Auditorium, third floor)		**Track 2: Industry and clinician track** (Dr. TMA Pai Hall 2, second floor)	
Time	**Topic / Speaker**		
09.00 - 9.30 AM	**Theme:** Evidence-based medicine. **Topic:** Evidence-based based medicine-new approaches and challenges. **Speaker:** Dr Taruna Sharma, MD, Professor, Dept of Pharmacology, Himalayan Institute of Medical Sciences, Himachal Pradesh, India	09.00 - 9.30 AM	**Theme:** Real world evidence **Topic:** Real World Evidence to Drive Rational Use of Medicines. **Speaker:** Dr Santosh Taur, MD, DM., Director Medical Affairs, Vaccines & Digital, Pfizer Limited, Bandra East, Mumbai, India
9.40 - 10.30 AM	**Inaugural ceremony** (Dr. TMA Pai Auditorium, third floor)		
10.30 - 11.00 AM	**Keynote address** (Dr. TMA Pai Auditorium, third floor) **Speaker** Dr Nilima Kshirsagar, MD, PhD, Member WHO committees ACSoMP, Drug Statistics Methodology, Former National Chair, Emeritus Scientist, Chairperson SAG BMS, Member SAB, ICMR, India		
11.00 - 11.15 AM	**Tea break**		
Track 1 - Academic track (Dr. TMA Pai Auditorium, third floor)		**Track 2: Industry and clinician track** (Dr. TMA Pai Hall 2, second floor)	
Time	**Topic / Speaker**		
11.15 - 11.45 AM	**Theme:** Precision oncology. **1.Topic:** Personalized medicine in oncology: pharmacogenomics and beyond. **Speaker:** Dr. Sandip Mukhopadhyay, MD, Faimer fellow, Scientist E - Medical (Deputy Director), Indian Council of Medical Research - National Institute of Cholera & Enteric Diseases, Belaghata, Kolkata, West Bengal, India	11.15 - 11.40 AM	**Topic:** Oncology clinical trials - How it affects patient care? **Speaker:** Dr. Annappa Kamath, DPM., Executive Director, Project Leadership, Parexel, Mangaluru, Karnataka, India.

Time	Topic / Speaker		
11.45 AM - 2.15 PM	**2. Topic:** Metabolomics in precision oncology **Speaker:** Dr Amol Patil, MD, DNB. Associate Professor of Pharmacology, Postgraduate Institute of Medical Education and Research, Chandigarh, India	**11.40 - 12.05 PM**	**Theme:** Advances in drug development **1.Topic:** Advancements in Phase-1 & early clinical development Capabilities and regulations in India. **Speaker:** Dr. Kiran Marthak, MD., Director, Medical Affairs, Phase-1 & Regulatory Affairs, Veeda Clinical Research Limited, Ahmedabad, Gujarat, India.
12.15 PM - 12.45 PM	**Theme:** Essential medicines update. **Topic:** Hospital formulary, Essential medicines update and inventory control. **Speaker:** Dr V M Motghare, MD, formerly Prof and Head, Dept of Pharmacology, Govt Medical College, Nagpur, India	**12.05 - 12.30 PM**	**2. Topic:** Rationale for Clinical Development of Biosimilars & Clinical usage of Biologics. **Speaker:** Dr. Shubhadeep Sinha, MD, PhD., Senior Vice President & Medical Director Hetero Group of Companies, Hyderabad, Telangana, India.
12.45 PM – 1.15 PM	**Theme:** Advances in Drug Safety. **Topic:** Artificial intelligence in pharmacovigilance. **Speaker:** Dr. Mira Desai, MD., Professor & Head, Pharmacology, SAL Institute of Medical Sciences, Ahmedabad, India.	**12.30 - 12.55 PM**	**3. Topic:** Advances in technology in drug development and research **Speaker:** Dr. Shoibal Mukherjee, MD., DM., Independent Healthcare Professional & Research Consultant, Gumkhal, Uttarakhand, India.
12.00 PM - 1.00 PM	**Quiz screening**		
1.00 PM- 2.00 PM	**Lunch** (Dr TMA Pai Hall 1, first floor)		
2.00 PM- 4.15 PM	**Symposium: The Magnitude, complexity and challenges of Antimicrobial Resistance**. (Dr. TMA Pai Auditorium, third floor)		
2.00 PM - 2.25 PM	**1. Key speaker:** Prof (Dr). Y K Gupta, MD, Principal Advisor India Strategy Development - Global Antibiotics Research and Development Partnership (GARDP), President, AIIMS - Vijayanagar, Jammu, India. **Topic:** AMR: a hidden silent pandemic and strategies for preparedness		
2.25 PM - 2.50 PM	**2. Speaker:** Dr. Jennifer Cohn, MD, MPH, Director Global Access, Global Antibiotic Research and Development Partnership (GARDP), 15 Chemin Camille-Vidart, 1202 Geneva, Switzerland. **Topic:** Innovation, new antibiotic introduction and catalyzing appropriate access to antibiotics.		
2.50 PM- 3.15 PM	**3. Speaker:** Dr. Maneesh Paul, PhD, Microvioma Pvt Ltd., Gubbalala Main Rd, VISL Layout, Talaghattapura, Bangalore, India. **Topic:** Technology-driven antimicrobial stewardship.		

Track 1 - Academic track (Dr. TMA Pai Auditorium)		Track 2: Industry and clinician track (Dr. TMA Pai Hall 2)	
Time	**Topic / Speaker**		
3.15 PM - 3.35 PM	**Symposium (contd.)** **4.Speaker:** Dr Debasish Biswas, MD. Dean Research, AIIMS Bhopal, India. **Topic:** AMR in the context of one health.	**3.15 PM - 3.40 PM**	**Theme:** Emerging Trends in Drug safety **Speaker:** Dr. Y Sridhar Reddy, PhD Associate VP, Head - Global Pharmacovigilance, Hetero Labs, Hyderabad.
3.35 PM - 3.50 PM	**5.Speaker:** Dr. Satyajit Mohapatra, MD, Professor, Dept of Pharmacology, SRM Medical College Hospital & Research Centre, Potheri, Tamil Nadu, India		
3.50 PM- 4.05 PM	**6. Speaker:** Dr Bikash Medhi, MD, Professor of Pharmacology, Postgraduate Institute of Medical Education and Research, Chandigarh, India		
4.05 PM - 4.15 PM	**Q & A**		
4.05 PM- 4.30 PM	**Tea break**		
4.15 PM - 5.30 PM	**Oral / poster presentation**	**4.10 PM - 5.30 PM**	**Oral / poster presentation**
5.15 PM- 6.00 PM	**General Body meeting**		
7.15 PM onwards	**Cultural program & Banquet**		

ISRPTCON 2023: DAY 2 (5th November 2023)

7.45 AM - 9.15 AM	**Breakfast** (Dr TMA Pai Hall 1, first floor)				
Track 1 - Academic track (Dr. TMA Pai Hall 2, second floor)		**Track 2: Industry and clinician track** (Seminar room, near Dr. TMA Pai Auditorium,third floor)		**Dr. TMA Pai Auditorium,** third floor)	
Time	**Topic / Speaker**	**Time**	**Topic / Speaker**	**Time**	**Topic / Speaker**
9.00 Am - 9.20 AM	**Topic:** Nutraceuticals: Molecular Insights and Translational Challenges **Speaker:** Dr. K L Bairy, MD, PhD,. Dean, College of Medical Sciences, RasAl-Khaimah		**Session commences at 10.00 AM**	**8.30 AM - 9.30 AM**	**Oral/Poster presentation**

Time	Topic / Speaker	Time	Topic / Speaker	Time	Topic / Speaker
9.20 AM - 10.00 AM	**Topic:** Teaching and practicing Rational Use of Medicines: A path filled with contradictions and deterrents. **Speakers:** 1. Dr Gitanjali Batmanabane, MD., Pro VC (Medical sciences), GITAM institute of medical sciences and research, Visakhapatnam, India and Dr R. Raveendran, MD, Professor, Dept of Pharmacology, JIPMER., Puducherry, India		**Session commences at 10.00 AM**	**11.00 AM-12.30 PM**	**Quiz**
10.00 AM - 10.25 AM	**Theme:** Drug use in palliative care **Topic:** Midazolam in palliative care **Speaker:** Dr Anant Patil, MD., Associate Professor, Dept of Pharmacology, Dr. D.Y. Patil Medical College, Navi Mumbai, India.	**10.00 AM - 10.25 AM**	**Theme:** Drug use in palliative care **Topic:** Methadone in pain management **Speaker:** Dr. Navin Salins, MD, PhD., Prof and Head of Palliative care, KMC Manipal, India.		
10.25 AM - 10.50 AM	**Theme:** Advances in Technology in healthcare **Topic:** AI in healthcare **Speaker:** Dr Sandeep Kaushal, MD., Dean Academics, Professor and Head, Department of Pharmacology, Convenor, Medical Education Unit, Dayanand Medical College and Hospital, Ludhiana, Punjab, India	**10.30 AM - 11.00 AM**	**Theme:** Safe medication use **1. Topic:** Drug use in CKD patients **Speaker:** Dr Ravindra Prabhu A, MD, DM, Professor, Dept. of Nephrology, KMC Manipal, India.		
10.50 AM - 11.10 AM	**Tea break**				

Time	Topic / Speaker	Time	Topic / Speaker	Time	Topic / Speaker
11.00 AM -11.25 AM	**Theme:** Charting a course for safe and responsible medication use **1.Topic:** Guidelines for the management of dyslipidemia – an Indian perspective **Speaker:** Dr Harmeet Singh Rehan, MD., Director Professor and Head, Dept. of Pharmacology, Lady Hardinge Medical College, New Delhi, India	**11.10 AM -11.40 AM**	**2. Topic:** Clinical pharmacokinetics for optimal paediatric care. Speaker: Dr Leslie Lewis, DNB., Prof & Head of Pediatrics, KMC Manipal		
11.25 AM - 11.50 AM	**2. Topic:** SGLT2 inhibitors- current status. **Speaker:** Dr Vishal Tandon, MD., Professor, Dept of Pharmacology, Govt Medical College, Jammu, India.	**11.40 Am- 11.50 AM**	**Theme:** Digital therapeutics 1.Topic: Overview of Digital therapeutics **Speaker:** Dr Isha Khadke, MD., Medical Lead, Novartis, Mumbai, India		
11.50 AM - 12.25 PM	**3. Topic:** Pharmacovigilance in paediatric care. **Speaker:** Dr. Nitin Kothari, MBBS, MD., Professor and Head, Dept of Pharmacology, Government Medical College, Dungarpur, Rajasthan, India	**11.50 AM - 12.40 PM**	**2.Topic:** Digital diabetology current scope and future trends **Speakers:** 1.Dr Sushil Kunder, MD., Senior Medical Advisor, Novo Nordisk, Whitefield, Bengaluru, India and 2. Dr Avinash A, MD., Lead Regional Medical Advisor, Sanofi, Coimbatore, Tamil Nadu, India.		

Time	Topic / Speaker	Time	Topic / Speaker	Time	Topic / Speaker
12.25 PM - 12.40 PM	**4. Topic:** Evidence based medicine on call service - Role of clinical pharmacologist. **Speaker:** Dr. Amol Patil, MD, DNB. Associate Professor of Pharmacology, PGIMER, Chandigarh, India				
12.45 PM -1.15 PM	**Valedictory function (Dr. TMA Pai auditorium, third floor)**				
1.00 PM -2.30 PM	**Lunch (Dr. TMA Pai Hall 1, first floor)**				

Scientific session schedule

ExPharm Prize Paper Presentations		
Venue: TMA Pai Hall 2		4th November 2023 | 4:15-5:30 pm
Oral paper number	**name**	**Topic**
Ex01	Chhaya Dhage	Knowledge and practice of rational use of medicines among general practitioners
Ex02	Gautham Panda	Apremilast versus methotrexate: the arrows in quiver for chronic plaque psoriasis
Ex03	ShivaPrakash	Investigating the morphological changes of plasma Extracellular Vesicles in schizophrenia patients
Ex04	Andrew Marie Xavier	The pyrazinamide resistance due to mutation in pncA gene and its association with treatment outcome among Tuberculosis patients of South India- A longitudinal observational study
Ex05	Debaleena Das	Patient or caregivers' understanding of medication details in OPD prescriptions: an observational study from a tertiary care hospital
Ex06	Shruthi Singh	Efficacy Of Oral Versus IM Vitamin D in individuals with hypovitaminosis D
Ex07	Priyatharsini MV	Factors Influencing Cyclosporine Predose Trough Concentration in Children with Nephrotic Syndrome
Ex08	Manukumar Shetty	Explainable AI Model as a Complementary Tool to Randomized Controlled Trials (RCTs): A Comprehensive Assessment using Historical COVID Data.

Oral presentations 4th November 2023		
Venue: Biochem demo 1		4th November 2023 | 4:15-5:30pm
Oral paper number	**name**	**Topic**
R01	Abhijna BR	Evaluation of the association of polypharmacy with geriatric depression: an observational study
R02	Rajasree Sankar	A study to assess the efficacy and safety of oral itraconazole as an add on to steroids in allergic fungal rhinosinusitis in a tertiary care hospital
R03	Adil Ali Shakur	A Study of Drug Utilization Pattern and Pharmacoeconomic Analysis of Immunosuppressant Drugs in Patients of Skin Disorders in a Tertiary Care Hospital of Bihar
R04	Ankita Sawant	Antimicrobial utilization pattern in indoor patients of Obstetrics and Gynecology ward of a Tertiary care hospital
R05	Bhoomika Jayakumar	Influence of patient's socio-economic status on prescription of drugs– a qualitative study
R06	Sana Bashir	Cutaneous Adverse Drug Reaction Profile in Tertiary Care Teaching institute: A Prospective study
R07	Moumita Hazra	A clinical endocrinological evaluation research study of tertiary patient healthcare satisfaction with anti-diabetic pharmacotherapeutics, along global pharmacoepidemiology.
R08	Diya C Bagan	Pattern of drug usage in management of depression in tertiary care hospital

Venue: Biochem demo 2		4th November 2023 | 4:15-5:30pm
R09	Yuvarani Ramamoorthy	Pharmacotherapy and drug interactions in a patient with chronic kidney disease at a tertiary care center- a cross sectional study
R10	Sneha Antony	A Comparative Study Of The Effects of Phosphate Binders On Biochemical Parameters In Chronic Kidney Disease Patients On Maintenance Hemodialysis
R11	Harshini R Subramanya	WHO validated core drug use indicators to assess pattern of drug utilization in a tertiary care health facility
R12	Karthik Raja S	A cross sectional study to assess the frequency and factors associated with psychotropic polypharmacy among patients with psychiatric illness
R13	Keerthana	Comparison of effects of 6l/minute oxygen supplementation versus 2l/minute versus no oxygen supplementation during flexible bronchoscopy
R14	Kushal S Gowda	Role of Problem Based Learning in the Medical Curriculum on Rational Drug Prescription
R15	Somya Agarwal	Antimicrobial utilization pattern using world health organisation(who) prescribing indicators in paediatric inpatients in a tertiary care hospital: a cross-sectional study
R16	Vandana Roy	Prescribing practices in public & private health facilities in Delhi (India): Evaluating need for policy changes

Oral presentations 4th November 2023		
Venue:Biochem lecture hall		4th November 2023 | 4:15-5:30pm
Oral paper number	**name**	**Topic**
R17	Pratibha VK	A cross-sectional study to assess the prevalence and pattern of drug-drug interactions in intensive care units of a tertiary care teaching hospital.
R18	Pallavi Chalivendra	Prescription pattern of antibiotics and their appropriateness in patients with chronic kidney disease-A Retrospective study in a tertiary care teaching hospital in South India
R19	Anumekha PS	Adverse drug reaction profile of antiepileptics in a tertiary care center of North Kerala
R20	Jeevika	Prescription pattern of antibiotics for children in a tertiary care teaching hospital.
R21	Sheetal S John	Prescription pattern of antibiotics for children in a tertiary care teaching hospital.
R22	Varshini V Halappa	Pattern of Antibiotic usage in the Intensive care unit of District hospital, Tumakuru.
R23	Chengappa Bachetira N	Evaluating prescription pattern of antidiabetic drugs among type II diabetes patients
R24	Sameeksha N	Prescription pattern in pregnant women

Venue:Research cell		4th November 2023 | 4:15-5:30pm
R25	Aarti Bhosale	Effect of crude extract of Chia seeds (Salvia hispanica) on hyperglycemia and hyperlipidaemia in High fat diet and Streptozotocin induced diabetes in male Wistar rats.
R26	Ahamed Shaheen	Evaluation of anxiolytic activity of ethanolic extract of stem of Rubia cordifolia in Wistar albino rats
R27	Sushma P	Comparative analysis of first versus latest version of who essential medicine list
R28	Meera Sushil	Understanding expired medication: usage, importance and disposal
R29	Gayathri Anil Variar	Review of drugs most widely prescribed off label in paediatric population
R30	Hanna Rahman	To Give Or Not To Give - A Review On Deprescription As A New face in the rational use of medicines
R31	Aishwarya Mohan Wodeyar	Upadacitinib in crohn's disease: a comprehensive systematic review of efficacy and safety
R32	Sakshi Mestry	High-dose quinolones versus combination of quinolones and antibiotics in treating multiple drug-resistant tuberculosis

Oral presentations 4th November 2023		
Venue: Seminar room		4th November 2023 | 4:15-5:30pm
Oral paper number	**name**	**Topic**
R33	Akshat Jain	Role of AI in rational drug prescription?
R34	Bandhavi Singhania	Knowledge of pharmacists in rational drug use
R35	Deepti SN	Knowledge of rational use of drugs among Interns
R36	Jairaj Shankar Praveen	Knowledge, Attitude and Practice in medical graduates on topical corticosteroids in a tertiary health care facility in North Kerala: A cross-sectional study
R37	Hindu Rajashekhar	Knowledge and practice of Over The Counter (OTC) drugs among 1st year students of SSAHE University, Tumkuru
R38	Mithali Sathish	Awareness about FDA announcement on voluntary recall of ranitidine among physicians and pharmacists
R39	Samiksha Bodake	KAP of Fixed Dose Rational and Irrational Combinations among Pharmacists
R40	Sruthi Pressannakumar	Knowledge, Attitude and Practice on Over-The-Counter Drugs Among Medical Students of a tertiary care teaching institute: Cross-Sectional Study.
R41	Sanjana Srinivasan	Prescription audit among doctors in tertiary healthcare centre

Oral presentations 5th November		
Venue: Biochem demo 1		5th November 2023 | 8:30-9:30am
Oral paper number	**name**	**Topic**
R42	Dsa Ineesh Francis	To study the potential drug-drug interactions in patients of type 2 diabetes mellitus on polypharmacy.
R43	Sreeja Nittoori	Incidence of Abnormal Arterial-Stiffness Parameters Measured Through Periscope Among Breast Cancer Patients Receiving Doxorubicin-based Chemotherapy
R44	Suchitra S	To assess the anticholinergic drug burden and it's association with activites of daily living, in geriatric patients at a tertiary care hospital" - a cross sectional study
R45	Swathi Acharya	Potential drug-drug interactions in intensive care unit patients admitted in paediatric department in a tertiary care hospital: a cross sectional study
R46	Navnit W	Consensus on Combining Silodosin and Mirabegron: Advancing Benign Prostatic Hyperplasia Management with Indian Urological Insights
R47	Shreya Bhat	A cross-sectional study to assess the pattern of conversion from intravenous to oral antimicrobial agents at a tertiary care hospital

Oral presentations 5th November 2023		
Venue: Biochem demo 2		5th November 2023 | 8:30-9:30am
Oral paper number	**name**	**Topic**
R48	Liya Roseline Joseph	Cost-consequence analysis and pharmacovigilance of Unfractionated Heparin and Enoxaparin among patients with acute myocardial infarction: A hospital perspective
R49	Manasi rege	In-vitro quantitative and qualitative analysis of anti-hypertensive drugs and comparison between their generic versus branded drugs.
R50	Vivek Mahajan	Point prevalence survey of antimicrobial use among in patients in tertiary care Centre
R51	Bakul Naik	Prospective analysis of cutaneous adverse drug reaction encountered in a tertiary care hospital
R52	Shivani Singh	A Prospective Observational Study to evaluate the efficacy of levetiracetam and phenytoin in attenuating severity of agitation in Traumatic Brain Injury patients at a tertiary care hospital
R53	Ketan Avinash Patil	Cost effective analysis of DPPIVinhibitors and glucosidase inhibitors as add on therapy with metformin in type 2 dm patients at tertiary care hospital

Venue: Biochem lecture hall		5th November 2023 | 8:30-9:30am
R54	Annu Sebastian	Management of drug resistant epilepsy
R55	Shabna MA	Ethambutol induced optic neuritis - a case series over a period of one year
R56	Shreya Mehta	Unravelling a Case of Tenofovir Induced-Fanconi Syndrome
R57	Sejal Tamhane	Abacavir induced Hypersensitivity in Indian patients
R58	Inesh Vij	Etoricoxib induced stevens johnson syndrome
R59	Neha Kolur	Unlocking Quinine's Power: A Prophylactic Alternative to Quinidine for Post Myocardial Infarction Electrical Storms
R60	Tara Pereira	Prescription pattern in geriatric population
R61	Mandar Rao	Assessment of relative infant dosage of commonly prescribed medicines in Obstetric and gynecology ward

Venue: TMA PAI Hall 2		4th November 2023 | 4:15-5:30pm
Oral paper number	**Name**	**Topic**
R62	Palak Jhawar	Self-medication practices and rational drug use habits among university students: a cross sectional study
R63	Reshma V	Poor medication adherence among breast cancer patients
R64	Rabia Basri	A study on knowledge, attitude and practice of generic medicines among health care practitioners in a tertiary care hospital
R65	Chirag M	Usage of NSAIDs in orthopedic practice in a tertiary care Centre
R67	Sayan Das	Short-term efficacy and safety of omidenepag isopropyl for the management of ocular hypertension and primary open angle glaucoma: A systematic review and meta-analysis
R68	Shruthi Chopdekar	Prescription pattern of Antihypertensive drugs enlisted in National List of Essential Medicines in a tertiary care hospital

Poster presentations		
Poster paper number	**Name**	**Topic**
P01	Vivek Mahajan	Botulinum Toxin type A induced acute hypersensitivity reaction in post Covid-19 vaccinated patient - a rare case report.
P02	Arun Ghosh M.S.	Chloroquine-induced Toxic Epidermal Necrolysis in a 3-year-old child- A Case Report
P03	Dhaniya Muhammad	Patterns of adverse drug reaction of platinum-based chemotherapy - a case series over a period of one year
P04	Dhanya Mohan	Patterns of adverse drug reaction of ciprofloxacin - a case series over a period of one year
P05	Ankitha Panigrahy	Optimising everolimus therapy: experience from the therapeutic drug monitoring centre at NIMS
P06	Azra Haneef	Case series of stevens-johnson syndrome and toxic epidermal necrolysis
P07	Shreya Kotal	A case report of Acute Generalized Exanthematous Pustulosis (AGEP) due to consumption of expired Pregabalin
P08	Ishita Agarwal	Polymyxin - induced DRESS Syndrome: a rare adverse drug reaction
P09	Norbin Varghese	Anti-tuberculosis treatment induced adverse drug reactions - a case series over a period of one year
P10	Yashvira Patil	Vymada induced Acute kidney injury
P11	Jegadeeshkrishnan M	Chemotherapy-induced Posterior reversible encephalopathy syndrome (PRES) in an AML patient
P12	Shivam Thaker	Thought it was an infection, didn't you? - A Case of Carbimazole Associated Agranulocytosis in Patient with Thyrotoxic Periodic Paralysis

Poster paper number	Name	Topic
P13	Aditi Malik	Ceftriaxone induced Periorbital Edema
P14	Harshini H	Beyond numbness: Unravelling EMLA's unusual side effects
P15	Mohamed Siddiq Muhammad Basheer	Duloxetine induced hyperhidrosis
P16	Rathi Bishakha Jayprakash	Injection Vitamin B complex induced Shivering
P17	Yashwin Bhagchandani	Breathlessness induced by Diclofenac
P18	Likhith P	Cefuroxime induced hypersensitivity
P19	R Siddhanth	Ferric carboxymaltose induced hypotension
P20	Akshay	From treatment to complication: Vildagliptin and Bullous pemphigoid – A case report.
P21	Maneesha Sharma	Primary Actinomycotic Osteomyelitis of Metacarpals
P22	Nitika sindhu	Bedaquiline-Based Therapy for MDR-TB
		A prospective observational study in a tertiary care hospital in Haryana
P23	Jeenu Mathai	Prescribing pattern of antidiabetic drugs in patients with Type 2 Diabetes Mellitusof a District Hospital in Maharashtra
P24	Viraj Shinde	Pharmacoeconomic study analyzing the cost variation of various brands of general anesthetic medicines commonly used in India
P25	Karthikeya Hegde	Rationality of Vitamin D Supplementation in Osteoarthritis Patients: A Cross-sectional Study in a Tertiary Healthcare Facility
P26	Shradha Nair	Pattern of Rational Drug Utilization in NICU of a Tertiary Care Hospital-A Retrospective Study
P27	Rajeesh E K	Recent antimicrobial susceptibility trends in uropathogens isolated from patients with urinary tract infection-a retrospective observational study
P28	Abhay Pratap Singh	Assessment of ADRs among patients receiving Anticancer drug in tertiary care centre for Causality, Severity, Preventability and Adherence
P29	Bharti Magazine	An exploratory data analysis to understand associations between clinical and demographic factors among hypertensive chronic kidney disease patients in South India
P30	Greeshma Gopinath	Knowledge and attitude regarding use of topical corticosteroids among medical students in a tertiary health care center
P31	Febina M B	Perception of Indian citizens on adult vaccination - a triangulated qualitative study.
P32	Mannith K	Patient's experience and perspective towards rational use of medicine at a teritiary care hospital in Tumkur - A cross-sectional study

Poster paper number	Name	Topic
P33	Preethi Shenoy	Knowledge and awareness of pharmacoeconomics among the postgraduate students of a tertiary care teaching hospital-A Questionnaire based analysis
P34	Vishesh Kumar	BCBR Knowledge & attitude among the post graduate (md/ms) students in a medical university in uttar pradesh
P35	Pranav Dighe	Comparing the efficacy of paracetamol, ibuprofen, and a combination of the two drugs in relieving pain and fever: a prospective observational study
P36	Rashmi Rao	Patient responses in psychiatry to medication adherance rating scale (MARS)
P37	Shreya Hegde	Network Pharmacology and Molecular Docking-based study to elucidate the antiepileptic effect of Sinapis alba
P38	Akshatha Nayak	A novel insight into the effectiveness of anti-snake venom and methanolic extract of Andrographis paniculata in combating the toxic Naja naja venom phospholipase A2: An in-vitro study
P39	Vasudha Devi	In-silico analysis of phytoconstituents of Sivanara vembu kuzhi thailam against IL-17A and TNF-α involved in psoriasis
P40	Manjunath Shetty	GCMS Analysis of kadukkai maathirai - a siddha polyherbal formulation
P41	Amrita Parida	Efficacy of Sinapis alba in lithium- pilocarpine induced status epilepticus
P42	Darrel	Effect of betanin on fluoride induced hepato-renal toxicity in wistar rats
P43	Meena Kumari	Evaluation of antiseizure activity of empagliflozin in Pentylenetetrazole model of epilepsy
P44	Ravindra S Swamy	Protective effect of Naringin against low dose sodium fluoride induced behavioural, cognitive and biochemical deficits in wistar rats.
P45	Shalini Adiga	Antiseizure activity of empagliflozin in an animal model of epilepsy
P46	Ganesh Shenoy	Therapeutic effect of Vetpalai thailam and Sivanar vembu kuzhi thailam (Siddha herbal preparations) in imiquimod induced psoriasis like inflammation in mice
P47	Jayashree V	Disruption of microbiota: Mitigating strategies to counter Antibiotic associated infections.
P48	Bejoy John Baiju	Natural Products and Drug Interaction
P49	Jashwanth Pathuri	Unlocking Therapeutic Potential: Sphingosine 1-Phosphate Receptors Modulating Drugs
P50	Venkatesh K.M	Artificial intelligence in rational therapeutics: A review
P51	Sumedha Tripathi	Precision medicine in TB
P52	Mohit Kumar	Precision medicine and pain management

CONFERENCE ABSTRACTS

EX01: Knowledge and practice of rational use of medicines among general practitioners

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Background: The medical practitioners have wide scope and responsibility in promoting rational use of medicines for better health care. Strategies are needed to effectively address irrational use of medicines especially antibiotics and to avoid the negative consequences of their misuse.

Aim: Questionnaire based survey aimed to investigate general practitioners' knowledge on rational use of medicines particularly antibiotic and practices related to antibiotic prescribing before and after conduction of Rational use of medicine and antibiotic prescribing workshop.

Methods: This cross-sectional study was conducted in August 2023, paper-based questionnaire was used consisting general characteristics of participants, polar questions (Yes/ No) to identify knowledge and multiple-choice practice questions. Chi2 test was used to compare pre and post workshop knowledge responses. (statistically significant: $P<0.05$)

Results: 44 correctly completed questionnaires filled by general practitioners studying in Certificate course in modern pharmacology were included in the study. The participants were aged 25-50 years, working for >10 years predominated in the study (59%)

22 Q's were allotted for assessing knowledge. The participants agreed with the statements "Do you know what p drug list is?" (64%), "Do you know what STEP criteria is?" (25%). The majority of respondents disagreed with statement "Antibiotics are effective against cold and flu" (95%).

Out of 14 knowledge question responses 9 question's responses were statistically significant after post workshop test. ($P<0.05$).

9 Q's to assess the practices regarding antibiotic use. For the question on "how the dose of antibiotics was decided", good choice was "by referring to guidelines" (93%).

Conclusion: This study concludes that the practitioners rational use of medicine knowledge has improved significantly after conducting the workshop. Comparatively lower practices regarding antibiotic use were noted indicating the need to encourage correct practices through means other than solely promoting knowledge.

Key words: Rational use, Medicines, General practitioners

EX 02: Apremilast versus methotrexate: the arrows in quiver for chronic plaque psoriasis

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Background: In the Indian subcontinent, psoriasis cases have skyrocketed in the last decade. Dry and hot weather aggrandizes the annual incidences. Nowadays, dermatologists harness methotrexate and apremilast to manage chronic plaque psoriasis. There needs to be more comparative studies on these drugs.

Aim and Objectives: We aimed to compare the effects of apremilast and methotrexate in the patients with chronic plaque psoriasis after 24 weeks. The primary objective was change in Psoriasis Area and Severity Index (PASI) after 24 weeks from the baseline. Change in Dermatology Life Quality Index (DLQI) after 24 weeks from the baseline and incidences of adverse events served as the secondary objectives.

Methods: This randomized, open-label, 24-week study was carried out from June 2021 to October 2022 in SCB Medical College, Cuttack, India. The participants were randomized in a 1:1 ratio to receive tablets of either methotrexate 10-15mg weekly once or apremilast 10-30mg twice daily. Efficacy and safety analyses were performed at baseline, 8, 16, and 24 weeks. We used R software (Version 4.1.1; R Foundation for Statistical Computing, Vienna, Austria) for data analysis.

Results: Seventy (82.3%) of 85 enrolled participants completed the study. The mean age of the study population was 41.08±5.17 years. Twenty-two (31.4%) of them were females. The median change in PASI from baseline was -37.25 (-39.00 to -34.25) for apremilast and -34.75 (-37.75 to -31.75) for methotrexate ($p=0.006$). The median change in DLQI from baseline was -19.50 (-22.00 to -17.00) for apremilast and -21.00 (-25.50 to -17.50) for methotrexate ($p=0.079$). No serious adverse events were noticed.

