5th International Conference on Clinical Pharmacy

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About the Conference
Health care system is evolving rapidly around the globe through consolidation, corporatization and accreditation processes. Quality and safety of health care delivery plays a pivotal role in this scenario. Clinical pharmacists can catalyse the changes required in healthcare sector for adapting to the evolving system by collaborating with other healthcare providers.

Highlights:
- Academic and Research conclave of pharmacy practitioners and students from various institutions in India and abroad in collaboration with other healthcare practitioners.
- Educational Symposia and plenary sessions from multi-disciplinary dimension.
- Research presentations.
- Professional Networking.
- Providing platform for Academy-Industry collaborated projects and many more...

Call for Abstracts
Submission deadline: 20 November, 2019
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- Participants are invited to present original research work.
- Abstract submission will be accepted through online only.
- Abstract text should not be more than 300 words.
- Abstract include: Title, authors, affiliations, objectives, methodology, results and conclusion.
- Oral presentations: 10 minutes (8 minutes for presentation and 2 minutes for discussion).
- Poster presentation: e-posters only.

Topics
- Clinical Pharmacokinetics
- Health Economics & Outcome Research
- Pharmaceutical Care
- Pharmacoepidemiology
- Pharmacogenomics
- Pharmacovigilance
- Rare/Interventional Case Reports
SPEAKERS

ABSTRACTS
Managing inappropriate polypharmacy in older people.

Prof. Derek Charles Stewart
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Polypharmacy, the prescribing of multiple medicines, has been labelled as ‘one of the greatest prescribing challenges’. Polypharmacy: increases the likelihood of drug-drug interactions and adverse drug events; increases drug-related hospitalisations; contributes to non-adherence; and leads to higher health care costs.

Historically, polypharmacy was commonly defined as the use of four or five different prescribed medicines. More recently, the terms ‘inappropriate polypharmacy’ (prescribing of multiple medicines which are either inappropriate or no longer indicated) and ‘appropriate’ or ‘optimal polypharmacy’ (appropriate prescribing of multiple medicines) have been suggested.

In 2017, the World Health Organization launched a global initiative, Medication Without Harm, aiming to reduce the level of severe, avoidable harm related to medicines by 50% over the next five years. While the need to tackle inappropriate polypharmacy and promote appropriate polypharmacy is clear, several recent systematic reviews and meta-analyses on approaches to addressing inappropriate polypharmacy concluded that there was no convincing evidence of effectiveness on clinically relevant endpoints.

In 2018 the Scottish Government published Polypharmacy Guidance, Realistic Prescribing, 3rd edition, generated through the collaborative efforts of clinicians, academics and policy makers from across Scotland. The ambition is to reduce drug related harm through the collective efforts of all; centred on shared decision making between the patient (and/or carers) and their clinician(s), supported by the resources and intelligence available through our advancing health and social care systems.

This presentation will focus on the consequences of inappropriate polypharmacy, particularly in older people, and the approach to management taken in Scotland and elsewhere.

References

Overview of Regulatory Writing: How a Regulatory Writer Contributes to a NDA/BLA Submission

Saurab Singh, Ph.D
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Regulatory writing is both an art and science and a regulator writer plays an important role in the drug development value chain. In addition to having a deep understanding of clinical data, a regulatory writer is also a skillful negotiator and a good project manager. The world of regulatory writing is rapidly evolving and the future will see greater integration of digital technology in the process of creating various regulatory documents.

Using Health Outcomes Research to Direct Drug Utilization Review Activities for the Mississippi Medicaid Program

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Health economics and outcomes research (HEOR) is becoming increasingly important in health care decision making and improving the quality of care provided. This presentation provides an overview of the (HEOR) activities going on at the University of Mississippi and the Mississippi Evidence Based Drug Utilization Program which is a contract vendor with the Mississippi Division of Medicaid. Examples are provided of how HEOR results are used from primary research and secondary sources to develop drug utilization review activities and functions in the Mississippi Medicaid program.
A home based primary care model based on physician -
clinical pharmacist partnership

Dr. Ashoojit Kaur Anand, MD
Co-founder & Physician, Aveksha,
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From my perspective as a physician with extensive experience for nearly three decades in primary care, HIV/AIDS, and palliative care/geriatrics, the urgently approaching challenge lies in primary care for the aging population. The geriatric patient experiences significantly greater levels of multimorbidity, polypharmacy, and frailty; and it is superimposed by a highly fragmented health care system with the erosion of long standing relationships between doctors and patients. As a response to this rising complexity, health care delivery needs to move towards team based care. Against this backdrop, I will describe our physician-clinical pharmacist led home based primary care model that focuses on clinical care, workforce generation in the home care field and integrating home care into established health care systems. After seeing 110 patients in 6 months, the role of a clinical pharmacist in a medical team has been reaffirmed; considering home care encounters patients with complex conditions, comorbidities and on multiple medications. In the home care model, clinical pharmacists provide both pharmacological and non-pharmacological solutions. We will discuss some of the cases encountered during our practice to demonstrate the strength of a multidisciplinary approach. The involvement of a clinical pharmacist in patient care has enabled the customization of medications, optimized management of multiple co-morbidities and timely adjustment of drugs as acute events arise in patients with limited physiological reserve. Based on this experience, we have initiated internship and fellowship programs that train at professional and cross-disciplinary levels to seed home healthcare communities. The internships are based primarily on clinical experience along with opportunities for research and writing. Clinical pharmacists are specialized to play a role at every step of providing quality health outcomes at individual and community levels through clinical expertise, drug management, development of novel therapies and in developing health policies. Although there are many obvious roles a clinical pharmacist can and should play, the processes are slowly evolving to create formal positions. Our experience outlines one such effort.

References


The significantly large increase in healthcare costs worldwide calls for less expensive analogous to the generic versions of original innovator product. In the growing cost of new and innovative medicines, including biological medicines, continues to put pressure on the financial sustainability of the healthcare system in developed countries and to the patients and insurance companies in rest of the world countries. The pressure of high medical costs on patients as well as the desire to increase patient access by reducing the cost of drugs have created a significantly high demand for biosimilars. The biosimilars are expected to serve as a cost-effective alternative to costly biologics resulting in much needed reduction in medical treatment costs globally. In emerging markets, majority of patients can’t afford to buy biological products due to their high cost of treatment, financial background and no or limited coverage by universal healthcare policies. In this scenario Biosimilars serves as an affordable choice to increase the access of biosimilars to treat various challenging diseases like various types of cancer, autoimmune disorders etc. Hence it is very important to understand the role of Pharmacoeconomics of Biosimilar drugs.
Medical Affairs: An uncharted territory for Clinical Pharmacists
Ashan Farooq, PharmD
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As innovation in both technology and the biological sciences transforms the healthcare landscape, science and data are becoming the foundation for pharma to meet its obligations to patients and customers. Estimates suggest that 2.5 quintillion bytes of data are currently created every day and the pace will only accelerate as technology advances, not least through wearable devices and the Internet of Things (IoT). Medical Affairs (MA) describes the department within a pharmaceutical or medical device company that interacts with physicians and other healthcare professionals who utilize or are involved with research related to the companies’ products. Medical Affairs organizations have emerged over the past half century in response to federal regulations around the separation of medical and commercial activities within drug companies. With their medical credentials, scientific know-how, and credibility among stakeholders, Medical Affairs professionals are emerging as the natural “owners” of scientific knowledge and data within the organization and across the lifecycle and had established themselves as the third strategic pillar of the organization alongside R&D and Commercial. Indian Pharma Companies that traditionally manufactured generic drugs, started venturing into branded pharma products. This paradigm shift provoked the authorities to emphasize on stringent regulatory policies and influencing them to choose pharma products with scientific and social value. This has made the role of MA personnel pivotal and Medical Affairs team will be the face of Indian pharma companies in coming years. MA team today are a sophisticated unit with varied functions. From developing and maintaining relationships with the doctors and other entities of the healthcare community, to devising strategies for the new drugs, MA team will play an integral role. With these diverse functions in demand, it has become a meticulous task for pharma companies to hire the right personnel. Generally, medical affairs departments are staffed with personnel that have advanced medical degrees that enable them to understand and effectively communicate the science behind a device or pharmaceutical product. Medical affairs directors are commonly Doctor of Medicine (MDs) and medical affairs departments typically are staffed with medical science liaisons (MSLs) who have advanced degrees, Pharm Ds, or MDs to enable them to interact with physicians and healthcare professionals on a professional level. Pharmacists in Medical Affairs Although pharmacists occupy a significant number of key positions in the pharmaceutical industry, practicing pharmacists are often unaware of the variety of career paths within this industry, or of the structure of a pharmaceutical company. There are significant opportunities for pharmacists within medical affairs. Pharmacists’ extensive understanding of drug products prepares them to identify and understand a product’s potential impact in the “real world” as opposed to what was seen previously in controlled trials. Pharmacists with an interest in clinical Work can combine this interest with their scientific background in pharmacy by serving as medical science liaisons (MSLs). MSLs call on a variety of health care professionals to educate them on the uses, merits, and scientific data related to the products their firms produce. Experienced and successful MSLs with administrative and management abilities often rise to supervisory or executive posts in the pharmaceutical industry. Pharmacists in the Medical and Scientific Affairs department develop and coordinate the implementation of medically accurate and credible medical education programs and serve as scientific resources to communicate product information to external customers via various promotional and
educational

programs. As a health care provider in a traditional setting, pharmacists impact patients’ lives on a case by case basis, but with medical affairs they can impact patient lives at a macro level. This presentation attempts to provide an overview of the common roles occupied by Pharmacists in Pharmaceutical industry with a focus on Medical Affairs and will try to describe the various motivations for transitioning into the industry. Furthermore, this presentation will outline the characteristics and skills that enable pharmacists to have a successful career in medical affairs.
PODIUM PRESENTATION ABSTRACTS
A STUDY ON THE IMPACT OF ANTIBIOTIC USE ON ESCHERICHIA COLI IN POULTRY ENVIRONMENT

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Abstract:
BACKGROUND: The worldwide increase in use of antibiotics in poultry and livestock industry to treat and prevent bacterial diseases and as growth promoters in feeds has led to the problem of development of antibiotic resistance both in animals and human population.

OBJECTIVE: To study the pattern of antibiotic use and prevalence of multidrug resistant Escherichia coli in poultry environment in a locality in Ernakulam district of Kerala, India and to compare the antibiograms obtained from poultry environment with that of antibiograms of UTI patients in a secondary care hospital from the locality.

METHODOLOGY: Two poultry farms each from six areas in Muvattupuzha region, Kerala, India were selected for the study by cluster sampling. A survey was conducted among farmers on the pattern of antibiotic use and various farming practices. From each farm, samples of fresh fecal matter, litter from inside, litter from outside shed, agricultural soil and control soil were collected. E. coli was isolated from each sample and antimicrobial susceptibility testing of E. coli was done with fifteen antibiotics. Antibiogram of UTI patients were collected from the secondary care hospital and those were compared with the antibiogram of poultry samples.

RESULTS: From survey response antibiotics such as ofloxacin, enrofloxacin, levofloxacin, ciprofloxacin, colistin, ceftriaxone, neomycin, cephalaxin and oxytetracycline were used for treatment and prevention of infections in poultry. 31of 48 samples (51.66%) showed E. coli growth. 7 of 15 antibiotics (46.6%) showed resistance. Ampicillin, amoxicillin, meropenem, tetracycline showed 100% resistance to all samples. Similar resistance pattern in poultry environment and UTI patients were seen for antibiotics such as ampicillin, amoxicillin, amikacin, and ofloxacin.

CONCLUSION: E. coli were resistant not only to extended spectrum beta lactams, but also to carbapenems which may be disseminated to environment where litter was used as manure. This may be due to irrational use of antibiotics in chicken or from their use in poultry feed as .

Keywords: Escherichia coli, Antibiotic Resistance, Poultry, Urinary tract infection
NOISE IN SAFETY SIGNAL OF LETROZOLE ASSOCIATED OSTEOEUCROSIS OF JAW: DISPROPORTIONALITY ANALYSIS IN FAERS DATABASE

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Background: Signal generation through data mining algorithms is an innovative and emerging field in pharmacovigilance. Early detection of safety signals is important for public health safety. However, the possibility of pseudo signal needs to be overlooked. Objective: Our study aimed to identify potential signal of letrozole associated Osteonecrosis of Jaw (ONJ) and assess the possibilities of the safety signal to be a pseudo signal/false positive in FDA Adverse Event Reporting System (FAERS). Methods: Data for this study were obtained from the public release of data in FDA Adverse Event Reporting System (FAERS) Database. OpenVigil 2.0, a pharmacovigilance analytical tool was used to access FAERS data. Relative Reporting Ratio (RRR), Reporting Odds Ratio (ROR) and Proportional Reporting Ratio (PRR) were used to assess the relation between the drug and adverse event. A value of RRR > 1, ROR-1.96SE > 1 and PRR ≥ 2 was considered positive. The confounding factors considered for the study was co-administered drugs and degree of reporting. The main outcome measure was signal strength.

Results: FAERS database had a total of 15,178 reports for ONJ. Amongst which 1,061 (6.99%) reports were associated with aromatase inhibitors. The number of reports for letrozole was 448 (42.22%). A positive signal was obtained for letrozole associated ONJ with RRR 13.11, PRR 13.37 (95% CI 8.47-25.92) and ROR 13.28 (8.34-26.89). The signal strength for letrozole associated ONJ decreased after removing the reports of concomitantly administered bisphosphonates and/or denosumab was RRR 0.115 (0.03; 0.35), PRR 0.115 (0.03; 0.35), ROR 0.115 (0.03; 0.35). The signal was negative in both the cases, which previously showed positive.

Conclusion: Our study concluded that the signal generated for letrozole associated ONJ in FAERS database can be false positive. Careful background corrections with identification of those risk factors are imperative to exclude false positive results.

Keywords: FAERS
**CHEMOTHERAPY INDUCED PERIPHERAL NEUROPATHY: A PROSPECTIVE OBSERVATIONAL STUDY**

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**Abstract:**

**OBJECTIVES:** Use of chemotherapeutic drugs is commonly associated with considerable complications; one major neurological complication is peripheral neuropathy. This study aims to assess the incidence rate and severity of chemotherapy induced peripheral neuropathy (CIPN) based on the drug class. **METHODS:** A prospective observational study was conducted in medical oncology wards of tertiary care hospital, Bengaluru. Subjects who had known histological malignancies and who underwent 3rd cycle of chemotherapy were recruited in the study. A validated screening tool (eviQ scale) was administered to assess the incidence and severity of symptoms which were then graded based on CTCAE v.4.3. **RESULTS:** Seven chemotherapeutic drug classes were assessed, and a total of 101 subjects were recruited into the study. 44 subjects received platinum compounds, 46 received plant alkaloids and 27, 24, 23, 18, 13 received antimetabolites, antibiotics, alkylating agents, immunosuppressants and miscellaneous drug classes respectively. Incidence rate of peripheral neuropathy was determined, among which miscellaneous agents like zolandric acid, bortezomib, leuprolide (IR=61.5%; n=8), plant alkaloids (IR=56.52%; n=26) and platinum compounds (IR=52.27%; n=23) were associated with higher rates followed by immunosuppressants (IR=38.8%; n=7), anti-metabolites (IR= 37.03%; n=10), antibiotics (IR=33.33%; n=8) and alkylating agents (IR=30.43; n=7) respectively. Correspondingly severity with these chemotherapeutic agents was determined as grade-3 or grade-2 with platinum compounds, plant alkaloids, miscellaneous agents and grade-2 or grade-1 with aforementioned classes of chemotherapeutic agents. **CONCLUSIONS:** The overall incidence rate and severity of CIPN was more with plant alkaloids and platinum compounds and miscellaneous agents when compared with other classes of chemotherapeutic agents. Further intensive studies are necessary to determine causal relationship of these chemotherapeutic agents. **Keywords:** Peripheral Neuropathy, Chemotherapy
ASSOCIATION BETWEEN IRON DEFICIENCY ANAEMIA AND ANTENATAL DEPRESSION IN A SEMI-URBAN POPULATION OF PREGNANT WOMEN IN INDIA: A CROSS-SECTIONAL STUDY

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Abstract

Background: Iron deficiency is common among pregnant women and it affects the glial cells of brain which results in altered myelination of neuronal cells along with dysregulation of neurotransmitters like serotonin, dopamine which have a vital role in the pathophysiology of depression. Though there are several factors that could lead to antenatal depression, iron deficiency anaemia is an emerging aetiology. If it is left untreated, it would result as a major risk factor for causing post-partum depression, preterm birth, developmental delays among infants and several other obstetric complications. Objective: The primary objective of this study is to determine the relationship between iron deficiency anaemia and antenatal depression among pregnant women. Methods: A cross-sectional study was conducted among the second trimester pregnant women who attended the obstetrics department for antenatal care. A total of 210 participants were categorised into iron deficient (N=140) and iron sufficient (N=70) groups based on the haematological results. The risk of depression was assessed using a validated Edinburgh depression scale. A Pearson’s correlation analysis was performed to check the association of Edinburgh depression scores with patient characteristics. Linear and binary logistic regression models were used for predicting depression. Results: The distribution of depression was significantly varied between the groups. Edinburgh depression scores was significantly higher in the iron deficiency anaemia group in comparison with the non-iron deficiency anaemia group (12.78± 3.40 vs. 8.82± 3.12; p value= 0.005; 95% CI 2.94 to 4.87). There was a significant negative correlation between haemoglobin level and Edinburgh depression score. The odds of developing antenatal depression was 12 times higher in the iron deficient group, (p <0.001). Conclusion: Our findings suggest that iron deficiency anaemia acts as an independent factor in influencing antenatal depression. The results from this study can be used to emphasize the impact of this correlation among the clinicians. Keywords: Antenatal depression, iron deficiency anaemia, peri-natal depression, anaemia in pregnancy, preterm birth, cross-sectional study
PROSPECTIVE STUDY ON MEDICATION RETURN PATTERN IN AN ORTHOPEDIC AND SURGERY DEPARTMENT OF A TEACHING HOSPITAL

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abs_00077

Introduction: Medication return is a reverse logistics creates an imbalance between supply and demands; sometimes potentiate medication errors. The limited study provokes to carry out this. Objectives: To evaluate the medication usage, Disposal methods, reasons of returns and its cost.

Methodology: A Prospective and Observational study conducted after ethical clearance. (AHRC No: AIMS/IEC/1952/2018-19, October 2018 to May 2019)

Results and Discussion: Among 120 cases, 63 Orthopedics and 57 Surgery cases, Mean age 41-50(29.9%)> 61-70(18.4%). Males, females and Number of hospital stay were 47.2%, 52.8%; & 9.28 ± 4.33. Obese was 31.7%. In orthopedic post traumatic compression (4.76%)> Osteoarthritis (3.175%) & in surgery appendicitis (7.08%) > cellulites with inguinal hernia cyst (3.50%). The mean antibiotics cost in ortho (71.4%), surgery (93%) was 500.04±870.7; 1753.56 ± 1465.45; Mean number of drugs per PX, Number of Injections, Number of oral forms were 6.88 ± 2.67, 3.63 ± 1.64, 3.13 ± 2.14. The medication returns orthopedic (68.3 %), surgery (70.2%) were 39.7% IV > 38.6 % tablets & therapeutic category returns in orthopedic was analgesics 12.6% > anti-emetic and proton pump inhibitors (3.5 %). In surgery, 12.1 % antibiotics > PPIs 5.8 %. The mean number of drug returns, its cost was 1.44±4.02, 29.14±57.26. Among orthopedic, surgery, medication returns reasons are, dose change 3.2 %, 1.8%; Medication discontinues 4.8%, 52.6%, patient discharge 6.3 %, 42.1%, Patient death in surgery was 1.8%, Extra dose dispenses 52.4 % in ortho-patients. Methods of drug dispose shows return to pharmacy 4.8%, 50.9%; throw-away 87.3 %, 94.7%; Dust bin 30.2 %, 71.9%; Burning 1.6%, 12.3%; generous to ill person 11.1 %, 98.2%. Multiple methods in ortho-patients was 25.4 %. Conclusion: This Study showed Pharmacist can play important role in reducing the imbalances of supply and demand and protection from environment Hazards of the drugs, by creating awareness on medication returns and proper way of disposal.