Conclusion: Apremilast was more effective and safer than methotrexate in psoriasis treatment. The statistically significant difference was found only in PASI scores.

Keywords: Psoriasis area and severity index, dermatology life quality index, scaly papule, rash, immune dysregulation

EX03: Investigating the morphological changes of plasma Extracellular Vesicles in schizophrenia patients

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Background: Schizophrenia (SCZ) is a heterogeneous syndrome affecting language, perception, thinking. Disease pathogenesis is multifactorial, and diagnosis depends on the assessment of patients by specialist in the absence of laboratory tests. Neurons secrete extracellular vesicles (EVs) in the blood and their evaluation will help in understanding the neuropathology and aid in the diagnosis of the disease.

Aim To determine morphological changes in extracted plasma EVs in schizophrenia cases compared to healthy controls.

Methods: A cross-sectional analytical study was conducted in two hospital settings. Baseline demographic details were collected by a questionnaire, and blood, 5 ml in volume was collected following voluntarily consented SCZ patients diagnosed by expert psychiatrist as per DSM V criteria and healthy controls. EVs isolated from plasma by PEG precipitation method and extracted EVs were characterized by EV markers, Nanoparticle Tracking Analysis (NTA) and transmission electron microscopy (TEM). The patients were followed up for two months of therapy and EVs isolation with characterization repeated at the end. Changes in EVs diameter and concentration was recorded at baseline and end. Data was analyzed by EZR software (V 1.61) and P value was fixed at ≤ 0.05.

Results: A total of 90 subjects were included in the study with 51 cases and 39 age matched healthy control. Mean age (Y), and Brief Psychiatric Rating Scale (BPRS) in cases was 35 ± 10, 42 ± 11 respectively. There was a significantly decreased BMI in SCZ (22 ± 5) compared to HC (26.2 ± 5). The mean diameter of EVs was significantly lesser in SCZ (180.8 ± 31.8nm) compared to HC (203.6 ± 38nm). There was no difference in concentration of EVs between the groups. There was no significant difference in EVs size and concentration during follow-up.

Conclusion: EVs diameter was found to be lesser in SCZ cases compared to healthy controls. Morphological finding can aid in the laboratory diagnosis of Schizophrenia. However, there was no changes in the size of EVs following therapy with antipsychotics.

Key words: Schizophrenia; Extracellular vesicles; Diameter.

EX04: The pyrazinamide resistance due to mutation in pncA gene and its association with treatment outcome among Tuberculosis patients of South India- A longitudinal observational study.

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Background: Mycobacterium tuberculosis has been extensively studied for mutations leading to drug resistance. Pyrazinamide is a drug acting on the semi-dormant bacteria that is responsible for relapse of tuberculosis. This drug helped in reducing the treatment duration of tuberculosis from nine to six months. However, this drug is not being screened for resistance along with Rifampicin and Isoniazid.

Aim: This study aimed to estimate the proportion of pncA gene mutation among tuberculosis patients and its association between treatment outcomes, clinical characteristics, and phenotypic drug resistance.

Methods: A total of 154 samples included 73 drug- resistant and 81 drug- susceptible isolates. The isolates were subjected to DNA extraction and amplification using conventional PCR. The PCR product was sequenced by the Sanger sequencing method, and phenotypic drug susceptibility testing was done using the broth dilution method. The association of this gene with the treatment outcome was done by following up with the patients till the end of the regimen.

Results: Among the drug susceptible tuberculosis patients, none of them showed significant non-synonymous mutations. Among the drug-resistant TB patients, seven unique significant mutations out of 73 isolates (9.6%) were distributed among the Isoniazid-resistance tuberculosis and Multi-Drug Resistant Tuberculosis isolates. No association was found between the mutations and the clinical characteristics of the subjects harboring these isolates.

Conclusion: This study estimated seven unique mutations in drug-resistant tuberculosis and none in drug-sensitive tuberculosis. Isolates harboring was not significantly associated with the treatment outcome and other clinical characteristics of the participants. The pyrazinamide resistance testing by the phenotypic and genotypic methods was found to be in concordance.

Keywords: Pulmonary tuberculosis, Pyrazinamide resistance, Genotypic resistance, Phenotypic resistance,

EX05: Patient or caregivers' understanding of medication details in OPD prescriptions: an observational study from a tertiary care hospital

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Background: An important component of patient safety is appropriate communication of a prescription by a healthcare professional. Improper understanding of prescriptions is one of the major causes of medication errors.

Aim: This study aims at assessing how well patients or their care givers attending outpatient service in our hospital have understood the information conveyed in the prescriptions served to them.

Materials & Methods: This prospective questionnaire-based observational study was conducted in patients attending different outpatient (Medicine, Pediatric, Cardiology and ENT) clinics of our hospital. The questionnaire had both open and closed ended questions about number of drugs, dose, frequency, duration and special instructions like relation to food.

Results: We enrolled 380 literate patients or their caregivers from the above stated outpatient clinics. Majority of the prescriptions were legible (95.78%) and complete (85.52%) as assessed by the pharmacologist. Overall understanding of the prescriptions was poor amongst all categories of patients or their care givers as 65.52% had <50% comprehension of the essential information (drug frequency, duration, special instructions regarding intake) about prescribed drugs. Major lacunae included poor understanding of frequency and special instructions as 60% patients had poor understanding of drug frequency and 64.54% about special instructions. However, 59.78% scored well in understanding of drug duration. Patients with secondary or higher level of education had better understanding compared to those with lesser education level. Suggestions from the patients for their better understanding included prescription in vernacular language (46.84%) and pictorial representation (34.21%).

Conclusion: This study has generated data on a cohort of patients/caregivers attending OPD clinics of a tertiary care hospital regarding the comprehension and perceived barriers and facilitators for understanding a served prescription. The study outcome will assist hospital administrators develop strategies to improve this important issue.

Keywords: prescription, understanding, patients

EX06: Efficacy of Oral Versus IM Vitamin D in individuals with hypovitaminosis D

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Introduction: Vitamin D is important for bone health and has other pleiotropic effects. Hypovitaminosis D is associated with problems in bone health, immune function, and cardiovascular health. Currently, there is not enough evidence to determine the optimal doses and administration route of vitamin D, especially in individuals with deficiencies and considering several interindividual confounders.

Aim: The study was to compare the efficacy of oral versus IM Vitamin D in individuals with hypovitaminosis D.

Materials & Methods: This was an open label RCT of 3 groups of 44 participants with Serum Vitamin D < 30 ng/ml. Group A received 800 IU oral Vit D daily for 3 months. Group B received 60,000 IU oral sachet weekly for 3 months. Group C received 3,00,000 IU IM injection monthly for 3 months. Follow up was conducted at 6 and 12 weeks.

Results: Mean Vitamin D level at baseline, six weeks and 12 weeks showed an increasing trend from 17.3+/-5.82 ng/ml to 33.5+/-9.95 ng/ml to 40.6+/-9.31 ng/ml respectively. At 6 weeks mean Vitamin D was greatest in IM group ($p<0.002$) and at 12 weeks mean Vitamin D was again greatest in IM group ($p<0.001$). At baseline 100 % participants had Vitamin D insufficiency which decreased to 34.8 % at 6 weeks ($p=0.434$) and 6.8% at 12 weeks ($p=0.002$). On intergroup comparison it was found that 100% participants in IM group achieved Vitamin D sufficiency at 12 weeks. Also, the increase in mean Vitamin D was significantly great in IM injection group, during all time points; FU2-BL (31.05+/-7.54 ng/ml), FU2-FU1 (9.55+/-5.98 ng/ml), FU1-BL (21.51+/-7.67 ng/ml).

Conclusion: This study concluded that intramuscular group showed significantly greater efficacy over tablet and sachet group at 6 weeks and 12 weeks. Also, number of people achieving Vitamin D sufficiency was also significantly greater in IM group.

Key words: Hypovitaminosis D, IM route, Oral route, Route of administration, Efficacy

EX07: Factors Influencing Cyclosporine Predose Trough Concentration in Children with Nephrotic Syndrome

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Background: Cyclosporine is a key immunosuppressant used in treatment-resistant nephrotic syndrome (NS). Therapeutic drug monitoring is often recommended for optimal clinical outcomes. We aimed to determine the predose cyclosporine trough concentration (C0) in children with NS and to study the factors influencing it.

Methodology: In this prospective cohort study, we enrolled children aged 1-18 years with NS on cyclosporine on a stable dose for at least two weeks. Demographics, clinical status, laboratory parameters, and adverse effects were captured in case record form. Cyclosporine levels were estimated using an in-house validated assay by Liquid chromatography with tandem mass spectrometry.

Results: The median age of the participants (n = 27) enrolled in the study was 5.0 (IQR: 2.9, 9.1). The male: female ratio is 1:1.3. The median (IQR) of C0 and dose-normalized predose trough (C0/D) concentrations achieved in these children were 114.8 (IQR: 86.1, 186.3) ng/mL and 32.1 (IQR: 18.9, 45.3) ng/mL per mg/kg/day, respectively. 44% (12/27) had C0 above the recommended therapeutic range of 80-120 ng/mL and 15% (4/27) below the range. Those who were on capsules had significantly higher levels than those on syrup formulation after adjustment for age and concurrent amlodipine use (-coefficient with 95%CI: 111.6 (26.7-196.6); p value-0.012). Concomitant cyclosporine and amlodipine use is associated with an increased risk of gum hypertrophy.

Conclusion: Nearly half the children prescribed cyclosporine at a mean dose of 4.1± 0.8 mg/kg/day had predose trough levels outside the recommended therapeutic range of 80 -120 ng/mL. Dosage form significantly influenced the predose trough concentrations.

Keywords: Predose trough, TDM, cyclosporine A, precision medicine, immunosuppression

Ex08: Explainable AI Model as a Complementary Tool to Randomized Controlled Trials (RCTs): A Comprehensive Assessment using Historical COVID Data

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Background: Randomized Control Trials (RCTs) are the gold standard for establishing causality in drug efficacy, However, they have limitations due to strict inclusion criteria and complexity. When RCTs are not feasible, researchers turn to observational studies.

Aim: Explainable AI (XAI) models provide an alternative approach to understanding cause-and-effect relationships.

Methods: In this study, we utilized an XAI model with a historical COVID-19 dataset to establish the hypothesis of drug efficacy. The datasets consisted of 3,307 COVID-19 patients from a hospital in Delhi, India. Eight XAI models were employed to assess factors influencing COVID-19 mortality. LIME and SHAP interpretability techniques were applied to the best-performing ML model to determine feature importance in outcome.

Results: The XGBoost ML classifier outperformed (weighted F1 score, MCC, accuracy, ROC-AUC, sensitivity and specificity score of 91.7%, 58.8%, 91.3%, 92.2% 93.8%, and 70.2%, respectively) other models and the SHAP summary plot enabled the identification of significant features that contributes to COVID-19 mortality. These features encompassed comorbidities like renal and cardiac diseases and tuberculosis. Additionally, the XAI models revealed that medications such as enoxaparin, remdesivir, and ivermectin did not exhibit preventive effects on mortality

Conclusion: While XAI models offer valuable insights, they should not replace RCTs as a priority for ensuring the safety and effectiveness of new drugs and treatments. However, XAI models can serve as valuable tools for suggesting future research directions and aiding clinical decision-making, particularly when the efficacy of a drug in a controlled trial is uncertain.

Keywords: RCT,Observational Study, COVID-19, XAI, Interpretability, Artificialintelligence

R01: Evaluation of the association of polypharmacy with geriatric depression: an observational study

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Background: Dementia and depression are the most common neurological conditions affecting the majority of the elderly population worldwide. Polypharmacy is identified as an important determinant influencing the affective status in geriatric population.

Aim: Determine the prevalence of depression and evaluate the association between polypharmacy and depression in tertiary care teaching hospital.

Methods: Patients aged 60 years and older attending the general & geriatric medicine OPD giving voluntarily consent were included in the study. Preformed proforma was used to collect patient and medication details. Psychometric assessment was conducted using a pre-validated 15-item Geriatric Depression Scale. Data were analysed using descriptive statistics. Chi-square test was used to determine the association of polypharmacy with depression.

Results: Total of 235 patients participated in the study. Majority were female and maximum proportion of the participants were in the age group of 60-64years. Average number of drugs prescribed per patient was 3.83±2.81. Among the study participants, 218(92.7%) received chronic prescription medication and 33.1% were on five or more medications. Of the total 799 drugs, the most common group was oral antidiabetic agents. Overall mean GDS score was 2.51±2.78. Of the 40(17%) patients with GDS score of more than 5, 35 were categorized as moderate depression and 5 as severe depression. Polypharmacy was noted in 27 patient prescription with GDS score suggesting depression and the association was significant on Chi square test.

Conclusion: This study reports a significant association between polypharmacy and geriatric depression. Further studies analysing the determinants would elucidate the relationship between them guiding us in employing strategies to simplify pharmacotherapy in treating disorders in the elderly.

Keywords: Depression, Geriatric, Polypharmacy

R02: A study to assess the efficacy and safety of oral itraconazole as an add on to steroids in allergic fungal rhinosinusitis in a tertiary care hospital

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Background: Allergic Fungal Rhino sinusitis (AFRS), a unique variety of chronic polypoid rhinosinusitis in atopic individuals. Worldwide the incidence varies from 5 to 10%. It impairs the quality of life significantly and creates socioeconomic loss.Failure to remove all sinus disease leads to high relapse rate, hence the best outcome is a product of coordinated medical and surgical care. An add on therapy of antifungal drug Itraconazole, to the standard steroid therapy may provide greater relief in the patients of AFRS following FESS, by decreasing the long-term use of steroids and chances of recurrence. As a result, this study has been taken up.

Objectives: To evaluate the efficacy and safety of oral itraconazole as an add on therapy to steroids in allergic fungal rhino sinusitis from baseline to 6 weeks.

Methodology: Following FESS, sixty patients were divided into 2 groups, and all received standard treatment steroid. One group were randomized and administered oral Itraconazole as an add on therapy. Efficacy was measured by SNOT-20 score, NE grade and LM score from baseline to 6 weeks. Safety was assessed by assessing CDSCO score at 3rd and 6th week.

Statistics: Data was analysed,

I. Continuous data - unpaired 't' test, repeated measure ANOVA, paired 't' test and

II. Categorical data - chi-square test.

Results: In the present study, at the end of sixth week of study period both the treatment groups had a significant improvement in the symptoms and were well tolerated. The addition of Itraconazole showed modest improvement in response to the standard steroid regime.

Conclusion: This study concludes that itraconazole when given as an adjuvant in AFRS improved the cavity along with symptoms scores compared to steroid alone. Hence, Itraconazole can be taken as an adjuvant therapy with promise for cases of AFRS.

Keywords: FESS- Functional Endoscopic Sinus Surgery, SNOT- Sino Nasal Outcome Test, NE- Nasal Endoscopy, LM- Lund and Mackay

R03: A Study of Drug Utilization Pattern and Pharmacoeconomic Analysis of Immunosuppressant Drugs in Patients of Skin Disorders in a Tertiary Care Hospital of Bihar

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Background: In this study, the commonly used immunosuppressive drugs were steroids, antimetabolites, alkylating agents, cyclosporine and mycophenolate mofetil. These drugs have familiarity with disease-specific clinical efficacy, side-effect profile, and dosage which allows its successful and judicious use. The cost-effective therapy of these drugs will not only lead to adherence of rational prescribing but will also increase the patient compliance with fewer dropouts.

Aim: To determine and compare the drug utilization pattern, prescribed daily dose/defined daily dose (PDD/DDD) defined by WHO, and the cost-effectiveness ratio of different immunosuppressants.

Methods: Prescriptions from patients with skin disorders prescribed with any one systematic or topical immunosuppressant were collected. Frequency and percentage of utilization of different drugs was calculated using descriptive statistics. The cost-effectiveness ratio in terms of SFDs (symptom free days) was defined as total cost of initial antibiotic during the study period divided by number of SFDs (Cost/ SFD) and was expressed as mean ± standard deviation and Kruskal-Walli's test was used to determine statistical significance of difference.

Results: Prednisolone was most prescribed immunosuppressant drugs (42.33%) with PDD/DDD ratio greater than 1 followed by deflazacort (28.51%) with PDD/DDD of less than 1. Prednisolone was mostly used in Discoid Lupus Erythematosus (DLE) whereas xerosis was most common indication for the use of deflazacort. Among topical immunosuppressants, tacrolimus was mostly prescribed (35.49%) for vitiligo followed by mometasone (20.17%) for DLE. Cost-effectiveness ratio of prednisolone was 3.58 rupees/SFD as compared to 18.29 rupees/SFD of deflazacort ($p<0.0001$).

Conclusion: Steroids were found to be more commonly used as compared to other immunosuppressants like cyclosporine, azathioprine, and cyclosporine. Cost-effectiveness of steroids have advantage of providing better patients' adherence to pharmacotherapy but could also lead to long-term adverse effects. Pharmacovigilance research should also incorporate pharmacoeconomic analysis to determine relation between these two aspects.

Keywords: Cost-effectiveness, Drug-utilization, Immunosuppressant, Skin Disorders

R04: Antimicrobial utilization pattern in indoor patients of Obstetrics and Gynecology ward of a Tertiary care hospital.

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Background: Rational prescribing of Antimicrobials is fundamentally necessary to reduce the incidence of Antimicrobial Resistance.

Aim: To evaluate the rationality of antimicrobial prescribing practices in patients admitted to Obstetrics and Gynecology ward of a Tertiary Care Hospital using ICMR Guidelines, 2019.

Methods: It was a prospective observational study. Study was conducted in newly admitted in the Obstetrics and Gynecology ward receiving antimicrobial therapy. Drugs prescribed to the patients during their hospital stay were noted from case sheets in case record form. WHO Core indicators and economic indicators were used to find out prescribing patterns. Medguideindia.com was referred for prices of drugs.

Results: 68 patients were included in the study. Average number of drugs per patient was 8.28. Average number of antimicrobials prescribed per patient was 2.66. 73.53% of patients received drugs through parenteral route. 14% of the drugs were prescribed by their generic name. Average antimicrobial treatment duration was 3-4 days. Commonly prescribed antimicrobial was Cefotaxim (4th generation Cephalosporin). Average drug cost per patient was calculated and was 723.63 rupees. Average cost of antimicrobial treatment accounted for 48.96% of the average drug cost. All antimicrobials were prescribed from NLEMI 2022.

Conclusion: According to WHO guidelines all drugs should be prescribed by their generic names. Average number of antimicrobials per patient was higher than the optimal value of 1.8. Average duration of antimicrobial treatment was higher than the recommended average duration suggested by ICMR. Use of 2nd generation cephalosporins was also suggested by ICMR guidelines. For rational use of antimicrobials and to reduce cost of antimicrobial treatment, it is advisable to refer to ICMR Guidelines.

Keywords: Antimicrobial Resistance, Rationalism, WHO, ICMR.

R05: Influence of patient's socio-economic status on prescription of drugs– A qualitative study

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Background: The need for prescription of drugs based on socio-economic status (SES) develops in; underdeveloped and developing countries where poverty is still a major issue that is still under scrutiny by associations worldwide to eradicate. Little is known; however, about how low SES ultimately influences physicians' decision-making regarding drug prescription for patients and thus how SES may contribute to measured disparities in quality of care.

Aim: To study the influence of Socio-economic status on prescription of drugs.

Methods: The study consisted of in-depth semi structured interviews with physicians from non-surgical departments in Sri Siddhartha Medical College and Hospitals and other private practices.

Results: 50 Medical Professionals were interviewed, they opinionated on how factors like appearance, communication and hygiene primarily influenced their judgement on a patient's SES and how the patient's occupation, family background would confirm the SES of a patient. They prescribe generic drugs, recommend patients to buy medications from government outlets and give away free samples if the patient express concern about non-affordability of drugs. Essential medicines by the government were held in high regard. There was a difference in opinion about the cost as a factor in rational drug prescription among well experienced and newly practicing doctors.

Conclusion: Physicians indicated that patient SES did affect their conservative management decisions. As a result, physicians commonly undertook changes to their prescription plan in an effort to enhance patient prognosis, but they experienced numerous issues while trying to balance what they believed was feasible for the patient with what they perceived as established standards of care.

Keywords: Rational Drug Use, Socio-Economic status, Physician.

R06: Cutaneous Adverse Drug Reaction Profile in Tertiary Care Teaching institute: A Prospective study

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Background: Cutaneous adverse drug reactions (CADRs) are the most common type of drug sensitivity reactions, with a varied and diverse range of morphologies. Therefore, it is essential to be aware of them for diagnosis and prevention.

Aim: To assess the cutaneous adverse drug reactions (CADRs) profile reported from the tertiary care teaching hospital in North India.

Methods: A prospective, observational study was conducted over a period of 6 months in the Department of Pharmacology & Therapeutics, Jammu in collaboration with the Dermatology department, SMGS Hospital, Jammu after obtaining permission from the institutional ethical committee. Patients with suspected drug rash, of either sex and all age groups were included in the study. The WHO-UMC scale and Naranjo algorithm scale were used to determine the causality assessment. Details regarding drug intake, morphology of eruption, offending drugs, drug rechallenge/ de-challenge history, and treatment given to the patients were assessed.

Results: Out of 100 patients enrolled, 42.63% had an exanthematous drug eruption, while 21.32% had dermatitis. Most reactions were caused by antimicrobials (64.73%) followed by non-steroidal anti-inflammatory drugs (NSAIDs) in 15.50% of patients, with 9% experiencing severe cutaneous adverse drug reactions (SCADRs), like Stevens-Johnson syndrome (SJS) and toxic epidermal necrolysis (TEN), caused by antituberculous drugs.

Conclusion: The study findings show that reporting adverse drug reactions (ADR) can help identify the drugs most commonly associated with dermatological reactions. This leads to better patient treatment through early identification and management of these reactions.

Keywords: cutaneous adverse drug reactions, antimicrobials, exanthematous drug eruption.

R07: A clinical endocrinological evaluation research study of tertiary patient healthcare satisfaction with anti-diabetic pharmacotherapeutics, along global pharmacoepidemiology.

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Background: The global diagnostic criteria and antihyperglycaemic treatment protocols, have recommended beneficial anti-diabetic combination pharmacotherapeutics, like biguanides, dipeptidyl peptidase-4 inhibitors and sodium glucose cotransporter subtype 2 inhibitors, for anti-diabetic tertiary and quarternary healthcare.

Aim: The objective of this study was a clinical endocrinological evaluation research of tertiary patient healthcare satisfaction with anti-diabetic combination pharmacotherapeutics, along global pharmacoepidemiology.

Methods: 100 early moderate grade, type II diabetes mellitus patients, were prescribed oral 250 mg metformin and 50 mg remogliflozin combination therapy, or oral 250 mg metformin and 25 mg sitagliptin combination therapy, or 250 mg metformin and 25 mg gemigliptin combination therapy, once daily, for 3 months, or as monotherapy, or in a mixed regimen of monotherapy andcombination therapy. The anti-diabetic medical healthcare patient satisfaction was evaluated by the response of the patients to the different attributes, like immediate treatment delivery, appropriate and convenient investigations and treatment, quickly controlled diabetes, safe and tolerable treatment, easily accessible medications, convenient administration of medications, and maintenance of symptom-free controlled diabetic period. These observations were recorded and thoroughly analysed.

Results: The global patients were satisfied with the different attributes of anti-diabetic tertiary medical healthcare provided.

Conclusion: There was ample global anti-diabetic patient healthcare satisfaction.

Keywords: Tertiary healthcare, patient satisfaction, anti-diabetic pharmacotherapeutics, Clinical Endocrinology

R08: Pattern of drug usage in management of depression in tertiary care hospital

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Background: As depression is a major public health problem, a drug utilization study is beneficial in clinical practice for rational prescribing among various antidepressants.

Aim: To determine the prescribing pattern of antidepressant drugs in depression disorder in the psychiatric outpatient department of a tertiary care hospital.

Methods: Cross sectional observation study (may-september2023) was carried out at psychiatry OPD in Sri Siddhartha medical college and hospital after obtaining institutional ethical clearance. Demographic details and type of the depressive disorder, antidepressants and concomitant drugs prescribed of 100 outpatients who attended the psychiatry OPD were collected. All the data were compiled, and statistical analysis was done.

Results: Total of 100 depression patients were observed with age group predominantly 18- 30 years, female patients and are more common in urban compared to rural. Major depressive disorder is the most common disorder 51% followed by recurrent depression 21%, bipolar depression15% and dysthymia13%. Escitalopram50% was the most commonly prescribed antidepressant followed by serteraline19%, fluoxetine17%. Clonazepam was the commonest co-prescribed drug57.1% followed by Etizolam18.7%, vitamin B12 complex12.1%. Commonly prescribed drug as monotherapy was fluoxetine and as combination therapy was Escitalopram and clonazepam. Average number of drugs prescribed per encounter 2.02. 71.2% of drugs prescribed from essential drug list.

Conclusion: Prescribing pattern of antidepressant drugs are almost similar in accordance with WHO prescribing indicators despite small deviation in prescribing Practices. The average Number of drugs per prescription was higher than recommended by WHO (not significant). Generic name was ignored, and list of essential drugs was followed partially.

Keywords: Antidepressants, escitalopram, prescription pattern

R09: Pharmacotherapy and drug interactions in a patient with chronic kidney disease at a tertiary care center– a cross-sectional study

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Background: Chronic kidney disease (CKD) is defined as either kidney damage or a decreased glomerular filtration rate (GFR) of less than 60 mL/min/1.73m2 for 3 or more months.The prevalence of CKD in India is 17.2% and it is substantially higher in hypertension, Diabetes, and vascular disease patients.Polypharmacy potentiates the risk of medication-related problems, such as drug-drug interactions and complex drug regimens, increasing medication costs which lead to medication non-adherence and lower quality of life, and the risk increases as CKD progresses.

Aim: To assess the pattern of prescription and drug interactions in chronic kidney disease patients.

Methodology: It was a cross-sectional study done from November 2022 to April 2023. The study was conducted in the Department of General Medicine in Victoria Hospital attached to Bangalore Medical College and Research Institute in 60 patients diagnosed with CKD. The pattern of prescription was assessed in addition drug interactions were assessed by using Medscape – an online drug interactions checker.

Results: The data demonstrated that most of the patients who were diagnosed with CKD were males (60%) and in the age group of less than 60 years (88%). 50% of patients belong to CKD stage IV followed by stage III (40%) and II (10%). The most common comorbidity associated with CKD was hypertension (63%), and T2DM (42%), followed by CVA and DCLD 10% each. Drug interactions in patients were divided into Severe (3.33%), Moderate (60%), Mild (66.66%), and No interaction (33.33%).

Conclusion: The problem in CKD is not only an increase in the burden and the progressive nature of the disease. Rational drug prescription is a difficult task in CKD patients because these patients are at higher risk of drug-related problems since they need complex therapeutic regimens that require frequent monitoring and dosage adjustments to reduce drug interactions in polypharmacy.

Keywords: CKD, GFR, Drug-drug interaction, Pharmacotherapy

R10: A Comparative Study of the Effects of Phosphate Binders on Biochemical Parameters in Chronic Kidney Disease Patients on Maintenance Hemodialysis

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Background: Hyperphosphatemia, a common complication affecting nearly 70% of patients on maintenance hemodialysis, is a significant risk factor for cardiovascular events and mortality in chronic kidney disease (CKD) patients. Previously, calcium-based binders (CBBs) were the mainstay treatment for hyperphosphatemia but newer non-calcium-based binders are gaining traction.

Aim: To compare the effects of different phosphate binders (Calcium acetate, calcium carbonate and Sevelamer) on biochemical parameters in CKD patients on maintenance hemodialysis.

Methods: In this observational study, 50 patients with CKD on maintenance hemodialysis with hyperphosphatemia were enrolled with a study period from 01-11-2022 to 30-04-2023. Data included patient's demographics and biochemical parameters (serum phosphorus, serum calcium, ALP, electrolytes, serum albumin and renal function tests) at enrolment with a follow-up at 6 months.

Results: A significant decrease in serum phosphorous, urea and uric acid were observed in all patients receiving phosphate binders during a 6-months treatment period. Specifically, a statistically significant decrease in serum phosphorous was observed with calcium acetate (1.085), calcium carbonate (1.1) and sevelamer (1.67). In contrast, sevelamer treatment resulted in a significant decrease in serum calcium, while calcium-based phosphate binders did not cause a significant increase in serum calcium levels. Additionally, serum ALP, electrolytes, creatinine and albumin showed a significant decrease with sevelamer (average difference: 54.75, 7.38, 0.851, 2.72, 2.545 and 0.821, respectively).

Conclusion: This study compared phosphate binders in CKD hemodialysis patients. Patients on calcium acetate, calcium carbonate and Sevelamer showed significant reductions in serum phosphorous levels. Sevelamer was more effective in decreasing serum ALP, electrolytes, creatinine and albumin.

Keywords: Hyperphosphatemia, Chronic kidney disease, maintenance hemodialysis

R11: WHO validated core drug use indicators to assess pattern of drug utilization in a tertiary care health facility

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Background: Drug utilization studies[1] can provide insights into pattern, quality, determinants and outcomes of drug use. Drug utilization research is a useful tool to achieve cost effective healthcare, as it can be the basis for suggesting improvements in drug guidelines and in rational drug use[2].

Aim: To assess pattern of drug utilization in OPDs of Sri Siddhartha medical College and hospital, Tumkur using WHO validated core drug use indicators[3].

Methods: An observational cross-sectional study was conducted among 809 patients visiting the OPDs/Pharmacy of Sri Siddhartha medical College and hospital. The study duration was for 3 months from 1st July'2023 to 31st September'2023. For the comparison of each WHO/INRUD indicators, the published ideal standards were used.

Results: Among Prescribing indicators; 11% were monotherapy and rest polypharmacy. 2.37% of drugs were in generic name and 38.65% were from Essential Drug List [EDL] . 23.8% of the prescriptions contained antibiotics and 0.9% included injections. Among Patient Care indicators, average consultation time was 21.93 mins and average dispensing time was 8.28 mins. 92.3% of prescribed drugs were dispensed and 100% of them were adequately labelled and the percentage of patients with correct dosage-schedule knowledge was 91.96%. Among Facility Specific indicators, the OPDs/Pharmacy had copies of recent EDL and key drugs stocks were maintained.

Conclusion: The selected hospital practiced optimal consultation and dispensing time, limited antibiotic and injections use and maintained required stock of key drugs. Areas for improvement include polypharmacy, brand prescribing, and less drugs prescribed from EDL.

Keywords: Drug utilisation studies[1], Rational drug use[2], WHO core drug use indicators[3], Essential drug list , Key drugs.

R12: A cross sectional study to assess the frequency and factors associated with psychotropic polypharmacy among patients with psychiatric illness

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Background: Psychotropic polypharmacy means concurrent prescription of two or more psychotropic medications to a patient. The prevalence varies from 13 to 90%. Polypharmacy may increase the effectiveness of treatment, but can increase the chances of adverse effects, drug interactions, cost and lower adherence.

Aim: To assess the frequency and the factors associated with psychotropic polypharmacy.

Methods: A cross sectional study was conducted among adult patients attending psychiatry clinic in BMCRI. The study was initiated after obtaining clearance from institutional ethics committee and informed consent from the patients. Detailed demographic, disease and drug data was collected through case record forms. Chi square test and binary logistic regression was used to determine the factors associated with Polypharmacy. A p-value less than 0.05 was considered significant.

Results: Of the 125 study participants, 87.2 % were aged between 20 and 60 years. The overall frequency of polypharmacy was 68.8%. The frequency of polypharmacy was 100% in bipolar disorder (BPD), 85.2% in psychosis, 81.3% in anxiety, 64.7% in depression and 52.4% in alcohol dependence syndrome.

70% of BPD and 37 % of psychosis patients had antipsychotic polypharmacy and 19% of anxiety patients had Selective Serotonin Reuptake Inhibitor (SSRI) polypharmacy. 11% of psychosis patients had polypharmacy of sedatives. Risperidone-clonazepam (18%), escitalopram-clonazepam (37%) and amitriptyline-clonazepam (14%) and risperidone-lorazepam (40%) were the most frequently used combination of drugs in psychosis, anxiety, depression and BPD respectively. Haloperidol, risperidone & clonazepam (14%) was the most common 3 drug combination in psychosis.

On regression analysis, the factors significantly associated with psychotropic polypharmacy was the primary diagnosis of the patient i.e., psychosis, anxiety and BPD ($p=0.048$) Conclusion: More than half of the patients were noted to have psychotropic Polypharmacy. The frequency was higher in BPD and Psychosis. The diagnosis of the patient significantly influenced Psychotropic polypharmacy.

Keywords: Polypharmacy, Psychosis, Bipolar disorder, Depression, Psychiatry

R13: Comparison of effects of 6l/minute oxygen supplementation versus 2l/minute versus no oxygen supplementation during flexible bronchoscopy

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Background: Flexible bronchoscopy is a diagnostic and therapeutic procedure performed in patients with lung disorders. Usually during flexible bronchoscopy supplemental oxygen is given, but the literature regarding its usage and dose is inadequate.

Aim: To study the need for routine oxygen supplementation during flexible bronchoscopy

Methods: The patients were randomized to three groups A B and C in which oxygen at 6l/min and 2l/min and no oxygen were given respectively at the start of the procedure. The trigger for oxygen titration was a significant desaturation, <90% or 4% fall from baseline for more than 1 minute. In case of significant desaturation, rescue oxygen was given as per study protocol.

Results: The average mean SpO2 in group A B and C were 99.43 ± 0.72, 98.81 ± .84 and 98.36 ± 1.17 respectively (P = 0.004). The trough SpO2 in group A B and C were 98.22 ± 1.22 ,97.11 ± 2.08 ,96.33 ± 2.63 respectively (P = 0.029). There was no significant difference in the mean HR, SBP, DBP and RR among three groups. Three significant desaturation events (two in group C and one in group B) were recorded during the study period out of which one patient in group B required additional oxygen supplementation beyond 10 minutes post-procedure.

Conclusion: Mean and trough SpO2 were significantly higher in group A than in group However, there was no significant difference in hemodynamic parameters and respiratory rates between the three groups.

Keywords: flexible bronchoscopy, oxygen, non-rebreathing mask

R14: Role of Problem Based Learning in the Medical Curriculum on Rational Drug Prescription

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Background: Rational drug use involves the appropriate use of medications so that their selection, dose, duration are according to the guidelines, suitable for clinical needs, at the lowest cost to the provider, community and the patient, and are dispensed correctly and taken properly. Although Traditional Teaching Methods are used since ages, this study is aimed at understanding the role of PBL methodology in Rational Drug Prescription.

Aim: Role of PBL in rational drug prescribing and their attitude towards PBL.

Methods: This is a prospective study which is carried out among 150 2nd Year MBBS students. Students were grouped into 3 batches with 9 subgroups. After prior sensitisation about PBL, a checklist was used to analyse the prescribing indicators as per WHO prescribing guidelines. Their attitude towards both the methods were recorded.

Results: Out of 150 participants, 99 were female and 51 were male aged 19-21 years. The average score among all the subgroups ranged from 18-24 which is a favourable prescription as per the WHO criteria. Attitude of these participants showed significant results with respect to clinical relevance to real life situations, preparation towards health care delivery and understanding drug rationale better in PBL in comparison to Traditional Teaching Methods.

Conclusion: PBL showed better rational prescribing as per the WHO criteria and attitude was also significant. Participants also preferred PBL method as teaching aid in rational prescribing.

Keywords: PBL (Problem based learning), Traditional teaching methods, drug rationale

R15: Antimicrobial utilization pattern using world health organisation(who) prescribing indicators in paediatric inpatients in a tertiary care hospital: across-sectionalstudy.

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Background: Antimicrobial agents constitute a significant portion of hospital drug expenses (20-50%). Reports reveal a 50% misuse rate, leading to adverse effects, drug resistance, and increased healthcare costs. The WHO recommends guidelines as Indicators based on evidence to reduce irrational antibiotic prescribing. Adopting these guidelines will standardize treatments, minimize dosage mistakes, and ensure prioritization of decision-based on clinical evidence. The use of antibiotics among children is different from adults due to differences in the physiological spectrum among different age groups. These indicators are particular to be assessed in hospitalized patients. The data regarding these indicators are scares. Hardly any studies done in the pediatric department using these indicators. In view of all the above the present study is planned.

Aim: To evaluate the appropriateness of antimicrobial prescribing patterns in paediatrics department in a tertiary care hospital using WHO prescribing indicators.

Methods: A prospective observational cross-sectional study was conducted in our tertiary care hospital. Data were collected from 125 patients admitted to the NICU and PICU of our tertiary care hospital from April 2023 to July 2023. It was analysed using WHO prescribing indicators for antimicrobial utilization.

Results: The most common diagnosis in the both NICU and PICU was a respiratory infection followed by GI infection in PICU and sepsis in NICU.WHO prescribing indicator analysed was: Percentage of patients with antimicrobials prescribed was around 92%. The average number of antimicrobials prescribed was 1.992. 100% of antimicrobials prescribed were consistent with the hospital formulary list, with the average cost of antimicrobial treatment per hospitalization around 998.96 INR, and the average duration of antimicrobials prescribed was 2.79 days. 93.75% of the patients with pneumonia received the correct drug and among all them 100% received the prescribed the dose of antibiotics, and around 93.5% of the drugs being prescribed in the generic names.

Conclusion: Prescribing the pattern of antimicrobial agents in the paediatric departments of our hospital was satisfactory in most of the indicators.

Keywords: Antimicrobials, World health organization Indicators, Paediatric

R16: Prescribing practices in public & private health facilities in Delhi (India): Evaluating need for policy changes.

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Background: It is estimated that worldwide half the medicines are inappropriately prescribed. Prescribing practices can vary in private and public health facilities (HF) where doctors may have to prescribe medicines from a hospital essential medicines list (EML)vis a vis the private sector where patients buy medicines which a doctor has prescribed.

Aim: To assess the prescribing practices in public and private health facilities in Delhi.

Methods: A prospective, cross sectional, randomized study was conducted in HF in Delhi. The methodology followed was as described by the World Health Organization. The whole city of Delhi was the sampling frame, 42 public and 27 private HF were selected in all administrative zones. The WHO prescribing indicators were used. In addition, some more indicators were also monitored.

Observations: A total of 1957 in public and 823 in private HF were included. The average number of medicines prescribed in both were similar. More medicines were prescribed from the Hospital EML in public HF (94.6% vs 33.5%); prescription encounters with injections was lesser (2.71% vs 4.13%); use of generic names was more (18% vs 1.6%), Fixed dose drug combinations were prescribed lesser (11.99 % vs 35.58%) and complete prescriptions were more (21.4% vs 1.94 %) in public HF. Prescription encounters with antimicrobials was more in public HF (51.7 % vs 35.1%).

Conclusion: The regulatory intervention of enforcing an EML in public HF has been successful in increasing use of medicines from the EML and improving some prescribing indicators. However, regulatory and educational interventions are both required to improve the rational use of medicines in the public and private HF.

Keywords: Rational Use, Medicines, Private, Public, Prescriptions

R17: A cross-sectional study to assess the prevalence and pattern of drug-drug interactions in intensive care units of a tertiary care teaching hospital.

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Background: Drug-drug interactions are a major cause of adverse drug reactions having an impact on the quality of treatment and patient safety. The prevalence of drug-drug interactions (DDIs) in the intensive care unit (ICU) is higher among critically ill patients with comorbidities due to polypharmacy. These DDIs can cause disease worsening, prolong hospitalization, and increase the financial burden.

Aim: This study aims to assess the prevalence and pattern of drug-drug interactions among patients admitted to ICUs at a peripheral care teaching hospital.

Methods: A cross-sectional study was done in patients admitted to ICUs at a teaching hospital for 6 months from January 2023 to June 2023. A total of 486 medical records were analyzed to detect DDI. Drugs prescribed were screened for potential drug interactions using the Lexicomp. The interactions were classified according to their severity, onset, mechanism, and clinical management.

Results: Out of the 486 medical records, 312 patients had at least one potential drug interaction. A total of 561 drug interactions were identified and the prevalence of DDIs was 62.4%. The number of detected potential DDIs per patient was 2.1 ± 3.48. Among the DDI majority were moderate (64.4%), followed by minor (29.2%) and major (6.4%). The most common onset of interaction was delayed (74.9%), followed by rapid (19.5%) and chronic (5.6%). The most common mechanism of interaction was pharmacokinetic (65.6%), followed by pharmacodynamic (29.2%) and unknown (5.2%). The clinical management of DDI included monitoring of therapy (55.1%), followed by avoiding drug combination (25.9%), and no active intervention (19%).

Conclusion: The prevalence and pattern of drug interactions in this study indicate a high risk of patient adverse outcomes. There is a need for regular screening and monitoring of drug therapy, as well as education and awareness among prescribers and patients about the potential hazards of drug interactions.

Keywords: Drug-drug interactions, adverse outcomes, intensive care unit, drug therapy

R18: Prescription pattern of antibiotics and their appropriateness in patients with chronic kidney disease - A Retrospective study in a tertiary care teaching hospital in South India

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Background: Chronic Kidney disease (CKD) is defined as a reduced GFR (glomerular filtration rate) for > 3 months that may or may not be coupled with kidney damage and classified into several stages based on GFR. Reduction in GFR causes accumulation of drugs that are excreted unchanged via the kidney. CKD patients are at major risk of having infections and treatment of infections with appropriate antibiotics in terms of drug as well as dosage plays a critical role in the disease outcomes.

Aim: The present study was conducted to assess the prescribing pattern of antimicrobial agents in patients with chronic kidney disease.

Methods: A retrospective study was conducted, and medical records of all patients with chronic kidney disease admitted to the nephrology department of SVIMS, Tirupati, during Jan 2018-Dec 2018 were reviewed for antibiotic prescriptions. A total of 193 medical records were selected and assessed for antimicrobial prescriptions.

Results: Number of patient records prescribed antimicrobials after dose adjustment according to eGFR and records containing unadjusted antimicrobials are expressed as percentages. Of 163 records, the majority N = 71 (74%) were properly adjusted and remaining N= 25 (26%), were unadjusted. The length of hospitalization of CKD patients below 7 days was 13.5% and above 7 days was 86.5%. Mean and SD was 10.27±7.18 days.

Conclusion: It is concluded that the occurrence of medication dosing errors was moderate in hospitalized chronic kidney disease patients in our study. The predictors of medication dosing errors in CKD patients were the severe-to-end stages of chronic kidney disease, the number of prescribed antibiotics, and the length of hospitalization.

Keywords: Chronic kidney disease, GFR, Antibiotics, Prescription

R19: Adverse drug reaction profile of antiepileptics in a tertiary care center of north kerala

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Background: Epilepsy is a neurological disorder marked by sudden recurrent episodes of sensory disturbance, loss of consciousness, or convulsions, associated with abnormal electrical activity in brain. The aim of antiepileptic drug is to control and prevent all seizure activity at an acceptable level of side effects. There is a paucity of data regarding the patterns of Adverse Drug Reaction (ADR) profile of antiepileptics in North Kerala, hence conducted the study.

Aim: To find prevalence of ADR to antiepileptic drugs reported at Adverse Drug Monitoring Centre (AMC), Government medical college, Kozhikode over a period of one year.

Methods: ADRs to antiepileptic drugs reported at AMC, Government medical college, Kozhikode over a period of one year were collected and analyzed.

Results: Prevalence of ADR to antiepileptic drugs reported at AMC, Government medical college, Kozhikode over a period of one year was found to be 8% (50% males, 50% females). Of the total 35.71% developed stevens- johnson syndrome (SJS), 21.42% had drug hypersensitivity syndrome and 21.42% had drug reaction with eosinophilia and systemic symptoms (DRESS), 7.14% had acneiform eruption, 7.14% had maculopapular drug rash, 7.14% had erythema multiforme. Of these 57.14 % is due to phenytoin, 14.28% is due to fosphenytoin. Others are due to carbamazepine, levetiracetam, gabapentin.

Conclusion: Most common ADR is SJS, most of the reaction is caused by phenytoin. Males and females are equally affected. So, the early recognition of ADRs due to antiepileptics will surely reduce the morbidity and mortality.

Keywords: ADR, Antiepileptics, SJS, Phenytoin.

R20: Prescription pattern of antibiotics for children in a tertiary care teaching hospital.

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Background: Irrational use of antibiotics is a serious global problem and can pilot its course towards mortality and morbidity. Major driving factor for the development of antibiotic resistance. Knowing the current prescribing pattern of antibiotics is crucial for optimising paediatric specific antibiotic therapy and improving patient safety.

Aim: The aim was to evaluate the prescribing pattern of antibiotics for children using WHO core prescribing indicators and AWaRe classification and to propose strategies for optimizing antibiotic use in paediatric patients.

Methods: A retrospective record-based study was done with prescription records of 3 months (April-June2023). The WHO prescribing indicators were used to evaluate the prescriptions.

Results: A total of 264 patients who received antibiotic therapy were included in the study. The average number of drugs per encounter was 3.73 (WHO standard <2). The percentage of antibiotics prescribed was 30.2% (WHO standard:20-26.8) with an average of 1.12 antibiotics per prescription. Of the 298 antibiotics,64.7% were injectables which is higher than WHO standard of 13.4–24.1%. A near-optimal value of 98.9% antibiotics was prescribed from the hospital formulary (similar to WHO standards), and the antibiotics prescribed with generic names were 31.8%. The most common class of antibiotics prescribed were cephalosporins and penicillin. Of 298 antibiotics prescribed, 204 were from access category and 94 from watch category, none from reserve.

Conclusion: The prescribing pattern slightly deviates from WHO standards suggesting that the use of antimicrobial therapy be closely monitored. Continuous education and training programs for physicians about rational prescribing of injectable and generic prescription be conducted. Further physicians need to be educated regarding the WHO AWarRe antibiotic book to curb irrational drug use.

Keywords: Irrational, paediatrics, injections, antibiotic stewardship

R21: Adverse Drug Reaction and Medication Adherence in Patients' Receiving Conventional Chemotherapy

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Background: Cancer is the leading cause of death worldwide. The best results, such as a cure or an increase in quality of life, depend on reduction of ADR and adherence to the prescribed course of therapy.

Aim: To evaluate the ADRs and adherence to conventional chemo-therapeutic medications among cancer patients treated at Justice K.S. Hegde Charitable Hospital, Mangaluru.

Methods: This observational study was conducted on thirty cancer patients who were receiving conventional chemotherapy for various cancers such as Breast, liver, Colorectal, Lung, Non-Hodgkin Lymphoma, Esophagus and Gastro-intestinal Stromal Tumour. Patients suffering from uncontrolled hypertension, severe uncontrolled diabetes, known case of ischemic heart disease, liver disorder, anaphylaxis/known allergy to study drugs and patients on radiotherapy were excluded from the study. ADRs were classified system-wise. Patients were considered non adherent to chemotherapy if there was a change in the chemotherapy schedule, change from the initial regimen or stopped chemotherapy.

Results: Among 30 patients undergoing conventional chemotherapy, 209 ADRs were seen with an average of seven ADRs per patient. Hematological followed by constitutional symptoms were mostly encountered ADRs (27% and 22% respectively). Anemia and alopecia were the most common ADRs seen among the study participants. Twenty-five patients completely adhered to chemotherapeutic regimen (83.33%). Reason for the non-adherence among the study participants were mainly due to medication related factors 80% (change in regimen) and socio-economic factors related factors 20% (delayed hospital visit).

Conclusion: We conclude from the study, that adherence to conventional chemotherapy was reasonably good which can be further improved by appropriate ADR management and health education.

Keywords: Cancer Chemotherapy, Medication adherence, Adverse drug reaction.

R22: Pattern of Antibiotic usage in the Intensive care unit of District hospital, Tumakuru

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Background: ICU is the hot spot of infections in a hospital with vulnerable population of critically ill patients. Antibiotic stewardship is critical to effectively treat infections, prevent unnecessary antibiotic use, and combat antibiotic resistance.

Aim: This study aimed at evaluating the prescription pattern of antimicrobial drugs and estimates the extent of inappropriate antimicrobial drug utilization in ICU of District hospital

Methods: Retrospective study done after the approval of Institutional Ethics Committee of SSMC, Tumkur and District Surgeon in District Hospital of Tumkur with sample size of 146 patients. The patient Demographic details, Diagnosis, dose, Route of administration, frequency and duration of usage of antibiotics were collected from MRD and recorded in excel sheets. The WHO prescribing indicators were used to evaluate prescriptions.

Results: 58.97% are males and 64% of the patients aged above 60 years. 82.05% of the cases were prescribed antibiotics. 69.23% were on monotherapy, 12.82% on multiple antibiotic therapies. Cephalosporin class of antibiotics were most commonly prescribed, for 69.23% cases Ceftriaxone was prescribed. In 2.56% cases, it was combined with Azithromycin and Tazobactum. In 2.56% cases, Tazobactum and Fluoroquinolone were prescribed. 10.25% cases show shift in antibiotics. 100% of the cases with antibiotics were of Watch class under AWaRe classification.

Conclusion: The prescribing pattern is according to the WHO guidelines in the study conducted in the ICU of the District Hospital of Tumkur. All antibiotics prescribed are under watch class of AWaRe classification. Hence, they are prone to be a target of antibiotic resistance and should be prioritized as targets of stewardship programs.

Keywords: Antibiotics, Antibiotic Stewardship, ICU, AWaRe

R23: Evaluating prescription pattern of anti-diabetic drugs among Type 2 diabetic patients.

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Background: Type 2 diabetes is a prevalent chronic condition, necessitating effective drug management. This study delves into the prescription patterns of anti-diabetic drugs among Type 2 diabetic patients. Understanding these patterns can illuminate trends in treatment choices and guide efforts to optimize diabetes management strategies.

Aim: The aim of this study was to evaluate the prescription pattern of anti-diabetic drugs for people with Type 2 diabetes and to come to a conclusion about what the current trend of prescribing medicines is for the same.

Methods: A retrospective record-based study was done with the data extracted from the medical records department of SSMC, Tumkur of two months. Prior approval from the ethics committee was obtained before analysing the data.

Results: A total of 172 patients' records were analysed for the study. The drugs were classified into Oral Antidiabetic Drugs and Insulin preparations. The total number of drugs prescribed were 226. Out of 121 OAD's prescribed Insulin Secretagogues (44.62%), Biguanides (19%), Alpha glucosidase inhibitors (6.61%), Thiazolidinediones (3.30%), Biguanides+ Insulin Secretagogues (23.96%), Biguanides+ Alpha glucosidase inhibitors (2.47%).

A total of 105 Insulin preparations were prescribed: out of which short acting (69.52%), Intermediate (24.76%), Long acting (5.71%).

Conclusion: This study highlights the diverse prescription patterns in the management of Type 2 diabetes. There is a slow but shifting trend towards use of insulin preparations but ODA's still dominate, particularly Insulin secretagogues, when it comes to managing Type 2 diabetes.

Keywords: Oral antidiabetic drugs, Insulin preparations, trends.

R24: Prescription pattern in pregnant women

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Background: Rational prescription and medication safety during pregnancy is essential. Pregnancy is an unique physiological condition and poses a challenge as certain drugs can cross the placenta and harm the developing foetus. Healthcare practitioners must be vigilant whilst prescribing medications to pregnant patients.

Aim: Evaluation of prescription pattern in pregnant women

Methods: This study is a descriptive retrospective study on pregnant women who attended Sri Siddhartha hospital, Tumkur. After receiving approval from the Ethics Committee (IEC-117) the data was collected from the inpatient case files and was analysed using the Microsoft Office365 excel. This study was conducted for a duration of six months from May 2023 to October 2023. The prescriptions collected were further analysed based on various study parameters.

Results: A total of 190 pregnant women were included in the study. Among the recruited patients the most common chronic diseases were pre-eclampsia, type 2 diabetes mellitus and hypothyroidism. The occurrence of anaemia was also observed. Cephalosporins 183(96.3%); anti-emetics 184 (96.84%); proton pump inhibitors 185(97.37%); vitamins and iron supplements 115(60.53%); were the most common group of drugs which were administered. Certain patients were also prescribed metformin, an anti-diabetic 15(7.89%). Amlodipine and labetalol were the common anti-hypertensives 29(15.26%) given. According to the Food and Drug Administration risk classification, majority of the prescribed drugs were from category A (60.53%), B (67.02%) and C (15.3%). Among the prescribed drugs none of them were from category X.

Conclusion: The present study provides an outline of the range of medications prescribed during pregnancy. It increases the awareness among health care providers about the potential teratogenic effects and risks of drugs used in pregnancy.

Keywords: Pregnancy, FDA risk classification, teratogenicity.

R25: Effect of crude extract of Chia seeds (Salvia hispanica) on hyperglycemia and hyperlipidaemia in High fat diet and Streptozotocin induced diabetes in male Wistar rats.

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Background: Salvia hispanica also known as Chia seeds has truly earned popularity as a "Superfood." These magical seeds are power packed with all the essential nutrients, antioxidants, healthy fats, enzymes etc and so are believed to have medicinal value apart from its religious and culinary use. Therapeutic effects of Chia seeds though well ingrained are yet foreign, especially to the public of Diabetic capital of the world – India. Hesitancy and uncertainty still lurks, regarding the genuine effectiveness, benefits and common dosage recommendations of Chia seeds for pathological conditions as such. Hence the study was planned to address some of these aspects and aid in providing a clear insight of the same.

Aim: This study evaluated the effect of Chia seeds on hyperglycemia and hyperlipidemia in high fat diet (HFD) with Streptozotocin (STZ) induced diabetes in male Wistar rats.

Methods: Animals were divided into five groups with 8 rats in each: control, Diabetic control, Metformin, treatment 1 and 2 groups with two different doses of Chia. Type-2 diabetes was induced in rats with intraperitoneal, low dose of STZ – 30mg/kg and HFD was fed until the end of the study. All animals received treatment for 6 weeks, orally, once a day. Following parameters were determined. Fasting blood glucose levels, weight of animal - at onset,14th day, and at the end of the study. Serum total cholesterol, high-density lipoprotein (HDL), low-density lipoprotein (LDL), triglycerides (TG) – before and after induction of DM and at the end of the study. Analysis was done using ANOVA and Post Hoc Tukey's test.

Results: Consumption of chia seeds led to significant reduction of fasting blood glucose, total cholesterol, triglycerides, LDL and body weight as compared to the control groups.

Conclusion: Chia seeds proved to be beneficial in ameliorating hyperglycemia, hyperlipidemia and promoting weight loss.

Keywords: Salvia hispanica, Diabetes mellitus, Streptozotocin, High fat diet, Wistar rats.

R26: Evaluation of anxiolytic activity of ethanolic extract of stem of Rubia cordifolia in Wistar albino rats

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Background: Anxiety is an emotional condition characterized by unease, discomfort and worry or fear about certain known or unknown potential hazards in the future. Plants have served as a useful resource for the discovery of novel medications for therapeutic purposes. Rubia cordifolia (manjistha), known for its medicinal properties since ancient times.

Aim: To evaluate the anxiolytic activity of the ethanolic extract of the stem of Rubia cordifolia in Wistar albino rats.

Methods: Ethanolic extract of Rubia cordifolia stem was prepared in ethnopharmacology lab. After IAEC approval, animal experimentation was conducted by using Wistar albino rats. Animals were divided into 4 groups (Distilled water 10mg/kg po, Diazepam 2mg/kg po, extract 100mg/kg po & 200mg/kg po), having 6 animals each. The anxiolytic activity was assessed using Elevated Plus Maze (EPM) and Light and dark arena (LDA) models.

Results: The data presented as mean ± standard error mean (SEM) and were analyzed using one-way ANOVA followed by Tukey-Kramer multiple comparison tests. The statistical program used for data analysis was GraphPad Prism 6.0. Rats treated with the extract dose of 200mg/kg showed significant results with increased time spent in the open arms of the EPM (50.5±3.2) and higher entries into the light arena (24.8±0.5) compared to the control group. The anxiolytic effect observed in this study was closely comparable to the standard anxiolytic drug, diazepam 2mg/kg (EPM- 49.7±1.7 & LDA- 25.6±0.4).

Conclusion: The above study results suggest that the ethanolic extract of the stem of Rubia cordifolia of dose 200mg/kg possesses promising anxiolytic properties in Wistar albino rats. Further clinical studies are required to confirm the above findings of this study of antianxiety drug which is effective as well as with lesser risks of adverse effects, dependence, abuse potential and better medical management of anxiety.

Keywords: Anxiolytic, Rubia cordifolia, Wistar albino rats, Elevated Plus Maze, Light and dark arena

R27: Comparative analysis of first versus latest version of WHO Essential medicine list

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Background: The concept of Essential medicines is based on the priority health care needs of the majority of the population, WHO published the first model list of essential medicines in 1977 to provide safe and effective treatment against the global burden of disease. Latest, 23rd EML by WHO and 5th list of NLEM are published in 2023 and 2022 respectively.

Aim: To Study the factors affecting the change in profile of Essential medicine list.

Methods: The EML was accessed from the official website of WHO and the NLEM from Central Drugs Standard Control Organization website, downloaded and compared. A detailed analysis of 1st and latest EML was done in terms of System wise allocation, addition and deletion of medicines

Results: There is steady increase in the number of Essential medicines from 204 to 502 in latest EML of WHO when compared to first list. Maximum allocation of medicines in WHO first list is for Infectious diseases (53/204, 26%) followed by Cardiovascular diseases (25/204, 12%), Central nervous system disorders (15/204, 7%) whereas in latest version of EML by WHO maximum allocation of medicines is to Infectious diseases (138/502 + COVID-19 medicines, 24.4%) followed by antineoplastic medicines (55/502, 10.9%) , Cardiovascular disorders (35/502, 6.9%), Maximum increase in medicines is also seen with the following sub categories of diseases like Anti-viral drugs (32), Anti tubercular drug (15)Contraceptives (16), Antidotes(15). Antibacterial agents are categorized as access, watch and reserve (AWaRe) in WHO-EML not in NLEM, it ceases to promote antibiotic stewardship in the nation.

Conclusion: The study gives insight about the change in profile of medicines in essential medicine list over a period of time with respect to change in burden of disease, newer diseases, new intervention of safe and effective medicines

Keywords: WHO, Essential medicine list, NLEM, Allocation

R28: Understanding expired medication: usage, importance and disposal

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Background: Observation studies states, a substantial portion of the population either ignores or misunderstands the significance of expiry dates and continue to use expired medication

This raises several questions. Do expiry dates hold genuine relevance in terms of efficacy and safety? Do storage conditions affect stability? Another overlooked aspect is the disposal of expired medication. Improper disposal practices can have adverse environmental consequences and may even lead to accidental misuse if they find their way back into the pharmaceutical supply chain.

Aim: This research aims to shed light on validity of the shelf life of medications and also addresses the crucial aspect of safe disposal of expired medication, highlighting the environmental implications of improper disposal methods.

Methods: 2 case studies were conducted via online platforms to understand usage and disposal of expired medication.

Case 1 - survey revealed prevalent practice of usage of expired NSAIDs, antibiotics and topicals. This finding prompted a research review to assess the stability of such medications and their inappropriate storage practices

Case 2 - This study focused on the methods of drug disposal by pharmacists and exposing any environmental risks involved in their disposal.

Results: Researchers investigated the ability of the above-mentioned group of drugs to retain their physical stability, chemical potency, and efficacy when subjected to stability testing across a range of conditions. Furthermore, intriguing variations in the practices of pharmacists regarding the disposal of expired drugs were observed

Conclusion: Ongoing researches are still examining whether expiration date truly matters. If it's proven that drugs remain effective beyond expiry, it could have a positive impact on economy. environmentally safe methods for disposal of expired drugs should be practiced to prevent the disruption of ecosystems.

Keywords: Expiry date, stability, disposal

R29: Review of drugs most widely prescribed off label in paediatric population

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Background: Off-label drug prescription is neither an illegal nor uncommon practice. It is common in all age groups and for almost all conditions, but a disproportionate amount of off label prescriptions occur in paediatric patients. Numerous studies in in-patient, out-patient and ICU settings have been carried out and all unequivocally suggest that a very high percentage of drugs being prescribed in paediatric patients is off label. Most of the prescriptions are off label on the basis of dose. Research into dosage and prescription for paediatric population is not carried out or funded nearly as much as for the adult population. This is the cause for so many off label prescriptions. Research and a wider knowledge base in this field is essential to be able to provide better healthcare services and prevent potential unforeseen adverse reactions.

Aim: To identify the most common drugs prescribed off label in paediatric populations.

Methods: Review of research covering off-label drug prescriptions in both inpatient and PICU settings between the years 2002-2018. All studies include individuals below the age of 18 only. Studies were conducted in various regions across the world.

Results: Drugs including Midazolam, Fentanyl, Vancomycin, Lorazepam, Diazepam and Valproate are prescribed off label usually out of the recommended age range or at a dose not indicated for children.

Conclusion: Midazolam, Fentanyl, Vancomycin, Lorazepam, Diazepam and Valproate are drugs are prescribed off label at a very high rate across the globe. These require further research into their dosages and adverse reactions in children.

R30: To Give or Not to Give – A Review on Deprescription As A New Face In The Rational Use of Medicines

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Background: Polypharmacy (concomitant use of more than 5 and up to 9 medicines) and hyperpolypharmacy (concomitant use of more than 10 medicines) are on the rise, especially in the geriatric population. When inappropriate, these can lead to serious consequences such as falls, cognitive decline, adverse drug reactions and medication errors that carry huge economic and social burden.

Aim: In this review, we highlight the lack of awareness regarding the perils of inappropriate poly as well as hyperpolypharmacy. We also discuss specific and well-defined interventions developed to reduce polypharmacy by providing an introduction to the various tools used in the deprescribing process.

Methods: A thorough review of literature was done to examine the various strategies adopted for rational and safe use of drugs. Deprescribing strategies and tools to aid deprescribing were found to be powerful and effective in promoting safe and rational use of medicines.

Results: Although effective and validated strategies for deprescribing are available, there exists many barriers in the actual implementation of these strategies. These barriers include lack of awareness, fear of tapering medications due to possibility of rebound and so on.

Conclusion: Barrier identification and mitigation appears to be the way forward to ensure that deprescribing may be done in a manner that maximizes benefit to patients without exposing them to unnecessary risk or harm.

Keywords: polypharmacy, geriatric,tapering, adverse reactions

R31: Upadacitinib in Crohn's disease: a comprehensive systematic review of efficacy & safety

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Background: Crohn's disease is a chronic inflammatory bowel disease that relapses and is associated with many comorbidities and extra-intestinal symptoms. Despite immunomodulatory therapies, patients with moderate-to-severe disease experience inadequate symptomatic and endoscopic control, requiring novel therapies.

Aim: To comprehensively assess the safety and efficacy of Upadacitinib, a novel Janus kinase (JAK) inhibitor in treatment of moderate-to-severe CD.

Methods: Upon extensive search of electronic databases (PubMed, Web of Science and Cochrane library), a qualitative synthesis of study characteristics, efficacy outcomes (clinical remissions and endoscopic responses), safety profiles, and mechanistic insights was conducted.