Key words: Medication returns, IV: Intravenous, PPI; Proton Pump Inhibitors,
IMPACT OF SELF SUSTAINABLE SYSTEM FOR SAFE DRUG DISPOSAL: A FOLLOW UP STUDY
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Abstract:
BACKGROUND: Adequate knowledge and self-sustainable drug collection services are of crucial importance to avoid improper disposal of medications which can have harmful repercussions on the bio-system. OBJECTIVES: This study aims at providing appropriate awareness and services, following which changes in public’s knowledge, attitude and practice towards drug disposal were assessed. METHODS: A community based pre and post interventional study was conducted among 250 subjects using a self-validated KAP questionnaire. Educational intervention was provided by counselling, distribution of PILs and social media. Drop box was placed and drugs dropped in the box were collected and appropriately processed. Post intervention data collection was done after 1 month and paired-t test was applied to assess changes in responses. (P <0.05) RESULTS: About 82.4% of the participants were unaware of the hazards caused by improper drug disposal and 94.4% lacked knowledge on safe disposal methods. Disposing in trash, toilets and soil were the most commonly adopted methods. 91.6% of the subjects were willing to follow the instructions on disposal. Counselling, mainly by doctors and pharmacists (54.4%), advertisement (24.8%) and social media (16%) are the most preferred modes of education. 47.6% dropped medications in the box provided. Paired-t test showed a significant difference in knowledge with a mean difference of 3.62 and in attitude with a mean difference of 1.928 after the interventions. CONCLUSIONS: Educational interventions and appropriate drug reclaim services could make a considerable improvement in knowledge, attitude and practice of the public towards safe drug disposal. The outcome of the current study may be utilised to make important policy decisions. Adopted interventions could be implemented in the future to enable safe disposal of drugs.
Keywords: Drug disposal practices, KAP
ASSESSMENT OF PERCEPTION OF PRACTICING PHARMACISTS TOWARDS RATIONAL USE OF ANTIBIOTICS

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Abstract:
Introduction Irrational use of antibiotic is a major concern worldwide, that is ultimately also leading to increased antibiotic resistance. Many antibiotics are frequently prescribed to treat symptoms or disease that do not require antibiotics or that are likely to resolve without treatment. Also, incorrect or suboptimal antibiotics are prescribed for certain bacterial infections. Community pharmacists are the most frequently seen health care provider and the final check in the delivery-of-care line. The regular correspondence that community pharmacists have with patients, as well as the training and knowledge they possess, creates a tremendous opportunity to perform interventions for patients in order to slowdown or avoid resistance, verify appropriate usage, recommend alternative over-the-counter (OTC) medications, and educate physicians and patients. Hence it becomes necessary to create awareness among community pharmacists about rational use of antibiotics. Objective To assess the perception of practicing pharmacists towards the rational use of antibiotics using the KAP tool. Methodology A cross-sectional survey containing 18 questions to assess the perception was conducted among practicing pharmacists towards the rational use of antibiotics. Results A total of 183 pharmacists responded to the survey, the knowledge component of the questionnaire showed that more than 50% of the pharmacists did not have appropriate knowledge about rational use of antibiotics and basic understanding about antimicrobial resistance. However, in the attitude component approximately 50% of pharmacists had an appropriate attitude towards antibiotic usage that was indirectly related to precautions for combating AMR even though their knowledge towards basic component of AMR was limited. Similarly, majority of the pharmacist had appropriate practice skill. Conclusion: Overall practicing pharmacists are aware about the required precautions to be considered while dispensing antibiotics, however, their understanding on the emerging antibiotic resistance is limited and requires educational interventions which will create awareness and improvise their role in combating AMR. Keywords: Practicing Pharmacists, Antimicrobial Resistance, Perception
ECOPHARMACOVIGILANCE: IMPLEMENTATIONS AND CHALLENGES

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Abstract:

Background: Every drug which ends up being unused or expired reaches parts of the ecosystem where it potentially disturbs the life cycle of all flora and fauna. Ecopharmacovigilance would describe the science and activities associated with the detection, evaluation, understanding and prevention of adverse effects of pharmaceuticals in the environment. The disposal of the expired and unused medicines is a vital issue because it has direct impact on environment, on all life forms, including humans.

Objective: To review the current mechanism of drug disposal and highlight its inadequacies in dealing with current scenario. To increase awareness among healthcare professionals and the society about Ecopharmacovigilance. To determine the challenges in implementation of the concept. To provide Cost-effective methods of drug disposal.

Methodology: A cross sectional study was conducted for the assessment of response towards the concept of drug disposal. A total of 162 pharmacies and 198 people were included in the study from the suburbs of Pune. A self-made questionnaire was provided comprising of their socio-demographic details, acceptance patterns and knowledge of drug disposal at their household level.

Result: Emphasis on appropriate guidelines and methods of drug disposal for large scale manufacturers and at an individual level can prevent consequences of pharmaceuticals on the ecosystem. 63% of the population followed the incorrect drug disposal methods/techniques whereas only 37% of the population were following the adequate drug disposal methods. 63% of the population were willing to learn more about the methods of drug disposal and felt the necessity of the implementation of the regulation of drug disposal. Continuous Education program conducted for pharmacists provided positive impact of disposal of expired/unused drug.

Conclusion: Pharmacists have new roles and responsibilities in implementation of the concept of Ecopharmacovigilance by providing information about the correct methods to dispose unused pharmaceutical products. Immediate need for National guidelines and a formalized protocol for disposal of medicine & cost effective techniques for safe drug disposal.

Keywords: Ecopharmacovigilance drug disposal pharmaceutical waste
COMPARISON OF EFFICACY AND COST OF TWO ORAL SEDATIVES IN RECORDING PAEDIATRIC ELECTROENCEPHALOGRAPHY: A TERTIARY CARE CENTRE STUDY

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Abstract:

Background: Oral Triclofos sodium (TFS) is a preferred choice of sedative to induce sleep in paediatrics to perform electroencephalography (EEG). Melatonin, introduced recently, has limited evidence in terms of efficacy and cost. Objective: To compare the efficacy and cost of triclofos sodium and melatonin in inducing sleep in paediatric patients undergoing electroencephalography. Methodology: The prospective experimental study was done for a period of 5 months in a tertiary care teaching hospital. Patients (6 months-18 years) referred for sleep EEG procedure, requiring sedation, were randomized to receive oral syrup of either triclofos sodium (500 mg/kg, max. 2g) or melatonin (0.3 mg/kg for <10 kg weight, 3 mg for 10-15 kg, and 6 mg for >15 kg weight). The primary efficacy outcome measures evaluated were successful EEG recordings and detection of epileptiform abnormalities. Direct medical cost corresponding to dose-based costs incurred were considered. We analysed the costs and outcomes using the cost-effectiveness analysis. Results: A total of 166 patients were enrolled with 83 patients in both the groups. The mean age in triclofos sodium (Group T) and melatonin group (Group M) was 5.63 (±4.28) years and 6.29 (±4.25) years. Successful EEGs were recorded in 57.83% and 62.65% of patients in Group T and Group M respectively (p>0.05). Percentage of abnormalities detected were 52.08% in Group T and 50% in Group M (p>0.05). The Cost-effectiveness ratio (CER) per successful EEG was found to be Rs. 52.54/- by TFS and Rs. 28.05/- by melatonin. The CER per abnormality detected was also significantly lower for melatonin (Rs.48.42/- versus Rs. 29.18/-). Conclusion: Melatonin and triclofos sodium are effective sedatives for performing sleep electroencephalography in paediatric patients. Melatonin, however, was found to be a more affordable choice.
ARTIFICIAL INTELLIGENCE BASED PATIENT REPORTED PAIN OUTCOMES IN CANCER CARE

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Abstract:
Background Pain affects 70% - 90% of patients with advanced stages of cancer. The pain can occur from cancer progression or from chemotherapy side effects. The poorly managed pain may necessitate frequent hospital visits and increased OP crowd. Such acute visits can be avoided with 24*7 proactive monitoring and timely management recommendations. On an average, the cancer patients have two unplanned hospital admission and three emergency department visits a year. This reduces the patient’s quality of life and increases healthcare expenditure. Objective To create a mobile application which enables the patient to get an access to the healthcare team through seamless connections wherever they are, whenever they need. Methodology The App enables the patient to communicate the pain episodes and pain features with the professional caregivers including a clinical pharmacist. The response is monitored, necessary and timely pain relief recommendations are provided. The pain scoring is done using visual analogue scale followed by a pain marking in 3-D image of human body. Validated questions consolidated from NIH-NCI cancer pain questionnaire and brief pain Inventory are used to collect information regarding pain aetiologies and patient’s attitude. Each member of the healthcare team receives pain reporting alerts based on the degree of pain score. A pilot study has been initiated in a tertiary care hospital in Cochin and the initial results are encouraging. Conclusion A connected care system will benefit the patient, providers and ultimately the society. Improved patient experience and quality cancer care can save cost of unnecessary hospital admissions. When a patient with cancer can avoid an emergency room and do better with the support of the peers and the providers, the incurable becomes curable. Keywords: Artificial Intelligence
MONITORING AND CATEGORIZING ADVERSE DRUG REACTIONS IN PSYCHIATRIC RESIDENTIAL PATIENTS UTILIZING UKU-SERS SCALE

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Abstract:

Background: Management of psychiatric disorders requires both non-pharmacological approaches and treatment with psychotropic drugs. However, these drugs are not devoid of adverse drug reactions (ADRs), which lead to non-compliance and further failure of therapy, hampering the patient’s quality of life. Objectives: To identify and categorize the Adverse drug reactions (ADRs) in residential Psychiatric patients by using UKU-SERS. To assess the causality and severity of documented ADRs. Methods: A prospective observational study was carried out in a residential nursing home, Pune, from October 2018 to March 2019. Psychiatric inpatients of both gender and all ages receiving psychotropic drugs for at least one month were enrolled in the study. Patients who were not alert or oriented enough to give a detailed history and response to a questionnaire, including dementia patients and those who were not willing to give informed consent were excluded from the study. The ADRs were categorized using Udvalg for Kliniske Undersogelser (UKU) scale and were assessed for causality and severity using WHO-Uppsala Monitoring Centre (WHO-UMC) causality assessment scale and Modified Hartwig and Seigel Scale. Results: The ADRs reported in our study was found to be 76.6%, with 273 events in 115 patients. Maximum patients were diagnosed with schizophrenia 95 (63.33%). UKU-SERS Categorized maximum ADRs as Autonomic 60(21.97%) followed by Neurological 17(06.22%) exhibited by Atypical Antipsychotics 150 (54.94%) and Mood stabilizers 47(17.21%) respectively. The maximum ADR observed under Autonomic category was constipation (15.38%), and Neurological category was tremors (12.82%). The majority of the ADRs was mild and had a possible causality relationship. Conclusion: The study demonstrated a high incidence of ADRs in residential nursing home owing to prolonged length of stay and long-term treatment. Constant vigilance and management of adverse drug reactions are recommended for improving patient compliance and adherence to the therapy. Keywords: Psychotropic drugs, Adverse Drug Reactions, UKU-SERS
PHARMACOVIGILANCE
THE ESCALATING TREND OF POLYPHARMACY AND DRUG-DRUG INTERACTIONS IN INDOOR PATIENTS AT A TERTIARY CARE TEACHING HOSPITAL

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Abstract:

Background: Drug-drug interactions (DDIs) are a preventable cause of morbidity and mortality. A drug-drug interaction can be defined as a modification in the effectiveness of drug on the body due to simultaneous administration of one or more drugs. Their consequences in the community are not well characterized and that is why the present study was designed to study such drug-drug interactions. Objectives: To identify high risk medications that can cause potential drug-drug interactions in inpatients. To identify prevalence of DDIs in indoor patients. To characterize potential DDIs generated from prescription during hospitalization to determine factors associated with onset. Methodology: A cross-sectional observational study was carried out at a tertiary care teaching hospital of Gujarat. A sample size of 100 patients was evaluated within a period of 3 months. The prescriptions were evaluated for polypharmacy and potentially significant DDIs using Micromedex DrugReax. The data were analysed statistically.

Results & Discussion: It was found that the average number of drugs prescribed per patient was quite high which accounted for about 12 drugs. A total of 67.5% of DDIs were found out of which 57.69% were found in females. The highest percentage of DDI was found in cardiovascular agents which accounted for 35.86%, followed by 12.41% in anticoagulants and 6.20% in proton pump inhibitors and anti-emetics. 31.32% out of total DDIs were perceived in patients out of which 61.53% were managed. Conclusion: The rising tide of polypharmacy and the perceivable drug-drug interactions in indoor patients calls for an interventional study and rigorous monitoring of patients to bring down adverse outcomes and boost patient safety. Keywords: drug-drug interactions, polypharmacy
Abs_00091

A STUDY ON ADVERSE DRUG REACTIONS CAUSED BY ANTIBIOTICS PRESCRIBED IN A TERTIARY CARE TEACHING HOSPITAL

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Abstract :

BACKGROUND: Adverse drug reactions are known to occur with different classes of drugs and the incidence of adverse drug reactions due to antibiotics is found to be increasing with the rise in the spread of infectious diseases. OBJECTIVES: To detect report and evaluate the ADRs associated with antibiotics in tertiary care teaching hospital. METHODOLOGY: Prospective observational study on ADRs caused by various antibiotics in a tertiary care teaching hospital in Mangalore for a period of 6 months. All inpatient departments except oncology and psychiatry were comprised in the study with a total of 266 patients who received either systemic or topical antibiotics. Due to difficulty in data collection immuno-compromised and tuberculosis patients are excluded from the study. RESULT: Among the 266 patients receiving antibiotics, 24 ADRs were observed. The incidence of ADR in this study was found to be 9%. From the study, it was observed that ADRs were found to be more prevalently among females (62%). The age group 0-1 year showed the maximum incidence of ADR (16.7%). Glycopeptides (33.3%) were found to be the drug class with the maximum incidence of ADR. Most commonly observed ADRs were itching, rashes, disturbed sleep, pyrexia, seizures. Majority of the ADRs fell into the possible category (50%) (Naranjo causality assessment scale). Most of the ADRs fell into the moderate category (58%) (Hartwig and Seigel severity scale) and were non-preventable (58.3%) (Schumock and Thornton scale). CONCLUSION: This study represents the adverse drug reaction profile of the antibiotics prescribed. Glycopeptiodes were found to be the most frequently associated antibiotic with adverse drug reactions.

Keywords: Antibiotics, Incidence, Glycopeptides, Scales
ASSESSMENT OF ATTITUDE OF HEALTHCARE PROFESSIONALS TOWARDS MEDICATION ERROR REPORTING

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Abstract:

Background: Medication errors are an inevitable part of the healthcare system and pose a substantial threat to patient safety. Among healthcare professionals, medication errors are largely underreported. Therefore, it is necessary to identify and understand the facilitators and barriers of reporting medication errors. Objectives: To determine the barriers and facilitators of reporting medication errors. Methods: This prospective questionnaire based study was carried out in JSS hospital. Healthcare professionals (HCPs) who met the study criteria were enrolled into the study. A standardized and validated questionnaire was administered and participants were briefed about the purpose of the study before filling in the responses. Finally, the duly filled and returned questionnaires were evaluated to assess the facilitators and barriers of healthcare professionals. Results: A total of 712 HCPs returned the filled questionnaire, giving in response rate of 84.8%. Of the 712 HCPs enrolled, there were 377 (52.9%) doctors, 324 (45.5%) nurses and 11 (1.5%) pharmacists. The common reasons for underreporting were disclosure of identity of the person who committed the error [451 (63.4%)], negative attitudes from peers [353 (49.7%)], fear of blame [308 (43.1%)] and excessive workload [292 (40.8)]. ‘Patient safety’ was a major factor that facilitated voluntary ME reporting among HCPs [326 (53.3%)]. Other factors that facilitated ME reporting were a supportive working environment [674 (94.7%)], voluntary ME reporting culture [628 (88.3%)], simplicity of the forms used for reporting MEs [603 (84.8%)], encouragement from the peers [510 (68.6%)], and constant reminders about ME reporting [337 (47.4%)]. Conclusion: Medication error reporting system can contribute significantly towards the patient safety. However, the ME reporting practices were relatively low due to certain barriers. Greater understanding of the barriers and facilitators of ME reporting can increase the ME reporting rate.

Keywords: Medication Error reporting, Facilitators & Barriers of Medication Error reporting, Patient safety
Abs_00131

A PROSPECTIVE OBSERVATIONAL STUDY ON ADRS OF ANTIHYPERTENSIVE MEDICATION IN TERTIARY CARE TEACHING HOSPITAL

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Abstract:

BACKGROUND: WHO defines adverse drug reaction (ADR) as “Any response to a drug which is noxious and unintended, and which occurs at doses normally used in man for prophylaxis, diagnosis or therapy of disease or for the modification of physiological function.” Choice of anti-hypertensive drugs is also based on the expected burden of adverse effects associated with each class of agents. AIMS AND OBJECTIVE: AIM- To detect, report & evaluate the ADRs associated with anti-hypertensive medication in tertiary care hospital. OBJECTIVE- To monitor and report ADRs to assess the pattern of ADRs using Naranjo scale and severity using Hartwing and Siegel scale. METHODOLOGY: Interpretation of laboratory parameters and recording the data on ADR monitoring form as recommended by Central Drugs Standard Control Organization (CDSCO), Government of India. RESULT: A total of 26 ADR were observed in 196 patients receiving anti-hypertensive medications. Incidence of adverse drug reactions was found to be higher in patients more than 50 years in age. Even though the Number of ADRs were more in males (n=14) than females (n=12), the incidence rate was found to be higher in females (15.3%) than males (11.86%). Mono- therapy was associated with more number of ADRs (84.6%) as against combination therapy (15.3%). Diuretic were found to be most frequently associated drugs with ADR (n=14), followed by calcium channel blockers (n=8), angiotensin receptor blockers (n=3) and beta blocker (n=1). Among individual drug, amlodipine was found to be the commonest drug associated with ADRs (n=8) followed by furosemide (n=7). ADR associated with organ system (n=14) was higher than that of bio-chemical parameter (n=12). ADR associated with central nervous system were found to be most frequent (23.07%) followed by musculoskeletal complaints (15.3%), cardiovascular and gastrointestinal disorders (7.6% each). CONCLUSION: The present pharmacovigilance study represents the adverse drug reaction profile of the anti-hypertensive medicines prescribed in our hospital. The above findings would be useful for physicians in rational prescribing. Diuretic were found to be

Keywords: Antihypertensive medicines, adverse drug reaction, pharmacovigilance
PHARMACEUTICAL CARE
ASSESSMENT AND PROMOTION OF ESSENTIAL DRUG USE AT SELECTED TERTIARY CARE HOSPITALS AND PHARMACIES IN MYSORE CITY

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Abstract: National health care systems major challenge is to provide appropriate health products and services in a reasonable, reliable and efficient manner accessible to majority of the population. The Essential Medicines (EMs) concept introduced in 1977 is currently recognized as a highly rational and sensible strategy to provide the best of modern, evidence-based, safe and cost-effective health care. Objective: To assess and promote the Essential Drug Use at selected tertiary care hospitals and pharmacies in Mysore city. Methodology: A prospective, observational and survey study was conducted at CSI Holdsworth Memorial Hospital, Bharath Hospital and Institute of Oncology and Asha Kirana Hospital for a period of 6 months. The study approved by Institutional Ethics Committee. Patients from general medicine, Oncology, Surgery, Pediatrics and OBG were enrolled. The data was collected in a well-designed data collection form and the WHO core indicators were assessed. A survey was conducted in selected hospital and community pharmacies located in different parts of Mysore city. A self-structured questionnaire used to extract data from pharmacists. Results: A total of 546 patients were enrolled in the study. Among them average number of drugs prescribed per encounter- 10.29, drugs prescribed by generic names- 27.2% (1531), drugs prescribed from NEML 2015- 77.71% (4153), drugs prescribed from NEMLC 2011- 61.87% (172), total number of treatment charts with antibiotics- 65.20% and a total number of treatment charts with injections- 99.81%. NEML 2015 was unavailable in all the 3 hospitals. Only in 23% (8) pharmacies, National Essential Medicines List 2015 was accessible whereas 77% (27) pharmacies didn’t have any essential medicine list. Out of 13,160 drugs, nearly half of the drugs, 45% (5965) from the NEmL were available in the pharmacies; whereas remaining 55% (7195) were unavailable. Conclusion: From our study, lack of accessibility, availability and affordability of medicines was found to be the major constraint for inappropriate prescribing of drugs in hospitals. So Essential medicines should be available to all the people in adequate amounts.

Keywords: EMs, Rationality, Survey, awareness
A MULTICENTRE STUDY ON THE PATTERN OF ASV USE FOR SNAKE BITES IN CENTRAL KERALA

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Abstract:

Objective: The main objective of the study was to assess different patterns for ASV (Anti-Snake Venom) use identified in different hospitals. Methodology: Study design: Multicentre retrospective observational study. Study period: 10 months. Study site: Caritas Hospital (Kottayam), Little Flower Hospital and Research Centre (Angamaly), Paalana Institute of Medical Sciences (Palakkad) and Charis Medical Mission (Muvattupuzha). Results: All cases of poisonous snake bites admitted in general medicine department of the above four hospitals from January 2017 to December 2017 were included in study. From the result it was evident that the average number of ASV vials used in different hospitals to treat bites from same type of snake was varying for eg: in Caritas hospital the highest average number of ASV vials was recorded for hump nosed pit viper whereas cobra bites required least average number of ASV vials. The use of ASV was independent of hospitals and type of snakes bitten. Dependence of ASV use was observed with severity of bite. Conclusion: There were 22 different regimens used for administering the ASV in snake bite species. Majority of these regimens did not adhere to any standard treatment guidelines. The number of ASV vials administered also showed a positive correlation with the incidence of renal failure. The high variation in the pattern of ASV administration in a small geographical area included in the study points to the relevance of locally developed treatment protocol.

Keywords: ASV (Anti-Snake venom), snake bite, treatment protocol
IMPACT OF CLINICAL PHARMACIST CARE IN MANAGEMENT OF COPD

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Abstract:

Background: Patient adherence to treatment in chronic obstructive pulmonary disease (COPD) is important to optimize disease management. Health-related quality of life (HRQL) is an important domain for measuring the impact of chronic disease. Management of COPD is the most complex part. It requires patients to perform self-management practice that involves behaviour and lifestyle changes, such as smoking cessation, proper use of inhalers, adherence to suggested exercise and medications. A Clinical Pharmacist can assist through interventions focused on patient education. 

Objective: The main objective of our study is to assess the health-related quality of life: pre and post clinical pharmacist intervention.

Methodology: A prospective interventional study was conducted in respiratory wards of tertiary care hospital, Bengaluru. 96 subjects were recruited in the study. Adherence to the treatment was assessed through the MGL scale. The health-related quality of life was assessed through SF-36. Reassessment of the above after 3-month span and the result of the assessment and reassessment was evaluated. 

Result: Chi-square analysis revealed a significant decrease in the proportion of non-adherent patients when compared at the 6-month assessment (P<0.05). Patients showed significant improvement in total SF-36 score and its subscales at the 6-month assessment the r-value and Pearson’s correlation was applied to assess the statistical difference in the correlation between the pre and post counselling of MGL and SF-36.

Conclusion: Improved patient outcomes as a result of the pharmaceutical care program were obtained in the present study. This was justified by decreased hospital admission rates, significant improvement in medication adherence and enhanced positive attitudes toward medication effectiveness. The present study therefore clearly stated the need to implement pharmaceutical care programs by the clinical pharmacists for the purpose of improving health outcomes in patients with COPD. More comprehensive research is needed in this area, particularly the impact of such pharmaceutical care programs on the health-related quality of life.

Keywords: Adherence, HRQL, Clinical pharmacist, COPD
A RETROSPECTIVE STUDY ON ANTIBIOTIC USAGE IN A TERTIARY CARE HOSPITAL

Presenting Author: ANNA JOY

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Abstract:

Antibiotics are one of the most commonly prescribed drugs today. The purpose of this study mainly aims to determine the utilization of antibiotics in various departments of P K DAS Institute of Medical Sciences (PKDIMS), to analyse the commonly prescribed antibiotics for infections, to evaluate resistance and to check whether the sensitivity test has been followed. The retrospective study was conducted at PKDIMS, Palakkad for a duration of 6 months (February 2017 - January 2018). Sources of data includes patient medication & nursing chart, culture & sensitivity reports. The inclusion criteria include Patients aged between 18- 80 year, prescribed with oral and parenteral antibiotics. The exclusion criteria exclude, Patients given topical antibiotics, on dental treatment, given prophylaxis, Pregnant and lactating women. The study was approved by the Institutional Human Ethical Committee (IEC/ NOV/18/04). The statistical analysis was done using SPSS 20 Version. A total of 200 prescription profiles were reviewed. In our study the majority of the patients prescribed with antibiotics were with the clinical assessment of COPD (n=39, 19.5%), UTI (n=37, 18.5%) and LRTI (n=28, 14%).On department wise analysis of data, showed majority of antibiotics usage were seen in General medicine (n=129, 64.5%), and Pulmonology (n= 58, 29%) respectively. On analysing the data, based on the no of antibiotics, majority of prescriptions showed combination of 2-3 antibiotics (n= 110, 55%).On analysing the data based on antibiotic sensitivity test, antibiotic test was performed and followed in (n=64,32%)prescriptions and in (n=47, 23.5%) prescriptions were test is not followed and in (n=89,44.5%) prescriptions, antibiotic sensitivity test is not performed. On analysis of antibiotics prescribed, the most commonly prescribed antibiotics were cephalosporins, of these ceftriaxone was highly prescribed of all (n=95). Apart from ceftriaxone, the most commonly prescribed combination of antibiotic was piperacillin+ tazobactam (n= 37). In conclusion, this study shows the importance of the following antibiotic guidelines by physicians, implementation of Antibiotic stewardship program & Antibiogram in hospitals.
FOCUSED PATIENT CARE IN HEART FAILURE CLINICS vs USUAL CARE IN CARDIAC OUTPATIENT DEPARTMENT: IMPACT ON CLINICAL OUTCOMES OF HEART FAILURE PATIENTS.

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Abstract:

BACKGROUND: Heart failure is a serious clinical syndrome with a prevalence rate rising over 10% among adult population and globally affects 26 million people. Heart failure clinics are multidisciplinary patient focused centers for that provides a promising approach to the treatment of heart failure. AIM: To assess the clinical outcomes like alleviation of symptoms, improvement in lab parameters and cardiac function among heart failure patients treated under Heart Failure clinics and patients consulting in other cardiology OPD. METHODOLOGY: 200 heart failure patients who consulted HF clinic and other general cardiology OPDs during the year of 2017 who satisfied the inclusion and exclusion criteria were selected for the study. Patients were followed retrospectively for one year and patient relevant data was collected. RESULT AND DISCUSSION: After 6 and 12 months of treatment dyspnoea and chest pain significantly reduced(P<0.00) in the HF clinic group compared to other cardiology OPD patients. Dyspnoea and ankle swelling were experienced by a greater number of patients visiting other cardiology OPD when compared to their previous visit. All laboratory parameters of patients in HF clinic were maintained within the normal range. Clinically significant improvement in blood cholesterol level, LDL, HDL, TG and BP(p<0.00) were observed in patients treated under HF clinic. CONCLUSION: The study concluded that heart failure patients who received personalized care through heart failure clinics had significant improvement in their clinical presentations, laboratory parameters and cardiac function parameters within one year of diagnosis.

Keywords: focused care, heart failure
IMPACT OF PHARMACEUTICAL CARE IN TYPE 2 DIABETIC PATIENTS IN A TERTIARY CARE HOSPITAL

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Abstract

Background: The role of pharmacist has evolved from product oriented, dispensing of medications to more patient oriented services such as provision of Pharmaceutical care, according to Hepler and Strand which is defined as identification, prevention and resolution of drug related problems for the purpose of achieving definite outcomes to improve patient’s quality of life

Objective: To study the impact of Pharmaceutical care in type 2 Diabetic patients in a tertiary care hospital

Methods: A Prospective Interventional study was conducted for a period of 8 months, after taking ethical committee approval. Total of 104 patients were selected, 52 patients in the Intervention group and 52 patients in the control as per the inclusion criteria. Demographic characteristics were documented in the data collection form and the patients were administered with Modified Diabetes Quality of life questionnaire (MDQoL) and Knowledge, Attitude and practice questionnaire (KAP) questionnaire either in Kannada or English languages which is suitable for the patients. Data collected at the time of admission to hospital, before discharge, during first and second follow-up. Data was analysed using IBM SPSS 20 version

Results: Out of 104 Type 2 Diabetes mellitus patients most of the study population were male (75.01%). The mean age of study population was 61.38±12.2 years and majority of the patient had a diabetes history of more than 5 years. In both intervention and control group patients who completed their first and second follow ups, their lab values, MDQoL and KAP scores were analyzed. HbA1c, FBS, MDQoL score and KAP score was improved in the intervention group compared to control group with the provision of Pharmaceutical care program

Conclusion: The study concludes that the providing Pharmaceutical care to the type 2 diabetic patients will improve HbA1C level and the quality of life.

Keywords: Type2Diabetesmellitus KAP QOL HbA1c
SELF-MANAGEMENT PROGRAMME INITIATED FOR ASTHMATIC PATIENTS AT COMMUNITY PHARMACY

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Abstract:
Background: Asthma being a chronic lung disease with a case burden of approximately 358.2 million in 2015. There are many reports of non-adherence to asthma treatment. One of the main reason is poor understanding of the disease, importance of inhalation techniques and lack of medication adherence. Trained Community pharmacists are the most accessible health professionals, with high levels of therapeutic knowledge and skills, who can play major role in bringing positive therapeutic outcome by providing proper guidance & support to the patient in managing their disease. Hence, community pharmacies are ideal environment for implementing the asthma self-management programme.

Objective: To implement self-management programme initiated for asthma disease at community pharmacy.

Methodology: A prospective educational Interventional study was conducted among asthma patients during the period of six months at four selected community pharmacies in Mysuru city, Karnataka, India. A baseline perception was assessed with knowledge attitude practice (KAP) questionnaire. The individualized self-management modules were developed & validated, which includes patient diary, AV (audio-video) clips on inhalation techniques. The patients were followed up every 15 days for a period of 3 months. KAP questionnaire was re-administered at the last follow-up.

Results: A total of 100 subjects were enrolled in the study. The comparison of KAP scores of a baseline and final follow-up was done and there was a significant improvement from the baseline to final KAP scores. 88% of the patients showed better control of symptoms and only 12% had exacerbation for which they had to visit the hospital. Positive feedback was provided from the patient side which expressed greater impact for better control of their asthma control.

Conclusion: Providing consistent individualized self-management plan along with regular counselling has greater impact in managing symptoms of asthma. Asthma self-management module was feasible, beneficial and acceptable to patients.

Keywords: knowledge, attitude, practice
PRESCRIPTION AUDIT OF ANTIHYPERTENSIVE DRUGS USED IN STROKE PATIENTS IN A TERTIARY CARE TEACHING HOSPITAL

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Abstract:

Objective: The main objective of the prescription audit of Antihypertensive agents in stroke patients was to identify the prescription-related problems. The other objectives were to identify the Drug Interactions and Adverse Drug Reactions among antihypertensives in stroke patients. Methodology: A prospective observational study was carried in 189 patients for a period of six months. All the patients of age above 25 years, diagnosed with stroke and treated with antihypertensives were included in the study. Pregnancy cases were excluded. The Prescription Audit was done as per the WHO guidelines. The Adverse Drug Reactions were assessed using Naranjo scale and reported. Result: Among 189 cases, it was found out that, 43 cases with drug related problems. The drug related problems includes, improper indication (11%), improper dose (7%) and improper frequency (5%). Among the Antihypertensive agents, Calcium Channel Blockers (32%) were the most commonly prescribed class of drug. In our prescription audit we identified 42% of cases with moderate, 16% of cases with minor and 8% of cases with severe drug interactions. A total of 15 cases were identified with Adverse Drug Reactions among antihypertensives. The Adverse Drug Reactions were identified with the following antihypertensive agents, Ramipril, Enalapril, Furosemide, Amlodipine, Telmisartan, Losartan, Mannitol, and Clinidipine. Most of the prescriptions were legible. Drug Related problems with antihypertensive agents had a great impact on the overall stroke therapy. Conclusion: The drug related problems are a relevant aspect to be considered when treating patients with stroke and it can arise irrespective of adherence to guidelines. Keywords: Stroke, Drug Interactions, Prescription audit, Naranjo Scale.
AN OVERVIEW ON HYPONATREMIA AND ITS IMPACT ON LEVEL OF CONSCIOUSNESS - A PROSPECTIVE STUDY

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Abstract

Objectives: To assess the level of consciousness using GCS in patients with electrolyte abnormalities. Methodology: A prospective observational study was conducted at Karuna Medical College, Chittur, Palakkad. for a period of six months with an inclusion criteria of patients of both sex of age 18 years and above reported with a serum sodium level of less than 135 mEq/L. A specially designed data entry form was used to collect the relevant information of the patients. The collected cases were then analysed for the assessment of level of consciousness by using GCS at the time of admission and at 24 hours. After 48 hrs and at the time of discharge patient’s functional outcome was recorded through GOS. Results and Conclusion: A total of 65 patients were enrolled in the study. The study found that males were more predominant than females and most of them were in age group of 60 years and above. On analysis of various comorbidities in the enrolled subject single comorbidity with endocrine disorders were more prevalent. The study also analysed various risk factors and symptoms of the enrolled subjects. On assessment of altered level of consciousness through GCS score, the study found a statistical significance between patients in mild, moderate and severe groups. The study also assessed the functional outcomes of the patients by GOS and found a statistical significance. The study concluded that patients with altered sensorium showed decreased GCS score when compared to patients without altered sensorium. Functional outcome was less in the patients who were having altered sensorium. Thus we concluded that prevalence of altered sensorium is more in electrolyte abnormality patients.

Keywords: GCS, GOS
MEDICATION ADMINISTRATION ERROR IN A TERTIARY CARE HOSPITAL

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Abstract

BACKGROUND: Drug administration is a multi-professional process, which involves prescribing, writing, preparation and administration of drug to the patient. Any interruptions can contribute to administration errors. It can have a variety of public health implication ranging from increased hospital stay, detrimental effects on quality of life and death. OBJECTIVE: The main objective of the study is to identify, categorize the medication administration errors and to identify nurse’s perceptions on factors that may contribute to errors. MATERIALS AND METHODS: This is a prospective observational study which was conducted for a period of 6 months. The data was collected after getting approval from ethics committee. The observed data were recorded in a predesigned form and are then categorized using NCC MERP criteria. RESULTS: The study finding showed that out of 300 cases screened 60 cases were found to have medication administration error. Among these 60 cases a total of 180 cases (33.33%) were observed. The leading type of medication administration error were wrong time (25%), missed dose (23.8%) and improper dose or quantity (20%). Most of the errors belong to category C (50%) which is categorized based on NCC MERP criteria. Tablet was the dosage form responsible for most frequent medication administration error. Antibiotics were the class of medication that was responsible for most of the medication administration error. In investigating the cause of medication errors revealed that heavy work load (45.56%) as the main cause of medication errors among nurses. CONCLUSION: Nurses are both legally and morally responsible for correct administration of medications. The study emphasised nurse role in medication administration and identified the contributing factors responsible for the errors from nurse’s perspectives. The study also insists upon the need for doctor’s vigilance on the drug administration during ward rounds.

Keywords: Nurse, survey, perceptions , medication administration errors
Abstract

BACKGROUND: Recommended treatment for moderate to severe asthma is the combination of an inhaled corticosteroids and a long-acting beta 2 agonist. The present study was designed to compare fixed combination of budesonide plus formoterol, with the fixed combination fluticasone plus formoterol. OBJECTIVE: The main objective is to find out the combination having more efficiency and least adverse reactions, along with the prevalence of asthma. METHODOLOGY: This was a prospective observational study done for 9 months. The total number of patients participated in this study was 85. Out of these, 44 patients were treated with budesonide/formoterol (400/6) and 41 patients were treated with fluticasone/formoterol (250/6). The baseline was measured at the time of admission as Forced expiratory volume in 1st second and Peak expiratory flow rate. Review of patients was done after 10 days. RESULT: A significant improvement of lung functions from baseline was observed in both groups at all-time point. Budesonide/formoterol showed more improvement in lung function than Fluticasone/formoterol. Budesonide/ formoterol showed 2.14L/min increase in peak expiratory flow rate and 1.1% increase in FEV1 than that of fluticasone/ formoterol. Also, FEV1 in liter had an increase of 0.04L than fluticasone/formoterol. Hyperglycemia was the most predominant adverse reaction in both groups. Overall ADRs were found to be similar in both combinations. The prevalence of asthma was found to be 3.31%. CONCLUSION: The combination of budesonide/formoterol had slightly increased efficacy than fluticasone/formoterol. Tolerability was found to be similar for both combinations. But fluticasone/ formoterol is expensive than budesonide/formoterol. Thus, the budesonide/formoterol is more economical for the patients. it indirectly improves the patient’s adherence to the medication. Thus budesonide/formoterol combination was found to be better for an asthma patient in terms of efficacy and cost.

Keywords: Asthma, budesonide, Formoterol,
Abstract

INTRODUCTION: Scarce and conflicting evidences about taste perception changes in type II diabetes (T2DM) and its potential indications towards progression of diabetic neuropathy.

OBJECTIVES: To evaluate and assess the taste alterations in a study population including T2DM patients, non T2DM patients with co-morbidities and healthy population.

METHODS: Chemical gustometry was used to evaluate four basic tastes, namely, sweet, sour, bitter and salt in five ascending concentrations. The recognition threshold was evaluated using five point graduated labelled magnitude scale (GLMS).

RESULTS: The 12-month-old study concluded with highly significant results in the taste score deviation (TSD) of diabetic patients when compared to non-diabetics with co-morbidities, and healthy individuals. The TSD in T2DM were sweet (p=0.0001), salt (p=0.0001), sour (p=0.0001) and bitter (p<0.0001). Multivariate analysis indicated profound association peripheral neuropathy (p=0.000) and noticeable association with nephropathy (p=0.000). We also observed misrecognition of taste among identifying sour as bitter (n=49) and salt as sour (n=7) among T2DM patients.

CONCLUSION: The difference between the Taste Score Deviation among the groups of T2DM patients, non-diabetics with co-morbidities and healthy individuals confirmed gustatory defects in T2DM. Taste changes in T2DM patients were significant and indicative of the progression of the disease. Misrecognition of taste is also an implementation of the same.

Keywords: T2DM, Taste, Chemical gustatometry, Taste misrecognition, Neuropathy, Taste Score Deviation.
A PROSPECTIVE OBSERVATIONAL STUDY ON DRUG USE EVALUATION AND ADVERSE DRUG REACTIONS OF CORTICOSTEROIDS

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Abstract:
Corticosteroids are one of the most commonly prescribed drugs in various diseases. They are very powerful drugs whose side effects are practically impossible to avoid. Studying the drug utilization evaluation and causality of adverse drug reactions (ADRs) help us to reduce the cost of health care and increase compliance. The current study aims to conduct the drug use evaluation (DUE) of corticosteroids in a tertiary care hospital. The objectives of this study is to find out the risk factors & the occurrence of adverse effect due to corticosteroids, to evaluate & monitor corticosteroid induced adverse effect and categorize them using Naranjo's scale and to study the incidence of drug-drug interactions. A prospective observational study was performed in 100 patients in a tertiary care hospital for a period of 8 months. Inpatients from both sex of age>18 years who are under corticosteroid therapy, were included and outpatients were excluded. Out of 100, 76 were female and 24 were male. In age wise distribution 43% of patients belongs to age group >60 years. Most of the corticosteroids were prescribed for the condition prolapsed inter-vertebral disc, followed by COPD and others. Age & Gender of the patient were significant risk factor for the development of adverse effects. From the study, identified 16 reported ADR, most common ADR was moon face associated with oral Deflazacort and parenteral Dexamethasone. While categorizing ADR by Naranjo’s scale, obtained 6 definite relationships with the drug. This study shows more moderate interactions, i.e. 50%. So the study concluded that unnecessary use of corticosteroids in patients may leads to more severe ADRs. Further studies are needed for implementing standard guidelines and all hospitals should implement steroid treatment card to improve quality life of the patients.

Keywords: ADR, CORTICOSTEROIDS, DUE
A CROSS SECTIONAL STUDY ON IMPAIRED COGNITIVE PERFORMANCE ASSOCIATED WITH HYPERTENSION

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Abstract:
Increased blood pressure is the leading risk factor for premature death, stroke, cognitive impairments, heart disease all over the world. OBJECTIVE: To analyse the changes in cognitive functions in patients with different stages of hypertension compared to non-hypertensive control.

METHODOLOGY: Conducted a cross-sectional study in not less than 100 patients of normotensive and hypertensive in 450 bedded tertiary care hospital for a period of 8 months. Patients with hypertension have been divided into two levels of hypertension severity according to their blood pressure level or medication use.

RESULT: From the study conducted, cognitive impairment is more in the hypertensive patients when compared to normotensive patients. The study revealed that antihypertensive patient also had cognitive impairments.

CONCLUSIONS: This study found a high prevalence of cognitive impairment in hypertensive patients as compared to normotensives and the difference was statistically significant. We suggest that there was a linkage between hypertension and cognitive impairments. Early identification of cognitive dysfunction in hypertensive patients may provide considerable benefit to patients.

Keywords: Cognitive impairment, Hypertension, Neuropsychological evaluation
KNOWLEDGE AND ADHERANCE OF PATIENTS TO ANTICOAGULANT THERAPY AND ITS CURRENT SCENARIO

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Abstract:

Anticoagulants are the drugs used to prevent thrombus extension and embolic complications by reducing the rate of fiber in formation. Anticoagulants have the ability to prevent devastating medical complications. In a hospital setting, anticoagulants are mainly used for the following indications like myocardial infarction, unstable angina and DVT. OBJECTIVE: To evaluate the drug utilization pattern of anticoagulants and to identify drug interactions and adverse drug reactions. METHODOLOGY: An interview schedule based prospective observational study was carried out for a duration of 8 months. A total of 100 patients were enrolled in the study. The data was analyzed using Microsoft Excel and SPSS software. RESULT: Parenteral anticoagulation was mostly the route of administration. Heparin was the most prescribing anticoagulant that is 35.5% of cases prescribed by heparin. Warfarin was the drug of choice for oral anticoagulant therapy. A total of 28 drug interactions and 8 adverse drug reactions were found. CONCLUSION: The patient knowledge and adherence towards oral anticoagulant therapy are very essential to improve patient health as well as reduce the adverse event. The patients who were receiving education about therapy show a high knowledge level and good adherence level.

Keywords: Oral anticoagulant, Adherence,
COMPARISON OF EFFECTIVENESS OF FLUNARIZINE AND TOPIRAMATE IN PROPHYLAXIS OF MIGRAINE

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Abstract

OBJECTIVES: Flunarizine and topiramate were compared for efficacy in migraine prophylaxis and quality of life in patient with migraine before and after treatment. METHODOLOGY: This prospective observational study was conducted for a period of 10 months, in the Neurology department of a tertiary care teaching hospital in Kozhikode, Kerala. 96 patients were included in this study, of which 48 were received Flunarizine and the remaining 48 received Topiramate. The data were compiled and analysed for exclusive comparison between both groups, to assess the efficacy and quality of life, using Migraine Disability Assessment Scale (MIDAS) and Migraine Specific Quality of life questionnaire (MSQ) respectively. RESULTS: Comparison of efficacy based on MIDAS (MIDASSCORE 1&2), score in Topiramate treatment reduced from 13.44 to 11.72 while Flunarizine treatment reduced score from 13.58 to 12.1. Topiramate provided better relief from migraine when compared to Flunarizine. MSQ Questionnaire results indicated that Topiramate provided greater improvement in HRQOL to migraine patients, compared to Flunarizine. CONCLUSION: This comparative study justifies the efficacy and QOL of patients receiving Topiramate over Flunarizine. Our findings also suggest the need for further clinical evidence focusing on comparing Topiramate and Flunarizine in the prophylaxis of migraine.

KEYWORDS: Topiramate, Flunarizine, MIDAS, MSQ Questionnaire.
GESTATIONAL DIABETES MELLITUS: DIAGNOSIS AND MANAGEMENT IN PREGNANCY

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Abstract

BACKGROUND: Gestational diabetes mellitus (GDM) represents glucose levels in the high end of the population distribution during pregnancy. GDM carries a small but potentially important risk of adverse perinatal outcomes and a longer-term risk of obesity and glucose intolerance in offspring. Mothers with GDM have an excess of hypertensive disorders during pregnancy and a high risk of diabetes mellitus thereafter. Diagnosing and treating GDM can reduce perinatal complications, but only a small fraction of pregnancies benefit.

OBJECTIVES: To document the diagnostic criteria and clinical management for GDM.

METHODOLOGY: Gestational diabetes mellitus (GDM) may result in maternal as well as foetal complications that can increase the foetal mortality and morbidity. This prospective observational study was conducted on in-patients and out-patients of Obstetrics and Gynaecology Department at Justice K.S.Hedge Charitable Hospital, Deralakatte, Mangaluru. Subjects were enrolled based on the inclusion criteria. The data was collected from subjects, their relatives, in and out patient’s clinical records.

RESULTS: A total of 207 pregnant women were enrolled and 89 were diagnosed above the severity percent the pregnant women underwent glucose challenge test during their first antenatal visit due to presence of high risk factors. In the study, 57% women achieved good glycaemic control with the clinical management. Metformin was the most prescribed drug during all trimesters (3.3%, 7.8%, and 31.4%) as compared with insulin (2.2%, 2.2%, and 6%). 77% had good control of blood sugars with insulin therapy and 83% of women achieved target blood sugar levels with combination therapy.