Results: In the three RCTs, 40-51% of participants with CD achieved clinical remission, and 35-46% achieved an endoscopic response. It was also noted that Herpes zoster infections occurred more frequently in the 45-mg and 30-mg groups than in placebo groups (2.9%, 1.5% vs 0%). Higher incidence of hepatic disorders and neutropenia were reported in the 30-mg treatment group. The less common non-infectious adverse events were gastro-intestinal perforation and creatine kinase elevation. Although thrombus formation is a feared side effect of JAK inhibitors, there was only one such case in the Upadacitinib group, and this was associated more with concurrent Crohn's disease exacerbation than with the medication itself.

Conclusion: This comprehensive review affirms Upadacitinib's effectiveness in addressing diverse endpoints such as endoscopic response, clinical remission, and corticosteroid-free clinical remission. These findings underscore Upadacitinib's potential as a favourable treatment choice for Crohn's disease, demonstrating a positive risk-benefit balance.

Keywords: Crohn's Disease (CD), Upadacitinib, Janus Kinase (JAK) inhibitor, Efficacy, Safety

R32: High-dose quinolones versus combination of quinolones and antibiotics in treating multiple drug-resistant tuberculosis.

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Background: Multiple Drug-resistant tuberculosis (MDR-TB) currently poses a significant threat of morbidity and mortality, especially in Eastern Europe and Central Asia, and a highly simplified, effective, and less toxic regimen is imperative. Because of this, quinolones, a second-line agent, are increasingly being used along with conventional first-line treatment for tuberculosis (TB) patients.

Aim: The aim is to compare the use of high-dose quinolones versus a combination of quinolones with other antibiotics in MDR-TB patients.

Methods: Databases such as PubMed, OvidLine, Embase, and Medline were searched using a combination of keywords such as "ciprofloxacin", "ofloxacin", "moxifloxacin", "MDR-TB". All search results were primary studies published in English from 1996 to September 2023 to retrieve all the articles using either high-dose quinolones or a combination of quinolones with other antibiotics to manage MDR-TB.

Results: The majority of the studies retrieved were prospective in nature. Out of twenty studies obtained, only three studies provided evident information on high-dose quinolones as a part of the therapeutic regimen in MDR-TB patients. The rest of the studies provided evidence for using a combination of quinolones and antibiotics due to the lesser adverse effects (AEs) reported compared to high-dose quinolones only (AEs like hepatotoxicity and QT interval prolongation observed in high-dose while anemia, phototoxicity, blurred vision, and diarrhea observed in combination of quinolones and antibiotics).

Conclusion: The review concludes preferring the combination of quinolones with other antibiotics over high-dose quinolones is due to a lesser incidence of adverse effects. The most commonly used antibiotics in treatment are kanamycin and ceftriaxone in combination with levofloxacin, moxifloxacin, and gatifloxacin quinolones for resistant cases, while ciprofloxacin and ofloxacin are not widely used for the treatment of MDR-TB. On an important note, gatifloxacin is more effective than all other fluoroquinolones.

Keywords: "High dose", "quinolones", "MDR-TB", "combination", "antibiotics"

R33: Role of AI in rational drug prescription?

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Background: Irrational use of medicines is a major problem worldwide in the healthcare sector. WHO estimates that more than half of all medicines are prescribed, dispensed or sold inappropriately, and that half of all patients fail to take them correctly, causing widespread health hazards.AI would be a good supportive tool in promoting rational drug prescription.

Objectives: To assess the attitude of medical graduates in implementing AI in rational prescription.

Methodology: Cross sectional study, after taking approval from ethics committee, a study was conducted among engineering and medical graduates using a semi structured questionnaire.

The questionnaire was distributed in the google form to all interns, postgraduates and medical specialists and to engineering graduates.

The data collected was analyzed and interpreted.

Results: 43.7% people disagree that AI is a threat and a challenge to the noble profession of doctors in our country75.1% agree that There is a need for an AI as an aid for rational prescription of drugs for the upcoming generation of doctors55% people agree that it will be wise to validate the prescription through an AI59.2% agree that AI will be helpful and handful in early diagnosis of disease.63% people agree that it will be feasible for every teaching hospital, clinic and health care centres to be equipped with such a software.74.2% agree that once developed a software of this kind will you trust it enough and recommend it to the upcoming generation of doctors.

Conclusion: Majority of practicing clinician have a strong opinion that AI would be an advantage to their rational prescription of drugs.

Keywords: AI, rational prescription, challenge

R34: Knowledge of pharmacists in rational drug use

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Background: Patients serve as evident linkers between healthcare professionals and patients to ensure patient safety and avoid ADRs by procuring proper dose and applied drug interactions. Prior research stated the poor knowledge of pharmacists about RDU. Hence, I wanted to study about the knowledge of pharmacists in RDU

Aim: To assess the knowledge of pharmacists in RDU

Methods: A cross sectional study was done involving pharmacists of Tumkur district of Karnataka through a semi structured questionnaire which was prepared after reviewing several articles through google forms was distributed to the pharmacists after approval of Institutional Ethics Committee.

Results: Out of 90 participants 95% were retailers, 5% were stockists. In retail 72% were linked to hospitals. 94% of pharmacists were aware of RDU and only 33% strongly agreed that pharmacists have a role in RDU .17% pharmacists implement RDU in their practice .85% of pharmacists agreed that they have relevant drug information. 70% implements appropriate dispensing techniques .90% were aware of beneficial and ADRs of drugs. 91% had a good awareness of legal implications.

Conclusion: Results evidently shows that it is important to make pharmacists aware that they help in achieving the goal of rational use of drugs by following good pharmacy practices.

Keywords: Rational drug use (RDU), Pharmacists, Adverse drug reactions (ADRs

R35: Knowledge of rational use of drugs among Interns.

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Background: It has been estimated by WHO that more than 50% of all medicines are prescribed, dispensed, or sold inappropriately and about 50% of patients do not take them correctly Thus, medicines are prescribed when they are not needed; wrong, ineffective, or unsafe medicines are prescribed; effective and available medicines are underused; or they are not used correctly.

Aim:: The present study aimed to evaluate the awareness of rational use of medicines among the interns since they are the 1st contact physicians.

Methods: The cross-sectional study was conducted among Interns after taking prior approval from institutional ethics committee. Study was conducted in 1private (Sri SiddharthaMedical College) and 3 government medical colleges of (Mandya, Hassan and Chamarajanagar) with the sample size of 228. Prevalidated questionnaire was administered, and the data was analysed.

Results: Nearly 10.4% of interns did not know that the generic drugs are equally efficacious as branded drugs whereas 15.9% were not aware that pregnant female should not consume any drug. 35.8% of interns were not aware of deciding the dose in children and 38.3% were against the use of antibiotics in common cold. Almost 33.8% of interns were disagree for adjusting the dose of antidiabetic drugs by patient depending on the meal taken whereas 21.4% were not aware of the importance of compliance of antihypertensive drugs.

Conclusion: Inspite of majority of interns being aware of rational use of medicine however a significant percent were unaware which is not satisfactory and acceptable. A training program needs to be implemented.

Keywords: Rational use, Interns, Knowledge

R36: Knowledge, Attitude and Practice in medical graduates on topical corticosteroids in a tertiary health care facility in North Kerala: A cross-sectional study

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Background: Topical corticosteroids are a type of medicine applied directly to the skin to reduce inflammation and irritation. They are available as creams, lotions, gels, mousses, tapes, bandages, ointment, solutions. Due to its availability in various potencies (Mild, Moderate, Potent, Very Potent), these preparations have multiple uses but are often known to cause severe side effects. Thus, this survey helps in assessing the awareness of knowledge, attitude, and practice of prescription of such medicines.

Aim: (1) To find the level of awareness among medical graduates about the topical corticosteroids steroids and its combinations through a KAP study, (2) To know and create awareness about the adverse effects of topical corticosteroids steroids in the study population.

A cross-sectional study was conducted. Data was collected using a self-administered questionnaire and analyzed by using statistical methods. The questionnaire had 16 questions about various aspects of topical corticosteroids as explained in the results.

Survey methodology, interview and questionnaire were used.

Results: A total of 64 medical graduates from participated in the study. Surprisingly, almost half of the respondents (46.9% - 30 respondents) were unaware of the WHO Classification of topical corticosteroids and 51 respondents (79.7%) were familiar with its the site-specific actions. 62 respondents (96.9%) said it was unsafe to prescribe a topical corticosteroid without a valid prescription. According to this survey, the most common indication for this medication were Allergy reactions, Inflammatory conditions like psoriasis, Eczema, Itching and Dermatitis. Some respondents claimed that these medicines can be used to treat pain and oedema due to hemorrhoids, and as an immunosuppressant in conditions like Rheumatoid Arthritis and IBD. Other indications were Hay fever, Allerigic Rhinits, Asthma, Urticaria, Skin Whitening, vulvovaginitis, Otitis Externa and even Brain Tumours. The most commonly prescribed topical corticosteroids were of mild to moderate potency (Class II and III), the most preferred being Hydrocortisone, Betamethoxasone (Betnovate Cream) and Beclomethasone. Others include Mometasone, Fluticasone, Clobetasol Propionate, Prednisolone and Deflazacort. One respondents claims that a combination of an antibiotic, antifungal, topical corticosteroid can be prescribed nearly for all skin lesions. Only 12 respondents (18.8%) advised occlusive dressing while administering these drugs. Majority participants (71.9%) preferred prescribing these drugs as their combinations than as plain steroid creams. As per this study, the most common side effects whilst using these drugs were Skin Fragility (Thinning, Peeling, Atrophy, etcetra), Rebound Fungal Infection, Superinfection, Burning sensation of skin. and Glaucoma. One respondent claimed that continuous use can lead to the emergence of chronic non healing ulcers. Some respondents claimed that continuous use also caused tachyphylaxis. 50% respondents claimed that these drugs also had other uses apart the conventional ones, like for Skin Whitening, Phimosis, Vitiligo, Surfactant Production, Vasculitis and to treat Addison's Disease.Some precautions to take while prescribing the drugs were to stop after recommended duration, to apply only on infected area, avoid use over large open or infected wounds, and deprescribe in case of diabetics, Hypertensive and immunocompromised patients, consider low potency preparations first and taper the doses if required for more than 2 weeks. Participants claimed that conditions like Acne, Concomitant

Bacterial and Fungal Infections, Rosasea, Impetigo worsened on prolonged use. 75.8% respondants were aware of the various potencies of topical corticosteroids and out of them 79% preferred low potency preparations. 60.7% claimed that overuse may cause withdrawal symptoms.

Conclusion: Topical corticosteroids were used mainly as anti-inflammatory and immunosuppressive agents. Although all most preparations contain steroids to some extent, Topical Therapy worsened many symptoms, especially skin fragility and rebound infection and thus it's use must only be up until recommended duration and low to mild potency preparations must always be considered first. Use must be contraindicated in Old Diabetics and Immunocompromised patients. Use must be stopped Immediately on infective exacerbation. A clear history of the patient must be taken before prescribing a topical corticosteroid and these drugs must not be treated as an OTC drugs.

Keywords: Topical Corticosteroids, Immunosuppressive, Rebound Infection, Deprescribe, Infective Exacerbation, Low Potency

R37: Knowledge and practice of over the counter (OTC) drugs among 1st year students of SSAHE University, Tumkuru

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Background: Over the counter drugs are in usage throughout the world across the ages. However effective and safety usage of OTC drugs comes with appropriate knowledge. Hence this study was conducted to assess the knowledge and practice of Over-the-counter drugs among the 1st year students in medical field.

Aim: To assess the knowledge and practice of OTC drugs among 1st year students of SSAHE University.

Materials & Methods: A cross sectional study was done among all 1st year students in SSAHE University through standard validated questionnaire after obtaining Institutional Ethics Committee clearance. The data was analysed using Microsoft Excel spread sheet 97-2003.

Results: Out of 250 students 83% of the students were aware about OTC drugs. Around 36% prefer OTC drugs with major reasons being headache, fever and cold. However, 49% of the students were not aware about the side effects caused by OTC drugs. Around 61% of students chose not to recommend OTC drugs to others.

Conclusion: Results shows, most of the students have an idea about the OTC drugs but are not aware of their side effects, this shows there is slight lack of knowledge about side effects of OTC drugs. This calls for the need of educating them through orientation programmes.

Keywords: Over The Counter (OTC) drugs, students.

R38: Awareness about FDA announcement on voluntary Recall of Ranitidine among Physicians and Pharmacists

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Background: Ranitidine is a histamine-2 (H2) blocker, which reduces the acid secreted by the stomach. It is used in the treatment of peptic ulcer disease. In September 2019, the drug was recalled due to impurity N-nitroso dimethylamine (NDMA) by Food and Drug Administration (FDA). NDMA is a carcinogen based on results from laboratory tests. FDA published a recall notification and also recommended to discard all ranitidine medications. Hence, it is mandatory that physicians and pharmacists should be aware of the issues related to ranitidine.

Aim: To assess the Awareness about FDA Announcement among the Physicians and Pharmacists in and around Tumakuru about the Ranitidine recall notification and its related issues.

Methods: A descriptive, cross-sectional study was carried out where a questionnaire was administered on 187 physicians and 101 pharmacists who were enrolled in the study. Awareness, knowledge and issues related to ranitidine recall notification were recorded from the participants.

Results: Results showed that only 70% of the study participants were aware of the notification and the issues related, with significantly more participants from the urban area compared with the rural area. Many knew about the recall notification but didn't know the reason behind it.

Conclusion: The awareness assessed among physicians and pharmacists was not satisfactory. Physicians and pharmacists are the most responsible healthcare providers and they need to keep a frequent check with every notification on medication published by regulatory bodies, so that the patients are also aware and healthy.

Keywords: Ranitidine, Recall notification, Awareness, Physicians, Pharmacists

R39: KAP of Fixed Dose Rational and Irrational Combinations among Pharmacists

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Background:A large number of pharmaceutical preparations contain two or more drugs in a fixed dose ratio, they are known as Fixed Drug Combinations.FDCs are highly popular in Indian pharmaceutical market. However, WHO essential medicines list incorporates only 20 FDCs. While in the market there are many irrational FDCs dispensed.

Aim: To assess KAP(knowledge, attitude and practice)of fixed dose rational and irrational combinations among pharmacists.

Methodology: The KAP of pharmacists in Tumkur were assessed using structured and validated questionnaire of FDC in sample size of 72. Only pharmacists with legal license are been included in the research. The site chosen for research is pharmacy of rural setup. A questionnaire is prepared in form of google forms. The data was systematically arranged in excel sheet using Microsoft excel.

Results: Among the 72 participants, Diploma and Bachelor's degree holder comprise 80% of the study population. The mean age range lies between 25 to 35 years. 98.6% people are aware of the concept of FDC while 94.3% know the rationale behind using FDC. Almost 58% use CDSCO website as a source of information and 62.9% agreed that pharmacists play a vital role in developing new FDCs. 53% agree and 29% strongly agree pharmacists should receive specialised training regarding FDC. 82% are aware of guidelines while only 86% actually follow the guidelines. Only 86% pharmacists ensure that patients are informed about risk and benefits of prescribed FDCs before dispensing it but only in specific cases. 76% pharmacists believe that there may be banned FDCs available in market while 20% agreed that banned FDCs are available in market.

Conclusion: Pharmacists are well aware of the concept of rational and irrational FDCs and guidelines to dispense it but are bounded to physicians prescription and thus sometimes dispense irrational or banned FDCs.

Keywords: Rational, CDSCO, pharmacists, FDCs

R40: Knowledge, Attitude and Practice on Over-The-Counter Drugs Among Medical Students of a tertiary care teaching institute: Cross-Sectional Study.

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Background: Self-medication with over the counter (OTC) medications is common among medicine and health science students. For safe use of OTC medications, students are expected to have proper knowledge, attitude, and practice (KAP) towards OTC medications and subsequent adverse drug reactions (ADRs).

Aim: The aim of this study is to assess the KAP of OTC medications, side effects, and related factors among medical students in Malabar Medical College.

Methods: A cross-sectional study was conducted. Data was collected using a self-administered questionnaire and analysed by using statistical methods. The questionnaire had 13 questions about various aspects of OTC as explained in the results. Survey methodology, interview and questionnaire were used.

Results: A total of 120 students participated in the study. More than half of the participants (52.1%) claim to practice self-medication. Fever (73.7%), abdominal pain (32.9%), headache (77%), vomiting (19.7%), diarrhoea (15.8%) and skin whitening or acne (5.3%) are the most common conditions for which students go for self-medications while paracetamol (Dolo 650mg) for headache and fever followed by non-steroidal anti-inflammatory drugs (NSAIDS) like Meftal spas for periods cramps, antihistamines like cetirizine for allergy. Nasal drops like oxymetazoline are taken by some people to cure nasal congestion. Pantoprazole is a proton pump inhibitor taken by some students for pain in chest or epigastrium. Avomine (promethazine) or Emeset (ondansetron) which are antiemetic drugs were also taken. A need for time-saving due to crowding for medical consultation (17.3%), a desire for quick relief (58.7%), knowing about the medications (29.3%), being aware of the medications and their side effects (45.3%) and hospital visits being costly (10.7%) were the main reasons for the self-medication practice with OTC drugs.Majority of the respondents (77.6%) claim that self-medications are effective while (22.4%) claim that they are not effective. 83.3% of the people check the labels on the OTC drugs for expiry dates while 16.7% of people did not. Majority of the people don't buy OTC drugs for friends and family (53%). 31.3% students responded "maybe" whereas 15.7% said a clear "no". 95.2% of the people had no side effects from the OTC medications for which they had to consult a doctor. A clear majority of the people 83.9% do not take antibiotics as OTC medications whereas 16.1% take antibiotics as OTC medications which includes penicillin/cephalosporin (38.5%), macrolides (19.2%) and others (80%). Self-medications are taken by people for mild symptoms (75%), moderate symptoms (31.2%), severe symptoms (9.1%). 84.3% do not take cosmetic drugs as OTC medications. 15.4% take vitamin supplements as OTC medications.

Conclusion: According to this survey, Self-medication is widely practiced among medical students. Students mainly take such medications for headache followed by fever, vomiting, diarrhoea and skin whitening/acne. Most of them take it for quick relief. These medicines prove to be very effective for most of them and very few had side effects due to which a doctor visit was necessary. Purchasing antibiotics without a valid prescription is not advised as it can cause antibiotic resistance. However, 16.3% of the people claim to have antibiotics as OTC medications. Most of the people take self-medication for mild symptoms. Significant problems and malpractices were identified, such as sharing of OTC medications, the use of expired medicines, doubling the dose of medications when they were ineffective, not reading labels and expiry dates.

Keywords: Medical students, Over The Counter drugs, Self-Medication.

R41: Prescription audit among doctors in tertiary health care center

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Background: Prescription is a document that helps communication between doctor, patient and pharmacist. Irrational prescribing can lead to misinterpretation and is a global problem. The emerging data according to national medical commission revealed that prescribing errors are common and can affect many prescriptions. Prescription-audit and rational-prescribing habits are among the 12 goals of WHO according to target of rational drug use today.

Aim: To audit prescriptions using WHO-indicators for rationality of prescription.

Methods: Study is being conducted at Sri Siddhartha Medical College and Hospital, Tumkur. A total of 355 prescriptions of OPD of various departments were collected for a period of 3 months (August to October) 2023.

Results: On analysis, 93% have mentioned OPD-number, 97% have patient's name, 92%have mentioned age, date of consultation and gender and were signed, 82% had legible handwriting. Brief-history with examination-findings & investigations was mentioned by 71% prescribers, 86% haven't mentioned allergy history and treatment-duration. Only 33% had prescribed in generic name. 98% followed EML and STG. 89% mentioned schedule-dose clearly. 62% had requested review, follow-up advice and precautions were mentioned. 91% of prescribed Medicines were available at dispensary. 80% did not use vitamins/tonic/enzyme. 16% had antibiotics prescribed. Only 7% cases had injections prescribed. 32% had 3 medicines prescribed, while only 3.5% prescribed 6 drugs.

Conclusion: To conclude the study, it can be observed that almost all prescriptions had adhered to most of the WHO indicated format but, shockingly, lot of prescriptions lacked allergy history, treatment duration, and follow-up advice and precautions. This indicates that though the standard of prescriptions is good, there are still some things that needs to be improved yet.

Keywords: Prescription-audit, Format-knowledge, WHO-indicators

R42: To study the potential drug-drug interactions in patients of type 2 diabetes mellitus on polypharmacy.

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Background: Type 2 diabetes mellitus is increasing at an alarming rate worldwide. The quality of life of patients across the globe is significantly impacted by polypharmacy. Due to the presence of several comorbidities' patients with type 2 diabetes mellitus often require multiple medications which when used concomitantly, the patient has increased chances of developing side effects and drug interactions.

Aim: To analyze the potential drug-drug interactions (pDDIs) in patients of type 2 diabetes mellitus on polypharmacy using the database from Lexicomp ® Solutions.

Methods: In this cross-sectional study 95 patients of either gender, receiving medication for type 2 diabetes mellitus and on a minimum of five medications in the past one month were included. The pDDIs were quantified and classified using the database from Lexicomp® Solutions. The prescriptions were analyzed for the most frequent and clinically relevant interactions. The categorization of the pDDIs was done based on risk rating and severity of interactions. Descriptive statistics was used to analyze the results.

Results: A total of 378 pDDIs were seen. Among them, 40 were seen between diabetic drugs (10.6%), 115 between diabetic drugs and supportive medications (30.42%) and 223 between supportive medications (59%). Among interactions between diabetic medications, 85% were seen between Regular insulin with metformin. Regular insulin with aspirin constituted 37.39% interactions between antidiabetic and supportive medications. Among supportive medications aspirin and torsemide constituted 5.82% interactions.At least one pDDI was seen in 92% of the patients. 83.59% of the interactions had moderate severity and 80.95% had a risk rating of Class C.

Conclusion: We conclude from the study that pDDIs are very common in type 2 diabetes mellitus patients who are on polypharmacy. The treating physician should be cautious while prescribing diabetic patients with co morbidities and the patients should be educated regarding early manifestations of drug – drug interactions.

Keywords: Drug-drug interactions, Type 2 Diabetes mellitus, Polypharmacy, Lexicomp.

R43: Incidence of Abnormal Arterial-Stiffness Parameters Measured Through Periscope Among Breast Cancer Patients Receiving Doxorubicin-based Chemotherapy

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Background: The risk for cardiomyopathy is high in patients receiving doxorubicin, resulting in mortality of around 50%. The arterial stiffness is associated with an increased risk of various cardiovascular diseases. It is the hardening of arteries due to structural damage resulting in hypertension or atherosclerosis. A murine-model study hasshown that doxorubicin induces arterial-stiffness contributing to increased vascular-tone.

Aim: To detect the incidence of abnormal arterial-stiffness parameters following doxorubicin-based chemotherapy in carcinoma-breast patients using periscope - a validated non-invasive device.

Methods: This was a prospective, descriptive study conducted at ESIC Medical College and Hospital, Hyderabad. The IEC approval and informed consents were obtained. Thirty female breast-carcinoma patients receiving doxorubicin for the first time aged between 18-45years were screened. The patients with pre-existing cardiac-abnormalities (ECG &2D-Echo)and abnormal baseline periscope-readings were excluded. The periscope recordings as per standard-operating procedures were taken twice i.e., one-hour before the first cycle (pre-reading) and one-hour after completion (post-reading) of chemotherapy. The standard arterial-stiffness parameters were Heart-rate (HR), Blood-pressure (BP), Pulse-pressure (PP), Brachial-ankle Pulse-Wave-Velocity(baPWV), Carotid-to-Femoral Pulse-Wave-Velocity (CFPWV), Brachial-Arterial Stiffness-Index (BraASI), Ankle-Arterial Stiffness-Index (AnkASI), Ankle-Brachial Index (ABI), Aortic-Systolic Pressure-gradient (AoSys), Aortic Pulse-Pressure (AoPP), Aortic-diastolic Pressure-gradient (AoDia), Aortic Augmentation-pressure (AoAugP).

Results: A total of 21patients had pre-readings under normal limits and only their data was analysed. All were females of mean-age 38(±4) years received cyclophosphamide and doxorubicin regimen based on their body surface-area (BSA) and had no-history of co-morbidity. The mean BSA was 1.6(±0.2)m2 and mean dose of doxorubicin received was 78(±11)mg. Incidence of abnormal post-readings and average values beyond upper-limits of normal were HR(n=6[+12]), SBP(n=4,[+16]), DBP(n=0,[+0]), PP(n=6,[+18]), BaPWV(n=12,[+435]), CFPWV(n=12,[+347]), BraASI(n=9,[+5]), AnkASI(n=3,[+6]), ABI(n=1,[+0.1]), AoSys(n=7,[+20]), AoPP(n=5,[+13]), AoDia(n=1,[+2]), AoAug P(n=12,[+12]).

Conclusion: Twelve patients out of 21showed at least one abnormal parameter. The average abnormal values were only mildly higher than normal range. The trends of raised BaPWV and CFPWV indicates increased arterial stiffness. Further long-term studies in larger sample size are needed to confirm our findings.

Keywords: Doxorubicin, Breast Cancer, Periscope, Arterial stiffness, Cardiomyopathy

R44: To assess the anticholinergic drug burden and it's association with activities of daily living, in geriatric patients at a tertiary care hospital" - a cross sectional study

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Background: With increasing age comes increasing number of health issues which require multiple medications. Taking multiple drugs which may have anticholinergic effects, increases the risk of anticholinergic burden (ACB) because of age-related pharmacokinetic and pharmacodynamic changes. Increasing anticholinergic drug exposure has been found to be associated with negative clinical outcomes like falls, poorer cognitive function and a functional decline in the elderly. Assessing the anticholinergic burden will help optimise geriatric pharmacotherapy.

Aim: To measure the frequency of anticholinergic burden using the ACB (Anticholinergic Burden) calculator in patients attending the geriatric outpatient clinic. To assess the co-relation between anticholinergic burden and physical functionality.

Methodology: This was a cross sectional study involving patients of either sex aged ≥60yrs. Patients with prior history of stroke and dementia were excluded from the study. Patient details were noted along with current medications. The anticholinergic burden score was calculated using the ACB calculator and the physical function was measured by measuring the activities of daily living using the Barthel's index.

Results: 50 subjects were included in the study. Median patient age was 66.50 Yrs (72.25-63) with a male preponderance of 70%. ACB score of ≥3 was seen in 52% of the patients. The median (IQR) ACB score and mean (± SD) Barthel's index score was 3,2-4 and 61.80±16.21 respectively. There was a statistically significant Moderate negative correlation between the ACB score and Barthel's Index Score with r = -0.5120, with $p<0.01$.

Conclusion: Nearly half the study population had higher anticholinergic burden. It is found that with increasing anticholinergic burden of prescribed medications, the physical functioning in elderly reduced significantly.

Keywords: Anticholinergic Burden, Activities of Daily living (ADL), Geriatrics

R45: Potential drug-drug interactions in intensive care unit patients admitted in paediatric department in a tertiary care hospital: a cross sectional study.

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Background: Potential drug-drug interactions (pDDI) are extremely important among the paediatric population especially in children admitted to both neonatal (NICU) and paediatric intensive care units (PICU). They are highly vulnerable due to divergent physiology having varied pharmacokinetic and pharmacodynamic parameters influencing the toxicity and drug action along with multiple conditions they suffer, which warrants them for polypharmacy. Hence, the present study was planned with the objective of a detailed assessment of potential drug-drug interaction in the children admitted to the intensive care units in the paediatric department of a tertiary care hospital.

Aim: To analyze the potential drug-drug interactions in patients admitted in NICU and PICU of a tertiary care hospital using the database from Lexicomp ® Solutions.

Methods: It was a prospective, cross-sectional study where data was collected from the medical records of patients admitted to the NICU and PICU of our tertiary care hospital from June 2023 to August 2023. Quantification and classification of the pDDIs were done using the database from Lexicomp® Solutions via the institution subscribed UpToDate platform. We evaluated the prescriptions for the frequency of the pDDIs clinically relevant pDDIs and analyzed the frequently interacted drug combinations.

Results: A total of 82 pDDIs was seen among the 104 patients, out of which around 66 (45 in PICU + 21 in NICU Patients) were clinically relevant interactions. Among frequently interacted combinations were aminoglycoside and cephalosporins (25.609%), with a risk rating of C, which needs monitoring therapy. However, even though less in frequency, few of the severe interactions like Chlorpheniramine + Ipratropium bromide. (X, Avoid), Cefuroxime (oral preparation) +Pantoprazole, Piperacillin +Amikacin, Piperacillin +Doxycycline, Domperidone +Metronidazole belonging to the risk rating of D needs consideration of therapy modification.

Conclusion: At least one pDDI in 50% of patients and more interactions among the NICU and PICU patients necessitate patient-centered, outcome-oriented practice measures in monitoring and preventing drug interactions.

Keywords: Potential drug-drug interaction, Paediatric, Pharmacodynamics, Pharmacokinetics.

R46: Consensus on Combining Silodosin and Mirabegron: Advancing Benign Prostatic Hyperplasia Management with Indian Urological Insights

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Objective: To establish a comprehensive consensus statement on BPH management with combination of Silodosin and Mirabegron, incorporating contemporary evidence and drawing from the valuable real-world experiences of Indian Urologists

Methods: From June-September 2023, 8 nationwide virtual meetings were conducted with the SYNERGY Consensus Group, accumulating 4000-man-years of clinical experience. Participants rated 17 questions on a 5-point Likert scale, with consensus defined as a score >100. This was preceded by a contemporary evidence-based discussion on the contemporary updates for management of BPH with LUTS. Statistical analysis used GraphPad 10.0.3 and ANOVA.

Results: Top agreement scores included: adding mirabegron 50 mg to alpha-blocker treatment (126.6), mirabegron's impact on OAB symptoms regardless of BPH diagnosis/treatment (121.6), and silodosin's efficacy at 8 mg without cardiovascular side effects (120). Mirabegron 50 mg compared favorably to placebo and solifenacin 5 mg (116.5), and its combination with silodosin offered flexibility in LUTS-BPH management (113.1). The highest mean response scores (±SD, 95% CI) for consensus were for strongly agree (65±32, 95% CI 48 to 82) followed by agree (35±11, 95% CI 29 to 41)

Conclusion: The combined treatment approach, as validated by high agreement scores, underscores its value in offering a versatile, effective, and well-tolerated solution for BPH patients. The consensus underscores the combined use of silodosin

R47: A cross-sectional study to assess the pattern of conversion from intravenous to oral antimicrobial agents at a tertiary care hospital

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Background: Antimicrobial Stewardship Programme promotes rational use of antimicrobial agents (AMA) and recommends early conversion from intravenous (IV) to oral AMA therapy, by 2 to 3 days. This leads to early discharge, reduced incidence of cannula-related infections, thrombophlebitis and reduced cost.The conversion can be achieved by three methods: A sequential therapy is converting from IV to its oral counterpart of same compound; a switch therapy is converting with equal potency; step-down therapy is converting to a reduced potency oral agent.

Aim: To assess the pattern of conversion from IV to Oral AMA

Methods: This hospital-based cross-sectional study was conducted among adult in-patients receiving IV AMAs for more than 48 hours. The study was initiated after obtaining clearance from institutional ethics committee and informed consent from patients. Detailed demographic, disease and drug data was collected and analysed using descriptive statistics.