CONCLUSION: Lack of uniform diagnostic criteria for gestational diabetes mellitus has often led to misconceptions and under treatment of GDM. The clinical management of women with GDM is challenge which put additional stress on health care system. Thus, the prevention and management of GDM must be given enough importance throughout pregnancy, that is, prior to pregnancy, during pregnancy, and postpartum.

Keywords: Gestational Diabetes Mellitus,
MATERNAL UTI: ASSESSMENT OF RISK FACTORS AND PHARMACOLOGICAL MANAGEMENT DURING PREGNANCY

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Abstract

INTRODUCTION: Urinary tract infections are the most common complications in pregnancy. Lower urinary tract symptoms are almost universal in antenatal period. OBJECTIVES: To assess the risk factors and pharmacological management of UTI during pregnancy. METHODS: This prospective observational study was conducted in the OBG department of a tertiary care teaching hospital. 87 pregnant women were selected as the study population as per the inclusion and exclusion criteria. The risk factors were assessed by analysing the socio economic status of the patient, direct patient interaction and through their case sheets and records in the hospital. The pharmacological management given in the hospital for maternal UTI was analysed from the patient’s case sheets. RESULTS AND DISCUSSION: A 9-month-old study concluded with more than half (55.2%) of patients experienced UTI at the third trimester so gestational age increases the chance of gestational diabetes was more. Anaemia, diabetes, higher maternal age (>35), sexual activity, lowest education (61.6%), lowest economic status (16.3%), history of catheterization, history of UTI and personal hygiene are the other risk factors. Maternal UTI were managed by giving cefixime for infection in 64.36% of patients. Amoxicillin and ampicillin were the least given drugs. Combination therapy were also provided to some patients. CONCLUSION: The maternal risk factors were properly understood from the study. So that the pregnant women can be given awareness on the complications of maternal UTI. The third trimester of pregnancy was found as the most important and common risk factor. The management given in the hospital was analysed and cefixime given in majority of the patients.

Keywords: UTI Risk factors Socio economic status
STUDY OF THE PRESCRIBING PATTERN OF ANTIBIOTICS ON PAEDIATRIC POPULATION IN A TERTIARY CARE TEACHING HOSPITAL

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Abstract:

Background: Rational antibiotic prescription is very important to prevent antibiotics resistance. Widespread use of antibiotics has facilitated the development of resistance. Objective: This study was intended to assess the use of antibiotics in tertiary care hospital. Methodology: A prospective observational study was conducted in the Pediatric inpatient wards of a tertiary care hospital (CSI Holdsworth Memorial Hospital) Mysore over a period of 6 months. Analysis of 355 case sheets of pediatric inpatients was done using medical records. Data was analyzed for average number of drugs prescribed, antibiotics prescribed by generic name or brand name, percentage of antibiotics among the prescribed drugs etc. Results: A total number of 355 cases our results showed tendency of polypharmacy with maximum number of prescriptions were having 5.2 drugs. Single antibiotic was prescribed in most of prescriptions (63.6%), followed by two antibiotics. Average number of antibiotics per prescription was 1.45%. In this study percentage of multiple antibiotics prescribed is 29% and this indicates delay of diagnosis or selection of inappropriate antibiotic without prior culture sensitivity testing. Ceftriaxone was most commonly prescribed antibiotics 86.1%, and Parental route 85.5% followed by 14.4% by oral route. In oral dosage forms the most commonly used dosage form was syrup. Children are comfortable with the dosage form like syrup and drops compared to tablets and capsules. Almost all the antibiotic prescriptions were based on clinical diagnosis, not on culture sensitivity test report. It is important to obtain proper specimen, examination and culture for selection of proper antibiotics. This can prevent development of antibiotic resistance, reduces the side effects of drugs and also decreases the cost of treatment. Conclusion: Antibiotic resistance is an emerging problem worldwide which can be controlled by rational prescription, restricting the number of antimicrobial prescription and appropriate selection of the drug.

Keywords: Rational, antibiotic, prescription, polypharmacy
ASSESSMENT OF ACID SUPPRESSANTS USE IN HOSPITALIZED PATIENTS

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Abstract

**Background:** Most of the hospitalized patients are prescribed with acid suppressants several reports have suggested that acid suppressants are being over used in hospitalized patients. Inappropriate prescription can have a very negative effect. Clinician awareness on appropriate acid suppressants prescription will lead to better patient outcome at lower cost. **Objective:** To evaluate the usage of acid suppressants in hospitalized patients. Methodology: A prospective observational and interventional study was conducted in the inpatient wards of a tertiary care hospital over a period of 6 months. All necessary data were collected from patient’s treatment chart and assessed. Necessary corrections or interventions were suggested. **Result:** A total of 647 patients’ treatment chart were studied. It was identified that acid suppressants were prescribed in 330 males and 317 females. 511 (79%) patients were prescribed with acid suppressants, out of which 74 (14%) H2RAs. Among that 17 (23%) PO and 57 (77%) were IV. Around 427 (84%) PPIs were prescribed among that 62 (15%) PO and 365 (85%) were IV. Around 10 (2%) Antacids were prescribed. Around 472 (73%) prescriptions were rational (indicated/required) and 175 (27%) prescriptions were not rational or irrational (not indicated/not required) with respect to the use of acid suppressants. It was found the 133 (20%) prescriptions showed Not-mandatory (not indicated, but prescribed) and 42 (7%) prescriptions showed Unused (indicated, but not prescribed). **Conclusion:** Assessment of Acid Suppressants use in Hospitalized patients is the need of the hour topic. Our study suggested that the appropriateness of acid suppressants prescriptions in CSI hospital were the study was conducted is 73%. Use of acid suppressants should be individualized with respect to each patient’s diagnosis, signs and symptoms and treatment to avoid irrationality, promote the rational use and avoid errors like not-mandatory use and non-use of acid suppressants.

**Keywords:** acid suppressants, rationality, irrationality, not-mandatory use
DIABETIC FOOT ULCER AND ASSOCIATED FACTORS, A PROSPECTIVE STUDY AMONG DIABETIC PATIENTS

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Abstract:

Background: Diabetic foot is a most common complication of diabetes mellitus. Since a very serious problem, study about prevalence and risk factors has an importance. Objective: To find the rate of occurrence and influence of lifestyle in diabetic foot ulcer patients and to determine the glycemic level changes with interaction of hypoglycemic drug and the drugs used of foot ulcer. Methodology: A prospective observational study conducted at PVS Hospital (P) Ltd, Calicut. The necessary data were collected from patient medical charts by using the data collection forms. Diabetic patients treated with at least one anti-diabetic drug with or without comorbidities were included. Results & Discussion: Out of 200 collected data of diabetic patients, 39 patients had diabetic foot. Prevalence of Diabetic Foot was 19.50%. Those diabetic patients who had Neuropathy were 12.25 times more likely to develop diabetic foot ulcer as compared to those diabetic patients without neuropathy [OR= 12.25; 95% CI: 5.146, 26.66; P < 0.0001]. History of previous amputation[OR=9.78], Peripheral vascular disease[OR=2.39], Poor foot self-care practice[OR=3.33], Smoking [OR= 4.59] were other risk factors to develop diabetic foot ulcers. Percentage reduction in was seen more while taking Triple therapy of antibiotic [28.37%] than the Mono therapy of antibiotic [18.46%]. Conclusion: The Prevalence of diabetic foot ulcer among diabetic patients was found to be19.50%. Neuropathy, Previous amputation, Peripheral Vascular Diseases and foot self-care practice were factors significantly associated with diabetic foot ulcer. Antidiabetic agents had an additive effect or synergistic effect when taken together with antibiotics which were used to treat Diabetic foot ulcer.

Keywords: Diabetic foot, Risk factors
DEMOGRAPHIC PROFILE AND MANAGEMENT STRATEGIES OF TREATMENT RESISTANT SCHIZOPHRENIA IN A TERTIARY CARE REFERRAL HOSPITAL

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Abstract:
BACKGROUND: We evaluate the treatment provided for treatment resistant schizophrenic patients and monitor for improvement of conditions. Even though many treatment options are available, a well-defined management guideline is not yet established for treatment resistant schizophrenia. So we hope this study may contribute something new to the health care professionals, thereby helps improve patient care. OBJECTIVE: Treatment resistance is an emerging issue faced by physicians worldwide. The current study was aimed at evaluating the demographic profile and management of treatment resistant schizophrenia (TRS) in psychiatric department of a tertiary care super-speciality hospital. METHODOLOGY: The design of the study was prospective observational and a total of 52 subjects were enrolled in the study of which 25 subjects were diagnosed with TRS. Treatment resistant cases in the hospital setting were identified by using PANSS scales. RESULT: From the evaluation of the demographic profile, it concluded that the gender doesn’t have much influence on the occurrence of TRS. Furthermore, family history had a strong correlation with the occurrence of TRS. Clozapine is used as a gold standard in treatment of TRS. Augmentation of clozapine with other antipsychotics in different doses has shown clinical improvement in patients. Adverse drug reactions are common with the use of antipsychotic drugs. Therefore, this study monitors the occurrence of major adverse drug reactions in patients with TRS. In this study the major ADRs shown by TRS patients include weight gain, constipation, diabetes mellitus, extra pyramidal symptoms, sexual dysfunction and tachycardia. CONCLUSION: The study concluded that in TRS, this specific population unresponsive to previous treatment, a combination of clozapine with aripiprazole, as well as other augmentation strategies for clozapine, seen worthy of further exploration.
Keywords : Treatment resistant schizophrenia, Clozapine, aripiprazole, antipsychotics.
DEMORPHIC PROFILE AND MANAGEMENT STRATEGIES OF TREATMENT RESISTANT DEPRESSION IN A TERTIARY CARE REFERRAL HOSPITAL

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Abstract

OBJECTIVE: The current study was aimed at evaluating the demographic profile and management of treatment resistant depression (TRD) in psychiatric department of a tertiary care super-specialty hospital. METHODOLOGY: The design of the study was prospective observational and a total of 27 subjects diagnosed with TRD were enrolled in the study. Treatment resistant cases in the hospital setting were identified by using Montgomery and Asberg Depression Rating Scale (MADRS). BACKGROUND: We evaluate the treatment provided for treatment resistant depressive patients and monitor for improvement of conditions. Even though many treatment options are available, a well-defined management guideline is not yet established. So we hope this study may contribute something new to the health care professionals, thereby helps improve patient care. RESULT: From the evaluation of the demographic profile, it concluded that the gender doesn’t have much influence on the occurrence of TRD. Furthermore, family history had a strong correlation with the occurrence of TRD. Sertraline+ venlafaxine+ sodium valporate is used as a gold standard in treatment of TRD. Among them, Venlafaxine was used commonly in TRD. And the MADRS scores shown improvement in patient condition. In this study the major ADRs shown by TRD patients include weight gain, GI problem, sexual dysfunction. CONCLUSION: The study concluded that in TRD, this specific population unresponsive to previous treatment, Sertraline, Venlafaxine and Sodium valproate combination was majorly used in the treatment. Among them, Venlafaxine was used commonly in TRD and the MADRS scores shown improvement in patient condition. Apart from drug therapy ECT when given in combination with antipsychotics were also effective in TRD, seen worthy of further exploration . Keywords: Treatment resistance depression, velnafaxine, sertraline, sodium valproate, MADRS scores
MEDICATION ADHERENCE - A CHALLENGING ISSUE IN PATIENT CARE

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Abstract

Background: Medication adherence usually refers to whether patients take their medication as prescribed, as well as whether they continue to take a prescribed medication. Failure to adherence is a primary determinant of treatment success. Failure to adherence is a serious problem which not only affects the patient but also the health care system. Medication non adherence in patients leads to substantial worsening of disease, death and increased health care costs. A variety of factors are likely to affect adherence. Barriers to adherence could be addressed as patient, provider and health system factors, with interaction among them.

Objective: Aim of this survey is to assess the level of medication adherence and role of pharmacist in improving the medication adherence.

Methodology: A questionnaire survey was conducted and the results were analysed. Result: It was found that only 47% of survey constituents stated that they had excellent medication compliance and remaining 53% stopped medication due to some reasons like on family members advise, they were feeling good so, internet knowledge etc.59% of constituent change the schedule and 67% of constituent change the medication given,76% skip the medication.

Conclusion: Our survey found that there is a need for improvement in patients’ medication adherence to prevent the increasing burden on healthcare system due to non-adherence. Pharmacists as health care team member can have an important role through patient education or counselling.

Keywords: Medication, Adherence, Compliance, Pharmacists
A STUDY TO ASSESS THE AWARENESS ON HARMFUL EFFECTS OF X-RAY

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Abstract:

Background: X-ray test is a medical imaging used in the diagnosis and treatment of numerous medical conditions that uses ionizing radiation to generate images of the body. Ionizing radiations has enough energy to potentially cause damage to DNA, thus X-rays are classed under Carcinogens. Objective: Objective of the study was to assess the awareness regarding the harmful effects of X-Ray radiation. Methodology: A survey was conducted using questionnaire regarding the awareness on the x-ray exposure among the general population. The data collected were checked and analysed using Microsoft excel 2016. Result: The results indicated that 77% of the given population has underwent X-ray scan while 64% of them did not have knowledge about the risks of x-ray exposure. Only 29% participants underwent exposure with the awareness while 48% were unaware of any risks of the x-ray exposure. The higher percentage (33%) out of the positive response have underwent x-ray scan for fracture, while the rest were for dental imaging (30.2%), scanning abdominal region (23.3%) and 12.5% on chest or for other reasons. Participants reported that 21.49% had their x-ray test on booked appointment, 9.34% on emergency admission. In case of dental call X-ray tests were undertaken shortly by the prescription. Conclusion: The clinical benefit of a medically appropriate X-ray imaging outweighs the small radiation risk but due to lack of knowledge regarding the risks of frequent x-ray exposure, above survey concludes that an awareness and communication with the patient are essential. Keywords: X-ray, Carcinogens, Awareness
A STUDY ON AWARENESS AMONG FEMALE STUDENTS ON RISK FACTORS AND SELF MANAGEMENT OF DYSMENORRHEA

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Abstract:

Background: Dysmenorrhea is defined as the presence of painful cramps of uterine origin that occur during menstruation and is a common gynaecological complaint among women of reproductive age. Objective: The objective of this study was to examine the level of awareness among the educated portion of female population, to investigate impacts of dysmenorrhea, risk factors associated with it, self-management strategies used and to determine the level of health concern and attitude to doctor consultation by the subjects.

Methodology: A questionnaire based study was done for female students of age 17-25 years. Result: The data collected were checked and analyzed by Microsoft Excel 2007. The results indicated that 83.2% of the study population had dysmenorrhea. About 77.9% of the subjects had knowledge about dysmenorrhea and only 26.6% had knowledge regarding its risk factors. Participants who had regular-intermediate menstrual cycle interval, positive family history and stress were more likely to have dysmenorrhea. Participants reported that 49.4% feel weak and tired, 29.1% lack concentration on studies and 13.9% are absent from class due to dysmenorrhea. Hot applications, medicines and bedrest were some of the measures taken by the women to reduce the pain of dysmenorrhea. From this study, we see that despite the relevant impact of dysmenorrhea on the students’ quality of life, 62.1% of the women are not concerned and only 25.3% of affected women consult the physician. Conclusion: The findings of this study suggests a need to create awareness about the factors influencing the severity of the problem and effective management of dysmenorrhea via the education system and media. Health professional consultation must be promoted to help students who have severe dysmenorrhea.

Keywords: Dysmenorrhea, Knowledge, Management
ASSESSMENT OF PRESCRIBING TRENDS AND MEDICATION ADHERENCE OF ANTI-HYPERTENSIVE AGENTS IN CHRONIC KIDNEY DISEASE PATIENTS IN A TERTIARY CARE TEACHING HOSPITAL

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Abstract:
Background: Chronic kidney disease and hypertension are closely associated with cause effect relationship. The prevalence of CKD in hypertensive patients are 5-20%. Objective: To analyse the prescribing pattern of anti-hypertensive agents in CKD patients and assessment of medication adherence in a tertiary care teaching hospital. Methodology: Prospective observational study, carried out in 184 patients over a period of 6 months. Patients above 18 years of age and diagnosed with any of the 5 stages of CKD with hypertension treated in the Nephrology and Dialysis unit of Father Muller Medical College, Mangalore were included in the study. The medication adherence was assessed using MGL scale (four-item Morisky Green Levine Medication Adherence Scale.) Results: Among the 184 patients included in the study, 67.4% was found to be males with 29% of patients falling in the age group of 51-60 years. It was observed that 50.5% of the patients were smokers and 21.2% were alcoholics. In the study, 79% of patients were diagnosed with stage 2 HTN. It was found to be Calcium Channel Blockers (96.2%) are more commonly prescribed, followed by Diuretics (23.9%), Beta Blockers (7.1%), Angiotensin Receptor Blockers (3.3%), Alpha Blockers (17.9%), Mixed Alpha and Beta Blockers (14.1%). The most commonly prescribed Calcium Channel Blockers according to this study were found to be Cilnidipine (57.6%), followed by Nifedipine (32.6%) and Amlodipine (9.7%). Most of the patients were treated with Multi Drug Therapy (60%). It was found that 52.2% were having medium adherence followed by 28.3% having high adherence and 19.6% having low adherence. Conclusion: The most commonly prescribed antihypertensive agents are CCBs which includes Cilnidipine (57.6%), Nifedipine (32.6%), Amlodipine (9.7%) and while analysing the treatment pattern it showed 60 % of patient were treated with multi drug therapy and 40 % were treated with monotherapy. It also showed that 28.3% patients were highly adherent, 52.2% had medium adherence and 19.6% had lower adherence to medication. Keywords: CKD, HTN, MGL Scale
EFFECT OF PATIENT COUNSELING ON THEIR QUALITY OF LIFE ON HEMODIALYSIS PATIENTS

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Abstract:
Background The Dialysis patients require life time treatments which may cause side effects that impair their quality of life. Studies have shown that when pharmacists were involved in the care of dialysis patients, significant improvement in patients' HRQOL were achieved. Objective This study was conducted mainly to evaluate the Quality of life (QOL) in hemodialysis patients and to assess the effect of patient counselling on their health related quality of life. Methods This was a prospective study carried out over six months. KDQOL SF TM questionnaire was used in 50 hemodialysis patients to assess the health related quality of life before and after patient counselling. Patients were kept under observation for a period of 6 months to study the effect of patient counselling. Cost of illness analysis of these patients were also carried out during the study period. Results Statistically significant (P<0.05) improvement was seen in HRQOL of hemodialysis patients after the patient counselling. Conclusion This study concluded that knowledge of the disease and its management through patient counselling can improve the HRQOL on hemodialysis patients. Keywords : HEMODIALYSIS COUNSELING QUALITYOFLIFE
A CROSS-SECTIONAL STUDY ON THE PATTERN OF SELF MEDICATION PRACTICE AMONG ADULTS

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Abstract:
BACKGROUND World Health Organization (WHO) defines self-medication as the use of drugs to treat self-recognized disorders or symptoms, or the intermittent or continued use of a prescribed drug for chronic or recurrent diseases or symptoms. They also approved self-medication as part of self-care. Self-medication is widely practiced with varying dimensions in India and globally. Self-medication is a burning global issue today. Over the counter (OTC) drugs are a form of self-medication. The buyer diagnoses his/her own illness and buys a specific drug to treat it. OBJECTIVE: To evaluate the effect of pharmacist in self-medication among adults by assessing self-medication pattern. To evaluate the impact of pharmacist’s role in self-medication. METHODOLOGY: STUDY DESIGN: Cross sectional observational study. STUDY SETTING: The study will be carried out in a public of Neyyattinka, Thaluk,Kerala. STUDY PERIOD: The study will be carried out for a period of 1month. SAMPLE SIZE: 60 INCLUSION CRITERIA: Age above 18 years. All persons irrespective of sex will be enrolled. EXCLUSION CRITERIA Age below 18 years. Pregnant, lactating, chronic ill patients and mentally challenged persons.

RESULT A total of 59 people were responded. The majority were in the age group of 18-40 years. Among which male patients of about 58.9% [n=33] were responded than female patients of about 41.1% [n=23.4]. About 60.3% patients are from rural area and 39.7% patients are from urban area. The main symptoms affected which are used for self-medication practice are cough [15.3%], fever [13.6%] and constipation [11.9%]. The commonly used medicines for self-medication practice are Analgesics and Antipyretics [46.5%]. CONCLUSION Health professionals have to spend some extra time in educating patients regarding the same. Improved knowledge and understanding about self-medication may result in rationale use and thus limit emerging microbial resistance issues. Keywords: Self- medication, Over the counter (OTC) drugs
COMPARISON OF THE EFFICACY OF LEVOCETIRIZINE AND DESLORATADINE IN PATIENTS WITH CHRONIC IDIOPATHIC URTICARIA

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Abstract:

BACKGROUND AND OBJECTIVES To compare the efficacy of levocetirizine and desloratadine in patients with chronic idiopathic urticaria. To assess somnolence in patients taking non-sedative antihistamines.

METHODOLOGY This prospective observational study was conducted for a period of 10 months, in the Dermatology department of a tertiary care teaching hospital in Kozhikode, Kerala. A total of 102 patients were enrolled, of which 51 patients were treated with 5mg levocetirizine and the remaining 51 patients received 5mg desloratadine. Efficacy of levocetirizine and desloratadine was compared using VAS (Visual analog scale), VRS (Verbal rating scale) and NRS (Numerical rating scale) both during baseline and follow up after 4 weeks. Somnolence in patients taking non-sedative antihistamines was assessed using ESS (Epworth sleepiness scale) during follow up after 2 weeks.

RESULTS VAS scores before and after treatment showed a statistically significant (P < 0.05) difference of 0.05±0.177 (levocetirizine) and 0.75±1.36 (desloratadine). Severe excessive daytime sleepiness was observed in 1 patient in each group, when senescence was assessed using ESS. One patient showed mild excessive daytime sleepiness in levocetirizine group. In desloratadine group, 23 patients showed high normal daytime sleepiness, compared to 13 patients in levocetirizine group. CONCLUSION This study demonstrates that levocetirizine 5mg is significantly more efficacious and possibly faster acting than desloratadine 5mg in the treatment of chronic idiopathic urticaria symptoms such as pruritus, assessed by VAS, VRS and NRS. The administration of non-sedative antihistamine showed normal daytime sleepiness in majority (74.5%) of patients.

Keywords: Chronic idiopathic urticaria, pruritus, levocetirizine, desloratadine.
ASSESSMENT OF DEPRESSION AND ITS IMPACT IN HEALTH RELATED QUALITY OF LIFE OF MYOCARDIAL INFARCTION AMONG YOUNG ADULTS IN A TERTIARY CARE HOSPITAL

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Abstract:
BACKGROUND AND OBJECTIVES Assessment of depression and its impact on health related quality of life following first MI To determine the clinical profile and risk factors of acute MI and implications in its management. METHODOLOGY This prospective observational study was conducted for a period of 10 months in the Dept. of Cardiology in a 500 bedded tertiary care hospital in Kozhikode suburb. 68 patients of either sex, age < 45 years, with acute MI were enrolled with reference to clinical profile and risk factors. Patients with a history of depression were excluded. Depressive symptoms were measured with Patient Health Questionnaire during hospitalization and one month after discharge. Outcome at 6 months were analyzed using SF36 V2 questionnaire. RESULT 68 patients (77.9%) were male and 89.1% were 36-45 years old. The major risk factor for Acute MI was identified as smoking, accounting for 30.6% of total risk. All categories of depression were associated with higher re-hospitalization, increased mortality and physical limitations, as compared to non-depressed patients. 67.8% of re-hospitalized patients were depressed. CONCLUSION The most important changeable risk factors are tobacco smoking, HTN, DM either single or in combination. The effects of using antidepressants decreases the morbidity and mortality of post MI patients. Depressive symptoms after MI are assessed with the help of PHQ and SF36V2 questionnaire. Keywords: Acute Myocardial Infarction, Patient Health Questionnaire, Short Form Health Survey Version 2.0 Turkish (SF36 V2)
PUBLIC KNOWLEDGE OF CARDIOVASCULAR DISEASE AND ITS RISK FACTORS IN SOUTH KERALA: A QUESTIONNAIRE BASED SURVEY

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Abstract:

BACKGROUND: Cardiovascular diseases [CVD] are group of disorders that involve the heart or blood vessels or both. It is one of the most preventable causes of death in the world, due to the fact that the majority of its risk factors are preventable or controllable. Knowledge about CVD and its modifiable risk factors is a vital pre-requisite to change the individuals’ health attitudes, behaviours and lifestyle practices. OBJECTIVE: 1. To determine the level of current CVD knowledge 2. To find out the level of awareness of types of CVD, warning symptoms of heart attack or stroke, and CVD risk factors 3. To find out the public views on the role of pharmacists in prevention and management of CVD. METHODOLOGY: STUDY SETTING: The study will be carried out in publics of South Kerala SAMPLE SIZE: 300 STUDY DESIGN: Cross sectional observational study RESULT: In this study about 62.6% respondents are male and 38.9% respondents are employed. About 49.5% have good personal health, 44.7% have normal weight, and 32.5% have overweight. 72.6% are non-smokers and 75.1% are non-alcoholic. About 65.7% are doing exercise every day and 63.2% are eating healthy food. 42.9% have relatively stressful lifestyle. 41.6% have hypertension as comorbidity. By assessing the knowledge on CVD types DVT is 34%. 41.6% have knowledge on heart attack symptoms, and 45.9% have knowledge on stroke symptoms. About 51.7% agree the role of pharmacist in CVD prevention, 97.3% agree pharmacist helping patients in prescribed medicines, 94.8% on smoking, and 95.4% on diet. About 96.7% people had knowledge on measurement of BP by nurse, 96% for blood sugar by nurse and 97% for cholesterol monitoring by nurse. It is important to provide quantitative measurement of CVD knowledge and identifying specific knowledge gaps. This will aid in the assessment of the adequacy of the present community educational programs. Moreover, this study used to convey the roles of pharmacists in CVD prevention and management.

Keywords: CVD Knowledge, Risk factors, Pharmacist
A STUDY ON USE AND PREVALENCE OF SELF MEDICATION ON DERMATOPHYTOSIS IN A TERTIARY CARE HOSPITAL

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Abstract:

BACKGROUND: Dermatophytosis is a contagious health problem caused by a group of organisms that are closely associated to filamentous fungi commonly called as dermatophyte leading to the infection of keratinized tissues. OBJECTIVE: The study was conducted to assess the use and prevalence of self-medication practice of patients with dermatophytosis attending a private tertiary care referral hospital to ascertain the growing menace of over the counter drug abuse and its implications in dermatophytosis. METHODOLOGY: We used data of all persons aged 13-60 years, however pregnant population was excluded, derived from observational-cross sectional study performed in KIMS Al Shifa Hospital Pvt. Ltd, situated in perinthalmanna, Malappuram district of Kerala. RESULTS: A total of 48 patients among the 107 patients took self-medication for dermatophyte infection which contributes to 44.9% of the total population. Out of 39 male patients, only 23 (48%) patients have taken self-medication whereas 25 (52%) patients among the 43 female patients. Similarly, it was found that 55.1% (59) of the population approached the physician directly when the clinical symptoms were presented. Among the different anatomical area affected tinea cruris was found to be the most prevalent followed tinea pedis. From the study, 58.3% of patients obtained medicines from nearby community pharmacies and 31.3% of patients based on the suggestion from the relatives or friends. A small percentage of population received medication from their own experience (6.3%) as well as from previous physicians’ prescription. CONCLUSION: It was confirmed that the adolescent age group have mostly chosen self-medication for dermatophyte infection. Tinea cruris was the most common. The population must ensure their hygiene and must be aware on dangers of self-medication practice which possibly lead to delay in detection of more serious underlying ailments and timely medication. Keywords: Dermatophytosis, self-medication, tinea, prevalence
STUDY OF CARDIOVASCULAR COMORBIDITIES IN PATIENTS WITH ACUTE EXACERBATION OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE

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Abstract: Chronic obstructive pulmonary disease (COPD) is a lung disease characterized by chronic obstruction of lung airflow that interfere with normal breathing. Patients with COPD have increased risk of morbidity and mortality due to cardiovascular disease (CVD). COPD increases the risk of CVD 2-3-fold. Understanding the burden of CVD in individuals with COPD is important to assess the course of the disease and subsequent effect on an individual’s functional abilities and quality of life. The quality of life in patients with COPD worsens with disease progression. COPD associated with CVD has a major impact on the patients physical and emotional function. In the present study after giving patient counselling there is a significant improvement in the quality of life.

Keywords: Chronic Obstructive Pulmonary Disease, Cardiovascular Disease, Quality of Life.
EVALUATION AND INTERVENTION OF INAPPROPRIATE ANTIBIOTIC USE IN GERIATRICS IN A TERTIARY CARE REFERRAL HOSPITAL

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Abstract:

BACKGROUND Widespread overuse and inappropriate use of antimicrobial drugs continues to fuel an increase in Antimicrobial resistance and leads to consequent treatment complications and increased healthcare costs. OBJECTIVE The aim of this clinical research was to determine the antibiotic prescribing pattern among geriatrics and compare compliance of antibiotic prescribing with adopted treatment guidelines. METHODS A yearlong prospective intervention study was undertaken which involved reviewing of patients records of all patients who were on treatment of antibiotics for more than 2 days in various departments. The outcome measures were in compliance with Gyssens et al recommendations and National guidelines for antimicrobial use. A self-prepared data collection form was used to enter the data. Reason for inappropriateness and quality indicators were also assessed to optimize the antibiotic use. The post intervention audit was conducted in the same manner as in the pre intervention audit, but the audit was restricted to short period due to time constraints and development of adult antibiotic traffic light signal for restriction of antibiotic use. RESULTS A total of 180 patients were studied, out of that 60% were males and 63.3% belongs to 65-74 years age group. 63.3% of patients had 1-2 comorbidities. Major indication for antibiotics were disease of the respiratory system followed by UTI, GI infections, fever and suspected bacterial infections. Out of 90 patients, 70% antibiotic therapy proved inappropriate in the pre-intervention phase which reduced to 48.8% inappropriateness in the post intervention. CONCLUSION Findings of the study conclude that the prescribing patterns do not comply with the recommended standards of care. Audits of individual patient care were qualitatively performed using Gyssens criteria and subsequent intervention increased the appropriateness rate. Adult antibiotic traffic light signal was developed on the basis of National guidelines for antimicrobial use and hospital formulary which helps to restrict the antibiotic usage.

Keywords : antibiotics, geriatrics, intervention, guidelines
Abstract:
The medical care for testing, procedure and medication associated with stroke in India are high. The burden on patient’s quality of life, healthcare systems and society are pharmacoeconomic considerations in managing stroke. The objective of the study was to analyze and evaluate the medical, social and economic outcomes of the drug therapy and observe the prescribing pattern of physician in stroke patients by prospective cross sectional study pattern. We collected data from 110 cases of stroke patients on the basis of age, gender, social habits. The hospital is 350 bedded private hospital provided outpatient /in patient care. A total of 110 prescriptions were collected and the average number of drugs prescribed was 20.1% generic. The most predominant age group was 71-80 yrs. Among all the patients 71% were male and 29% were female. And among the all patients common sign was Hemiplegia18% and most common risk factor for stroke was Hypertension 63.83% followed by diabetes mellitus 43.63%. The drug utilization was evaluated in all the patients with stroke. Mannitol 100%, neuroprotective drugs 44.5%, Antimicrobials 21%, Antihypertensive drugs 100%, Anti-hyperlipidemia drugs 74%, Anticoagulants 45%, Antiplatelet 56%, Vitamin supplements 27%, Hypoglycemic agents 52%, Anticonvulsants 11% were prescribed. Our article suggest that incidence of polypharmacy was low and patients using neuroprotective agents are high because in the fight against stroke disease neuroprotective drugs have become weapon of choice. Appropriate prescribing may prevent the cost-effectiveness, outcome from the drug therapy and may decrease the disability and mortality. Further research is needed to understand the prescribing pattern of neuro-stimulants in different stroke conditions, so that effective interventions can be design and implement in future.

Keywords: STROKE, POLYPHARMACY
STUDY ON ANTI-INFLAMMATORY THERAPY IN CHRONIC DISEASES, ITS HOPES AND CHALLENGES IN A TERTIARY CARE TEACHING HOSPITAL

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Abstract:
Introduction: According to the U.S Centres for Disease Control and Prevention, together the chronic diseases account for 63% of all deaths worldwide. The chief causes of these diseases are through the induction of inflammation that is by the changes in diet and lifestyle. In these diseases, the precise identity of inflammatory stimulus is unknown and, if known is difficult to remove. Anti-inflammatory medications are a wide heterogeneous group of drugs that are used to suppress the innate inflammatory pathway and thus prevent persistent or recurrent inflammation. Objectives: To assess the benefits of anti-inflammatory drugs in chronic diseases, to evaluate the challenges that result in a poor therapeutic outcome, to assess the developing co-morbidities in patients on the anti-inflammatory drug(s) and to assess the betterment of patient with respect to the pain-related quality of life. Materials and methods: A prospective observational study enrolled 100 patients. Anti-inflammatory prescriptions were assessed, evaluated and questionnaire provided to patients is assessed for the benefits and challenges of the anti-inflammatories for the period of 6 months. Results: In a sample of 100 patients, 41 were men and 59 were women. According to the visual analogue scale, on admission, moderate pain was in 52% and severe pain in 46% of the population. After treatment during discharge, 4% were with no pain, 8% moderate and 88% minor pain. This shows that the pain severity dropped in every patient during their discharge i.e., the benefit is attained. An average of 18.17% improvement due to anti-inflammatory use was established in the patient’s pain-related QOL. The factors like suspected ADR (11.61%), drug-drug interactions (36.61%), drug choice problems (11.61%), no tapering of dose (38.73%) and co-morbidities (1.4%) were the major challenges for incomplete recovery. The co-morbidities identified: pneumonia (0.02%) oral candidiasis (0.01%) anaemia (0.01%). Conclusion: Though these anti-inflammatories are of great help in arresting inflammation and pain, their use must be tempered according to the need with the realisation that they can cause potential harm. Keywords: chronic-diseases, inflammation, anti-inflammatories, challenges
A PROSPECTIVE OBSERVATIONAL STUDY ON DEMOGRAPHY AND MANAGEMENT OF DEPRESSION IN A TERTIARY CARE REFERRAL HOSPITAL

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Abstract:

BACKGROUND Depression is the most common psychological problem in the country, afflicting more than 100 million people worldwide each year. Depression is a state of low mood and aversion to activity that can have a negative effect on a person's thoughts, behaviour, feelings, world view and physical well-being. Depressed people may feel sad, anxious, empty, hopeless, worried, helpless, worthless, guilty, irritable, hurt or restless. METHODS Six months’ prospective observational study was conducted in the psychiatric department of a tertiary care referral hospital. 50 patients’ cases were studied and records were assessed. Demography and management of depression in the patients were recorded. RESULTS by analysing the data, it was observed that adults (82.14%) were the majority patients. 1.7% were children and geriatric patients were 16.07%. Gender wise distribution showed that females (65.3%) were predominant over males (34.7%). 60% of patients were prescribed with combination of drugs and 30% were prescribed with single drug only. 14 patients received 2-4 weeks’ therapy, 24 patients received 12-20 weeks and above, majority of patients received 4-12 weeks’ drug therapy. Aripiprazole and amitriptyline combination were the most commonly used agents (20%). CONCLUSION Depression is the most common mental disorder worldwide. In this study, females were found to be more affected with depression than males. Majority of the patients were adults. Combination of drugs were used in most patients than single drug. A major portion of patients received 4-12 weeks’ therapy. Aripiprazole and Amitriptyline were the widely used combination in most patients.

Keywords: Depression, Therapy, Demography.
**CLINICAL PROFILING AND COMPARATIVE ASSESSMENT OF SELECTIVE SEROTONIN RE-UPTAKE INHIBITORS AND TRI-CYCLIC ANTI-DEPRESSANTS IN THE MANAGEMENT OF POST-PARTUM DEPRESSION**

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**Abstract**

**OBJECTIVES:** To compare and assess the effectiveness of SSRIs and TCAs and to interpret the patient clinical data on PPD and to state the relation of clinical data such as patient demographics, pregnancy complication, patient history, socio-economic status, history with PPD. **METHODOLOGY:** An observational cohort study with 6-months duration was conducted among 30 women in the age group 18-45, in a tertiary care hospital at Perinthalmanna, Malappuram, Kerala state. **RESULTS:** About 66.7 % (n=20) of patients treated with SSRI and about33.3 % (n=10) with TCA. The statistical data shows that SSRI is efficient compared to TCA for the treatment of PPD with symptom reduction and improvement in functioning with a p<0.001. Paired t-test shows initial EPDS score have a mean of 18.8667± 2.44573 and final EPDS score had a mean of 14.0667± 2.247 and initial MADRS score had a mean of 39.433± 4.67335 and final MADRS score had a mean of 27.1333 ± 4.95311. **CONCLUSION:** The study clearly conveyed that the patients who had their age below 30 and who had their 1st pregnancy below 20 with low educational status and low socio economic status had a greater chance of postpartum depression. The incidence of PPD was higher in upper middle socio economic class. The patients who had education status of SSLC had higher incidence of PPD. The postpartum sleep disturbance was evident in all 30 patients studied for the duration of 6 months. Statistical comparison proved that SSRI is more efficient in the management of PPD compared to the TCAs.

**Keywords:** Clinical Profiling, PPD, SSRIs, TCAs
A STUDY ON INCIDENCE OF CHEMOTHERAPY INDUCED ADVERSE DRUG REACTIONS IN BREAST CANCER PATIENTS

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Abstract
Background: Chemotherapy-induced adverse drug reactions (ADRs) in breast cancer patients seriously affect the treatment and causes significant complications in the survival, morbidity with the increased financial burden. Objective: To evaluate the frequency, causality, severity, preventability, and predictability of chemotherapy-induced ADRs in breast cancer patients in a tertiary care hospital. Methodology: A prospective observational study was conducted in the Department of Oncology, Justice K. S Hegde Charitable Hospital, Mangaluru for a period of 8 months from August 2018 to April 2019 in patients who were above 18 years of age diagnosed with breast cancer and receiving chemotherapy. All the reported ADRs were evaluated using different scales. Results: A total of 120 patients were enrolled in the study with an incidence of 73.3% of ADR. 106 ADRs were encountered during the study in which higher incidence of ADR was seen in age group of 45-55 years (24.16%), urban population (40.83%), stage 4 cancer patients (20.8%) and at the 3rd cycle of chemotherapy (18.3%). Single therapy of docetaxel reported maximum number of ADRs (17.92%) and most commonly occurring ADR was peripheral neuropathy (13.2%). Different scales were used to evaluate the ADR and it turned out that most of the ADRs were possible ADRs according to Naranjo's scale (52.83%) and WHOUMC probability scale (53.77%). Majority of ADRs were categorized moderate severe (50.0%) and was predictable (81.1%) but not preventable (98.11%). Conclusion: The overall incidence of ADR was 73.3%. It was understood that the ADRs had significant importance in patients wellbeing. Strategies and interventions should be developed for the patient's safety. Strengthening of pharmacovigilance for anti-neoplastic should be of at most importance. Keywords: Adverse drug reactions, Breast cancer, Chemotherapy-induced ADRs.
STUDY TO CHECK THE ANTIBIOTIC POLICY COMPLIANCE AND ITS OUTCOME IN PATIENTS ADMITTED IN THE INTENSIVE CARE UNITS OF A TERTIARY CARE TEACHING HOSPITAL

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Abstract:

Background: Evidence based guidelines for the use of anti microbials plays a great role in preventing the antibiotic resistance. A review of antibiotic policy was conducted to gain an understanding of compliance rate with such policy and its outcome. Objectives: To analyse and estimate the antibiotic utilization and culture sensitivity pattern of microorganisms in the ICUs, its adherence to hospital antibiotic policy guidelines, escalation /de-escalation rate based on microbiological data and clinical course. Methodology: Prospective observational study was carried out in 150 patients admitted to Intensive Cardiac Care Unit (ICCU), Respiratory Intensive Care Unit (RICU) and Medical Intensive Care Unit (MICU) for a period of 6 months. The total number of antimicrobial agents (AMA), dose, route, frequency and sensitivity pattern were noted from the case files of the patients. Compliance rate to the antibiotic policy and escalation/de-escalation rate were also calculated. Results: In the ICCU, 73% were prescribed an average of one AMA, culture sensitivity tests were done for 80% of patients and pathogenic microbes were isolated from 38% of the samples. 5% of the treatment pattern showed de-escalation and 14% showed escalation of antibiotic. In RICU, 51% of patients were prescribed with an average of 2 AMA per prescription and culture sensitivity was performed for 86%. In 16% of the cases, de-escalation was done and escalation in 27%. In MICU, 59.2% of the patients were prescribed with an average of one AMA per prescription and culture sensitivity was done for 79% and pathogens were isolated from 63%. De-escalation of antibiotic was done in 11% and escalation in 27%. Ceftriaxone was the most commonly prescribed AMA in all the ICUs. Compliance rate was found to be 86% in ICCU, 81% in RICU and 82% in MICU. Conclusion: Antibiotic cycling programs can be done to minimise antibiotic selection pressures. As de-escalation rate was found to be less, clinicians should start improving the de-escalation strategy according to culture sensitivity reports to improve the therapeutic outcome.

Keywords: ANTIBIOTIC POLICY, ICU, ANTIMICROBIAL AGENTS
PREVALENCE AND PREDICTORS OF POTENTIALLY INAPPROPRIATE MEDICATION (PIM) USE IN ELDERLY HOSPITALIZED PATIENTS

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Abstract

Background: Ageing is responsible for the decrease in efficiency and physiological functions of the body. This situation demands constant need for monitoring dose adjustments and emphasizes more precautions while prescribing. Hence, this study is aimed at assessing the prescribing patterns in hospitalized geriatric patients to improve the overall quality of life.

Objective: To assess the prevalence and predictors of potentially inappropriate medication (PIM) use in elderly hospitalized patients.

Methods: This was a prospective interventional study which was conducted for a period of six months. All the elderly patients that were admitted to Departments of General Medicine and Surgery of JSS Hospital, Mysuru who met the eligibility criteria were enrolled in the study. Patient’s data such as patient demographics, PMH, current diagnosis, medications were documented in data collection form and transferred to electronic databases. PIMs were identified and documented using Modified Updated Beer’s Criteria 2015 and was used to calculate the Prevalence of PIMs among the study population. Predictors such as age, sex, number of medications and number of co-morbid conditions were identified using Pearson’s Chi Square Test.

Result: Of the 656 patients enrolled into the study, 216 PIMs were identified from 187 patients. Prevalence of PIMU in the study population was 28.5%. Drugs acting in the Nervous system [110 (50.92%)] were most frequently prescribed PIMs. Predictors of PIMs were found to be significant for patients having three co-morbidities, prescription of more than 8 drugs, duration of hospital stay of 6-10 days and administration of more than 100 doses during hospital stay.

Conclusion: Incidence of ADRs and PIMs are high among elderly hospitalized patients. Hence, well-trained pharmacists can be an important asset in providing better pharmacotherapy services to elderly patients for detection and prevention of ADRs and PIMs. This would not only reduce morbidity and mortality but also decrease additional hospitalization costs significantly.