Results: Ninety patients were included in the study. 66.7% were converted from intravenous to oral AMA. The mean duration of IV therapy was 6.28+2.98 days. Abdominal conditions received the maximum IV AMAs (36.7%). Cephalosporins (57.8%, 48.3%) and Penicillins (35.6%, 40.0%) were the most commonly used AMAs, both intravenously and orally. Switch therapy was the major type of conversion (75%), followed by Sequential (18.3%) and Stepdown (6.7%). Among these, the most commonly switched AMA was IV Ceftriaxone to oral Cefixime (25.6%) followed by IV Piperacillin+Tazobactam to oral Amoxicillin+Clavulanic acid (20%). IV Ciprofloxacin to Oral Ciprofloxacin was the most common sequential conversion (5.6%)Six patients were on concurrent oral AMAs while on IV AMA. 63.3% of the patients were on an average of three other oral medications.

Conclusion: Two-thirds of the patients were converted from intravenous to oral AMA. Switch therapy was the most common type of conversion. The mean duration of IV therapy was higher as per the ICMR guidelines.

Keywords: Intravenous to oral AMA, antimicrobial stewardship, Switch therapy, IV to PO conversion

R48: Cost-consequence analysis and pharmacovigilance of Unfractionated Heparin and Enoxaparin among patients with acute myocardial infarction: A hospital perspective

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Background: Anticoagulants have an important role as an adjunct to dual antiplatelet therapy in the treatment of acute myocardial infarction (MI) as it prevents emergency revascularization and mortality following acute MI.

Aim: Cost-consequence analysis of in-hospital cost implications and outcomes of using Unfractionated Heparin (UFH) and Enoxaparin in patients with acute MI.

Methods: This was a prospective observational study conducted in the department of cardiology in a tertiary care hospital in South Kerala for 6 months. 140 patients admitted with acute MI and receiving either UFH or Enoxaparin, 70 in each group were studied. Direct medical cost (DMC) was computed from costs of the anticoagulants, supplies for administration and cost of laboratory test monitoring. Outcomes in each group such as adverse events, emergency revascularization, and mortalityduring hospital stay were assessed.

Results: Mean duration of hospital stay in days was 4.34±2.251 in UFH group and 4.80±2.873 Enoxaparin group. There was a statistically significant difference in mean DMC between the two groups (UFH-Rs. 2572±1190, Enoxaparin-Rs.4807±2693.181) p-<0.001. 78.6% of patients in UFH group and 51.4% of them in Enoxaparin group developed adverse events (p-0.001). 40% of patients in UFH group and 20% in Enoxaparin group underwent emergency revascularization (p-0.016) and in-hospital mortality rate was 7.1% in UFH group and 1.4% in Enoxaparin group (p-0.104).

Conclusion: Although DMC associated with Enoxaparin was higher than that of UFH it may improve outcomes and lower hospital budgets mainly by avoiding adverse events and emergency revascularization in patients with acute MI.

Keywords: Cost-consequence analysis, UFH, Enoxaparin, acute MI

R49: In-vitro quantitative and qualitative analysis of anti-hypertensive drugs and comparison between their generic versus branded drugs.

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Background: While generic drugs and branded drugs are supposed to be bioequivalent, generic drugs have the additional benefit of being available at a lower cost which can be important in case of chronic diseases such as hypertension. However, more comparative data is yet to be generated.

Aim: The aim of the study was to compare the pharmaceutical parameters and costs of four branded antihypertensive drugs with their generic counterparts.

Methodology: Four antihypertensive drugs viz. Ramipril, Atenolol, Enalapril and Amlodipine were considered for evaluation, for which their generic and branded samples were taken.The costs of these drugs were recorded, and various in vitro tests were conducted to assess and compare their characteristics, including disintegration, dissolution, hardness, weight variation, friability, thickness, diameter, and quantitative analysis using High Performance Liquid Chromatography and UV spectrophotometry, in accordance with the specifications outlined in the Indian Pharmacopoeia (IP) 2018.

Results: All the branded drugs were more expensive than the generic counterparts. During the in vitro studies, all generic and branded samples fell within the specified normal range for most parameters, except for Amlodipine which exhibited values below the normal range. Additionally, in the quantitative assay, the generic sample of Ramipril contained a lower amount of the drug compared to the stated value.

Conclusion: Generic antihypertensive drugs, while more cost-effective than their branded counterparts, generally met the specified standards in in vitro testing. However, there were instances of subpar hardness results and a deficiency in the stated drug amount in the generic-Ramipril sample. These findings suggest the importance of rigorous quality control measures for generic medications, particularly in aspects like tablet hardness, which can influence the dissolution rates and drug content accuracy.

Keywords: quantitative assay, disintegration, degradation.

R50: Point prevalence survey of antimicrobial use among in patients in tertiary care Centre.

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Background: The growing concern of antibiotic resistance is a global issue that demands immediate attention. The misuse of antimicrobials, including frequent and prolonged prescribing, greatly contributes to the development and spread of antimicrobial resistance. A major challenge lies in the scarcity of information and data regarding the quantity and quality of antimicrobial prescribing, hindering the successful development and implementation of effective antimicrobial stewardship programs. In this context, point prevalence surveys play a crucial role as validated methods for assessing antibiotic prescribing practices. The present study aims to address this gap by conducting a point prevalence survey to establish a background data that can strengthen and facilitate the planning of antimicrobial stewardship programs.

Materials & Methods: This cross-sectional point prevalence survey of antimicrobial use following the methodology outlined by the World Health Organization (WHO) for PPS on antibiotic use in hospitals was conducted in GMC Jammu having 2763 beds across 108 wards encompassing various clinical departments. The survey took place over a three-day period.

Inclusion Criteria: The survey included all inpatients of both genders and all age groups who had received at least one antimicrobial before 9:00 AM on the day of data collection.

Results: The total number of beds surveyed were 1923 with a bed occupancy rate of 94% and point prevalence of antimicrobial consumption was 75.8%. Among the 861 eligible patients, highest prevalence of antibiotic use was reported in paediatric ward followed by surgery ward and others (ENT, orthopaedics). 236 patients received one antibiotic, 290 received two antibiotics, and 128 received three antibiotics. Analyzing a total of 1,288 prescriptions, it was found that, on average, eligible patients received 1.5 antibiotics.The most common indication for antibiotic use was surgical prophylaxis, accounting for 41.89% of cases, followed by medical prophylaxis (24.46%), community-acquired infection (21.71%), hospital-acquired infection (3.51%), and other indications (8.40%). The percentage distribution as per WHO AWaRe classification was access (31.46%), watch (64.72%), reserve (3.88%).The parental route of administration was used in 93.6% of the total antibiotic prescriptions. Among the prescribed antibiotics, ceftriaxone was the most commonly prescribed, followed by metronidazole and Amikacin.

Conclusion: This study reveals a substantial antimicrobial usage rate and identifies several areas for targeted intervention to promote rational antimicrobial practices. The information gathered here could serve as a foundation and guidance for more extensive and inclusive point prevalence surveys, laying the groundwork for the implementation of antimicrobial stewardship interventions not only in our facility but also in other similar settings.

Keywords: antimicrobial stewardship, Point prevalence survey, antibiotic resistance

R51: Prospective analysis of Cutaneous Adverse Drug Reactions encountered in a Tertiary Care Hospital

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Background: Cutaneous adverse drug reactions (CADR) are commonest ADRs (30-45%) and responsible for about 2% of hospital admissions. Approximately 2-7% of CADRs are regarded as Severe. In India, CADR account for 2-5% of all inpatients, while it affects 2.6% of outpatients.

Aim: Primary objective of the study was to analyze the CADRs detected in In-patient and Out-patient Department of Dermatology. Secondary Objectives included to assess causality, severity and preventability of cutaneous adverse drug reactions, to detect Onset lag time (time relationship of CADRs with drug treatment), to find out seriousness of CADRs.

Methods: This study was a Prospective, Observational and Single centre study. It took place in Out-patient & In-patient department of Dermatology in a tertiary care hospital for a period of 18 months after Approval from the Institutional Ethics Committee. Then the Patients were enrolled according to Inclusion & exclusion criteria. After informing them, Written Consent/Assent Form was taken. Data collection was done and analysed as per primary & secondary objectives.

Results: Amongst CADRs experienced by patients, maculopapular rash was most common presentation. SJS had highest incidence in severe CADRs followed by DRESS and TEN. Antibacterial category of drugs contributed up to 46% of CADRs. According to WHO-UMC scale, causality of 72% of was of 'Possible'. Majority of them were non-Preventable and 26% of them were of serious nature.

Conclusion: Careful and rational use of medicine should be encouraged and detailed history of the patients to be taken. Patient should seek medical help as soon as possible and awareness about Pharmacovigilance among health care workers & patients should be encouraged. Eventually it will lead to a significant decrease in economic burden on patients and health care system of country.

Keywords: Cutaneous Adverse Drug Reaction, Pharmacovigilance, Dermatology.

R52: A Prospective Observational Study to evaluate the efficacy of levetiracetam and phenytoin in attenuating severity of agitation in Traumatic Brain Injury patients at a tertiary care hospital.

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Background: Traumatic brain injury (TBI) is a leading global cause of disability and death, with post-traumatic agitation being a common challenge. There is no consensus on the most effective and safe treatment strategy for such complications. Many studies revealed that antiepileptics like levetiracetam, phenytoin reduce agitation and aggressive outbursts in TBI patients.

Aim: Evaluating efficacy of levetiracetam and phenytoin in controlling severe agitation in post-traumatic brain injury patients.

Methods: After taking consent from the patients or the legally acceptable representative the demographic data and data from the recorded case file of the assessment of vitals, GCS score, RAS score done by neurosurgical team, any additional drugs prescribed to the patients for controlling agitation, adverse effects was collected for 7days of anticonvulsant treatment.

Results: Till date, data from 31 patients in phenytoin, 29 in levetiracetam groups have been collected. Of the 31 patients in phenytoin treated group, and 29 in the levetiracetam group, additional drugs were given to 6 and 5 patients to control agitation in the respective groups. The RAS score assessment revealed the need for additional antipsychotics administered to control agitation in few patients among these groups.

Conclusion: Both medications were equally effective at reducing agitation in patients with mild traumatic brain injury (TMBI). However, patients with moderate TBI and severe agitation required additional antipsychotic medication.

Keywords: Head trauma, Antiepileptics, Nervous excitement

R53: Cost effective analysis of DPPIV inhibitors and glucosidase inhibitors as add on therapy with metformin in type 2 dm patients at tertiary care hospital

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Background: Diabetes is a chronic disease with exponential increase in incidence, having a substantial economic impact on an average Indian family. Deciding the drug regime based only on efficacy is not feasible in Indian scenario, where cost implications also have to be considered. There are some studies to support this decision which are based on individual drugs or combination

Aim: Our study was designed to evaluate economic impact of two class of drugs - DPP4 inhibitors and glucosidase inhibitors and comparing it on the grounds of HbA1c, fasting plasma glucose (FPG) and post-prandial plasma glucose (PPG).

Methods: This was a prospective observational comparative study conducted on patients with T2DM who were prescribed either of the two therapies of metformin (500 mg) plus DPP4 inhibitors (tenegliptin, Sitagliptin, Vildagliptin) or metformin (500 mg) plus glucosidase inhibitors (Acarbose, Voglibose) in a tertiary care hospital. Cost-effectiveness analysis was done by calculating the amount spend on 0.1% reduction in HbA1c, 1 mg/dl reduction in fasting plasma glucose (FPG)/post-prandial plasma glucose (PPG) levels after 3 months and compared for both the groups.

Results: There were 34 participants in group I (DPP4 inhibitors) and 29 in group II (Glucosidase inhibitors). At 3 months, comparatively more reduction of FBG was found in group-1 i.e., 33.18mg/dl (16.46mg/dl group-2). PPG was reduced more in group-2 by 42.36mg/dl (group-1 30mg/dl). HbA1c was reduced in more in group-1 0.71 % (group-2 0.49%). Expense incurred for unit reduction in HbA1c was less in group-2 (Rs. 2068.16) compared to grop-1 (4911.97). Similarly, glucosidase inhibitors are cost effective to reduce FBG.

Conclusion: Glucosidase inhibitors although having a cumbersome regime are more cost effective than DPP4 inhibitors in reducing HbA1c and FBG levels.

Keywords: Cost effective analysis, DPP4 inhibitors, Glucosidase inhibitors, diabetes

R54: Management of drug resistant epilepsy

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Background: Epilepsy is the most common neurologic disorder in childhood.International League Against Epilepsy defined drug-resistant epilepsy as a failure of adequate trials of two tolerated and appropriately chosen and used AED schedules (whether as monotherapies or in combination) to achieve sustained seizure freedom and it becomes necessary to try a combination of drugs to control seizures.

Objective: To present a unique case of drug resistant epilepsy.

Methodology: A 14-year-old female was brought to casualty with complaints of abnormal movements of left upper and lower limbs associated with uprolling of eyes lasting for 5 minutes. She had four similar episodes in the past 48 hours. She is a known case of seizure disorder (focal seizure), and was on four different antiepileptics (Sodium valproate, Clobazam, Perampanel, Lacosamide) which she had not taken in the last two days. Sudden loud noise is a trigger for her. Previous EEG reports indicated the presence of epileptiform discharges. Mother is also a known case of seizure disorder. Genetic epilepsy is considered for diagnosis, but unable to perform genetic sequencing due to financial constraints of the family.

Diagnosis: Patient is diagnosed to have Refractory Epilepsy.

Conclusion: Although drug-resistant epilepsy patients constitute a minor part of the patients with epilepsy, they suffer from the significant psychosocial and economic burden of the disease and require considerable time and effort from the physician. Children with drug resistant epileptic seizures use multiple antiepileptic drugs for long term, which may negatively affect their cognitive and physical development. Providing patients with appropriate treatment in a timely manner may prevent the development of comorbidities associated with drug-resistant epilepsy.

Keywords: Epilepsy, resistance, seizure, antiepileptic drugs

R55: Ethambutol induced optic neuritis – A case series over a period of one year

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Background: Tuberculosis (TB) is an airborne infection caused by mycobacteria. In 2021, 1.4 million deaths were reported due to TB worldwide. Objective of India's National Strategic Plan (2017-2025) is to eradicate tuberculosis nationwide by 2025. Treatment consists of first- and second-line drugs that include isoniazid (H), rifampicin (R), pyrazinamide (Z), and ethambutol (E). All the first line drugs can cause adverse effects. Ethambutol can cause optic neuritis and hyperuricemia. The treatment regimen has changed from alternate to daily therapy and fixed drug combination are given according to weight band. This may have contributed to more adverse effects.

Aim: To find prevalence of ethambutol induced optic neuritis (EION) among patients developing adverse drug reactions (ADR) to antitubercular drugs reported at Adverse Drug Monitoring Centre (AMC), Government medical college, Kozhikode over a period of one year.

Methods: Cases of ethambutol induced optic neuritis reported at AMC, Government medical college, Kozhikode over a period of one year were collected and analyzed.

Results: 13.8% of the total ADR reported were due to antitubercular treatment (ATT), of which 5.2 % was contributed by EION. Prevalence of EION among patients developing ADR to ATT reported at AMC, Government medical college, Kozhikode over a period of one year was found to be 37.5%.

Conclusion: Significant visual loss may occur as a result of EION. As soon as an adverse reaction is noticed, stopping the medication might prevent further progression of ADR. So routine ophthalmological evaluation and patient education is highly recommended. Knowledge of the ADR pattern aids in the prevention of future ADR occurrences.

Keywords: Ethambutol, optic neuritis, tuberculosis, adverse drug reactions.

R56: Unravelling a Case of Tenofovir Induced-Fanconi Syndrome

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Background: Adverse effects of drugs as a prevalent health problem necessitates its prevention and management. It requires careful prescribing of medications, monitoring the disease progression and patient education. It is essential for healthcare providers to use drugs appropriately and responsibly. Moreover, the rational use of medications is a collaborative effort between healthcare providers and patients to achieve the best therapeutic outcomes.

Case study: A 56-year-old male developed bone pain in the thoracic region and backache 2 months back. He was taking tenofovir for the treatment of chronic hepatitis B infection and the management of HIV-1 infection. On examination he had rib and spinal tenderness. On investigation, serum bicarbonate and phosphate levels were low, and his urine was positive for protein and glucose. The bone pain aggravated in the last two weeks as a manifestation of hypophosphatemic rickets and was managed by discontinuing tenofovir while substituting it with better tolerated drugs like Abacavir, Lamivudine and Dolutegravir.

Discussion: Tenofovir is a well-tolerated nucleotide analogue reverse transcriptase inhibitor (NRTI) which in rare cases can induce Fanconi Syndrome, a condition that affects the kidneys and can lead to the loss of important substances like glucose, phosphate and other electrolytes in the urine. This condition presents with metabolic acidosis, proteinuria, hypophosphatemia and glycosuria as seen in our patient.

Conclusion: Patients taking Tenofovir should be closely monitored by healthcare providers for any signs of adverse effects. While some common side effects include nausea, vomiting, and diarrhoea, renal manifestations like Fanconi syndrome are rare and have been largely unstudied. As the risk of developing Fanconi syndrome secondary to Tenofovir use is relatively low, studying this case allowed us to understand the disease and build a foundation for improving diagnostic methods and developing targeted treatments.

Keywords: Tenofovir, Fanconi syndrome

R57: Abacavir induced Hypersensitivity in Indian patients

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Introduction: Abacavir (ABC) is a nucleoside reverse transcriptase (NRTI) class of antiretroviral (ARV) drugs. It is one of the 1st line drugs used in the HAART (Highly Active Antiretroviral Treatment) along with other ARV drugs.

Cases summary: This case series involves 2 cases of Abacavir hypersensitivity reported over 3 months (January- March 2023) to the ADR monitoring centre of a tertiary care hospital.

The Paediatric Centre of Excellence of this tertiary care hospital (PCoE) is a registered ART centre that is involved in treatment and dispensing of antiretroviral drugs (ARV) to the paediatric patients, according to the NACO guidelines.

Paediatric patients who were initiated on antiretroviral treatment (ART) consisting of Abacavir in combination with Lamivudine developed hypersensitivity reaction. All patients had hypersensitivity owing to consumption of the drug, with presenting symptoms like generalized erythematous rash, fever with rash , vomiting, etc. which resolved following symptomatic treatment.

Assessment: Causality of these cases was evaluated, which was "Probable" for both the cases, and the reactions were classified 1 non serious, and 1 serious. Both patients recovered completely from the ADR.

HLA-B*5701 associated HCP 5 rs2395029 Genotyping for Abacavir Hypersensitivity was done, that was positive in both the cases. Highest incidence of HLA B*57:01 Associated Abacavir Induced Hypersensitivity is found in African and Hispanics. However, we see a significant prevalence in Indian population as well.

Conclusion: Pharmacogenomics is an important aspect of rational pharmacotherapeutics, for detecting genotypical variations or abnormalities, assisting in prediction and prevention of such adverse drug reactions in future; and in decision making for individual patients.

Keywords: Abacavir, HLA B*5701, Pharmacogenomics

R58: Etoricoxib induced stevens Johnson syndrome - a case report

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Introduction: Stevens-Johnson syndrome (SJS) is a rare, life-threatening mucocutaneous drug reactions characterized by extensive epidermal necrosis and detachment. NSAIDs, allopurinol, carbamazepine, phenytoin, antibiotics are frequently incriminated medications. Identification and cessation of the offending agent and supportive care involving a multidisciplinary approach are the mainstay of treatment. No specific treatment modality is available. In this case report, we summarize a patient of SJS secondary to etoricoxib who was successfully managed by cessation of the offending agent and symptomatic treatment concomitant with supportive care.

Case report: A 37-year-old female presented with complaints of painful red lesions and blisters over the body, associated with painful erosions in the oral cavity and redness of eyes for 8 days. She also complained of fever of one-day duration. Lesions appeared following 4 days of oral tramadol and etoricoxib taken for knee pain. Cutaneous examination revealed multiple dusky red macules with peripheral erythema, few targetoid lesions and multiple collapsed bullae in generalized distribution including palms, soles, and genitalia. Oral cavity examination showed multiple ill-defined erosions with purulent discharge. Ocular examination revealed erythema, purulent discharge and matting of eyelids. Systemic examination findings and routine investigations were normal. Patient was diagnosed with SJS secondary to etoricoxib, admitted and treated with oral prednisolone and cyclosporine in tapering doses over a period of 2 weeks, IV antibiotics, topicals and supportive care.

Discussion & Conclusion: In recent years, adverse drug reactions (ADRs) have been identified as a major public health concern and are one of the leading causes of morbidity and mortality among hospitalized patients when severe. Due to the rise in pain killer medication usage, it is important to counsel patients and monitor them for unpredictable ADRs such as SJS. In the present case, timely recognition of SJS, cessation of etoricoxib and initiation of appropriate therapy led to complete recovery.

Keywords: Stevens-Johnson Syndrome, Non-Steroidal Anti-Inflammatory Drugs (NSAIDs), Etoricoxib, Adverse drug reactions (ADRs)

R59: Unlocking Quinine's Power: A Prophylactic Alternative to Quinidine for Post Myocardial Infarction Electrical Storms

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Background: The following cases highlight the novel use of quinine for preventing electrical storms following a myocardial infarction (MI) in countries where quinidine is unavailable.

Case 1: A 56-year-old female presented with NSTEMI, cardiogenic shock, and ventricular tachycardia (VT) leading to an electrical storm. Despite experiencing cardiac arrest in the ICU, oral quinine was initiated, effectively preventing further electrical storms.

Case 2: A 61-year-old male with a history of diabetes and hypertension was admitted due to an acute myocardial infarction (AMI) and complications including cardiogenic shock. Oral quinine was prescribed prophylactically post-AMI to prevent electrical storms, leading to his successful discharge.

Case 3: A71-year-old male was admitted with a severe and complex medical history, including refractory cardiogenic shock and recent cardiac arrest. Despite aggressive treatment and oral quinine therapy, he experienced ongoing health complications and succumbed to refractory shock and cardiac arrest.

Case 4: A 60-year-old female with heart failure and various cardiac dysfunctions was admitted and treated with CABG. Following a VT storm and cardiac arrest, oral quinine therapy was initiated, but she was unable to recover.

Case 5: A 63-year-old male presented with weakness, breathlessness, and a history of recent MI. After developing polymorphic VT and being diagnosed with sepsis, oral quinine therapy was initiated, leading to his stable discharge without further electrical storm occurrences.

Discussion: Quinidine, often selected for preventing recurrent VT, is scarcely available in many countries. Therefore, it is vital to acknowledge the prophylactic use of its diastereomer, quinine, in averting electrical storms in individuals who have undergone an MI. Quinine has similar pharmacological effects as quinidine and is also effective in suppressing ventricular arrhythmias without QT prolongation, torsade de pointes, or heart block.

Conclusion: These cases illuminate the potential of quinine as an essential prophylactic measure against post MI electrical storms in regions where conventionally used quinidine is not accessible.

Keywords: Quinine, Quinidine, Electrical storm/ Ventricular Tachycardia (VT) storm, Myocardial infarction (MI)

R60: Prescription pattern in geriatric population

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Background: Irrational prescribing for geriatric patients has become an important public health problem. Studies on the prevalence of inappropriate prescriptions can be very beneficial to increase the knowledge of health care providers and to reduce the occurrence of adverse drug events and poly pharmacy among this population.

Aim: To evaluate prescription pattern in geriatric patients in a tertiary care teaching hospital

Methods: Prescriptions of sample size 150 from inpatient department of General Medicine of patients aged 65years and above were evaluated in a descriptive retrospective study. After obtaining institutional Ethics Committee Approval (IEC number: 135) Doctors treatment charts were acquired and reviewed for a period of 6 months from April 2023 to September 2023. The data collected was then entered into Microsoft excel 365 2019. Each prescription was checked individually for inappropriate drugs by using Phadkes Criteria for Potentially Inappropriate Medication Use in Older Adults

Results: Based on Phadke's criteria, prescriptions were 144 (96%) rational, 5 (3.3%) were semirational and 1(0.67%) was irrational. Mean rationality score on a 30-point semiscientific scale was found to be (mean =28.6). Average number of drugs per prescription is (8.05) WHO standard being (1.6-4.8) hence poly pharmacy is prevalent

Conclusion: This study concludes that the prevalence of irrational prescriptions among geriatrics patients of ≥ 65 years old in SSMC is 0.67%

Keywords: Geriatric, Rationality, Phadkes criteria

R61: Assessment of Relative Infant Dosage of commonly prescribed medicines in Obstetrics and Gynecology Ward:

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Background: The relative infant dose (RID) is percentage of the drug dose received through breast milk (mg/kg/day) relative to the mother's dose (mg/kg/day). A RID of 10% or above is the notional level of concern and are known to cause developmental abnormalities as well as adverse effects in infants.

Aim: To identify the RIDs of the drugs commonly prescribed for lactating women.

Methods: Data related to frequently prescribed medications in the pharmacy of Obstetrics and Gynecology (OBG) department of a private medical hospital were retrieved. Further, various databases such as LactMed®, PubMed, Micromedex were searched for identifying and displaying the RID of different drugs utilized in the OBG department.

Results: A total number of 215 drugs were commonly prescribed for lactating mother in the OBG department. Phenobarbital, indicated for seizures in the lactating mother showed an RID of 72.5% can lead to hypnotic effect in their infants. Similarly, Theophylline, a drug used for asthma and chronic obstructive pulmonary disorder showed a RID of 21% triggering cardiac abnormalities, vomiting and jitteriness in infants. Whereas, Fluconazole and Erythromycin had RIDs of 17% and 12-15%, displaying reports of vomiting and diarrhea in breastfed infants. Moreover, Levetiracetam was found to have an RID of 13.8%. While, RIDs of other drugs mostly utilized in OBG department were found to be less than 10%.

Conclusion: RID should be monitored before considering a specific drug in lactating mother. Higher the RID of the drug, higher is the toxicity in the breastfed infant. So, there is a need for prescribing alternative drugs for drugs with RID greater than 10%.

Keywords: Relative infant dose, pregnancy, lactation, Obstetrics and Gynecology.

R62: Self-medication practices and rational drug use habits among university students: a cross sectional study

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Background: Self-medication among the college students is very high and irrational due to easy availability, economic insufficiency or the use of internet this can lead to adverse effect among the students. Hence, the study was conducted to assess the knowledge and attitude about self-medication among university students.

Aim: To assess the knowledge and attitude related to rational drug use and self-medication.

Methods: A cross sectional descriptive study was conducted involving medical and engineering students of Sri Siddhartha Academy of higher Education using a revalidated questionnaire. The sample size is calculated to be 359.

Results: 60.4% of the medical students while 61.3% of engineering student buy medicines without prescription from pharmacy and 28.7% of medical and 15.3% of engineering students use antibiotics on their own; 38.6% of medical and 38.7% of engineering students quit antibiotic once the symptoms are resolved; 51.5% of the medical and 47% of engineering read the instruction in the back of the packet and 74.3% of medical and 65% of engineering students understands partially; Any side effects during self-medication 75.2% of medical and 39.7% of engineering students consults physician and 6.9% of medical and 21% of engineering students consults pharmacists.

Conclusion: Since the awareness of self-medication and RUD among university students was found to be inadequate, it has critical importance to hold educational activities to avoid negative consequences of irrational drug use and self-medication.

Keywords: Self-medication, Rational drug use, University students,

R63: Poor medication adherence among breast cancer patients

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Background: Breast cancer in India accounts for 13.5 % of all the cancers and 10.6 % of all the deaths. Oral hormonal anticancer drugs (i.e., Tamoxifen and Aromatase inhibitors) are prescribed for women with estrogen-positive and progesterone-positive breast cancer and adherence to hormone therapy increases disease-free survival. It is often started as an adjuvant treatment or neoadjuvant therapy for 5 to 10 years. The level of medication adherence and factors influencing the medication adherence among the Indian female breast cancer subjects is unknown so far.

Aim: The study aims to determine the level of medication adherence in female breast cancer patients and to assess the factors associated the medication adherence in Malabar region of Kerala.

Methods: A Cross sectional survey conducted among 51 female breast cancer patients of age group 18-65 years undergoing treatment in a tertiary care cancer center in the Malabar region of Kerala. The study used 88item self-administered questionnaire which is designed based on WHO adherence model (V1 Mar2003). The questionnaire developed based on 5 dimensions – i.e., socioeconomic factors, patient related factors, health care system factors, disease condition related factors and therapy related factors. The responses of the questions are multiple choice in format.

Results: Of the total 51 women included in the study, the mean age was 51.47±11.76 years. 41.8% of the breast cancer women showed poor medication adherence. Among the variables assessed for their influence on adherence, cost associated with medication ($p=0.001$), feeling after taking medication ($p=0.010$), medication while traveling ($p=0.001$), and travel-associated factors ($p=0.001$) significantly associated with medication adherence.

Conclusion: Cost of the treatment, feeling after medicine intake, difficulty to take medicines during travel, travel to the hospital is the factors which require significant interventions to improve medication adherence.

Keywords: Breast cancer, medication adherence, hormonal therapy, cost of treatment

R64: A study on knowledge, attitude and practice of generic medicines among health care practitioners in a tertiary care hospital

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Background: Health care practitioners resist prescribing generic drugs due to negative views, lack of awareness and knowledge about them, though they are less expensive and have the same therapeutic effect as that of brand name drugs. Hence, this study is undertaken for better understanding of knowledge, attitude and practice towards generic medicines.

Aim: To assess the knowledge, attitude and practice of generic medicines among health care practitioners.

Methods: A cross sectional study was conducted among health care practitioners practicing at BIMS, Belagavi. After obtaining Ethical committee approval and Informed consent, the data was collected using a self-administered closed-ended questionnaire and analyzed using SPSS software version26.

Results: Total 160 subjects, males (48.8%) and females (51.2%) out of which 95% belonged to 20-35 years age group. Maximum responses were received from post MBBS doctors (56.9%) followed by post MD doctors (36.3%). Majority of them perceived that generic medicine is effective, safe and has same active component, dose and equally bio equivalent as brand medicine. But majority perceived generic medicine needed repeat pre-clinical and clinical studies (61.3%). (58.1%) were not satisfied with the quality control measure of generic medicines by the Regulatory authority. However, more than three-quarter of doctors (85.6%) routinely prescribed generic drugs.

Conclusion: Most of the doctors though had the knowledge about the efficacy and safety of generic medicines; believe that they need repeat clinical studies. For better understanding of the generic drug, the doctor must be well informed about the generic products during their academic career that will significantly impact health-care budgets.

Keywords: Attitude, doctors, generic drugs, knowledge, practice.

R65: Usage of NSAIDs in orthopedic practice in a tertiary care centre

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Introduction: Non-steroidal anti-inflammatory drugs (NSAIDs) are most widely used drugs for years for management of pain and inflammation with variety of NSAIDs that are presently available, it is difficult at times to select a particular NSAID on a rationale basis alone but on empiricism.

Aim: To a assess the NSAID prescription pattern in adult orthopedic OPD and IPD

Methodology: In a sample size of 352, a validated questionnaire was administered to the patients attending the OPD and IPD of orthopedics department after ethical committee clearance. The data was captured by excel sheet and analyzed using descriptive statistics.

Results: After the complete analysis it is found that 52% aceclofenac was prescribed for the bone pain. And 96% had developed gastric ulcers for which Pantoprazole was precribed

Conclusion: The prescription pattern must be availed for prescribing Nsaids for shorter duration of time, And the most common problem faced after using Nsaids is gastric ulcer

R66: Pattern of drug utilization among CAD patients admitted under cardiac care unit

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Introduction: Coronary artery disease is one of leading cause of death worldwide Despite improvement in the health care facilities it still persists as primary cause of death globally to promote safety and efficacy rational drug prescription is required among such patients. This study evaluates drug utilization using WHO-ATC classification.

Method: A total of 100 medical record were analyzed for drug utilization, which is collected over the past one year. This is a retrospective study which was done by analyzing patient records. Case record forms were used to collect demographical data and treatment charts was collected to assess drugs utilized during the course of treatment. Prescription pattern was assessed using WHO prescribing indicators.