Keywords: Beers Criteria; PIMs; prevalence; pharmacist; hospitalised patients
ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICE (KAP) TOWARDS MEDICATION USE IN HIGH SCHOOL STUDENTS

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Abstract:
Introduction: The growth in the number of medications available to consumers world-wide has increased medication use in children. Research conducted worldwide opined that children in general had a negative attitude towards medication. To date, there has been limited data on explored knowledge, attitudes and practices of school going children in India. Objectives: To assess the Knowledge, Attitude and Practice regarding the appropriate use of medication amongst the school going children. Methodology: The study was a questionnaire based cross sectional observational study, carried out among the high school students in three urban and rural schools across Mysore. Students who met the study criteria were enrolled into the study after obtaining the informed consent. The questionnaires were administered and students were briefed about the purpose of the study before filling. Finally, the collected questionnaires were evaluated to assess the KAP students. Results: A total of 715 students were enrolled from three urban and three rural schools in our study. Higher KAP scores were observed in Females (74.4%) than Males (73.1%). In class-wise distribution, Class 8 shows higher KAP score (74.8%) than Class 9 (74.2%) and Class10 (72.1%). Urban schools show a better KAP score of 75.3% compared to rural schools (71.3%). Further assessment was performed to find out the influence of age, gender and geographical location of the school children on individual parameters like Knowledge, Attitude and Practice of medicine use. Conclusion: Our study concluded that high school children have a satisfactory knowledge, generally positive attitude and practice towards medication use. However, there is a need for educating the children on rational use of medicines in order to promote its safety and efficacy.
Keywords: Knowledge, Attitude, Practice, Medication use, children
ASSESSMENT OF DRUG RELATED PROBLEMS ASSOCIATED WITH INTRAVENOUS ADMINISTRATION IN INTENSIVE CARE UNIT

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Abstract:
Background: The method of administering the drug directly into the peripheral or central vein with the help of a needle or a catheter is termed as Intravenous (IV) drug administration. IV drug administration has an increased risk of occurrence of medication error and also the development of ADR followed by other drug related problems. Hence this study is designed to detect report and monitor the Drug Related Problems (DRP) associated with intravenous drug administration Intensive Care Unit (ICU). Objective: To assess the drug related problems associated with IV drug administration in ICU Methodology The study was a prospective observational study conducted over a period of 4 months. Patients who were admitted in the ICU have been followed on daily basis and their details were collected and monitored for drug related problems. Hepler and Strand’s DRP classification was used in the study to classify the observed DRPs and other problems associated with IV drug administration were also identified. Appropriate measures were taken, reported documented and communicated to concerned healthcare professional. Result: Of the 80 patients enrolled into the study 63 DRPs were identified from 45 patients. Out of 63 (78.7%) problems identified 12 (19%) Adverse Drug Reaction (ADRs), 8 (12%) over dose, 9 (14%) drug use without indication and 4 (6%) drug interactions were reported. Other problems identified are 21 (33%) over flow than the prescribed flow rate and 9 (14%) low flow rates than the prescribed flow rate. Conclusion: Although the majority of the DRPs do not cause significant harmful clinical outcomes to patients, early detection and prevention of DRPs are very important. Thus, permanent supervision and involvement of well-trained Clinical Pharmacist could prove as an asset in providing better patient care by improving the quality of administration of IV medications. Keywords: Intravenous drug administration, Drug related problems (DRP), Intensive care unit (ICU)
ASSESS THE INCIDENCE, CAUSES, RESOLUTION RATE OF NEW ONSET OF INSOMNIA IN HOSPITALISED PATIENTS

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Abstract: A Prospective, Open label, Interventional study was conducted at tertiary care hospital with 100 study population in duration of 6 months with aim to assess the Incidence, Causes and resolution of Insomnia patients. The study found that, male patients were mostly affected with Insomnia than female in 67% in the age group of 51 - 70 years in 40%. Disease related pain is the most common causes in 25% and followed by Mental stress in 19%. The Insomnia Severity Index scale indicates that, only 6% were with clinical significant Insomnia and 68% were Non clinical significant Insomnia. After Intervention, Insomnia reduced from 8.16 to 6.75 by the proper Intervention with patients and care givers regarding consequences of Insomnia that leads to a high disease factor. The resolution before and after Cognitive behavioural therapy and Intervention by Clinical pharmacist was found to be statistically significant. Hence, the study strongly recommends the need of Cognitive behavioural therapy and roll of Clinical Pharmacist to Improve the Quality of life of the In-patient at Hospital setup.

Keywords: Insomnia, Behavioural therapy, Resolution, Counselling.
PROSPECTIVE STUDY ON PREVALENCE AND IMPACT OF RESTLESS LEG SYNDROME IN TRIVANDRUM

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Abstract:

BACKGROUND: Restless leg syndrome (RLS) also known as Willis-Ekbom’s disease, is a condition that causes an uncontrollable urge to move legs, usually because of uncomfortable sensation. Symptoms arise in late afternoon or evening hours, often severe at night. RLS can adversely impact sleep, cognition, quality of life. RLS is related to dysfunction in one section of brain, basal ganglia that is involved in secretion of dopamine. OBJECTIVES: 1. To evaluate the prevalence and risk factors of RLS in adults in Trivandrum 2. To study the relation of RLS with sleeping pattern, stress, obesity indices METHODOLOGY: All the relevant data was collected by using ESS (Epworth Sleepiness Scale) and IRLSSG (International Restless Leg Syndrome Study Group) questionnaire. The answering of all individuals and data collected was subjected to proper statistical analysis in Microsoft Excel Spreadsheet RESULT: A total of 217 individuals voluntarily participated in the study. Out of which 31 candidates was found to have impaired sleeping pattern when screened through Epworth Sleeping Scale. 31 candidates were selected for stage 2 studies with IRLSSG Criterion Questionnaire. 0.46% (n=1) was found to have severe RLS with potential urge to move lower limbs due to cramp like sensation, 2.3% (n=5) candidates was having IRLSSG score between 21-30 and 7.3% (n= 16) was found to have or susceptible to have moderate RLS. Out of 217 candidates, those with impaired sleep and RLS was found to be IT professionals 19.3% (n=6). CONCLUSION: This study helped in identifying individuals susceptible to RLS, although it is not a threat. The study also enabled to find out significant association of RLS with gender, sleep patterns, BMI/obesity, and medical profile. This will ultimately help to improve the sleep, health and quality of life of individuals Keywords: RLS, IRLSSG, ESS
COMPUTER VISION SYNDROME & SLEEP PATTERN AMONG INDIVIDUALS OF SOUTH KERALA

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Abstract:

BACKGROUND: Computer Vision Syndrome (CVS) is a group of eye and vision related problems resulting from prolonged computer, e-readers and cell phones. Individuals experience eye discomfort and vision problems when viewing digital screen for extended period of time. Mobile phone addiction is the most common.

OBJECTIVES: 1. To find out the prevalence, risk and impact of CVS in South Kerala. 2. Relation of CVS with sleep quality, eye health.

METHODOLOGY: All the relevant data was collected by a structured questionnaire. The answering of all individuals and data collected was subjected to proper statistical analysis in Microsoft Excel Spreadsheet.

RESULTS: A total of 253 individuals voluntarily participated in the study. Students, 62.1% (n = 157) in the age group of 20-22 were commonly affected, followed by increased prevalence of CVS in IT professionals, 7.9% (n=20). 66.4% (n=168) of candidates used digital screens like tablets, iPad and laptops. 26.8% (n=68) and 21.3% (n= 54) candidates used smartphones and desktops of brands like Samsung and Dell respectively. 24.5% (n=62) individuals spent on digital screens continuously, of which 20.6% (n=52) individuals spent more than 4 hours on screens. Both day time and night usage was seen, 45.1% (n=114). Out of which 29.2% (n=74) people spent 1 hour or less on digital screen in a dark room, 32.8% adjusts the brightness between 10 - 25%. 40.3% (n=102) of candidates has incidence of head ache and dry eye after prolonged usage of digital screens. 47% is found to have impaired sleeping pattern and believes CVS affects eye health and sleep quality.

CONCLUSION: The study is useful in figuring out individuals with CVS and job sector, widely used screens and exposure and other risk factors. The prompt diagnosis of CVS will help to improve healthy eye habit, sleep quality, job and quality of life

Keywords: CVS, SLEEP QUALITY
ASSESSMENT OF PRESCRIPTION PATTERN AND ANALYSE THE PREVALENCE OF ANTIBIOTIC SENSITIVITY TEST

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Abstract:

Background: Irrational antibiotic use is a worldwide problem that causes significant mortality morbidity and increased healthcare cost. Irrational use of antibiotics contributes to increase antibiotic resistance. Objective: Drug use evaluation according to WHO prescribing indicators. To Analyse the prevalence of sensitivity test in prescription of antibiotics. Methodology: Random selection and evaluation of case sheet and prescriptions from all inpatients units were used to analyse the prescription pattern with WHO indicators and comparing with the hospital antibiogram the prevalence of sensitivity test of antibiotics was carried out. Result: Out of 120 cases taken, 29 patients did their sensitivity tests. Out of 213 antibiotics prescribed 134 (62%) antibiotics given as monotherapy. Out of 213 antibiotics prescribed 139(65%) antibiotics administered parenteral, followed by oral was about 74(34%). Number of antibiotics prescribed by generic name was 28(13%). Number of antibiotics from essential drug list was 92(43%). Most commonly used oral antibiotic was Azithromycin (22). Conclusion: The study concluded that antibiotics usage was found to be reasonable. When taking the prescription pattern of antibiotics, below 50% of antibiotics were prescribed from the essential drug list. Majority of the antibiotics were given as parenteral therapy. Antibiotics prescribed in generic name were only a few percentages. When sensitivity pattern was checked only 29 out of 120 cases did their sensitivity test and majority of the given drugs showed resistance to particular organisms. So the prevalence was 24%.

Keywords: Antibiotics, sensitivity, prescription pattern
ASSESSMENT OF MEDICATION ERROR IN A TERTIARY CARE HOSPITAL

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Abstract:

BACKGROUND: Medication error as a universal problem is one of the most common type of medical error. Medication error can take place at any step from prescribing to the administration of the drug. According to the worldwide study reports, medication errors are main contributors to adverse events to hospitalized patients and harming about 1.5 million people every year. OBJECTIVE: Identify the major types of medication error, evaluate the seriousness of the error involved and determine the distribution of error according to various departments. METHODOLOGY: Three domains in a medication process were reviewed during the study. The domains were mainly Prescribing, Administration and Dispensing process. The case sheets received in the inpatient unit and central pharmacy were evaluated for these purpose. Errors identified were entered into the prepared audit form and same reported to the concerned medical staff. RESULTS: A total of 82 cases with 139 medication error were found during the study. Among these 130 were prescription errors, 7 were administration error in the inpatient unit and 2 were dispensing error from the pharmacy. Medication error index of NCCMERP was used to assess the severity of medication error. It was found that majority were Category A followed by Category B, C, D, E and F. NO errors reported from Category G, H and I. Distribution of medication error according to various departments were also done. The most frequent reporting of the medication error was from the Neurology department. CONCLUSION: In relation to type: 93% were prescription error, 5% administration error and 1.4% were dispensing. In relation to seriousness: 56% were category A, 41% were category B, C, D and remaining 2.1% category E and F. In relation to department: predominance from neurology department (32%).

Keywords: Medication error, prescribing error
EVALUATION OF THE USAGE OF GUIDELINE DIRECTED MEDICAL THERAPY IN HEART FAILURE PATIENTS: ASSESSMENT OF THE IMPACT OF FOCUSED CARE PROVIDED BY HEART FAILURE CLINIC IN COMPARISON TO OTHER GENERAL CARDIOLOGY OPD

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Abstract:

BACKGROUND - The usage of guideline directed medical therapy (GDMT) in treatment of heart failure (HF) has shown to reduce morbidity and mortality. However, majority of them don’t receive GDMT or achieve target their doses. When compared to patients treated in general cardiology outpatient departments (OPDs) those in HF clinics receive GDMT and fastly attain target doses of disease modifying drugs (DMD). Till now there are no studies published from India evaluating the impact of focussed care provided by the HF clinic. OBJECTIVE - To assess the impact of HF clinics in medication therapy management including usage of GDMT, attainment of target doses specified by the guideline and time-to-reach target dose in comparison to other general cardiology OPDs. METHODOLOGY - It was a retrospective hospital-based study in which patients treated in HF clinic and other cardiology OPD in the year of 2017 were included (100 patients in each arm). IRB and IEC approval were obtained before the commencement of the study. Data relevant to the study were obtained from the electronic medical record (EMR) and were compared between the study groups. Data storage and analysis were performed using SPSS Version 24. Independent sample t-test and paired t-test for continuous variables and likelihood ratio test for categorical variables were used. A significance level of 5% was used (two-tailed). RESULT - The usage of GDMT was higher in HF clinic when compared to other cardiology OPD (81% vs 55%, P=0.001). A significantly higher number of patients in HF clinic achieved target dose when compared to other cardiology OPD (58% vs 29% - beta blockers, 45% vs 9% - ACEI/ARB/ARNI, P=0.000). Moreover, the number of eligible patients receiving DMD was found to be higher in HF clinic (98% vs 85% - beta blockers, 69% vs 44% - ACEI/ARB/ARNI, 76% vs 44% - MRA). Also the patients in HF clinic attained the target doses faster when compared to other cardiology OPD. CONCLUSION - HF clinics were compared to other cardiology OPD for various parameters and it was found that HF clinic was better in maintaining medication therapy management when compared to other general cardiology OPDs.

Keywords : HF clinic, GDMT, Target dose
CHILDREN'S PERCEPTION TOWARDS MEDICINES

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Abstract:

BACKGROUND: - In many developing countries, much of the medicines dispensed bypass official healthcare system of the particular country. Thus prescription medicines are often dispensed without proper prescription from registered medical practitioner. The resulting self-medication practices can have major influences on children's perception regarding medicines as they tend to imitate elders. The aim of the study is to assess the children's perception towards the use of various medications. OBJECTIVE: - To obtain qualitative and quantitative data regarding the knowledge of medicines among childhood population in South Kerala and to compare the knowledge of medicines among various age groups. METHODOLOGY: - A cross-sectional, questionnaire based study was conducted among school children in the age group of 13-17 in South Kerala and data was analysed statistically. RESULT: - Total 150 school children voluntarily participated in the study, among which 57.3%(n=86) were males and 42.6%(n=64) were females. In this 39.3% know the use of all medicines they take while 60.6% do not. 30.6% children said that the efficacy of medicines depends on the efficiency of Doctor who prescribed it while 33.3% are not sure. 77.3% believes that recovery is faster on taking medicines. Around 21.3% children believes that taking medicines before being ill, prevents illness while 49.3% do not. 52% said that it is not safe to take medicines for longer duration while 23.3% thinks it is safe. DISCUSSION: - Based on the study results, most children are familiar with the safe medication usage practices even though their knowledge is limited and shows some attitudes in favour of irrational use. Also study provides evidence that they are not well prepared to be responsible medicine users. CONCLUSION: - Growing self-medication practices can have major impact on children as they tend to imitate their parents. At times, they may take it themselves and can result in various healthcare problems. Thus children need to be well informed about medicines before they begin to use them independently.

Keywords : WHO, medicines, self-medication, children’s perception
PUBLIC’S SATISFACTION AND PERCEPTION ON SERVICES PROVIDED BY COMMUNITY PHARMACY

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Abstract:

BACKGROUND: Patient is the targeted interface between physician and pharmacist. It is widely accepted that consumer satisfaction is an integral component of quality of health care. Equally, it is important to understand any misconcepts or gaps in the public’s attitudes on the roles and responsibilities of the pharmacists. The aim of this study is to assess patients’ perspectives towards community pharmacists as health care professionals by evaluating their performance in terms of patients’ perception and satisfaction. OBJECTIVE: To assess the quality of safe and effective pharmaceutical services offered by pharmacist, in terms of indicative and determinant parameters like public’s satisfaction and perception. METHODOLOGY: - Cross-sectional observational study was conducted among random samples of 300 people in South Kerala. This study used questionnaire to collect data from respondents It was divided in to two sub scales of a series of questions regarding the patient’s perception towards pharmacists’ performance and satisfaction with the pharmaceutical services provided by pharmacists in community settings and data were analysed statistically. RESULT: -Total 300 people participated in the study, among which 53.3%(n=160) were females and 46.6%(n=140) were males. On the basis of perception, 84.3% were agreed pharmacist as a drug expert, neutral(14.6%) and disagreed by(3%). 57.3% were strongly disagreed on the health screening services in community pharmacy, neutral(20.6%) and agreed by (22.1%). On the basis of satisfaction, 89% were highly satisfied with the simple, clear and understandable language used by the pharmacist, neutral(6%) and not satisfied(5%). 59.1% satisfied with the parking facility provide by pharmacy, neutral(19.6%) and least satisfied(21.3%) CONCLUSION: Public are not completely satisfied on the services provided by pharmacy, because most of the them did not expose their responsibilities and care services as part of health care team to the society. Result of this study may point out the expectations and needs of patients, thereby helps to improve the quality of current services.

Keywords: Perception, Satisfaction, Patient, Pharmaceutical care services.
PREVALENCE AND BARRIERS OF GLUCOMETER USE IN DIABETIC PATIENTS

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Abstract:
BACKGROUND: According to WHO, about 98 million people may be diabetic in India by 2030. The prevalence of diabetes is increasing day by day. However, accurate and timely monitoring are done with the use of a glucometer. The study aims to conduct community-based survey on assessment of knowledge about use of glucometer in diabetic patients among people in South Kerala.
OBJECTIVE: To identify the barriers for use of glucometer and to evaluate the patient’s knowledge about correct usage of glucometer in diabetic patients and thereby estimate the co-relationship between glucose monitoring and patient compliance.

METHODOLOGY: A cross-sectional observational study was conducted among 300 diabetic patients of age group 35-80 years in South Kerala, and data was analyzed statistically. RESULT: A total 300 diabetic patients voluntarily participated in the study, among which 63.66% (n=191) used glucometer, of which about 56.33% (n=169) of patients reported that glucometer was helpful in controlling diabetes. About 36.33%(n=109) of diabetic patients are not using glucometer of which about 6% of patients responded that it is an invasive method, causing pain, about 13.33% of patients don’t know how to use the glucometer, about 13.66% of patients reported that the cost of strip was unaffordable, about 5.66% patients reported unavailability of strips and about 10.33% of patients reported that glucometer is not at all helpful in management of diabetes.

DISCUSSION: The study result shows that there are many barriers for the use of glucometer. Timely self-monitoring of blood glucose can be made possible only by the use of glucometer which can enhance the patient compliance on drug therapy. Lack of awareness about method of using glucometer can be overcoming by providing awareness programs and counselling to the patients. CONCLUSION: Knowledge about the need of glucometer and its role in management of diabetes must be provided to the patients. Reducing the cost of strips can enhance the compliance.

Keywords: Diabetes, glucometer, barriers for use of glucometer
A CROSS-SECTIONAL STUDY ON EVALUATION OF DISABILITY AND SELF MEDICATION IN MIGRAINE.

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Abstract:
BACKGROUND: Migraine is a painful headache that often happens with nausea, vomiting and sensitivity to light lasting for 4 hours-3 days. Due to the disabling nature of migraine, people tend to find relief in OTC drugs and self-medication. Hence it is important to assess the disability caused by migraine and to evaluate the self-medication pattern among migraineurs. OBJECTIVES: 1. To assess the prevalence of migraine. 2. To assess the pattern of migraine attack. 3. To evaluate the self-medication pattern and drug overuse among migraineurs. 4. To evaluate the extent of disability caused by migraine. METHODOLOGY: A questionnaire was prepared and distributed among people. The study utilized ID Migraine screener test and MIDAS scale. Data was collected and subjected to proper statistical analysis in Microsoft Excel spreadsheet. RESULT: A total of 300 people participated in the survey among which 73.7% were female and 26.3% were male. About 33.3% were diagnosed with migraine by a physician and 30.6% had undiagnosed probable migraine. About 29% people had migraine with aura and 71% had migraine without aura. Headache was more prevalent in the age group 15-25 (70.3%). Only 11.1% took prescription medicine for migraine and 65.6% self-medicated for their headache. Paracetamol was most commonly used medicine for self-medication (73.4%) followed by Meftal (18.3%), Ibuprofen (6.6%) and Naproxen (2.2%). About 11.2% people had side effects with self-medication and 2.7% people had medication overuse. Among diagnosed migraineurs 15% had severe disability. About 70.1% people considered their headaches as a burden. About 22.2% people considered self-medication as a good practice to control migraine attacks while 77.8% denied it. CONCLUSION: A majority of the migraineurs were females and prevalence was higher in age group 15-25. Majority had common migraine, it was grossly under diagnosed and constituted a huge disease burden on people. Hence the need for accurate diagnosing and treating migraine is necessary and self-medication need to be discouraged to prevent medication overuse and associated side effects.
Keywords: Migraine, Self-medication, Disability.
EVALUATION OF PRESCRIBING PATTERN OF ANTIBIOTICS IN PEDIATRICS OF TERTIARY CARE TEACHING HOSPITAL

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Abstract:
Background: The development of antimicrobial resistance due to their indiscriminate use has prompted the need for judicious use of antibiotics. As infectious disease rates are on a rise in pediatric population, there is a concurrent increase in antibiotic utilization making it necessary to evaluate the rationality of therapy. Objective: To evaluate the prescription pattern of antibiotics in pediatrics of tertiary care teaching hospital. Methodology: A prospective observational study was conducted for a period of 6 months for inpatients of the age group 1 month to 18 years receiving antibiotic therapy in a tertiary care teaching hospital, Pune. The prescription pattern was assessed using WHO prescribing indicators and the rationality of antibiotics was evaluated with the Hospital Antibiotic policy and standard treatment guidelines using Gyssens criteria. Pearson’s chi square test was computed to assess the significance between appropriateness and inappropriateness. A P value of <0.05 was considered significant. Results: A total of 201 patients were included in our study in which males were predominant. The prevalence of patients was high in 1 month-12 months of age. Respiratory tract infections were the most common diagnosis and ceftriaxone was the highly used antibiotic. The mean duration of antibiotic therapy was 6.1±3.16 days. As per WHO indicators, there were 5.87 drugs prescribed per patient, of which 1.68 were antibiotics. The antibiotics prescribed were 339 (28.70%) of which 84.95% were injectable and 25.95% with generic names. Based on Gyssens criteria, 29.20% of antibiotic regimens were inappropriate where unjustified antibiotic use (12.38%) contributed the most. Amongst the empirical and definitive therapy, the inappropriateness accounted to 30.98% and 27.5% respectively. Conclusion: Inappropriate prescribing of antibiotics was reflected in our study as inappropriateness accounted to 29.02%. The prescribing pattern of antibiotics shows deviation from WHO standards. This study attempts to highlight the importance of optimization of prescribing practices, and serve as a baseline to combat resistance. Keywords: Pediatrics, antibiotics, WHO, Gyssens
AN EVALUATION OF DRUG RELATED PROBLEMS AMONG CHRONIC KIDNEY PATIENTS WITH POLY PHARMACY IN A TERTIARY CARE HOSPITAL

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Abstract:

BACKGROUND DRPs are of major concern in view of their physical, psychological and economic burden to the patient and to society as whole. Thus optimizing drug therapy by preventing drug related problems may influence the health cost, potentially save lives and enhance patient’s quality of life. OBJECTIVE The main aim of this study is to identify and determine the extent and nature of the drug related problems in CKD patients, to identify ADRs, medication error, drug interaction and to determine the extent of drug related problems. METHODOLOGY This study was a prospective observational study comprising of 230 patients including male and female with CKD above 45 years who have admitted in the department of nephrology at KIMS Al Shifa hospital, Perintalmanna. This study was conducted over a period of one year. The study protocol was approved by institutional ethical committee. the patients observed in the study received consent form prior to consenting to participate. All required data are collected in ward rounds with physician and recorded in the data collection form was designed. From this the drug related problems were identified using LEXICOMP AND MEDSCAPE. RESULT During this one year, the pharmacist reviewed 230 medication orders. Out of these study participants 97 were experienced DRPs and totally 170 DRPs identified. The study revealed that there was an upward tendency of DRP incidence in accordance to increased number of medications. CONCLUSION This study revealed that the lower rates of DRPs experienced by each person compared to other CKD studies in terms of number of DRPs, this study showed varied results as opposed to other CKD studies. Comorbidity increasing in aging population and poly pharmacy in older patients poses a serious threat to health and wellbeing. Keywords: DRPs, CKD, MEDICATION ERRORS, ADRs, POLY PHARMACY
A STUDY ON THE IMPACT OF THE USE OF PESTICIDES IN THE FARMERS IN THE PINEAPPLE CITY OF INDIA

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Abstract:

BACKGROUND Vazhakulam, lies east of the town of Muvattupuzha in Ernakulum district and is famously known as pineapple city due to large scale cultivation of pineapple. The pesticides are used during pineapple cultivation to get rid of the weeds. The farmers exposed to the harmful effects of pesticides. Most of them are unaware of the hazards caused by pesticides and do not take the necessary precautions while handling them. Hence it is essential to monitor the impact it causes in farmers along with educating and creating awareness among them.