Results: Of the total cases most of were men aged between 55 to 70 years and females lesser in comparison aged between 52 to 70. Prescription pattern are as follows:

During the course of treatment drug that mostly prescribed include:

1. Anti platelets
2. Anti-coagulants
3. Statins
4. Diuretics

Drugs prescribed during discharge include:

1. Anti- platelets-clopidogrel
2. Statins-atorvastatin
3. Diuretics - furosemide
4. Other drugs- pantoprazole

Conclusion: Negligible prescription error was found. However, the use of generic names was less. Hence appropriate prescription writing can improve patient compliance which result rational drug use.

Keywords: Rationale drug use, Coronary artery disease, Prescription pattern

R67: Short-term efficacy and safety of omidenepag isopropyl for the management of ocular hypertension and primary open angle glaucoma: A systematic review and meta-analysis.

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Background: Omidenepag isopropyl (OMDI) is a first-in-class topical EP2 agonist indicated in patients with ocular hypertension (OHT) and primary open angle glaucoma (POAG). Although EP2 agonism has the potential to show a similar efficacy in respect to IOP reduction, the commonly encountered adverse effects of FP2 agonists like Latanoprost are avoided.

Aim: To systematically evaluate the efficacy and safety of OMDI and to compare it with Latanoprost for the treatment of OHT or POAG.

Methods: The protocol was registered on PROSPERO with protocol number CRD42022369516. PubMed, Embase, Cochrane and clinicaltrials.gov were searched using predetermined MeSH terms and keywords. A title+abstract screening followed by full-text screening was done for resultant selected articles using predetermined criteria. The NHLBI quality assessment tool was used. Efficacy analysis of OMDI at 2 weeks and 4 weeks and comparison analysis with latanoprost at 4 weeks was performed. Safety was analyzed with prevalence meta-analysis and was compared with latanoprost for the common AE detected across studies.

Results: A total of 10 studies (n=60) were included for the review. OMDI showed a pooled mean and percentage reduction of IOP of -5.20 mmHg [(CI 95% -6.94, -3.45), P=< 0.00001, I2 = 97%] and 22.98% [CI 95% 19.24,26.72, P=0.00001, I2= 86%] and -5.21 mmHg [(CI 95% -7.14, -3.09), P=<0.00001, I2=99%] at 2 and 4 weeks respectively. Subgroup analysis revealed reduction to be more in high baseline IOP group. Latanoprost showed better efficacy at 4 weeks [MD= 0.47 (CI 95% 0.08,0.86), P = 0.02, I2 = 0%]. The prevalence of AEs was seen to be 17.7%. The risk ratio of AEs in comparison to Latanoprost was seen to higher in the OMDI group.

Conclusion: OMDI holds potential to be a safe and effective alternative to Latanoprost in patients with POAG or OHT although further studies are warranted.

Keywords: Omidenepag isopropyl; OMDI; Prostaglandin E2 agonist; systematic review; meta-analysis

R68: Prescription pattern of Antihypertensive drugs enlisted in National List of Essential Medicines in a tertiary care hospital.

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Background: Prevalence of hypertension in India- An estimation states that approximately one in 4 adults are suffering from hypertension, which will be around 220 million Indians. As hypertension poses as one of the important risk factors for cardiovascular, cerebral and renal disorders, early detection and therapeutic intervention becomes necessary. However, the drugs prescribed by the prescribing doctor may or may not be listed in the 'National List of Essential Medicine (NLEM)' produced by the 'Ministry of Health and Family Welfare (MoHFW), Government of India.5 Antihypertensives enlisted in the NLEM would be more appropriate to most of the population as it addresses the quality, cost effectiveness, safety and are available at all times for the patients.

Aim: To assess the prescription pattern of Antihypertensive drugs enlisted in the latest National List of Essential Medicines in a tertiary health care hospital.

Methods: It is a retrospective, observational study of utilization of antihypertensive drugs from Essential medicines list in a tertiary care hospital. The proposed study was conducted in association of Pharmacology and General Medicine department (Sri Siddhartha Medical College, Tumkur) after approval from Institutional Ethics Committee (IEC). Prescriptions of patients admitted to the medicine inpatient department were screened for prescribed antihypertensive medications (or medications having antihypertensive components). Other relevant information (such as demographic details, co-morbid conditions, etc.) was noted as well. Among the prescriptions screened, those of the patients suffering from hypertension were included while those of non-hypertensive patients were excluded. Patients above the age of 18 years were included in the study.

Results: The most commonly prescribed drugs for hypertension belonged to Beta-blocker class. Followed by Calcium channel blockers, Angiotensin receptor blockers and Diuretics. The details of the result shall be discussed in the conference.

Conclusion: The study concluded that, the class of antihypertensive drugs commonly prescribed are Beta blockers. Calcium channel blockers being the next class of drugs to be prescribed frequently. The prescription of drugs depended heavily on the demographic details of the patients and other co-morbidities.

P01: Botulinum Toxin type A induced acute hypersensitivity reaction in post Covid-19 vaccinated patient - a rare case report.

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Botulinum Toxin (BT) use has shown an increase in different cosmetic procedures over time and the majority of the treatment is safe and well tolerated. Yet, hypersensitivity reactions have been reported in the literature. We here report one such case where a 40-year-old female was given BT for dynamic wrinkles of the forehead and she developed acute, sudden swelling and itching at the injection site. The patient was managed with injectable steroids and antihistamines. Less than a month ago, the patient received the COVID-19 vaccine. A rechallenge was given to the patient with BT after around one and a half years and it remained uneventful. The causality assessment scale on the Naranjo scale had a score of four, which is a possible adverse reaction, with the severity of the reaction being moderate. Thus, the present case of the development of this rare reaction to BT after the COVID-19 vaccine and similar reports in recent literature has emphasised the fact that BT is a safe procedure, but in patients with post-COVID-19 infection or vaccine, it has not only been shown to alter therapeutic function but also precipitated a hypersensitivity reaction. Thus, the consulting doctor should emphasise careful patient assessment and accurate injection technique, along with a detailed medical history, with special attention to the vaccine used in the previous three months.

Keywords: Botulinum Toxin type A, Covid-19 vaccine, Acute Hypersensitivity Reaction

P:02Chloroquine-induced Toxic Epidermal Necrolysis in a 3-year-old child- A Case Report

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Steven Johnson Syndrome (SJS) and Toxic Epidermal necrolysis (TEN) are rare, life threatening, allergic reactions affecting the skin and mucous membranes. TEN is considered to be a serious form with more than 10% of body surface area involvement.

A three-year-old male child was admitted in the Department of paediatrics with complaints of skin lesions all over the body. He had a history of fever for the past one week and was given a oral chloroquine for empirical treatment of malaria by a local physician. After 24 hours, patient developed erythematous patches over abdomen and extremities associated with itching, which was progressed to all over the body.

This adverse reaction is not dose related and can be labelled as type B class of Adverse Drug Reactions. It can be considered as a probable ADR as per WHO Causality Assessment of suspected adverse drug reactions.

Chloroquine is mostly associated with gastritis, blurring of vision and even retinal damage on prolonged use. However Toxic Epidermal Necrolysis with chloroquine have been rarely noted. This case report is intended to create awareness about the rare and potentially fatal adverse drug reactions of chloroquine which is commonly used for malaria in India.

Keywords: hloroquine, Toxic Epidermal Necrolysis, Adverse Drug Reaction

P:03 Patterns of adverse drug reaction of platinum -based chemotherapy - a case series over a period of one year

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Background: Adverse drug reactions (ADRs) cause significant morbidity and mortality across the world, and also increase the healthcare cost. According to World Health Organisation (WHO), ADR can be defined as 'A response to a drug, which is noxious and unintended, and which occurs at doses normally used in man for the prophylaxis, diagnosis, or therapy of disease, or for the modifications of physiological function'. Anticancer drug therapies are more prone to cause ADRs as these agents are cytotoxic and can damage the normally dividing cells along with the cancerous cells. Platinum-based drugs Cisplatin, Carboplatin, and Oxaliplatin are widely used drugs in chemotherapy of cancer.

Aim: To find Adverse drug reaction (ADR) patterns of Platinum-based chemotherapy reported at Adverse Drug Monitoring Centre (AMC), Government Medical College, Kozhikode over a period of one year.

Methods: Platinum-based chemotherapy induced ADRs were collected over a period of one year from those reported at Government Medical College, Kozhikode AMC.

Results: 4.02% of the total ADRs reported were due to Platinum-based chemotherapy, of which 14% presented as pancytopenia, 14% as anaemia, 14% as drug allergy, 14% as weakness and shivering, 14% as breathlessness, 14% as seizure and 14% as vomiting. Most cases reported were serious adverse event (SAE) but reversible and not life threatening.

Conclusion: Though the ADRs due to platinum-based chemotherapy were not life-threatening, they affected the quality of life (QOL) that demanded dose reduction. So, the knowledge about the patterns of ADR due to chemotherapy might help in better prescription and prevention of ADRs from progressing further.

Keywords: Platinum-based chemotherapy, Adverse Drug Reactions, Cisplatin, Carboplatin, Oxaliplatin.

P04: Patterns of adverse drug reaction of ciprofloxacin - a case series over a period of one year

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Background: An adverse drug reaction (ADR) is defined as harmful or unpleasant event following administration of a drug. ADR reporting provides valuable information that helps in avoiding potential problems during drug therapy. Studies have shown that antimicrobials are the most common drugs that contribute to high ADR burden. CIPROFLOXACIN is a broad-spectrum antibiotic belonging to the first-generation of fluroquinolones, effective against Gram positive, Gram negative & mixed infections. Cutaneous vasculitis is an uncommon but serious adverse event (SAE) with only 13 cases reported worldwide, since 1989.

Aim: To find Adverse Drug Reaction pattern of Ciprofloxacin reported at Adverse Drug Monitoring Centre (AMC), Government Medical College, Kozhikode over a period of one year.

Methods: Cases of CIPROFLOXACIN induced ADRs reported at Government Medical College, Kozhikode, AMC over a period of one year were collected and studied.

Results:5.7% of the total ADRs reported were due to CIPROFLOXACIN, of which 60% presented as skin hypersensitivity, 20% as Fixed Drug Eruption (FDE), 10% as generalised itching.10% presented as cutaneous small vessel vasculitis, a SAE that recovered on dechallenge. According to World Health Organisation - Uppsala Monitoring Centre (UMC) causality assessment scale, small vessel vasculitis due to ciprofloxacin is probable.

Conclusion: Early identification and management of ADRs will improve morbidity, mortality and reduce the cost of treatment. Timely withdrawal of the drug can prevent fatal complications and avoid long term sequelae. So, the knowledge about the patterns of ADR helps in better prescription and improve the quality of life.

Keywords: Adverse Drug Reaction, Ciprofloxacin, Small vessel vasculitis, Fixed Drug Eruption.

P05: Optimising everolimus therapy: experience from the therapeutic drug monitoring centre at NIMS

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Background: Organ transplantations pose a serious challenge in terms of maintaining adequate immunosuppression post-surgery. Under suppression can lead to graft rejection while higher immunosuppressant levels may lead to serious complications. Everolimus, an mTOR inhibitor is mainly used post renal or liver transplants. It is a narrow therapeutic index drug for which measurement of trough concentrations (C0) is reliable method of therapeutic drug monitoring. As per recommendations of the IATDMCT, target drug levels for everolimus should be - C0 of 3–8 ng/mL when used in combination with Tacrolimus, Cyclosporine or Glucocorticoids and C0 range of 6-10 ng/ml in calcineurin inhibitor-free regimens.

Case Presentation: A 52-year-old male, a known hypertensive and diabetic had undergone renal transplant 3 years ago. He was on T. Tacrolimus 3.75 mg/day: T. Everolimus 0.25 mg twice a day, T. Wysolone 5 mg once daily, other antihypertensives (T. Nifedipine, T. Metoprolol) and oral hypoglycemic drugs. Whole blood sample of the patient was sent for TDM of Everolimus, Tacrolimus to our lab. On analysis values for both the drugs were low. On checking for drug-drug interactions it was found that Nifedipine is known to decrease the level of Everolimus by affecting how it is eliminated from the body. The same was intimated in the patient's report. The patient is on follow up and is doing well. Although his whole blood tacrolimus levels have increased but everolimus levels have still remained low.

Conclusion: Everolimus exhibits both intra- and inter-patient pharmacokinetic variability, and it can be challenging to maintain stable concentrations within target range. TDM of Everolimus is of paramount importance in optimising therapy as there are no validated pharmacodynamic methods.

Keywords: Therapeutic drug monitoring, Everolimus

P06: Case series of Stevens-Johnson syndrome and toxic epidermal necrolysis

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Background: Stevens–Johnson syndrome (SJS) and toxic epidermal necrolysis (TEN) are rare, but life threatening mucocutaneous immune complex-mediated hypersensitivity reactions. The incidence of SJS and TEN is estimated to be 1-6 and 0.4-1.2 cases per million person years, respectively. According to the involvement of body surface area (BSA), the disease can be classified into SJS (<10% BSA), SJS–TEN overlap (10% – 30% BSA) and TEN (>30% BSA). Anticonvulsants, antibiotics, and anti-inflammatory medicines are the most common cause of SJS and TEN, that accounts for >80% of cases.

Aim: To estimate the prevalence of drug induced Stevens–Johnson Syndrome and Toxic Epidermal Necrolysis reported at Adverse Drug Monitoring Centre, Kozhikode over a period of one year.

Methods: Retrospective analysis of SJS, SJS/TEN overlap and TEN reported at Adverse Drug Monitoring Centre (AMC), Government medical college, Kozhikode over a period of one year.

Results: The prevalence of SJS, SJS/TEN overlap and TEN is 8.6% of total adverse drug reactions reported. Among them SJS 67%, SJS/TEN 20% and TEN 13.3% were reported. Females of more than 50years are mostly affected group. The causative drug in these patients mainly consists of anticonvulsants 46.6%, nonsteroidal anti-inflammatory drugs 26.6%, antimicrobials 20%, anti-gout drug 6.6%. Among anti-convulsants phenytoin has the highest incidence.

Conclusion: Anticonvulsants, NSAIDs and antimicrobials were commonly reported group of offending drugs in SJS/TEN patients. They are associated with significant morbidity and mortality; early diagnosis and treatment is critical in achieving favorable outcome. Stopping the medications as soon as an adverse reaction is noticed might prevent abnormalities from progressing further.

Keywords: Stevens–Johnson syndrome, Toxic epidermal necrolysis, Phenytoin, NSAID, Antimicrobial

P07: A case report of Acute Generalized Exanthematous Pustulosis (AGEP) due to consumption of expired Pregabalin

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Background: Acute Generalized Exanthematous Pustulosis (AGEP) is a cutaneous adverse drug reaction caused by -lactam antibiotics, macrolides and several other drugs. Additionally, it may be due to viral and other infective agents. Very few cases of pregabalin induced AGEP have been reported globally, whereas none from India. Recently we have encountered an unusual case of AGEP following self-medication with expired date pregabalin.

Case summary: A 45-year-old female was on tablet pregabalin 75mg once daily for last six months for radiculopathy. She had in her possession some pregabalin tablets which had crossed the expiry date. She consumed such tablets for three consecutive days and suddenly developed multiple pustules over neck, abdomen and thighs on an erythematous background. It was associated with fever and malaise. She was not on any other medications, nor did she have any significant past medical, allergy or addiction history.

A diagnosis of AGEP was made by the dermatologist on the basis of the clinical presentation and confirmed by histopathology. The suspected medication pregabalin was withdrawn immediately and she recovered completely within 2 weeks with conservative management. As per the WHO UMC adverse drug reaction causality assessment scale it was considered as "probable".

Conclusion: This case highlights the importance of creating awareness amongst patients about the hazardous effects of consuming expired date medications. However, we are unable to conclude whether it was due to the active pharmaceutical ingredient or the excipients in the formulation.

Keywords: expired medication, pregabalin, Acute Generalized Exanthematous Pustulosis (AGEP), case report, India

P08: Polymyxin - induced DRESS Syndrome: a rare adverse drug reaction

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Background: Polymyxin B (PMB), regarded as the ultimate antibacterial against Gram-negative bacteria and clinically limited to highly resistant infections, inflicts several adverse effects on patients. Of these, drug reaction with eosinophilia and systemic symptoms (DRESS) is rare, but its recognition is of paramount importance since the mortality rate is about 10-20% and specific therapy may be necessary.

Aim: The study aims to analyse the presented case and review current literature on PMB-induced DRESS Syndrome, identifying potential gaps for future investigations.

Methods: Information from reputable published case reports was collected and summarized, focusing on Polymyxin's side effects and the incidence of DRESS.

Case Presentation: A 55-year-old hypertensive male presented with tachypnea following a snake bite. Investigations revealed bilateral pulmonary edema, deranged renal function tests, and elevated inflammatory markers. He was intubated and started on Meropenem and Tigecycline, as well as haemodialysis. Culture was positive for Klebsiella species following which antibiotics were escalated to Polymyxin and the patient developed a rash along with eosinophilia. A diagnosis of DRESS was made.

Results: In this case, ceasing Polymyxin while continuing Meropenem improved the patient's condition. Review uncovered similar cases of PMB-induced hypersensitivity reactions reported in China, though instances of DRESS were infrequent. Further exploration is needed on the pathological mechanisms, epidemiology, and risk factors for this adverse reaction.

Conclusion: DRESS Syndrome; marked by widespread cutaneous rash, fever, lymphadenopathy, eosinophilia and atypical lymphocytes; has been described for other antibacterials like Beta lactams but only a handful of case reports on Polymyxin-induced DRESS have been found so far. However, both our case report and literature review highlight that PMB can indeed cause DRESS, underscoring the importance of its judicious and rational use.

Keywords: Case report; Polymyxin; DRESS Syndrome

P09: Anti-tuberculosis treatment induced adverse drug reactions – A case series over a period of one year

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Background: Tuberculosis (TB) is a major global health problem and leading cause of death. Anti-tuberculosis Treatment (ATT) can lead to adverse effects including Hepatitis, optic neuritis, cutaneous reactions. The Indian National Stratergic Plan is to eradicate tuberculosis by 2025.The treatment consist of first line drugs- Isoniazid (H), Rifampicin (R) and Pyrazinamide(P), Ethambutol (E). The treatment regimen has changed from alternate day to daily therapy and fixed dose combination (FDC) on the basis of patient weight.

Aim: To estimate the prevalence of ATT induced Adverse Drug Reactions based on the demographic profile, identify the spectrum of Hepatitis, Optic neuritis, Cutaneous eruptions, other adverse reactions and outcome during one year.

Methods: Adverse Drug reaction of ATT reported in Adverse Drug Monitoring Centre in Government Medical College Calicut during one year was collected and analyzed.

Results: Prevalence of ATT induced ADR reported at Adverse Drug Monitoring centre Kozhikode was found to be 19% (female 46.8%, Male-53.2 %). Of the total 40% developed Hepatitis, 28% had Optic neuritis, Skin reactions like dermatitis, Acneform eruptions, Lichenoid skin reactions, Pruritis constitute 22 % & nearly 10% have others manifestation like vomiting, vertigo.

Conclusion: Adverse Drug reactions like Hepatitis is mainly caused by Rifampicin, Pyrazinamide, Isoniazid. Optic neuritis is mainly caused by Ethambutol. Males have more ATT induced ADR compared to females, of which Hepatitis is seen in more than 1/3 rd of the total case series. Multidrug hypersensitivity is another challenge in reinstitution of safe ATT regime. Hence, the patient should be counseled regarding ADRs for early detection and prevention.

Keywords: Adverse Drug Reactions, Anti-tubercular therapy, Hepatitis

P10: Vymada induced Acute kidney injury

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Introduction: Vymada is a combination of Sacubitril & Valsartan. It is used to reduce the severity and risk of hospitalisation in people with chronic heart failure. It helps in relaxing the blood vessels and promoting smooth blood flow.

Cases summary: This is a case of 52 y/o patient who was diagnosed as a case of CHF with atrial fibrillation & reduced ejection fraction. He was prescribed the following drugs- Vymada, Digoxin, Diltiazem, Clopidogrel, Aspirin, Heparin, Furosemide & Amiodarone.

Patient came to the hospital with chief complaints of vomiting, altered sensorium, decreased responsiveness & oral intake. He was admitted in MICU. On further investigations his CT brain showed Left cerebellar bleed with moderate obstructive hydrocephalus managed by EVD insertion & renal function test showed increased Sr. Creatinine & BUN levels. Acute kidney injury induced by Vymada ADR was reported to Pharmacology department. Suspected drugs were stopped. Sr. creatinine & BUN levels decreased over the next few days & patient showed a recovering trend.

Assessment: Causality of this case was evaluated, which was "Possible". The reaction was classified as serious. Patient recovered completely from the ADR.

Vymada (Sacubitril + Valsartan) is the first agent to be approved in a new class of drugs called angiotensin receptor neprilysin inhibitor (ARNI). It is FDA-approved to treat patients with chronic heart failure with reduced ejection fraction (HFrEF) with NYHA class II, III, or IV. ACEI, ARB, or ARNI are now recommended in patients with chronic symptomatic HFrEF to reduce morbidity and mortality.

Conclusion: Pharmacovigilance is an important aspect of rational pharmacotherapeutics, for detecting adverse drug reactions in time, assisting in its detection, monitoring, assessment and prevention of such adverse drug reactions in future; and in decision making for individual patients.

Keywords: Vymada, CHF, Sacubitril, ARNI

P11: Chemotherapy-induced Posterior reversible encephalopathy syndrome (PRES) in an AML patient

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Background: Posterior reversible encephalopathy syndrome (PRES) is a clinical syndrome characterized by headaches, seizures, confusional state and visual disturbances. It is associated with transient predominantly bilateral posterior white matter magnetic resonance imaging (MRI) lesions in the brain. In an oncology setting, chemotherapeutic agent-induced PRES is rare, but it may be a serious neurologic manifestation. The pathogenesis of PRES is precisely not known.

Case report: We report a patient presenting with PRES after treatment with chemotherapeutic agents such as Tab. Prednisolone (100mg), Inj. Vincristine 2mg, Inj. Daunorubicin 40mg, Inj. L-asparaginase 10,000 U, Inj. IT-Methotrexate 12mg based on [BFM – 95 (2002)] protocol for acute myeloid leukaemia (AML). This is a young female patient aged 15 years who was recently diagnosed as a case of acute myeloid leukaemia. She had headache and partial seizures 1 day after initiation of chemotherapeutic agents. Brain magnetic resonance images revealed T2 and FLAIR hyperintensities in the bilateral cerebral parenchyma, brainstem, and cerebellum. Injection levetiracetam 500mg f/b 1.5g BD was given to treat seizures and Tab. Paracetamol 650mg TDS was given to treat headaches. All chemotherapeutic drugs were discontinued. Her symptoms gradually improved and disappeared after 3 days of treatment. The reported event was possibly related to the chemotherapeutic agents as per the WHO-UMC causality assessment system.

Keywords: Posterior reversible encephalopathy syndrome, AML, Chemotherapy, Adverse drug reaction.

P12: Thought it was an infection, didn't you? - A Case of Carbimazole Associated Agranulocytosis in Patient with Thyrotoxic Periodic Paralysis

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Background: This case reports Carbimazole-associated agranulocytosis, an uncommon complication of an anti-thyroid drug prescribed in a patient with Thyrotoxic Periodic Paralysis (TPP) secondary to Graves disease. This complication closely resembles the clinical presentation of an infection. With a prevalence rate of 0.1-03%, its association with an already rare Graves disease complication may highlight its rational use requirements.

Case Report: Clinical Presentation: A 34-year-old male presented to the clinic with complaints of high-grade fever and chills with sore-throat and dry cough for 1-day. Patient mentioned a history of TPP, and was prescribed carbimazole 3 days ago. Vitals revealed an elevated pulse-rate. Patient was found to have Proptosis and Fine-Tremors in his Hands. Respiratory system examination revealed congested posterior-pharyngeal wall and grade-1 tonsillar hypertrophy.

Diagnosis: In conjunction with the clinical presentation, DLC revealed an elevated agranulocyte count and ratio(especially monocyte). Whilst waiting on blood cultures, empirical piperacillin-tazobactam was started, with suspicion of infection. As the blood culture was negative, antibiotics were stopped. Taking into account medication history, a tentative diagnosis of Neutropenic Fever secondary to carbimazole-associated agranulocytosis was made, which was confirmed on withdrawal of carbimazole treatment.

Treatment: Patient was prescribed Tab Lithium-300mg and Cholestyramine-4g, to combat Thyrotoxicosis, in place of Carbimazole. Additional Radio-Iodine Ablation was scheduled for long-term management of TPP. Patient was continued on Tab. Propranolol, 20 mg BD for management of tachycardia and Augmentin-625mg as a precaution from infection prior to procedure.

Conclusion: The case currently present holds relevance in rational practice and prescription, due to the following lesson:

- Carbimazole-induced agranulocytosis may occur within 3 days of the regime rather than a few weeks or months.
- The physician must be vigilant about this potential adverse effect and must make the patient aware of the impending symptoms for early detection and treatment.

Keywords: Carbimazole, Agranulocytosis, Neutropenic Fever

P13: Ceftriaxone induced Periorbital Edema

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Introduction: Ceftriaxone is a third generation Cephalosporin and acts by inhibiting the transpeptidases that help in cross linking of cell wall. Though a well-tolerated drug, it can cause rashes, bleeding, hemolysis. Periorbital edema is a rare side effect of Ceftriaxone with a prevalence of 1- 3 %.

Case Description: Here we reported a 43-year-old male patient who developed Periorbital Swelling secondary to Ceftriaxone use. The patient was admitted to the hospital with complaints of high-grade fever, loose stools and vomiting and was diagnosed with Acute Febrile Illness. He was prescribed Ceftriaxone at a dose of 2 gram IV. Within 30 minutes of drug administration, he developed periorbital swelling. The patient was diagnosed with Ceftriaxone induced Periorbital Edema. The drug was withheld and Inj. Pheniramine Maleate IV was administered after which the reaction subsided. The antibiotic was later changed to Tab. Azithromycin. Later, acute febrile illness was diagnosed as dengue followinglab investigations that revealed NS1 positive. After patient improved following symptomatic treatment of dengue he was discharged. Causality assessment of Ceftriaxone induced Periorbital Edema was done in accordance to the Naranjo Causality Scale and it was found to be "DEFINITE". (Score- 9)

Conclusion: Ceftriaxone, a commonly used antibiotic in hospitals, while efficacious, it is liable to cause type 1 hypersensitivity reactions. There is a need to monitor the immediate adverse effects following administration of this drug.

Keywords: Swelling, Hypersensitivity, Adverse Drug Reactions, Causality Assessment, Cephalosporin.

P14: Beyond numbness: Unravelling EMLA's unusual side effects – A case report

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Introduction: utectic mixture of local anesthetics (EMLA) is a combination of lignocaine 2.5% plus prilocaine 2.5%. This preparation can anaesthetise intact skin after surface application. It is applied under occlusive dressing for 30-60 minutes prior to superficial procedures. Here we present a case of a female aged 53 years who reported localised erythema and edema with this combination.

Case Description: The patient came to the hospital on seventeenth of May 2023 with complaints of skin tags and hyperpigmented lesions and diagnosed as acrochordon. Electrocautery under local anaesthesia was performed. Following the electrocautery procedure patient developed erythema and edema on the neck the same night which was progressive in nature. The reaction was diagnosed as topical anaesthesia induced hypersensitivity and advised treatment for the same. Patient recovered gradually from the reaction.

Causality assessment was done in accordance with the WHO Causality Scale and it was attributed to be a probable reaction

Conclusion: Localised Erythema and edema with Eutectic mixture of lignocaine and prilocaine is relatively a rare side effect with very few reported cases. This case report sensitises the physician to be vigilant of this reaction.

Keywords: EMLA, erythema, edema, local anaesthetics

P15: Duloxetine induced hyperhidrosis

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Introduction: Duloxetine hydrochloride is a selective serotonin and norepinephrine uptake inhibitor (SSNRI). It is used to treat major depressive disorder and generalised anxiety disorder. It is also used for pain caused by nerve damage in diabetics and indicated for fibromyalgia as well.

Case Description: A Patient on tablet duloxetine 30mg once daily for the past 9 years as she was diagnosed with tension type Headache episodes. She was on regular follow up and she reported increasing sweating for the past 2-3 months. Duloxetine was suspected and was withdrawn. Symptoms subsided and patient recovered symptomatically.

Sympathetic overstimulation secondary to duloxetine resulted in hyperhidrosis. Further cardiovascular side effects like tachycardia hypertension can be associated with hyperhidrosis.

Conclusion: Hyperhidrosis due to duloxetine has been previously reported and prevalence is found to be around 4 to 22 percent. There is a need to monitor the adverse effect

Keywords: Hyperhidrosis, Antidepressant, Duloxetine

P16: Injection Vitamin B complex induced Shivering

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Introduction: Parenteral preparation (Optineuron ampoule) containing Vitamin B complex and Benzyl alcohol (0.9% v/v). Though it is well tolerated when administered i.m.; headache, rashes, dizziness, itching are common when given as i.v. infusion. While shivering alone is a rare side effect and reported rarely.

Case description: Here we reported a 18-year-old male patient who developed Shivering secondary to Inj.Optineuron. The patient, a known case of Vitamin B12 deficiency and Hepatitis B, came to the hospital with complaints of generalized weakness, dizziness and blurring of vision . He was prescribed Inj. Optineuron in 100ml normal saline. Within 30-45 mins of administration, he developed headache and started Shivering. The patient was diagnosed with Inj. Optineuron inducedShivering. The drug was withheld and Inj. Pheniramine Maleate IV was administered after which the reaction subsided. Causality assessment of Inj.Optineuron induced Shivering was done in accordance to the Naranjo's Causality Scale and it was found to be "PROBABLE". (Score- 6)

Conclusion: Injection Optineuron, a commonly used vitamin supplement in hospitals, it is liable to cause type 1 hypersensitivity reactions and febrile illness. There is a need to monitor the immediate adverse effects following administration of this drug.

Keywords: Shivering, Hypersensitivity, Adverse Drug Reactions, Causality Assessment, Headache

P17: Breathlessness induced by Diclofenac

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Introduction: Diclofenac belongs to a class of medications known for their anti-inflammatory, analgesic and antipyretic properties. It is commonly prescribed to alleviate pain and reduce inflammation associated with conditions such as arthritis, musculoskeletal injuries, and other inflammatory disorders in the form of oral tablets, topical gels or injectable solutions.

Case Description: Here we reported a 29-year-old female patient who had chief complaint of back pain. The patient was admitted to the hospital. She was prescribed Diclofenac IV 70mg inj for back pain after drug administration. The patient experienced breathlessness for which Avil 1 amp and 1 Inj – Hydrocortisone 100m IV and Inj-Adrenaline 0.5ml. Causality assessment of Breathlessness induced by Diclofenac was done in accordance to the Naranjo Causality Scale and it was found to be "PROBABLE". (Score- 6)

Conclusion: Diclofenac a commonly used drug to alleviate pain and reduce inflammation is efficacious to manage a variety of medical conditions but it is also liable to cause type 1 hypersensitivity reactions so there is a need to monitor the immediate adverse effects following administration of this drug.

Keywords: Breathlessness, Hypersensitivity, Adverse Drug Reactions, Causality Assessment, Diclofenac.

P18: Cefuroxime induced hypersensitivity.

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Introduction: Cefuroxime is a second-generation cephalosporin and acts by inhibiting bacterial cell wall synthesis. It is resistant to gram-negative B-lactamases and is used in meningitis caused by H.influenza, N.Meningitidis, S. pneumoniae.

Case description: Here we reported a 61-year-old male patient who developed rash associated with induration after the test dose of cefuroxime. Patient was admitted to the hospital with complaints of cough, expectoration and breathlessness. He was administered a test dose of Inj. cefuroxime 2.25mg intradermally on 13th sept 2023 at 8.30pm following which he developed rashes associated with itching followed by induration at the injection site at after half an hour. The drug was withheld and IV Hydrocortisone 100mg was administered after which the reaction subsided. The antibiotic was later changed to Inj. Piperacillin 4MG+ Tazobactam 0.5MG for further management. Causality assessment of Cefuroxime induced hypersensitivity reaction was done in accordance to the Naranjo Causality Scale and it was found to be "PROBABLE". (Score:7)

Conclusion: CEFUROXIME, a commonly used antibiotic in hospitals, is liable to cause type 1 hypersensitivity reactions. There is a need to monitor the immediate adverse effects following administration of the drug.

Keywords: Induration, Hypersensitivity,Adverse Drug Reactions, Causality Assessment, Cephalosporin.

P19: Ferric carboxymaltose induced hypotension

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Introduction: Injection ferric carboxymaltose (Encicarb) is a commonly used medication for chronic anaemia. It replenishes the iron reserves in the body, helping to improve the haemoglobin levels.

Case Description: Here we reported a 53-year-old male patient who developed hypotension secondary to ferric carboxymaltose use. The patient was admitted to the hospital with complaints of generalized fatigue and weight loss since 3-months. On routine blood investigations, his haemoglobin level was 9.1 g/dl. As he had a past history of gastritis and intolerance to oral iron, he was administered 50mg injection of ferric carboxymaltose by intra-venous infusion. He developed hypotension & bradycardia along with giddiness within 1 hour of drug administration. The drug was withheld and Injection 100mg of Hydrocort and 1 ampoule of Avil in 500ml of NS were administered intravenously, after which the reaction subsided. Causality assessment of Encicarb induced hypotension was done in accordance to the WHO Causality Scale, and it was found to be "PROBABLE".

Conclusion: Injection ferric carboxymaltose, a commonly used Iron supplement in hospitals, it is reported to cause hypotension as a hypersensitivity reaction. There is a need to monitor the immediate adverse effects following administration of this drug.

Keywords: Drug Induced Hypotension, Adverse Drug Reactions, Causality Assessment.

P20: From treatment to complication: Vildagliptin and Bullous pemphigoid – A case report.

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Introduction: Inhibitors of Dipeptidyl peptidase -4 (DPP-4) are used as secretagogues in type 2 diabetes mellitus. The initially identified side effects of Vildagliptin include upper respiratory tract infection, nasopharyngitis, headache etc. However, with more widespread use, certain dermatological side effects are being reported as well.

Case Description: A 76-year-old diabetic and hypertensive male presented with itching, burning, pain, fluid-filled lesions in prepuce of penis for 2 weeks. The patient was initially diagnosed with Herpes genitalis and was started on Tab. Valacyclovir 1gm BD for 1 week. However, the fluid-filled lesions over the genitals failed to subside. Direct Immunofluorescence showed linear staining of the basement membrane zone with IgG, C3 and fibrinogen - diagnostic of Bullous pemphigoid. A diagnosis of DPP-4 inhibitor-induced bullous pemphigoid was made.

Management: Vildagliptin was withdrawn immediately and the patient was started on Tab. Metformin 500mg OD by the endocrinologist. The patient was prescribed Cap. Doxycycline 100 mg BD for 3 weeks, Cap. Rabeprazole 20mg OD for 2 weeks, Fusidic Acid/Mometasone furoate cream over the lesions along with oral vitamin supplements by the dermatologist. The reaction subsided following the withdrawal of Vildagliptin. A month later when the patient came back for follow-up, the lesions had resolved completely.

Discussion: Suspected etiological role of DPP – 4 inhibitors include promoting eosinophilic activation by exotoxin, reduces keratinocyte proliferation and increasing TGF beta–1 production through Th3 regulatory cells

Causality assessment was done in accordance to the Naranjo Causality Scale and the score was found to be 5: "PROBABLE", indicating there is a reasonable likelihood that the drug played a significant role in causing the adverse event.

Conclusion: The physicians need to be aware of, and must educate patients regarding early reporting of skin lesions that develop with the initiation of treatment with DPP-4 inhibitors.

Keywords: Fluid Filled Lesions, Adverse drug Reactions, Causality Assessment, DPP-4 Inhibitor.

P21: Primary Actinomycotic Osteomyelitis of Metacarpals

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Background: Actinomycotic osteomyelitis is a rare, chronic granulomatous infection caused by gram-positive, aerobic bacteria belonging to the genus Actinomyces. It is generally followed by trauma and reported in men.

Case Study: A 44-year-old female, nil premorbid, presented with swelling and pain in her right hand that developed 7 years ago. She reported multiple small wounds on the dorsum of her hand which drained a scanty, whitish and granular discharge. She reported no history of trauma.

Initial examination showed swelling, edema, multiple draining sinuses, and decreased range of motion.

On account of X-ray, ultrasonography, and MRI findings, the patient was diagnosed with chronic osteomyelitis involving the 3rd, 4th, and 5th metacarpals.

Considering extensive involvement, surgical decompression, debridement, and excision of sinus tract were performed.

Aerobic, anaerobic and fungal cultures of the tissue were negative. Histopathological studies showed localised bacterial colony containing basophilic, slender, filamentous bacilli with Splendore Hoeppli reaction which confirmed presence of Actinomycotic colonies in the bone.

Based on histopathology, she was initiated on chemotherapy as per Welsh regimen.

Discussion: Very few cases have reported culture positive actinomycoses of the hand. Due to its slow progression and ambiguous presentation, it is often diagnosed late. Welsh et al. (1987) described the use of Amikacin, Sulfamethoxazole and Trimethoprim to yield promising results in actinomycoses involving bones. This approach is similar to the multi-drug therapy used in tuberculosis and leprosy. Considering the extensive osseous involvement, an aggressive therapy as per the Welsh regimen was initiated in our patient. Subsequent evaluation of our patient showed good response and improved range of motion with no obvious side effects.

Conclusion: Actinomycotic osteomyelitis of the hand is a rare and challenging diagnosis that requires a high index of suspicion and prompt management.

Keywords: Actinomycoses, Osteomyelitis, Welsh regimen

P22: Bedaquiline-Based Therapy for MDR-TB - A prospective observational study in a tertiary care hospital in Haryana.

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Background: The emergence of drug resistance is a major threat to global tuberculosis (TB) care and control.Recently Bedaquiline has been approved for MDR/ XDR TB along with the background regimen under the National Tuberculosis Elimination programme (NTEP) services in India. There are already 2nd line ATT drugs that have potential to affect cardiac electrophysiology by prolonging the QTc interval. Therefore, the World Health Organization (WHO) advises caution when administering this medication and recommends that strict monitoring procedures be put in place.

Aim: The aim of this study is to assess the QTc interval in view of cardiac safety of bedaquiline based therapy for MDR-TB patients.

Materials & Methods: This is a prospective, observational study conducted in a newly diagnosed MDR-TB patients of either sex, aged > 18 years and who are receiving Bedaquline therapy as per NTEP guidelines will be included in the study. All the eligible patients are undergo baseline monitoring of cardiac parameters (as per NTEP Guidelines) on the day of enrolment and then every 2nd week in 1st month of initiation of therapy and then further on monthly basis. Participants are followed up until the end of bedaquline therapy or 6 months. Participants are assessed for their Cardiac parameters such as Heart rate (HR), and a 12-lead ECG, the QT interval.

Results: 36 patients were enrolled in the study. Out of them 20 were successfully completed their 6 months of bedaquline based MDR-TB regimen with average change of QT interval <30ms from baseline on ECG, not significant to stop the drug. 10 were in the middle of regimen and did not show any changes >60ms from baseline in their cardiac parameters till now. 6 participants who stopped bedaquiline because of QT prolongation also stopped clofazimine.

Conclusion: The present study suggested that QT prolongation is uncommon with Bedaquiline.

Keywords: Bedaquiline, MDR-TB, Cardiac Safety, QT interval

P23: Prescribing pattern of antidiabetic drugs in patients with Type 2 Diabetes Mellitus of a District Hospital in Maharashtra

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Background: By 2030, diabetes is projected to be the 7th leading cause of death. Poor glycemic control in diabetes mellitus (DM) can be prevented by rational use of antidiabetic drugs and insulin.Rational use of the drugs in populations can be effectively evaluated with drug utilization studies.

Aim: To assess the drug prescribing pattern of antidiabetic drugs in patients with Type 2 DM of a district hospital in Maharashtra.

Methods: A cross-sectional study initiated after Institutional Ethics Committee approval. All the Type 2 DM patients attending the Non-Communicable Diseases clinic during the study period of 4 weeks were included in the study after informed consent. Data documented in a case record form & analyzed using WHO core prescribing indices.

Results: Out of 189 patients, 29.1% were male and 70.8% were female. Maximum patients (33.3%) with diabetes were of age group 61 to 70 years. Hypertension is the most common comorbid condition in more than half (56.6%) of the study participants. In this study, oral antidiabetic drugs are the only class of drug prescribed, of which 58.2% were on Metformin + Glimepiride and 40.2% were on Metformin alone. All drugs which are prescribed are generic. No FDCs were used. About 66.1% of prescriptions contained ≥ 5 medications. Oral antimicrobials were co-prescribed in 4.7% of patients.

Conclusion: Metformin + Glimepiride was predominantly prescribed as these drugs are available through Govt. supply. Newer oral antidiabetics & insulin preparations were not used. Polypharmacy can reduce compliance to drug treatment in elderly patients.

Keywords: Type 2 Diabetes Mellitus, Prescribing pattern

P24: Pharmacoeconomic study analyzing the cost variation of various brands of general anesthetic medicines commonly used in India

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Background: Drugs known as general anesthetics (GAs) cause a reversible loss of all sensations and consciousness. These modalities are accomplished in the current practice of balanced anesthesia by combining inhaled and intravenous medications, each of which serves a certain function. If the anesthetist uses more expensive branded medication, the patient will experience financial hardship. Because the goal of this study is to compare the costs of different general anesthetic medications, less expensive but still effective brands should be chosen wherever possible.

Aim: To look into price variations between different brands of widely used general anesthetic medications in India.

Methods: The costs of several brands of general anesthetic medications in Indian National Rupee (INR) were obtained from the website of the Current Index of Medical Specialties (CIMS) for the Indian location. These medications are marketed by different manufacturers in identical forms with the same dosage and strength. General Anaesthetic Medicine brands' minimum and maximum costs were utilized to compute the percentage cost variance and cost ratio.

Results:100 mg of ketamine displayed the largest cost fluctuation at 600%, while 100%- 200 milliliters of halothane demonstrated the lowest cost variance at 1.89%.

Conclusion: The prices of different brands of general anesthetic medications in India varied greatly, according to our research. In order to solve the issue of cost variation, the government should create a number of regulations, such as dismantling the manufacturing monopoly and offering tax breaks to nonprofit producers of generic medications.

Keywords: cost-benefit analysis, drug prices, control order, CIMS, general anesthetics

P25: Rationality of Vitamin D Supplementation in Osteoarthritis Patients: A Cross-sectional Study in a Tertiary Healthcare Facility

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Background: Vitamin D deficiency (VDD) is an emerging risk factor for osteoarthritis (OA. Therefore, beneficial properties of vitamin D supplements on the capacities beyond bone have promoted the overzealous empiric use of vitamin D.

Aim: To assess the rationality of vitamin D supplementation in OA; and determine the association of its prescribed daily dose (PDD) and duration of use with serum vitamin D.

Methods: A hospital-based, cross-sectional study was conducted with 325 OA patients for 8 months period in a tertiary healthcare facility. The demographics, details of vitamin D supplementation, clinical and laboratory investigations of the OA patients were recorded from hospital management system. Kellgren-Laurence (KL) grading and visual analogue scale (VAS) were employed to severity grading of OA and assessment of pain, respectively. To determine the association between the parameters, X2 and Fisher's exact test were used.

Results: Among the 325 patients, only 306 patient's serum vitamin D [25(OH)D] concentrations have been measured. Out of 325 OA patients, 235 (72.3%) patients were given vitamin D supplements and among these 235 patients, 221 patient's serum vitamin D concentration were tested. A high prevalence (95.4%) of VDD was reported among OA patients in our study settings. A significant association between OA patient's serum vitamin D status were found with vitamin D supplementation ($p=0.014$), it's PDD ($p<0.001$) and duration of use ($p<0.001$).

Conclusion: The patients with OA, who were prescribed vitamin D supplements had low serum vitamin D concentration. This justifies that the supplements were given judiciously to the OA patients. Moreover, the dose and duration of vitamin D supplementation were found to depend on serum vitamin D concentration of the patients. However, all the patients with VDD were not supplemented vitamin D.

Keywords: Osteoarthritis; Rationality; Vitamin D supplements; 25(OH)D.

P26: Pattern of Rational Drug Utilization in NICU of a Tertiary Care Hospital-A Retrospective Study

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Background: The commonly used indicators of potential irrational practices in the NICU are the incidence of polypharmacy, failure to adhere to clinical guidelines or dosing regimens, or the inappropriate use of antibiotics (dose, indication, duration, route of administration).

Aim: To study the drug utilization pattern in neonatal intensive care unit.

Methods: Calculated sample size of 112 neonatal data of demography and treatment was collected using Systematic data. The study was retrospective, done using excel sheet. Case record forms were used to collect demographical data and treatment charts, maternal and delivery details, indication for admission, final diagnosis. Data collected were evaluated for the category of prescribed drugs.

Results: The mean age of newborn babies is about 2 days. 96% of the infants are term babies,2% babies are preterm and 1% is early preterm. The birth weight was classified into ELBW, VLBW, LBW and Normal. 98% babies have normal birth weight between 2.5 to 4.5kg,1% falls under ELBW and another 1% under VLBW. The most common drugs administered are found to be injectable doses of Vitamin K and Hepatitis B shots.26% of cases have been given antibiotics like streptomycin and cefarazone mostly against gram negative bacterial infections. The number of drugs per infant (range 2 to 4).

Conclusion: Based on the results there was no major deviation from Rational drug use in NICU.

Keywords: Drug utilization, Neonatal intensive care unit, Rational drug use

P27: Recent antimicrobial susceptibility trends in uropathogens isolated from patients with urinary tract infection-a retrospective observational study

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Background: Urinary tract infection (UTI) is one of the most common infectious diseases, overwhelmed with healthcare and economic constraints. Multidrug resistance in UTI is an evolving problem, which alarms a need for problem resolution using routine diagnosis and antimicrobial susceptibility testing rather than empirical treatment.

Aim: To determine the antibiotic susceptibility pattern of uropathogens isolated from UTI patients attending SNIMS.

Methods:A Hospital-based retrospective observational study was conducted by retrieving laboratory record of one month data from August 1st to August 31, 2023, at the SNIMS Chalakka. The data used was all documented urine culture findings from patients who visited SNIMS and were suspected of having a UTI. Collected Urine sample were cultured on CLED medium. Gram staining &chemical tests were done. Antibiotic susceptibility test was done by Kirby Bauer Disc Diffusion method. We manually gathered information from the register of microbiology labs during this period.

Results: Our investigation included 243 urine culture reports in total. Escherichia coli and Klebsiella Pneumoniae were the two most typical uropathogens isolated.E coli isolates were reported to exhibit the highest levels of resistance to ampicillin (88%) followed by cephalothin (85.2%) and cefazolin (80%).In our investigation, it was discovered that E. coli isolates responded much better to Fosfomycin (92%) than to Amikacin and Imipenem (84%) or Piperacillin and Tazobactam (80%).Ampicillin resistance is 100%, Nitrofurantoin resistance is 93.3%, and Piperacillin resistance is 92.9% for Klebsiella Pneumonia. Fosfomycin (73.3%) is the antibiotic that Klebsiella is most sensitive to, followed by Gentamicin and Amikacin (both 60%).

Conclusion: MDR bacteria, which pose a danger to the management of illness, have emerged as a result of the irrational and careless use of antibiotics. To develop appropriate antibiotic policy and guidelines, routine monitoring and tracking of antimicrobial susceptibility patterns is crucial.

Keywords: Urinary tract infection, antimicrobial susceptibility pattern, Resistance.

P28: Assessment of ADRs among patients receiving Anticancer drug in tertiary care centre for Causality, Severity, Preventability and Adherence

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Background: Most anti neoplastic drugs have a narrow therapeutic index and are liable to cause several ADR's. These adverse drug effects lead to poor compliance by patients.

Aim: To determine the nature and severity of ADRs in cancer patients on anticancer drug from the Department of Radiotherapy and Oncology of a tertiary care teaching hospital

Methods: A descriptive study was conducted in UPUMS, Saifai, Etawah on the patients who developed ADRs due to anticancer drugs between March 2023 to October 2023. These ADRs were assessed for causality, severity and preventability and patients adherence to drug and the data was analysed using Chi-square test.

Results: A total of 334 ADRs were reported from 83 patients. Bronchogenic carcinoma (20.9%) was most common cancer. Most common ADRs observed was emesis (52%) followed by alopecia (38%). WHO-UMC causality assessment showed that 67.25% ADRs were 'probable' and 32.75% ADRs were 'possible. 60.2% drug reactions were mild and 1.64% severe as assessed by Modified Hartwig Siegel Scale. 44.69% ADRs were not preventable as assessed by Schumock-Thorton Scale. Carboplatin (23.2%) followed by Cisplatin was most common drug causing ADR in this study. 67% patients adhered to their treatment.

Conclusion: The use of anticancer drugs is associated with various adverse effects like emesis, alopecia etc. Prophylactic antiemetic drugs based on proper guidelines or appropriate counselling may improve drug compliance.

Keywords: adverse drug reactions, anticancer drugs, pharmacovigilance

P29: An exploratory data analysis to understand associations between clinical and demographic factors among hypertensive chronic kidney disease patients in South India

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Background: Hypertension, a consequence of chronic kidney disease (CKD), is identified as its independent risk factor, and therefore, the two conditions are closely associated with an intermingled cause-and-effect relationship.

Aim: This study aimed to explore the clinical and demographic factors among hypertensive CKD patients in a tertiary care setting in South India.

Methods: This retrospective observational study collected data from the Medical Records Department of Kasturba Hospital, a tertiary care setting in South India. The patients diagnosed with ICD-10-CM Code for Hypertensive CKD with Stages 1 through 4, or unspecified chronic kidney disease (I12.9) admitted between January 2018 - December 2022 constituted the study cohort (IEC 399/2022 Dated 14-12-2022). Patients of either sex in the age group of 18- 80 years were included in the study. The patients' baseline data, including the demographic characteristics, clinical and laboratory data, was collected as per the proforma.

Results: A total of 106 patients were included, and males constituted 75% of the study participants. More than 50% of the patients had diabetes. Cardiovascular comorbidities like ischemic heart disease was observed in 65% of patients and reduced ejection fraction in 56%. Anaemia was seen to be a comorbidity in 85% of patients. A negative correlation was observed between serum creatinine and haemoglobin levels, whereas a positive correlation was observed between serum creatinine and serum urea. Urinary proteins were present in about two-thirds of the patients, and presence of urinary proteins was positively correlated with serum creatinine and negatively with hemoglobin levels.

Conclusion: Hypertensive CKD patients present with other cardiovascular comorbidities as seen in diabetic kidney disease. Proteinuria is correlated with the serum creatinine levels in hypertensive CKD patients.

Keywords: Hypertensive CKD, Serum Creatinine, Anaemia

P30: Knowledge and attitude regarding use of topical corticosteroids among medical students in a tertiary health care center

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Background: Topical steroids are the most commonly prescribed drugs in dermatology. But misuse of topical corticosteroids, especially for cosmetic benefits is an increasing problem in India. Lack of awareness and the over-the-counter availability of are the important underlying factors. As the budding doctors, medical students have an important role in controlling topical corticosteroid abuse.

Aim: To evaluate the knowledge and attitudes regarding the uses and adverse effects of topical corticosteroids among medical students.

Methods: A cross-sectional survey carried out among 150 medical students using convenience sampling method from February to June of 2023. Peer reviewed questionnaire for analysing the knowledge about the uses and adverse effects of topical steroids were distributed, valid responses obtained were recorded. Based on the responses, knowledge and attitude of the students were analysed.

Results: Majority of the students had mixed opinions about the fact that different classes of topical corticosteroids exhibit different effects. About 92% of the students were aware that topical corticosteroids can exhibit significant cutaneous adverse effects, and that they can play an important role plays in preventing topical steroid abuse. However, lack of awareness was noted regarding the different classes and strength of the topical steroids because only 62% of them gave valid responses regarding strength and class of the various topical steroids.

Conclusion: Significant gap in knowledge related to side effects and classes of topical corticosteroids were noted among the students. Knowledge regarding the rational use of topical corticosteroids should be enhanced among the medical students.

Keywords: medical students; topical corticosteroid; topical steroid abuse.

P31: Perception of Indian citizens on adult vaccination- a triangulated qualitative study.

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Background: Vaccination is one of the most effective and cost-efficient strategies for preventing and controlling the spread of infectious diseases.Adults are commonly affected by many vaccine preventable diseases particularly during outbreaks due to lack of immunization, waning immunity, increasing age and change in epidemiology of a disease. An adult vaccine has remained as an under-utilized public health tool to promote healthy aging. Hence the investigators enquired into attitude towards adult vaccination. The factors influencing need for adult vaccines was ferreted out from the data to build a necessary sensitization.

Aim: This qualitative study aims to determine the current attitude of citizens regarding adult vaccination and to determine the factors influencing adult vaccination.

Methods: This qualitative study is triangulated for robustness of the study. Focus group discussions were conducted on 3 different group consisting of 8 participants each. Participants were selected through purposive sampling. Discussions were recorded and transcribed verbatim. Questionnaire and reflective writing on adult vaccination were requested from randomly selected people from general population.

Results: There were 22 females and 22 males with a mean age of 39+/-12. Subthemes were extracted out from the study which led to the themes which were source of awareness, attitude, perception and concerns regarding adult vaccines. Questionnaire was analysed and higher percentage showed a positive attitude towards vaccination.

Conclusion: Participants have mixed perceptions and attitude towards adult vaccination. Creating proper awareness can tackle the various concerns related to adult vaccination.

Keywords: Adult vaccination, focus group discussion, qualitative.

P32: Patient's experience and perspective towards rational use of medicine at a teritiary care hospital in Tumkur – A cross-sectional study

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Background: Rational use of medicines plays a vital role in avoiding preventable adverse drug effects, maximizing therapeutic outcomes with promoting patient adherence, and minimizing the cost of drug therapy. Patient adherence is a fundamental component of rational use of medicine and their expectations and beliefs plays a direct role in the success of the treatment. Hence, this study was planned to know the patient's experience and perception on rational use of medicine.

Objectives: To assess knowledge of patients about their diagnosis and the medications prescribed to them.

Methodology: A cross-sectional study was conducted among 270 patients visiting the out-patient department of Sri Siddhartha Medical College and Hospital, Tumkur. Patients between 20 to 60 years who gave consent to participate were interviewed with standard, validated semi-structured questionnaire on the Rational Use of Drugs. The data was entered in the Excel spread sheet and descriptive analysis was done.

Results: Among 270 study participants 71.9% preferred the drugs which are prescribed by the physician, and 80% of them follow the non-pharmacological recommendations of the physician. Around 43% of patients feel that the physician is prescribing cost effective drugs, and 33.3% feel that the prescribed drugs are expensive and about 23.7% feel that the drugs prescribed are reasonable.

Conclusion: In our study, patients are well aware of the reason of drug prescribed and their benefits, adverse effects and cost and they have a positive experience and perspective towards rational use of drugs.

Keywords: Rational use of drugs (RUD), patient's perspective on RUD, Tumkur, Tertiary care hospital

P33: Knowledge and awareness of Pharmacoeconomics among the postgraduate students of a tertiary care teaching hospital-A Questionnaire based analysis.

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Background: Pharmacoeconomics is a study of description and analysis of the costs of drug therapy to healthcare systems and society. It is defined as "the field of study that evaluates the behavior of individuals, firms, and markets relevant to the use of pharmaceutical products, services, and programs, and which frequently focuses on the costs (inputs) and consequences (outcomes) of that use". Given the importance of pharmacoeconomics and rise in recent decades, medical postgraduate students and healthcare professionals should have basic knowledge about it and actively implement in diagnostic decision-making, therapeutic interventions, the prevention programs, epidemiology and research.

Objectives of the study: The objective of this study was to assess the extent of knowledge and perceptions about pharmacoeconomics and its methods of application among postgraduates in various departments of our college.

Methods: The study is a cross sectional questionnaire-based analysis. All the postgraduate students from our college were invited to answer a questionnaire, which contained four parts describing awareness, knowledge, application and students' attitude about pharmacoeconomics. The completed questionnaire were collected and data was analysed by means of descriptive statistics.

Results: It was observed that most of the participants were unwilling to participate in the study with a very low response rate. The results indicate that 88.89% of the postgraduates have not been adequately trained in principles of Pharmacoeconomics and majority of them had a low degree of awareness and knowledge. Only 38% of the students were applying principles of pharmacotherapy in their daily practice. 67% of the students opined that continuing medical education programmes were necessary, and this should be included in the postgraduate curriculum

Conclusion: Postgraduates have extremely poor awareness and knowledge on Pharmacoeconomics. Hence there is a need to incorporate Pharmacoeconomic modules in their curriculum and improve their awareness, knowledge and application.

Keywords: Awareness and knowledge, Attitude and practice, postgraduates, Pharmacoeconomics

P34: BCBR Knowledge & attitude among the postgraduate (MD/MS) students in a medical university in Uttar Pradesh

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Background: Acquiring competency in research methods is an integral part of postgraduate medical training in the country. To ensure that postgraduate medical students acquire the necessary skills, amendments were made to the Postgraduate Medical Regulations on 11.12.2019, making mandatories for all postgraduate students to complete an online research methods' course (Basic Course in Biomedical Research) led by ICMR-NIE. Since, very few studies, have been conducted so far assessing feedback from residents regarding BCBR, thus the present study was planned.

Aim: To assess knowledge and attitude of BCBR among Post Graduate MD/MS students in a medical university in Uttar Pradesh

Methods: A cross sectional study was done in a predesigned semi structured questionnaire was prepared using google forms, assessing information regarding knowledge and attitude related to BCBR among Post Graduate MD/MS students. Purposive sampling technique was used to enrol all the study participants. Data was analysed using SPSS 24 version and appropriate statistical tests were applied.

Results: 220 participants answered in the study about knowledge and attitude of towards BCBR out of which 76% participants became aware of BCBR during postgraduation by their faculty, >50% felt that assignments were excessive but not confusing &>65%are applying this knowledge for research purpose, most of them (95%) had retained this knowledge and cleared in 1st attempt, and are sure that it will help them in build strong foundation in advanced studies and research & but the existing workshop leaves opportunity for improvisation.

Conclusion: The feedbacks of participants were moreover in favour of BCBR present version with few improvements, like excessive content can be shortened. It requires further focus on different aspects like qualitative & quantitative analysis.

Keywords: Basic course in Biomedical Research -BCBR

P35: Comparing the efficacy of paracetamol, ibuprofen, and a combination of the two drugs in relieving pain and fever: a prospective observational study.

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Background: Pain and fever are common afflictions in pediatric population, prompting use of Paracetamol and Ibuprofen as primary treatment options. However, a comprehensive understanding of their efficacy, safety profiles, potential combined use remains crucial for informed clinical decision-making.

Aim: To shed the light on the optimal management strategies for pain and fever in pediatric patients.

Methodology: 108 pediatric cases (between 6 months to 18 years) were enrolled and categorized into three groups namely, Paracetamol monotherapy, Ibuprofen monotherapy, and a combination of both drugs. Axillary temperature monitoring and assessment of pain on FLACC/VAS (Face, Legs, Activity, Cry, Controllability/Visual Analog Scale) were employed as critical indicators. Concurrently, other symptoms were also recorded like discomfort, appetite, etc. Lab parameters like serum creatinine, platelet count, liver enzymes etc. were monitored before and after drug administration.

Results: Based on duration of fever,81 cases had fever lasting more than 24 hours and 27 cases had fever lasting less than 24 hours. Comparison of drug efficacy in defervescence within first 4 hours revealed that Paracetamol alone took significantly longer than Ibuprofen monotherapy or Paracetamol and Ibuprofen combination ($p = 0.026$). Paracetamol and Ibuprofen combination showed comparable efficacy to Ibuprofen alone. Regarding the total time without fever in 48 hours, significant differences were observed among the three-drug regimens. Paracetamol and Ibuprofen were superior to Paracetamol alone ($p < 0.001$) and Ibuprofen alone ($p = 0.014$), while Paracetamol alone and Ibuprofen alone exhibited similar efficacy ($p = 0.197$). Pain relief was significantly higher in Paracetamol and Ibuprofen group both in first 4 hours ($p=0.011$) and at 48 hours($p=0.018$) as compared to either drug alone.

Conclusion: This study demonstrates the favourable efficacy and safety of Paracetamol, Ibuprofen, and their combination in pediatric population. The combination of Paracetamol and Ibuprofen showed enhanced effectiveness in pain and fever relief, with minimal adverse effects and no significant derangements in biochemical parameters.

Keywords: Paracetamol, Ibuprofen, Combination, Pain and Fever, Pediatric population.

P36: Patient responses in Psychiatry to Medication Adherence Rating Scale (MARS)

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Background: Medication adherence is an indicator of patients' knowledge and acceptance towards beneficial and harmful effects of medications prescribed. Non-adherence to psychotropic medications, influenced by various factors is the major challenge in treating psychiatry patients. Evaluating medication adherence with a self-reporting scale and considering patient responses can contribute to individualizing treatment and optimizing treatment outcomes in psychiatry patients.

Aim: To assess medication adherence and patient responses to MARS.

Methods: Patients above 18 years of age attending the psychiatry OPD with the ICD 10 diagnosis (F 20-29, F30-39, F40-48) on psychotropics for a month, able to read or understand and communicate either in English or Kannada were included. Medication adherence was assessed using MARS self-reporting scale containing 10 items with yes or no answer and scored accordingly. The patients were given the questionnaire in the language they understand (English /Kannada) and asked to select the appropriate answer illustrating their behaviour and attitude towards their medicine in the last week. Data analysed using descriptive statistics.

Results: Total of 161 patients attending the OPD participated in the study. Majority were males and most in the age group of 41-60 years. Schizophrenia was the most common clinical diagnosis. 152 patients were adherent to their medication and 9 were non-adherent. The mean medication adherence score was 9.18±1.60. Patients over 60 years were fully adherent to medication. All patients agreed to the question on the scale regarding attitude towards taking medication that by staying on medication they can prevent getting sick and have a clear thought. 27 patients responded that they forgot to take medication and 36 complained of feeling tired following intake of medicine which describes their adherence behaviour and attitude to the adverse effects.

Conclusion: The study highlights the importance of understanding the factors influencing the medication adherence and implementing appropriate measures of improvement in patients with mental disorders.

Keywords: Medications adherence, MARS, Psychiatry disorders.

P37: Network Pharmacology and Molecular Docking-based study to elucidate the antiepileptic effect of Sinapis alba (S.alba)

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Background: Sinapis alba is a commonly used medicinal plant that has been mentioned in traditional medicinal texts for the treatment of neurological ailments. Epilepsy is a complex condition due to varied etiology affecting all age groups and is treated mainly through pharmacotherapy. Adverse effects and resistance to therapy are some of the limitations of the existing drugs which has prompted the search for newer and safer drugs.

Aim: We aimed to explore the potential anti-epileptic mechanism of S. alba based on network pharmacology and molecular docking technology.