OBJECTIVE To assess the pattern of pesticide use in pineapple farms in the pineapple city, the impact of the use of pesticides in the pesticide handlers and to create an educational awareness among the pesticide handlers. to analyse the effects of pesticide exposure on biochemical parameters in the pesticide handlers

METHODOLOGY Around 5 pineapple farms 15km centered from Vazhakulam were selected by cluster sampling and 35 labourers were surveyed using a semi-structured questionnaire. Survey was conducted among farmers on the pattern of pesticide use. The acute health effects were also assessed as a part of the study. An educational intervention was done among the labourers with the aid of information leaflets and videos. Blood samples were collected from labourers who were exposed to pesticides and a control population not involved in pesticide handling. Blood samples were analysed for pseudo cholinesterase levels.

RESULTS From the survey, it was concluded that the labourers are minimally using safety measures that could prevent the exposure to pesticides. Also, pseudo cholinesterase level was found to be low compared to control which might to be due to chronic exposure to organophosphorus pesticides.

CONCLUSION This study signifies the importance of educating the labourers about the ill effects of the use of pesticides and safe method of handling it. This can serve as a pilot study for undertaking further studies in future.

Keywords: Pesticides, Pseudo cholinesterase, Safe handling
ROLE OF PHARM.D IN BETTER PATIENT CARE: PERSPECTIVE OF INDIAN HEALTH CARE PRACTITIONERS

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Abstract:
Background: Clinical Pharmacists (CP) are less prized in direct patient care compared to both physicians and nurses even though most of the professionals identified that the CP is an inexorable part of the medical team. Objectives: To explore the perception of Healthcare Practitioners (HCPs) towards the Pharm. D and Services provided by the CPs from the Indian perspective. Methodology: A 10 items questionnaire-based cross-sectional survey was conducted through surveying HCPs including medical, nursing, pharmacy and the academician about their perceptions regarding the Pharm. D program and the clinical pharmacy services providing by the CPs in a tertiary care teaching hospital situated in the south Indian state Karnataka. Results: A total of 130 volunteers participated including 91 medical doctors or students, 6 pharmacists who work in the hospital, 17 nurses, 3 academicians and other 13 didn’t mention their profession. In the study, 91.54% (119) accepted that CPs can play a vital role in improving the medication adherence through the patient counselling and 92.31% (120) HCPs were agreed that CPs can provide appropriate interventions for better patient care. Their efforts in drug interactions and ADRs are really appreciated and 82.31% (107) recommended CP as an integral part of the multidisciplinary health care team. Conclusion: Our research suggests that CPs can be an asset to the health care practice especially in India through partnering the HCPs in better patient care by providing the appropriate interventions. Still, there is an emergent need for more practical emphasised syllabus and curriculum to make the Pharm.D graduates more employable. Keywords: Pharm.D, Clinical Pharmacy, Healthcare Professional, Perspective, Patient care

Main Text.
AN ASSESSMENT OF ANTIBIOTIC DRUGS UTILIZATION PATTERN IN PAEDIATRIC POPULATION

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Abstract:

Background: The study is to improve the quality of prescribing and may help in overcoming the problems associated with irrational use of antibiotics. Aim: To evaluate antibiotic drugs utilisation in paediatric population. Methods: A prospective observational study was conducted in paediatric department in a tertiary care teaching hospital for a period of 6 months. All the patients who were prescribed with any of antibiotic drug therapy were included in the study and reviewed. Results: Prescribing pattern was observed in 600 subjects during the study period. Antibiotics were prescribed for various conditions like bronchopneumonia (23.16%), viral pyrexia (16.16%), lower respiratory tract infection (10.16%), seizures (8.16%), acute gastroenteritis (7%) and other conditions (35.33%). In the included paediatric population, children were more prone to infections followed by neonates. In our study most frequently used antibiotic drugs were ampicillin, amikacin, Cefotaxime, ceftriaxone and Amoxiclav. Most often prescribed dosage forms of antibiotic drugs were injection (82%), syrup (10%), tablet (7%) and capsule (1%). To identify pathogenic organisms, specimens were collected from 56 (9.33%) of subjects. Commonly used specimens were serum 16 (28.57%), sputum 24 (42.85%), cerebrospinal fluid 7(12.5%) and other specimens 9 (16.07%). The number of drugs prescribed was found to be with a minimum of 2 and maximum of 5 antibiotic drugs. Conclusion: The treatment regimen given in most of the cases was without performing any culture sensitivity test which may lead to irrational use of antibiotics. Antibiotic resistance leads to a decrease in treatment success, which results in increased morbidity and mortality. Keywords: Antibiotic drugs, Paediatric, Prescribing pattern, Rational drug use, Drug utilization evaluation.
KNOWLEDGE, AWARENESS AND PERCEPTION OF HPV VACCINATION AMONG PHARM D STUDENTS.

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Abstract:

Background: The HPV vaccination is of public health importance as Human Papillomavirus, the most common cause of cervical cancer and genital warts. Cervical cancer, despite being a preventable disease, the knowledge and awareness about screening and vaccination remain poor. Aim: To evaluate the knowledge, awareness, and perception of the Pharm D students towards HPV vaccine given for the prevention of cervical cancer. Methodology: A cross-sectional study was conducted among 248 Pharm D students attending pharmacy colleges across Maharashtra through a structured questionnaire, which included questions on three major aspects to record student’s knowledge of cervical cancer, awareness towards HPV, and its vaccination. Results: A total of 248 responses were taken out of which the majority of the participants (64%) were aware of HPV vaccination, 65% knew about the causes of cervical cancer and 56% knew about the Pap smear test. 62% of students were not aware of the age HPV vaccination is recommended. 72.6% had not received the vaccination, 19.4% were not even sure if they have received it during immunisation and only 6.9% have received the HPV vaccination. 70% found the HPV vaccine acceptable and the remaining 30% of participants were not willing to vaccinate themselves against HPV as they were concerned about its safety, efficacy, and price. Conclusion: Our findings highlight that one-third of total Pharm D students are unaware of HPV vaccination and the age at which the vaccination is recommended. There is scope for further improving education, thereby increasing the awareness about HPV vaccination. Keywords: HPV vaccination cervical cancer
IMPACT OF CLINICAL PHARMACIST INITIATED PATIENT COUNSELLING IN PATIENTS WITH METABOLIC SYNDROME IN A TERTIARY CARE

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Abstract:

BACKGROUND: The National Cholesterol Education Program’s Adult Treatment Panel III report (NCEP ATP III) identified the metabolic syndrome (MetS) as a multiplex risk factor for cardiovascular disease (CVD). The contribution of present study was to draw attention to the effects of patient counselling on QOL, to improve prevention and treatment strategies for MetS.

OBJECTIVES: Systematically review whether a pharmaceutical care intervention can result in better understanding about MetS.

METHODOLOGY: An observational interventional study was carried out prospectively for a period of 6 months by assessing all MetS. Study had a pre-interventional phase, post interventional phase. Patient information leaflets were provided to patients. After 3 months follow up were conducted for them.

RESULTS AND DISCUSSION: The sample chosen was 90. Among them 61 were males and 29 females and majority falls between the age group of 40-50. 41.1% were overweight, 35.6% falls into obese category. All the laboratory parameters in phase I were compared with the results of phase II and found that there is a control in the condition. WHO QoL-BREF questionnaire were used to analyze the QoL of the patient in both phases, which showed there is a significant hike in QoL of patients after the counselling phase.

CONCLUSION: The study provided a complete evaluation, categorization and systematic analysis of MetS. Abnormal obesity was found to influence FBS and BP. BMI was found to be a useful index for prediction of risk factors of MetS. The dietary habits were reported to be poor in 3/4th of the participants. Therefore, maintenance of healthy weight through proper diet, exercise is importance for preventing MetS. The key strength of this study was patient counselling which improves the patient understanding about the illness, medication, diet, exercise, lifestyle modification. The guided risk management strategy was effective in improving the knowledge and attitude of patients regarding the prevention of MetS.

Keywords: NCEPATPIII, MetS, quality of life
AWARENESS ON POSSIBILITIES OF PEPTIC ULCER DUE TO STRESS AND SKIPPING BREAKFAST OR MORE THAN ONE MEAL

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Abstract:
Peptic ulcer is lesion in the lining (mucosa) of the digestive tract, typically in the stomach or duodenum, caused by the digestive action of pepsin and stomach acid. Symptoms of peptic ulcer involve indigestion-like pain, difficulty swallowing food, feeling unwell after eating, weight loss, loss of appetite. Complications can include internal bleeding, hemodynamic instability, peritonitis, scar tissue, pyloric stenosis etc. Stress and Skipping meals are some of the factors associated with prevalence on peptic ulcer. The objective of the study is to analyse the awareness on possibilities of peptic ulcer due to stress and skipping breakfast or more than one meal. A questionnaire based online survey was conducted and was shared through social media among 178 subjects and the result was analysed. It was found that out of 133 subjects who gets gastric irritation often, 86.47% of people gets gastric irritation when they are under stress or by skipping breakfast or more than one meal. As per a journal untreated gastritis has the high risk of getting peptic ulcer. 21.80% of the subjects were found to take antacids or PPIs from OTC, 81.20% of subjects go for home remedies or non-allopathic medicine, 9.02% of subject consult physician and it was found 4.5% of the subject neglect the condition. By the obtained data it can be concluded that most of the people are unaware of the concept of possibilities of occurrence of peptic ulcer due to stress and skipping breakfast or more than one meal.

Keywords : peptic ulcer, skipping breakfast/ meals, stress, gastritis
STUDY ON KNOWLEDGE AND PRACTICE OF FOOT CARE AMONG PATIENTS WITH DIABETIC FOOT ULCER

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Abstract:
INTRODUCTION: Diabetic foot ulcers are common complication of poorly controlled diabetes. Knowledge and practice of foot care become necessary in the management of patients with diabetic foot ulcer. OBJECTIVES: To assess the knowledge and foot care among patients with diabetic foot ulcer. METHODOLOGY: Cross- sectional study conducted in the department of General surgery, Government Medical College hospital from December 2018 to June 2019. STUDY PROCEDURE: All information relevant to the study was collected from case records and direct interview with patients with the help of questionnaires. Knowledge and practice of foot care was assessed using questionnaire based on recommendation of American Diabetics Association. RESULTS: Among population 36.2% inspect their foot daily, 78.7% wash their foot daily, 33.9% trimmed their toe nails properly, 52.3% were not walked as barefoot, 81.0% kept their glucose under control, 29.3% knew that not to smoke cigarette. CONCLUSION: Diabetic foot ulcer is a global pandemic with high morbidity and mortality. Patient education regarding diabetic foot care is associated with reduced foot ulcer.

Keywords: Diabetic foot ulcer, Knowledge, Susceptibility, Wound duration, Patient education, Counselling.
STUDY ON THE PRESCRIBING PATTERNS IN DIABETIC FOOT ULCER PATIENTS IN A TERTIARY CARE TEACHING HOSPITAL.

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Abstract:
INTRODUCTION: The knowledge of prescribing patterns in diabetic foot ulcer became necessary in the selection of appropriate empirical treatment of diabetic foot infection mortality and cost. OBJECTIVES: To determine the prescribing patterns in diabetic foot ulcer. STUDY DESIGN, STUDY SITE AND STUDY PERIOD: Cross-sectional study conducted in the department of General Surgery, Government Medical College hospital from December 2018 to June 2019. STUDY PROCEDURE: All information relevant to the study was collected from case records and direct interview with patient with the help of questionnaires. RESULT: Considering therapeutic class of drugs majority of drugs were prescribed belongs to Antibiotics and Anti-diabetics (100%) followed by Antiulcerants (97.1%) Anti- hypertensive (74.7%), Analgesics (64.9%), Anti-platelets (44.3%), Vitamins (40.8%) and others (75.4%). CONCLUSION: This study has provided data regarding the prescription pattern of drugs in diabetic foot ulcer patients. Antibiotics, Anti-diabetics, Analgesics, Anti-platelets and Vitamin supplements were most frequently prescribed drugs. Most of the patients have co-morbid conditions and requires more than one Antibiotic, Vitamin supplements, Anti-diabetics and Analgesics drugs for their therapy. The clinical pharmacist who plays an important role in patient counselling about diabetic foot care and selecting diabetic foot care and selecting the Antibiotics which are rational.

Keywords : Analgesics, Antibiotics, Anti-Diabetics.
ROLE OF PHARM.D IN BETTER PATIENT CARE: A CROSS SECTIONAL SURVEY

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Abstract:

Background: Clinical Pharmacists (CP) are less prized in direct patient care compared to both physicians and nurses even though most of the professionals identified that the CP is an inexorable part of the medical team. Objective: To explore the perception of healthcare practitioners (HCPs) towards the Pharm.D and Services provided by the CPs from the Indian perspective. Methodology: A 10 items questionnaire-based cross-sectional survey was conducted through surveying HCPs including medical, nursing, pharmacy and the academician about their perceptions regarding the Pharm.D program and the clinical pharmacy services providing by the CPs in a tertiary care teaching hospital situated in the south Indian state Karnataka. Results: A total of 130 volunteers participated including 91 medical doctors or students, 6 pharmacists who work in the hospital, 17 nurses, 3 academicians and other 13 didn’t mention their profession. In the study, 91.54% (119) accepted that CPs can play a vital role in improving the medication adherence through the patient counselling and 92.31% (120) HCPs were agreed that CPs can provide appropriate interventions for better patient care. Their efforts in drug interactions and ADRs are really appreciated and 82.31% (107) recommended CP as an integral part of the multidisciplinary health care team. Conclusion: Our research suggests that CPs can be an asset to the health care practice especially in India through partnering the HCPs in better patient care by providing the appropriate interventions. Still, there is an emergent need for more practical emphasised syllabus and curriculum to make the Pharm.D graduates more employable.

Keywords: Pharm.D; Clinical Pharmacy; Healthcare Professional; Perception
MEDICATION ADHERENCE TO ORAL ANTICOAGULANTS IN DEEP VEIN THROMBOSIS IN TERTIARY CARE TEACHING HOSPITAL.

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Abstract:

INTRODUCTION: Anticoagulation therapy is central to the management of Deep Vein Thrombosis (DVT) and use of direct oral anticoagulants offers several advantages over standard therapy with parenteral Heparin and Vitamin K antagonists (VTA). The complex dose-response relationship and narrow therapeutic range of oral anti-coagulants coupled with the potentially life threatening effects of both under dosing and overdosing, close monitoring of the actual degree of anticoagulation, especially to balance risk of excessive bleeding. OBJECTIVE: To assess the medication adherence to oral anticoagulants in Deep Vein Thrombosis in the Department of Internal Medicine and Clinical Haematology, Government Medical College Hospital, Thiruvananthapuram, using Morisky, Green and Levin (MGL) Adherence questionnaire. METHODOLOGY: About 110 patients diagnosed with DVT, enrolled for study and categorized as acute and chronic therapy patients. Medication adherence to oral anticoagulants was assessed using Morisky, Green and Levin (MGL) Adherence questionnaire. Time in therapeutic range (TTR) during oral anticoagulant exposure calculated using Rosendaal method. Study design based on longitudinal study. RESULTS: Warfarin and Acenocoumarol were the oral anticoagulants prescribed in this study setting. Along with this, Aspirin and Clopidogrel also add on therapy. Among 110 study subjects, 32.7% had high adherence, 23.6% had medium adherence and 43.7% had low adherence. CONCLUSION: From the study it was clear that oral anticoagulant therapy must be closely monitored during both acute and chronic periods. Higher adherence to oral anticoagulant therapy leads to greater INR control and more time in therapeutic range.

Keywords: Deep vein thrombosis, Medication adherence, Oral anticoagulants, Rosendaal method, Time in therapeutic range
INCIDENCES OF MEDICATION ERROR IN PRESCRIPTION

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Abstract:

Background: Medication error can be defined as any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of the health care professional, patient, or consumer. This can often lead to potential harm to the patient. Medication errors can be classified as knowledge-based mistakes, rule-based mistakes, action-based slips, and memory-based lapses. Medication error may be due to diagnostic errors which is a failure to provide accurate and timely explanation of the patient’s health problems. In some cases, it may be because of prescription error which includes prescribing faults such as irrational, inappropriate, ineffective prescribing, under prescribing and overprescribing. Objective: The objective of this study is to analyse the medication errors in different cases. Methodology: A case collection and its study was conducted and was analysed for the medication errors. Result: In the study 47.5% were males and 52.5% were females. It was found that 90% cases were diagnosed right and 10% of the cases were partially diagnosed. In 75% the drugs were not given according to the diagnosis. In 55% of the cases extra drugs were prescribed and in 17.5% drugs were not given for one or more diagnosis. Conclusion: By the above data it can be concluded that in most of the cases there is medication error and hence required action should be taken to prevent these errors.

Keywords: Prescription, Error, Patient Safety
INCIDENCE OF STRESS AMONG MEDICAL STUDENTS

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Abstract:

Background: Stress is defined as a condition where you feel tense, restless, anxious or worried or cannot sleep at night because you think of problems all the time. More than half of the working-age population are more stressed. Women to a greater extent than men. Stress in the medical student is caused due to intense medical programs which may have physical and psychological effects. Objective: The objective of the study was to check the incidence of stress among medical students. Methodology: An online survey was conducted with the help of the questionnaire in order to collect the data from the medical students to check the incidence of stress among them. Result: The study was conducted among 117 participants and that 56 males and 62 were females. Our study found that about 21% of the participants who participated did not have a restful night of sleep. Our study also found that most of the people population did not have any habit of smoking or chewing tobacco and only 6% of the population currently smokes or chew tobacco. The study also found that only 3% of the population is presently abusing alcohol. The study also showed that 41% of the participants had a history with highly stressful situations. Conclusion: The current study shows that stress in medical students is a rapid process and the reasons are varying. The college or university can solve these problems by taking appropriate steps as and when needed. Keywords: Working, Medical programs
IMPACT OF ORAL VS DEPOT ATYPICAL ANTIPSYCHOTICS ON MEDICATION ADHERENCE, CLINICAL OUTCOMES AND QUALITY OF LIFE OF SCHIZOPHRENIC PATIENTS

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Abstract
Background Antipsychotic medication non-compliance occurs in the majority of patients with schizophrenia despite the lesser incidence of extrapyramidal effects with atypical antipsychotics. Objective To assess the impact of oral and depot atypical antipsychotics on medication adherence, clinical outcomes and quality of life of schizophrenic patients. Methodology 120 schizophrenic patients were divided into two groups as 60 patients on oral atypical and 60 patients on depot atypical antipsychotics. Data on patients’ demographics, socio-economic class, past medical and medication history, antipsychotics prescribed as oral and depot preparations, were collected from case records. Both groups were subjected to Morisky Medication Adherence Scale to assess the medication adherence, WHO Quality of Life BREF questionnaire to assess health-related quality of life and Positive and Negative Syndromes Scale to assess the clinical outcomes of the antipsychotics given. The difference between the medication adherence scores, Quality of life and the PANSS scores of oral and depot groups was analyzed using suitable statistical tools. Results There were 52(43.3%) females and 68(56.7%) males in the age range of 20-80 years with the mean age of 38.28 ± 12.27 years in the oral group and 42.27 ± 14.13 years in depot group. There was no statistically significant difference in the age (P= 0.102) and gender distribution (P=0.85) between the groups. A highly significant difference (P<0.001) in the adherence scores indicated better adherence in patients on depot medication. The mean scores of the positive and negative symptoms domains were lesser for patients in the depot group (P< 0.001). The difference in the mean QoL scores between oral and depot antipsychotics groups was statistically significant (P<0.001) with the depot group reflecting on a better quality of life. A significant positive correlation was observed between the medication adherence scores and the domains of quality of life (P<0.001). Conclusion The study identified that depot medication had better benefits than oral atypical antipsychotics in terms of adherence, clinical outcomes and quality of life.