Methods: The active compounds of S.alba and their targets were identified through literature review and curated databases like Indian Medicinal Plants, Phytochemistry And Therapeutics (IMPPAT), PubChem and the Protein Database (UniProt). The potential targets for epilepsy treatment were identified using DisGeNET and OMIM software. Cytoscape software with cytohubba helped in identifying the relevant hub genes. With the aid of the pathway enrichment tool, ShinyGO 0.77 and gene ontology prediction for hub Genes-Enrichr, the related signaling pathways of S.alba in epilepsy were identified. Consequently, molecular docking was carried out using Autodock tools to depict the interaction between S.alba and targets.

Results: The active components of S.alba seed oil obtained through databases and literature search were allyl isothiocyanate, 1-butene-4-thiocyanate, thymol, 2-phenylethyl-isothiocyante. Venn diagram-based intersection of potential targets yielded 18 intersection targets. STRING database and Cytoscape software revealed key 8 Hub genes (KCNQ2, SCN1A, SCN2A, GABRD, KCNQ3, GABRA1, GABRG2, GRIN2A) targeted for epilepsy treatment. The potential molecular pathways involved as analyzed by Shiny GO were the regulation of membrane potential, and regulation of cationic transmembrane transport, action on voltage-gated sodium channel etc. Consequently, molecular docking indicated that S.alba may interact with the six targets.

Conclusion: This study comprehensively analyzed pathways and targets related to the treatment of epilepsy by S. alba. Based on the results of this study, S.alba can be considered for animal studies for further validation of its antiepileptic action.

Keywords: yellow mustard, epilepsy, gene ontology, traditional medicine

P38: A novel insight into the effectiveness of anti-snake venom and methanolic extract of Andrographis paniculata in combating the toxic Naja naja venom phospholipase A2: An in-vitro study

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Background: Phospholipase A2s (PLA2) are prominent enzymatic constituents in Naja Naja (N.N) venom. They mediate the process of inflammation, cause cytotoxicity and neurotoxicity in snake bite victims.

Aim: To assess the effectiveness of supplementation of anti-snake venom (ASV) with methanolic extract of Andrographis paniculata (MAP) in combating N.N venom PLA2 activity.

Methods: Plates containing 1% agarose, 1.2% washed RBC's, 10% egg yolk suspension and 0.1 mM CaCl2 were allowed to solidify. Wells of 8mm were punched in for addition of venom (100 μg), served as venom control. Inhibitory activities of ASV and MAP were studied in 2 groups. In Group 1, three different aliquots of ASV (100/167/200μl), MAP (100/200/400 μg) and their combination [ASV (100μl) +MAP (100/200/400μg)] were added to wells immediately after the addition of venom. In Group 2, ASV, MAP and their combinations were added after 90 minutes of venom. The plates were incubated for 24 hours at 37°C for the development of hemolytic halos. Inhibitory activities were represented as % decrease in the diameter of the halo compared to venom control.

Results: N.N venom produced a hemolytic halo of diameter 3.2cm and considered as 100% activity. In Group 1, ASV (100/167/200 μl) showed 21.9, 31 and 41% inhibition respectively. MAP showed 15.6-21.9% inhibition of PLA2 activity.When ASV concentration was reduced by 40% (100μl) and used along with MAP (100/200/400μg), showed up to 28% inhibition of PLA2activity. In Group 2, ASV showed concentration dependent increase in inhibition of PLA2 activity up to 34%. MAP appeared to be marginally effective up to 16% in inhibiting PLA2 activity. When reduced concentrations of ASV were used along with MAP, showed a maximum of 19% inhibition on PLA2 activity.

Conclusion: ASV is more effective in inhibiting N.N venom PLA2 than MAP. MAP was unable to augment the effectiveness of ASV when the two were used in combination.

Keywords: Naja naja, Andrographis paniculata, phospholipase A2, supplementation

P39: In-silico analysis of phytoconstituents of Sivanara vembu kuzhi thailam against IL-17A and TNF- involved in psoriasis

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Background: Psoriasis is one of the chronic inflammatory conditions with multifactorial aetiology. Even though there are different treatments available, there is no cure for psoriasis. A Siddha polyherbal formulation, Sivanar vembu kuzhi thailam (SVKT), is used to treat various skin diseases including psoriasis.

Aim: To identify the phytoconstituents present in SVKT and to assess its antipsoriatic potential using in silico methods against the inflammatory protein targets.

Methods: In this study, methanolic extract of SVKT was analysed using gas chromatography–mass spectrometry (GC-MS) analysis performed at Analytical Research & Metallurgical Laboratories Pvt. Ltd. (ARML), Bengaluru, Karnataka, India. To predict the bioactive confirmation of the compounds identified from the GCMS analysis, molecular docking was performed on two major proteins of psoriatic inflammatory pathway, Interleukin-17 (IL-17A) and Tumour Necrosis Factor-alpha (TNF-) using AutoDock Vina software (Scripps Research Institute, USA). Further, ADMET prediction was performed for all the shortlisted compounds using SwissADME and ADMETlab2.0 web tools to understand their pharmacokinetic behaviour.

Results: Methanolic extract of SVKT has showed presence of 86 compounds. Out of 86 compounds, four shortlisted compounds exhibited their inhibitory potential on IL-17A with binding energy varying between -8.2 to 6.6 kcal/mol and three compounds on TNF- with binding energy varying between -7.8 to -5.6 kcal/mol. Pharmacokinetic (ADMET) properties were also evaluated in silico which showed favourable features. Galactopyranoside, 1- octylthio-1-deoxy and -Lactose among the shortlisted constituents, inhibited both proteins through exhibiting multiple interactions.

Conclusion: Hence this study provides valuable insights into the inhibitory effect of phytochemicals present in SVKT on IL-17A and TNF- which may pave way to the discovery of new drugs to treat psoriasis.

Keywords:: Sivanar vembu kuzhi thailam, GCMS, ADMET, psoriasis, TNF- , and IL-17A

P40: GCMS analysis of Kadukkai Maathirai – A siddha polyherbal formulation

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Background: Siddha drug KM is used to treat liver diseases by Siddha practitioners. Physicochemical evaluation of traditional Siddha formulation KM was conducted to identify the components of various herbs present in KM. Identification of components with pharmacological activity in liver cancer can gain recognition and acceptance of KM.

Aim: To carry out Gas Chromatography–Mass Spectroscopy (GC–MS) analysis of Kadukkai maathirai (KM) formulation.

Methods: The sample of Kadukkai maathirai used belonged to one batch. The test procedures were in accordance with the Protocol for testing of Ayurveda, Siddha and Unani medicines, Department of AYUSH, Government of India guidelines. Gas Chromatography–Mass Spectroscopy (GC–MS) was used to identify the compounds in KM. Marker based standardization involved identification of marker compound 'chebulic acid' by High Performance Liquid Chromatography (HPLC).

Results: Major compounds identified by GC-MS were Piperine (66.26%), D-Allose (4.97%), Propyleneglycol monoleate (4.68%), Levoglucosenone (3.15%), Caryophyllenyl alcohol (2.57%), Pentadecane (2.06%), Hexanediamide, N, N'-di-benzoyloxy-(2.00%), beta-Sitosterol (1.72%), The concentration of Chebulic acid from test drug was found to be 1.13 % w/w by HPLC method.

Conclusion: Chebulic acid, piperine and D-Allose have been studied for their anticancer activity earlier. Hence KM was deemed to be fit for further evaluation in Diethyl nitrosamine induced liver cancer model in rats.

Keywords: Kadukkai maathirai, Siddha, physicochemical, Gas Chromatography–Mass Spectroscopy, High Performance Liquid Chromatography

P41: Efficacy of Sinapis alba in lithium- pilocarpine induced status epilepticus

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Background: Status epilepticus is a neurological emergency and many a times; patients are refractory to the drugs. Hence, newer drugs with better efficacy and safety are required. Sinapis alba, commonly known as yellow mustard is one of the spices used in different recipes. This spice has been used traditionally in treatment of epilepsy in alternative systems of medicine.

Aim: To validate the anti-convulsant effect of Sinapis alba seed oil and its combination with sodium valproate in wistar albino rats using lithium-pilocarpine status epilepticus (SE) model.

Methods:: A total of 40 wistar rats were divided equally into five groups and dosed for 14 days as follows: Group I - normal control; Group II- disease control; Group III - Sinapis alba seed oil (200mg/kg oral); Group IV - sodium valproate (300mg/kg oral); Group V - Sinapis alba seed oil (200mg/kg oral) + sodium valproate (150mg/kg oral). On 13th day, the rats were injected with lithium chloride (3mEq/kg) intraperitoneally (i.p.). Pilocarpine 30 mg/kg i.p. was given after 20 hours. The seizures were assessed based on the racine scale. Recovery or death of the animals were noted after 24 hours. Animals were sacrificed and antioxidant marker levels and histopathological changes in brain were noted.

Results: Sinapis alba oil did not prevent rats from developing status epilepticus but reduced the intensity and frequency of occurrence. Its administration increased antioxidant levels and decreased lipid peroxide levels. Histolopathological images showed Sinapis alba oil also had neuroprotective effect. The combination of Sinapis alba oil and sodium valproate showed synergistic effect in status epilepticus model.

Conclusion: Sinapis alba has a potential to be used as an adjuvant in status epilepticus along with other antiepileptic drugs.

Keywords: epilepsy; seizures; traditional medicine; yellow mustard

P42: Effect of betanin on fluoride induced hepato-renal toxicity in wistar rats

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Background: Excessive fluoride exposure leads to increased oxidative stress and lipid peroxidation, causing harmful effects on the metabolic organs in the human body. Betanin, a pigment obtained from beetroot is seen to have powerful anti-inflammatory and anti-oxidant property.

Aim: To determine the role of betanin on fluoride induced hepato-renal toxicity in wistar rats. Methods: Twenty-four female rats, 8-10 weeks old, weighing 150-200gm randomised into four groups. Group 1 (control) received 1ml distilled water; group 2 administered 10mg/kg of sodium fluoride (NaF); group 3 received 10mg/kg NaF and 50mg/kg (low dose) betanin; group 4 received 10mg/kg NaF and 200mg/kg (high dose) betanin orally for 90 days. Levels of serum aspartate aminotransferase (AST), alanine aminotransferase (ALT), alkaline phosphatase (ALP), creatinine (Cr), and blood urea nitrogen (BUN), hepatic and renal nitric oxide (NO), glutathione (GSH), and malondialdehyde (MDA) were measured. Liver and kidney samples were sent for histopathology.

Results: Animals in group 2 had significantly increased levels of AST, ALT, ALP, Cr, and BUN compared to the NaF+ betanin treated animals (group 3 & 4). The antioxidant activity was significantly lower in group 2 rats compared to other groups. Additionally, NaF increased liver and kidney MDA, NO, which was significantly decreased in rats treated with NaF+betanin (low & high dose). Histological observation in kidney showed some areas of diffused inflammatory cell infiltration into the peritubular interstitial spaces which could be indicative of interstitial nephritis while liver sections showed clear indication of features of fatty liver and inflammatory cell infiltration was seen at some places in NaF exposed rats. However, the intervention of betanin alleviated the severity of histopathological changes induced by NaF.

Conclusion: Betanin significantly ameliorated NaF-induced oxidative stress, inflammation in the liver and kidney of the rats and has a potential to be used as protective agent against flouroide induced hepato-renal toxicity

Keywords: NaF, antioxidant, liver, kidney.

P43: Evaluation of antiseizure activity of empagliflozin in Pentylenetetrazole model of epilepsy

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Background: Drug-resistant epilepsy, a commonly devastating condition, affects more than 50 million people globally. Type 2 diabetes mellitus (T2DM) is associated with an increased risk of neurological disorders. A potential association between epilepsy and subsequent T2DM has emerged in recent studies. Inhibiting sodium-glucose linked transporters (SGLTs), which are expressed differently in the brain, has been shown to reduce epileptic episode activity.

Aim: To evaluate the anticonvulsive effect of empagliflozin in rats with seizures induced by pentylenetetrazole (PTZ).

Materials & Methods: PTZ was injected to 32 rats to induce absence seizures. Group 1-disease control rats were administered with saline, group 2 received sodium valproate 300mg/kg, group 3 received low dose empagliflozin 10mg/kg and group 4 received high dose empagliflozin 20mg/kg. The duration of all the stages of seizure, Racine stages scoring was done. Malondialdehyde (MDA), nitric oxide (NO) and Glutathione reductase (GSH) levels of the brain tissues were determined. Histopathological analysis of the brain tissues was done.

Results: The average of Racine's stages scores was significantly decreased in the sodium valproate group ($p < 0.0001$), low dose empagliflozin group ($p < 0.01$) and high dose empagliflozin group ($p < 0.001$) compared to disease control group.A significant decrease in MDA and NO and a significant increase in the antioxidants like GSH in the empagliflozin low dose 10mg/kg and high dose 20mg/kg as compared to the disease control was observed. Histopathological analysis showed greater number of healthy neurons with little dark stained cells in the treatment groups, suggesting neuroprotective action of empagliflozin.

Conclusion: The present study showed that empagliflozin has anticonvulsant action and is neuroprotective. Empagliflozin has a potential role in management of epilepsy in diabetic patients.

Keywords: Pentylenetetrazole, SGLT2 inhibitor, Type 2 diabetes mellitus (T2DM)

P44: Protective effect of Naringin against low dose sodium fluoride induced behavioural, cognitive and biochemical deficits in wistar rats.

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Background: Fluorosis can lead to behavioural and memory deficits.

Aim: To find the neuroprotective effect of Naringin against the behavioural, biochemical, and cognitive deficits of sodium fluoride in adult wistar rats.

Methods: Adult wistar rats were divided into eight groups (n=8). Normal group (NOR) were provided with normal tap water. The FLU10 group received water with 10 ppm sodium fluoride for 60 days. FLU10NAR100 and FLU10NAR50 groups received drinking water with 10 ppm sodium fluoride ad libitum with Naringin 100 and 50mg/kgbw by per oral gavage respectively. NAR100 and NAR50 groups received Naringin 100 and 50mg/kgbw. PRONAR100 and PRONAR50 groups received Naringin100 and 50mg/kgbw for first 15 days and then subsequently received sodium fluoride 10ppm for 60 days (total of 75 days). All animals were subjected to behavioural tests of open field test (OFT), forced swim test (FST) and novel object recognition test (NORT). After euthanasia, the hippocampus and prefrontal cortex were stained with cresyl violet. Estimation of reduced glutathione (GSH), malonaldehyde assay (MDA), activities of catalase and acetylcholinesterase (AChE) was assayed.

Results: In NORT and FST, the FLU10NAR100 and FLU10NAR50 groups showed statistically significant changes ($P<0.05$) as compared to FLU10 group showing recovery from memory deficit and depression. OFT results were insignificant. The MDA was reduced in all the other groups except the FLU10 group with statistically significant changes. Catalase activity was significantly lower in FLU10 as compared to NAR100, NAR50, PRONAR100, PRONAR50 groups. GSH and Acetylcholinesterase activity did not show significant changes as compared to FLU10 group. In histology, FLU10 group's CA3 and prefrontal cortex's viable and degenerated neuron count was not significant as compared to all other groups, except as compared to NAR100 and NAR50 groups.

Conclusion: Naringin may be useful drug to prevent the neurological ill effects of fluoride

Keywords: Fluoride, Naringin, Behaviour, Memory deficit, Neurodegeneration..

P45: Antiseizure activity of empagliflozin in an animal model of epilepsy

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Background: Type 2 DM is associated with an increased risk of neurological disorders and a relation between type 2 diabetes and epilepsy as comorbid condition is established. Inhibiting sodium-glucose linked transporters (SGLTs), which are expressed differently in the brain, has been reported to reduce epileptic episodes. This study is aimed to evaluate the anticonvulsant effect of empagliflozin, a SGLT2 inhibitor in rats with seizures induced by maximal electroshock model.

Methods: Wistar albino rats weighing 150-200g were grouped into 4 with 6 animals per group. Control group rats were administered saline, other groups received sodium valproate 300mg/kg, empagliflozin 10mg/kg, empagliflozin 20mg/kg respectively for 14 days. Rats were induced seizures using an electro-convulsive meter The duration of all the stages of seizure and Racine stages scoring (RSS) was noted. Malondialdehyde (MDA), nitric oxide (NO) and Glutathione reductase (GSH) levels and histopathological analysis of the brain tissues was carried out.

Results: Empagliflozin 10mg/kg and 20mg/kg exhibited 66.6% and 83.3% protection against convulsions with a significant ($p < 0.01$) decrease in the duration of total hind limb extension and RSS. A significant decrease in MDA and NO ($P<0.001$), an increase in the GSH ($p<0.01$) was observed in the empagliflozin 20mg/kg and sodium valproate as compared to control. Histopathological analysis showed greater number of healthy neurons with little dark stained cells in the treatment groups.

Conclusion: The present study showed that empagliflozin has anticonvulsant action and has a potential role in management of patients with epilepsy and concomitant DM

Keywords: Maximal electroshock, SGLT2 inhibitor

P46: Therapeutic effect of Vetpalai thailam and Sivanar vembu kuzhi thailam (Siddha herbal preparations) in imiquimod induced psoriasis like inflammation in mice

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Background: Imiquimod (IMQ)-induced psoriasis in mice, represents a model that mimics the human plaque type psoriasis. Hence this model was used in the study.

Aim: To study the therapeutic effect of Vetpalai thailam (VT) and Sivanar vembu kuzhi thailam (SVKT) in IMQ induced psoriasis like inflammation in mice

Methods: 7 groups (n=6 in each group) of female BALB/c mice were used. Group 1 - normal control; group 2 - psoriasis control; group 3 – standard control – oral methotrexate - 1 mg/kg BW; group 4, 5 - oral VT (60 mg/kg and 200 mg/kg BW respectively); group 6, 7 - oral SVKT (60 mg/kg and 100 mg/kg BW respectively). The mice in all the groups were shaven on their backs (3 cm X 3 cm area). To induce psoriasis like inflammation, topical IMQ cream (62.5 mg) was applied on the shaved dorsal skin in groups 2-7 for 12 days. The standard drug and the test drugs were administered orally from day 13 -19. Psoriasis Area Severity Index (PASI) scoring was recorded daily. On the 20th day, the animals were sacrificed, their skin samples were collected to assess the disease severity at the histopathological level using Baker's scoring system.

Results: PASI and Baker's scores in both test drug and standard drug treated groups were significantly ($p < 0.05$ and $p < 0.01$ respectively) low when compared to psoriasis control group. The features of inflammation seen in psoriatic control group were absent in both test drug and standard drug treated groups except for mild lymphocytic infiltration.

Conclusion: The test drugs efficaciously attenuated the symptoms and processes underlying psoriasis in mouse model.

Keywords: Vetpalai thailam, Sivanar vembu kuzhi thailam, imiquimod

P47: Disruption of microbiota: Mitigating strategies to counter Antibiotic associated infections.

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Antibiotics have revolutionized modern medicine by effectively combating bacterial infections. Commensal microbiota plays an essential role in human health and acts as a reservoir for potential pathogens and therefore source of infection. However, extensive use of Antibiotics in day-to-day life to target a specific pathogen causes collateral damage to human commensal microbiota which suppresses the protective activity of commensal microbiota against colonization by foreign pathogens leading to increased risk of subsequent infection. Antibiotic treatment can also cause overgrowth of the resistant pathogen which is pre-existing within the microbiota leading to the translocation of microorganisms between body sites. The processes of Antibiotic-induced infections are often interlinked. Examples of diverse infections that are associated with antibiotic therapy and strategies to minimize and mitigate antibiotic-induced collateral damage. These approaches will minimize the selection and spread of resistant pathogens within microbiota thereby improving the treatment outcomes and preventing translocation of resistant pathogens.

Keywords: Antibiotic, resistance, pathogen, microbiota, infection.

P48: Natural Products and Drug Interaction

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Background: Natural products, generally outlined as herbs that are considered as "healthy foods' are taken by people on self-medication basis without seeking advice from pharmacist or a physician. It interacts with the pharmacokinetics and pharmacodynamics of drugs that are prescribed.

Aim: A study to make aware of the certain herbs and their interaction with most commonly used drugs.

Methods: Research papers done on the drug interaction of certain herbs. Online study of the herb and its interaction with drugs administered frequently. Patient response to the herb and the adverse effects caused by it.

Results: Fifty percent of prescription medication undergo oxidative metabolism by enzyme CYP3A4. Herbs such as Ginkgo biloba, Garlic, St. John's wort, act as enzyme inducers while Echinacea, grapefruit, Ginseng act as enzyme inducers. While enzyme inducers can increase drug metabolism and reduce bioavailability of the drug enzyme inhibitors can aggravate their adverse effects.

Conclusion: General population have the habit of consumption of natural medication in the form of herbs, but it does not mean they are completely safe and beneficial. Most of the natural products have not been validated through scientific evidences additionally are not subjected to similar surveillance and regulation as existing drug therapy. The clinicians need to review complete patient profile as well as the patient ought to tell regarding all his natural ingestions. Physicians must be aware not to prescribe medications along with herbs that interact with the same pharmacodynamics and pharmacokinetics of the drug. Negligence of which can cause consequences like prolonged stay in hospital, rise in global morbidity and mortality, increase in economic and social burden.

P49: Unlocking Therapeutic Potential: Sphingosine 1-Phosphate Receptors Modulating Drugs

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Background: The Sphingosine 1-Phosphate (S1P) pathway has emerged as a promising therapeutic target due to its pivotal role in morphogenetic mechanisms, such as collective cell migration, tissue inductive events and biomechanical signalling. S1P signals via G protein-coupled S1P receptors (S1P1–S1P5 subtypes) and they act as enticing pharmacological targets for S1P receptor-modulating drugs (agonists and antagonists).

Aim: In this study we have reviewed the drugs which modulate the S1P receptors and explores their therapeutic potentials.

Methods: Data was collected from various published articles from the four most popular search engines i.e PubMed/MEDLINE, ScienceDirect, Scopus and Google Scholar.

Discussion: The powerful immunomodulatory drug FTY720 (fingolimod), has a substantial affinity for S1P receptors and lowers the number of circulating lymphocytes in blood by inducing lymphocyte homing to secondary lymphoid organs. It has an immediate agonistic impact, but due to its desensitizing effect on the S1P1 receptor subtype, it demonstrates immunomodulatory function with continued exposure. The drug FTY720 is frequently used for people with relapsing-remitting multiple sclerosis. Being able to cause cell apoptosis makes it beneficial for targeted cancer therapy. It was shown to potentially reverse the effect of VEGF and metastatic tumors in melanoma, etc. Other potential uses include treatment of ischaemia/repurfusion. It is being tested for acute stroke, Rett's syndrome and schizophrenia. Many pipeline drugs have been discovered, including S1P receptor agonists (KRP-203, SEW2871) and antagonists (JTE-013, VPC23017, W123). These are being tested in preclinical and clinical settings for different conditions such as Subacute cutaneous lupus erythematosus, active dermatomyositis, psoriasis etc.

Conclusion: IN conclusion, S1P receptor-modulating drugs are playing multifaceted roles in the treatment of numerous diseases, allowing the expansion of research in this area, harnessing the potential of S1P receptors as drug targets offers exciting prospects for innovative therapies, potentially transforming the landscape of medical interventions across a diverse range of conditions.

Keywords: Sphingosine-1-phosphate, FTY720, SEW2871, W123

P50: Artificial intelligence in rational therapeutics: A review

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Introduction: Artificial intelligence (AI) is a branch of computer science that delegates computers to perform multidisciplinary tasks in substitution of human intelligence. AI is no longer an option, but rather an important evolving feature across various aspects of the healthcare system. Majority of components of the healthcare setup have a touch of AI integrated with it. The present era of post-pandemic has revolutionised AI, for its ability to analyse massive volumes of data allowing healthcare professionals to make more informed decisions, discover new associations and point out novel therapeutic approaches that are useful in rational drug therapy.

Aim: To discuss applications of artificial intelligence in rational drug therapy.

Methodology: In this review the various applications of artificial intelligence in rational drug therapy, based on the various articles surveyed that are available on the online databases has been discussed.

Discussion: Artificial intelligence through its machine learning and deep learning approaches is being utilised in various fields in healthcare like drug development, drug repurposing, novel drug delivery systems, oncotherapeutics, and disease diagnostics. Its role in different areas of rational therapeutics is being explored such as selecting drug-drug combinations, predicting drug-target interaction, anticipating drug-drug interactions and optimising the treatment protocol. In addition to this, artificial intelligence tools have been utilised in prognosticating toxicity of drugs which invariably helps in reducing the adverse effect profile and improving patient care and safety. Thus, helping to decrease the healthcare cost therefore reducing economic burden.

Conclusion: Advancements in artificial intelligence will help to revolutionise modern medicine helping clinicians in rational drug use, in turn helping to improve the patient's safety.

Keywords: Artificial intelligence, Rational drug use, repurposing, adverse effects

P51: Precision medicine in TB P

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Background: "Precision medicine" integrates various data types like clinical, genetic, and biomarker information. Human genomic mapping plays a crucial role, exemplified by customizing therapy for breast cancer patients based on their HER-2 gene status using gene expression data. While it has enhanced treatments, applying precision medicine to infectious diseases, especially tuberculosis, poses distinct challenges.

Aim: In tuberculosis (TB), precision medicine investigates drug resistance mutations beyond MIC. Integrating MTB strain specifics, patient factors, and regional insights customises treatment. Precision medicine hinges on host-pathogen interactions and rational drug regimens, abandoning the one-size-fits-all approach.

Methods: Assumptions of uniform antibiotic responses in Mycobacterium tuberculosis (MTB) strains oversimplify the issue. Some lineages, like L2 and L4, show higher drug resistance, including multi-drug-resistant and extensively drug-resistant TB. Genetic factors and mutations affect drug resistance, increasing susceptibility to macrolides while inducing hypersensitivity to bedaquiline and clofazimine.

Mice, guinea pigs, rabbits, and non-human primates serve as TB research models, simulating aspects of human TB. Each model has unique strengths and limitations. Mice are for drug testing, guinea pigs for vaccine evaluation, and non-human primates for in-depth disease study.

In 2017, England pioneered nationwide genetic testing (WGS) to diagnose tuberculosis and anticipate drug resistance. This advancement hints that for TB strains responsive to standard treatments, traditional drug sensitivity tests might become obsolete. Large-scale genetic sequencing can reveal how specific genetic variations impact real treatment outcomes.

Results: A broader perspective on TB's genetic diversity and its influence on drug responses reveals potential in precision medicine. Expanding molecular tests can identify mutations predicting drug sensitivity and treatment success. Addressing challenges, such as cost and intricate genetic interactions, requires further study. An encompassing approach involves exploring clusters of mutations collectively indicating drug resistance or clinical outcomes, a strategy that has shown effectiveness. This research holds the promise of refining TB treatments and enhancing patient outcomes.

Conclusion: This review gives us the idea that correct application can fundamentally fulfil the core tenet of Precision Medicine in infectious diseases requiring antibiotic therapy: treating the right patient with the right drug at the right time, potentially optimising patient outcomes.

Keywords: tuberculosis, drug resistance, genetic mapping, precision medicine.

P52: Precision medicine and pain management

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Background: Precision medicine in pain management has ushered in a new era by utilizing genetic testing and biomarker analysis to tailor treatment strategies. Key genetic tests, such as CYP2D6 genotyping, reveal how individuals metabolize opioids, allowing healthcare providers to select the most suitable opioids and doses. Meanwhile, COMT genotyping offers insights into an individual's pain perception and medication response. This narrative review delves into these advancements, highlighting their potential to optimize pain management and reduce adverse events.

Aim: The goal of this review is to show that integrating precision medicine into regular pain management can improve treatment. We'll highlight its potential and stress that it's a natural extension of current practice, which can optimize patient outcomes.

Methods: Method In a cluster-designed study, individuals with chronic pain (94% on opioid therapy) from seven clinics were stratified into CYP2D6-guided (n = 235) and standard care (n = 135) groups. CYP2D6 phenotypes were determined based on genotype and CYP2D6 inhibitor usage, and in the CYP2D6-guided arm, opioid prescription recommendations were provided. Pain levels were evaluated at baseline and after 3 months using PROMIS® metrics.

A cohort of 149 pediatric patients scheduled for adenotonsillectomy was included. The study investigated the relationships between four COMT SNPs (rs6269, rs4633, rs4818, and rs4680) and postoperative pain outcomes, including peak pain scores, utilization of postoperative opioid interventions, and postoperative morphine consumption.

Results: Results revealed that for some patients who initially received tramadol or codeine, the genetic-guided group experienced better pain relief compared to the standard care group. This was not true for normal metabolizers. The COMT gene variations were associated with how kids responded to post-surgery pain treatment. Certain gene combinations led to a higher chance of needing strong pain relief. This research suggests that personalizing pain management based on genetics can improve outcomes.

Conclusion: Incorporating precision medicine, with the utilization of genetic markers such as CYP2D6 and COMT genotyping, alongside other biomarkers, demonstrates substantial potential for enhancing pain management in routine clinical practice. These findings underline the value of personalized approaches, offering patients more effective pain relief.

Keywords: Precision medicine, Pain management, CYP2D6 genotyping, COMT genotyping

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Sri Krishna Temple in Udupi is an important pilgrimage site in South India. It is said that the Krishna idol here is the most beautiful idol of Lord Krishna and is depicted as a small boy (Balakrishna). The idol is not seen directly, but through a 9 holed window called the Navagraha Kitiki.

Distance from Manipal: 5km

Thousand Pillars temple is the most prominent of the 18 Jain temples in Moodubidiri town, Karnataka. An interesting fact about the pillars is, that, no two pillars are said to be alike. The perfection of the stone carvings, the symmetry and intrinsic details will leave visitors in awe of this marvelous and detailed 15th century architecture.

Distance from Manipal: 52km

St. Mary's Islands, also known as Coconut Islands, are a set of four small islands in the Arabian Sea off the coast of Malpe in Udupi. This Island gets its name from the prominent coconut trees and is a well-visited place for its curious hexagonal rock columns and plentiful scattering of seashells.

Distance from Manipal: 15km

Shringeri, a hill town located in Chikkamagaluru district, Karnataka, is the site of the first maha established by Shri Adi Shankara. Sringeri is home to a number of historic temples. Of these, Sri Sharadamba temple, Sri Vidyashankara temple and Sri Malahanikareshwara temple are the most prominent.

Distance from Manipal: 52km

St. Lawrence Church in Attur, Karkala, also known as the Attur Church has an architectural style that seems to be a mix of Gothic and Romanesque and looks straight out of a fairytale. With its pointed arches, vertical façade and huge stained glass windows, the church has a long and interesting history dotted with numerous miracles dating back to the 1800's.

Distance from Manipal: 35km

Kapu, a beach village in coastal Karnataka with its long sandy beaches offers a panoramic view of the Arabian Sea. The Kapu lighthouse constructed on a rock and built in the year 1901 is 27 meters tall and has stood the test of time guiding ships to safety during the days when ships did not have satellite navigation and relied on lighthouses for warnings.

Distance from Manipal: 21km

Kollur Mookambika Temple is located at Kollur in Byndoor Taluk of Udupi District, Karnataka, India. It is a Hindu temple dedicated to the Mother Goddess known as Mookambika Devi. It is situated in the foothills of Kodachadri hills, on the southern bank of Souparnika River.

Distance from Manipal: 76km

Shri Kshetra Dharmasthala, is one of south India's most renowned religious landmarks with a history as old as 800 years. Manjunatheshwara, the chief deity in the form of a shivalinga is made immaculate, in this temple town since and forever. Dharmasthala, or 'the place of Dharma,' is a sacred landmark visited by thousands of tourists all across the world.

Distance from Manipal: 100km


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