Keywords: Antipsychotics, depot, QoL, adherence
HEALTH ECONOMICS AND OUTCOMES RESEARCH
PROSPECTIVE STUDY ON REFRACTIVE ERRORS & OCULAR INFECTIONS AMONG PEDIATRIC POPULATION IN THIRUVANANTHAPURAM DISTRICT

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Abstract:
BACKGROUND: Ocular morbidity is considered as one of most under-diagnosed and under-treated public health problems in India. 30% of India’s blind population loses their sight before the age of 20 years, hence the importance of early detection and treatment of ocular diseases and visual impairment in young is obvious. Hence, the present study is an attempt to determine the prevalence and risk factors of refractive errors and ocular infections among children of the age group 1 - 17 years, of Thiruvananthapuram district in South Kerala. OBJECTIVE: To assess the prevalence and risk factors for refractive errors and ocular infections among paediatric population. METHODOLOGY: A prospective observational study was carried out in Thiruvananthapuram district of South Kerala among 200 children of age 1-17 years using purposive sampling technique. Data was collected using web based questionnaire. RESULT: Out of 200 children, 137(68.5%) were found to have ocular infections, 67 (33.5%) were having refractive error and 113 (56.5%) haven't done their eye check-up. Among children with refractive error, 56(83.5%) were having myopia (short sight), and the remaining were having hyperopia, around 32(47.7%) tells that overuse of electronics leads to vision error whereas 19(28.3%) are due to genetic. Of the 137 children with ocular infection, 92(67%) were having conjunctivitis and allergy (64.9%) was found to be the major risk factor. CONCLUSION: It was thus concluded that most of the children have not undergone the 1st eye check-up and are thus under-diagnosed. In children with refractive error myopia was the most commonly found error. The major risk factor for the refractive errors was found to be over use of electronics. Conjunctivitis was the most common ocular infection and allergy was found to be the major risk factor. Thus children and parents should be encouraged to do eye check-ups and minimise use of electronics.

Keywords: Refractive-error, ocular-infection, conjunctivitis, myopia
PREVALENCE OF FGID IN SCHOOL CHILDREN, THIRUVANTHAPURAM, SOUTH KERALA - A CROSS SECTIONAL STUDY

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Abstract:
BACKGROUND: FGIDs lower the quality of life of children when compared with children having organic diseases such as inflammatory bowel disease. Although less number of studies have been conducted on impact of FGID in school children in Thiruvananthapuram, South Kerala, it is likely to be considerable. OBJECTIVE: To assess the episodes of GI illness among school children of age group 6-13 years and their related absenteeism in school. METHODOLOGY: A cross-sectional study was carried out among 218 subjects in different schools in Thiruvananthapuram. Purposive sampling technique was used. Subjects were provided with Questionnaire on Paediatric Gastrointestinal Symptoms-Rome III version (QPGS-RIII), both web and document based. The demographic details of subjects were collected from school children. Parents or children were asked to fill the questionnaire which involved various symptoms experienced by children, its duration, bowel habit, school absenteeism related to illness. RESULT: 15% of subjects met criteria for constipation. Second common FGID was abdominal pain (12%). Subjects reported a feeling of fullness after eating a little. Vomiting was an uncommon FGID. Children missed school at least once a month as a result of FGID. Constipation and abdominal pain reduce their quality of life as well as increases the cost of living. Most parents prefer home remedies before they take children the hospital. The prevalence not significantly differ between age, gender, or between private or public schools. CONCLUSION: In conclusion, a high prevalence of FGIDs was found in school children of age group 6-13 years in Thiruvananthapuram, South Kerala.

Keywords: School children, constipation, FGID, QPGS-RIII, quality of life
STUDY ON PREVALENCE OF FOOT ULCER AMONG DiABETIC PATIENTS & THE EXTENT OF FOOT CARE TAKEN IN THIRUVANANTHAPURAM, SOUTH KERALA

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Abstract:
BACKGROUND: Diabetes mellitus is one of the commonest long term metabolic disorders in humans. It may be characterised by high blood sugar, lack of insulin or insulin resistance. One of the major complications caused by diabetes is foot infection. Foot ulcers significantly contribute to morbidity and mortality of patients with diabetes mellitus. The diabetic patients with foot ulcers require long term hospitalization and carry the risk of limb amputation. Proper diabetic foot care has to practice for preventing this long term complication of diabetes. This study is to evaluate the prevalence of foot ulcer in diabetic patients and extent of foot care taken by them. OBJECTIVE: To assess the prevalence of foot ulcer among diabetic patients. To assess the extent of foot care taken by them. METHODOLOGY: The study was carried out among 250 diabetic patients in the area around Thiruvananthapuram, South Kerala. The study was prospective observational study carried out for a period of 6 months. Simple random sampling method was used. Data was collected using a structured questionnaire, both web based and document based. It included patient demographic details, co-morbidities, duration of DM, recent foot infections, treatment undergoing and awareness among them about foot care measures. RESULT: Out of 250 subjects, about 35 (14%) subjects have diabetic foot ulcer. 93 (37%) subjects have poor diabetic foot self-care practice. About 97 (38.8%) subjects have co-morbidities and 103 (41.2%) subjects have diabetes of duration for more than 7 years. CONCLUSION: Significant proportion of patients with diabetes developed foot ulcer. Most of the subjects were unaware of diabetic foot self-care measures. Co-morbidities and duration of diabetes have a significant impact on development of foot ulcers.

Keywords: Diabetes, foot ulcer, diabetic foot self-care
A PROSPECTIVE STUDY ON AWARENESS ABOUT METABOLIC SYNDROME IN PHARMACY STUDENTS, THIRUVANANTHAPURAM, SOUTH KERALA

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Abstract:
BACKGROUND- Metabolic disease is commonly increasing in adults. The pharmacy students being the future pharmacists need to be aware of the metabolic syndrome. This study is conducted to assess the awareness of pharmacy students about metabolic syndrome.

OBJECTIVE- 1. To assess the knowledge about metabolic syndrome in pharmacy students. 2. To analyse the attitude of pharmacy students to metabolic syndrome. 3. To recognize the importance to implement awareness about metabolic syndrome.

METHODOLOGY- It was a cross sectional study. It was carried out for a period of 6 months. It was carried out in the following institutions- Ezhuthachan College Of Pharmaceutical Sciences, Marayamuttom; Sree Krishna College Of Pharmacy And Research Centre, Parasala; Dale View College Of Pharmacy And Research Centre, Thiruvananthapuram; Mar Discorus College of Pharmacy, Thiruvananthapuram. A total of 257 students from B Pharm, Pharm D, and D Pharm were included in the research. The sampling technique selected was simple random sampling. The data was collected by using a structured questionnaire. The questionnaire consists of about 20 questions, 5 of them were general questions for analysing the understanding about metabolic syndrome. Rest of the 14 questions were divided into 4 main headings that is, diabetes, atherosclerosis, high cholesterol levels, and hypertension.

RESULT- The awareness about metabolic syndrome in pharmacy students in Thiruvananthapuram, South Kerala was found to be less. Out of 257 students, 240 responded, among them 78(32.5%) students were only having awareness about metabolic syndrome. 162(67.5%) students were unaware about the different metabolic diseases.

CONCLUSION- Only a minority of pharmacy students were aware of metabolic syndrome. D Pharm students are completely unaware of metabolic diseases. Raising awareness about Metabolic syndrome based on students’ pre-existing knowledge is essential to enhance students’ wellness.

Keywords: Metabolic, Syndrome, Pharmacy, Disease
STUDY ON PREVALENCE AND ETIOLOGY OF HAIR FALL AMONG COLLEGE STUDENTS IN SOUTH KERALA

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Abstract:
BACKGROUND: Hair fall is one of the common condition that occurs in all age groups, but there is greater incidence of hair loss among age groups 15-25 years. It is also known as baldness, refers to loss of hair from part of head or body. Common types involve male pattern hair loss, female pattern hair loss, alopecia areata, and a thinning of hair known as telogen effluvium. There are several causes of hair fall like diet, medication, illness, stress, genetic reasons etc. It is considered normal to lose 50 to 100 strands of hair per day. Prevalence of hair fall condition is increasing nowadays. Proper care must be taken for preventing further hair loss. This study aims to evaluate the prevalence and etiology of increasing rate of hair loss among college students. OBJECTIVE: 1. To assess the prevalence of increasing rate of hair fall among college students 2. To assess the etiology of hair fall among them. METHODOLOGY: A prospective observational study was conducted among 382 college students of age 18-25 years from Ezhuthachan college, University college, MG college, Sreekrishna college, SCT college and Marian college in Trivandrum district using purposive sampling technique. Data was collected using web based questionnaire that includes details regarding the hair loss including symptoms, abnormalities, past medical history, past medication history, stress condition, etc. RESULT: Out of 382 college students (male-190 and female-192), 336(male-134 and female-202) were having hair fall problem. Risk factor was found to be dandruff for 201 students, stress for 101 students and other factors (medical condition, genetics, medication history, climatic changes) for remaining. CONCLUSION: The prevalence of hair fall problem among college students was found to be 88% of which 40% were male and 60% were female. Females were found to be more prone to hair fall problem than males. The major risk factor for hair fall problem was found to be dandruff (60%) followed by stress (30%) and other factors (10%).

Keywords: Hair fall, etiology, dandruff, stress
ASSOCIATION OF DEPRESSION AMONG COPD PATIENTS AT A SECONDARY CARE HOSPITAL IN NILGIRIS: A CROSS SECTIONAL STUDY

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Abstract:
Abstract Depression is widely seen as comorbid condition with Chronic Obstructive Pulmonary Disease (COPD) patients however remains unrecognized and under-diagnosed. The exact association and its mechanism are yet unknown, however depression, anxiety and various other comorbid conditions are rising along with COPD. The main objective of the study is to assess and evaluate the association of depression among COPD patients by using Hamilton Depression Scale (HAM-D). This was a cross-sectional study conducted at Government headquarters hospital, Ooty, which consisted of 36 COPD patients, who were assessed for depression. Among 36 COPD patients, 6% (n=2) were normal, 22% (n=8) patients suffered with mild depression, followed by 19% (n=7) of moderate depression, 17% (n=6) of the patients suffered from severe depression and 36% (n=13) patients falls under very severe depression. The study revealed that depression is strongly associated with COPD.

Keywords: COPD, Depression, HAM-D, Association, Comorbidities.
A STUDY ON THE COSTS INVOLVED IN THE MANAGEMENT OF ADVERSE DRUG REACTIONS IN THE GENERAL MEDICINE DEPARTMENT OF A TERTIARY CARE HOSPITAL

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Abstract:
Background: Adverse drug reactions (ADRs) continue to be a challenge in our healthcare system owing to the increasing complexity of therapy and other contributing risk factors. Objective: to calculate the costs involved in the management of ADRs. Material and Method: A prospective observational study was carried out for a period of 8 months and 240 patients were included in the study as per the study criteria and monitored for ADRs. Patients of either gender aged more than 18 years who were admitted in the general medicine department were included. Patient demographics, treatment provided to inpatients, type of ADRs and the cost involved in their management were evaluated. The data was analysed using descriptive statistics. Out of the 240 patients that were included in the study, 127 (52.91%) were males and 113 (47.08%) were females. Out of the 44 ADRs analysed, 36 (81.8%) were probable and 8 (18.2%) were possible based on the WHO Probability Scale. It was found that Isoniazid/ Rifampicin/ Pyrazinamide/ Ethambutol was the most common causative drugs responsible for ADRs. The most commonly observed reaction during the study was vomiting (11.4%), followed by hepatitis (9.1%), rashes (6.8%) and other reactions were DRESS syndrome, hypoglycaemia, Steven Johnson Syndrome, ototoxicity. Total costs for the management of ADRs was INR 173673. Conclusion: The study reveals that the cost of ADR management will cause a significant increase in burden on the patient. Proper monitoring and reporting of ADRs can help in taking appropriate measures to prevent future ADRs which can help in decreasing the clinical and financial burden on inpatients.

Keywords: ADRs, Probability, Costs
PREVALENCE OF SELF MEDICATION AMONG MEDICAL AND PARAMEDICAL COLLEGE STUDENTS IN SOUTH KERALA- A PROSPECTIVE OBSERVATIONAL STUDY

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Abstract:
BACKGROUND: Self-medication is the use of drugs without medical guidance which may result in greater probability of inappropriate, incorrect, or undue therapy, missed diagnosis, delays in appropriate treatment, and increased morbidity. Students from different sectors have different attitude towards self-medication. This study focused on the self-medication of drugs, their use, its safety and reason for using it. Improved knowledge and understanding about self-medication may result in rationale use of drugs. OBJECTIVE: To assess the prevalence of self-medication among medical and para medical college students. METHODOLOGY: A prospective observational study was carried out among 354 students of age 18-28 years, enrolled among medical and para-medical colleges of South Kerala using purposive sampling technique. Web based survey was carried out among students and they were asked to fill the questionnaire regarding use, knowledge, source of self-medication and knowledge of ADR occurred after self-medication. RESULT: In this study, 354 participants including 178 paramedical and 176 medical students were enrolled. More than half of the participants were female (54.4%) and remaining were males (45.6%). Among these, 5.4% students completely relayed on self-medication, 82.4% self-medicate occasionally, 12.2% students never self-medicate. 85.2% adopted Allopathy and 7% adopted Ayurvedic system of medicine. Among 178 para medical students 74% relayed on self-medication whereas among 176 medical students 86% self-medicate. CONCLUSION: Self-medication is becoming a most common practice among public. From this study, it was concluded that a higher proportion of students self-medicate. The most common cause of self-medication was found to be experience regarding treatment of past illness. Allopathy was found to be most commonly adopted system of medicine by students for self-medication. Flank pain and skin allergy was found to be the most common adverse effect occurred after self-medication. Thus, it is necessary to have a control over self-medication practice to avoid unbiased medication use.

Keywords: Self-medication, rationale, allopathy, ADR
COMPARISON OF COST EFFECTIVENESS OF ORAL IVERMECTIN AND PERMITHRIN IN THE MANAGEMANT OF SCABIES

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Abstract:
Introduction: Scabies is a contagious and intensely itchy skin condition caused by a mite known as Sarcoptes scabiei var. hominis. It is a worldwide problem but in certain populations, infection rate may be 50-80%. Permethrin is a synthetic pyrethroid formulated as a 5% cream and is currently available as a topical scabicide. Oral Ivermectin is effective for scabies. Ivermectin is a broad spectrum anti parasitic drug and was approved by FDA in 1996. Objectives: This study aims to comparing the cost effectiveness of oral Ivermectin with topical Permethrin in scabies. Methodology: A prospective observational study conducted in dermatology department of a 500 bedded tertiary care teaching hospital. As per inclusion and exclusion criteria 94 patients enrolled in the study for 12 months. Cost effectiveness was calculated by ICER (International Cost Effectiveness Ratio). Effectiveness was calculated by Visual Analog Scale (VAS). Results: 47 patients each were treated with Permethrin and oral Ivermectin. Mean difference in the effect of Permethrin and oral Ivermectin was 2.48, Ivermectin produces better improvement of symptoms. Mean difference in cost between two therapies was found to be Rs 725.9. Incremental cost effective ratio was -292.7 in favor of Ivermectin. ICER slope at 95th confidence interval obtained at 4th quadrant, showing that Ivermectin is more cost effective. Conclusion: Oral Ivermectin was found to be the cost effective treatment option for scabies.

Keywords: Scabies, Oral Ivermectin, Permethrin, Pruritus.
IMPACT OF CLINICAL PHARMACIST LED ANTICOAGULANT MONITORING SERVICES IN CARDIOLOGY DEPARTMENT

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Abstract:
INTRODUCTION: Pharmacist-directed anticoagulation management services (AMSs) have been shown to improve patient outcomes while reducing utilization of hospital services. A prospective interventional study (non-randomized control trial) was carried out among the inpatients of Cardiology department in order to investigate safety monitoring patterns of anticoagulants by adherence to ACCP guidelines. OBJECTIVE: To Audit and access the compliance of current anticoagulant therapy with ACCP guidelines and to implement interventions and re-audit the practices. To formulate a hospital protocol in accordance ACCP guidelines. EXPERIMENTAL METHOD: The study spanned over duration of 6months. The project was carried out in three phases Phase 1: Assessment of current practice (Control Phase). Duration of this phase was 3 months and involved only observational data collection without any interventions. Phase 2: It was for 1 month and involved passive interventional strategies. The information obtained from the initial audit was disseminated and compared with results from similar studies. Phase 3: it was carried for 3 months and number of subjects enrolled was 45, case files were assessed to obtain INR value, medication error and adverse drug reactions. RESULT & DISCUSSION: In the pre-intervention phase, 82.2% (n=37) were males and the remaining 17.8% (n=8) were females. statistical analysis using Binomial test, the difference was found to be extremely significant with p=0.001. CONCLUSION: On looking to the results there were a decrease in the number of medication errors related to the anticoagulants within the short study period. So there should be a decreasing number of unwanted outcomes related to the anticoagulants on continuous evolution. The protocol adherence was also measured at least quarter in a year so that we can reduce noncompliance and improve patient safety.

Keywords: anticoagulants, cardiology, ACCP, guideline, bleeding, pharmacists
ROMOSOZUMAB TREATMENT IN POSTMENOPAUSAL WOMEN WITH OSTEOPOROSIS: A META-ANALYSIS OF RANDOMISED CONTROLLED TRIALS

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Abstract:
OBJECTIVE: To conduct a systematic review and meta-analysis of randomised controlled trials to evaluate the safety and efficacy of romosozumab in the treatment of postmenopausal women. Romosozumab is a monoclonal antibody that binds sclerostin, increases bone formation and decreases bone resorption.

METHODOLOGY: A comprehensive literature review was performed of Cochrane Controlled Trials Registry and Web of Science for Randomised controlled studies. Outcome measures were changes in lumbar spine, total hip and femoral neck bone mineral density, incidence of fractures and adverse events. In Fracture study in postmenopausal women with osteoporosis (FRAME), postmenopausal women with osteoporosis received romosozumab 210mg s.c. or placebo once monthly for 12 months, followed by denosumab 60mg s.c. once every 6 months in both groups for 12 months.

RESULTS: Among 7180 patients (n=3591 placebo, n=3589 romosozumab), most romosozumab-treated patients experienced 3% gains in BMD from baseline at month 12 (spine, 96%; hip, 78%) compared with placebo (spine, 22%; hip, 16%). For romosozumab patients, mean absolute T-score increases at the spine and hip were 0.88 and 0.32, respectively, at 12 months (placebo: 0.03 and 0.01) and 1.11 and 0.45 at 24 months (placebo-to-denosumab: 0.38 and 0.17), with the 2-year gains approximating the effect of 7 years of continuous denosumab administration. Patients receiving romosozumab versus placebo in year 1 had significantly fewer vertebral fractures in year 2 (81% relative reduction).

Keywords: Romosozumab, osteoporosis
STUDY THE MEDICATION TAKE BACK METHOD IN THE MEDICINE UNITS OF A TEACHING HOSPITAL

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Abstract:
Introduction: Medication take back method is the one of the commonly observed method in the hospital and community pharmacy set ups. Hence this study was carried out in the hospital set up to understand the pattern of practice in the rural hospital.
Objectives: To know the medication takes back method, reasons and medication disposal methods in Inpatients Methodology: Prospective, Observational study was carried out 7 months after obtaining of ethical clearance by using suitable data form. Results and Discussion: Among 70 patients male patients were 55.7 %, the majority were 41-50(25.7%) >51-60(21.4%)>61-70(17.1%). The mean BMI, Age & Number of hospital stay of the patients was 23.76±2.4, 52.42±15.5, and 6.05±2.45. The majority of the disease was respiratory diseases (12.86%) followed by endocrine diseases (10%). The antibiotic usage (74.3%) mean cost was 627.69 ±1286.33. The mean number of the drugs in the prescription was 7.70 ± 3.27, the number of injectable was 3.17 ± 2.02, number of oral drugs 3.78 ± 2.64. Among 71.4 % medication returns majority of the forms returned were IV 32.9% followed by 25.7% oral. The majority of the drugs return was, antibiotics 8.6% > anti-hypertensives 5.7% followed by anti-diarrheal and anti-emetics. The mean number of drugs returns was 7.70 ± 3.27 and its cost of the medication returns was 38.63 111.69. The total number of medication returns was observed 71.4 % and various reasons are dose change 7.1 %, medication discontinue 52.9 %, due patient discharge 18.6 %, due patient death 1.4 %. Due to the extra dose dispensing 5.7%. 41.7% of the drugs were return to the pharmacy, 98.6% were throw their medications include, 32.9% throw in the dustbin. 45.7% burn it. 41.4 % told that they will give it to the ill patients. 74.3 % they will follow multiple methods. Conclusion: This study showed that different methods of medication, dispose and the pharmacist involve in the discharge time helps to the patients to decrease the economic burden and also helps in the proper way of disposing of unused drugs.
Keywords: WHO: world health organization, BMI: Body mass index
COST EFFECTIVENESS ANALYSIS OF APIXABAN VERSUS ENOXAPARIN FOR THE PREVENTION AND TREATMENT OF VENOUS THROMBOEMBOLISM

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Abstract:
BACKGROUND: Apixaban and enoxaparin are the two frequently used drugs for the prevention and treatment of venous thromboembolism in patients after any major orthopaedics surgery. In a developing country like India, there is a need of a study to identify which medicine ensure maximum efficacy to the amount paid. Aim of the current study was to determine the most cost effective drug used for the prevention and treatment of Venous Thromboembolism.

OBJECTIVES: To analyse the side effects of apixaban and enoxaparin to compare the incremental cost effectiveness ratios of both apixaban and enoxaparin and to determine the overall economic burden for patients undergoing an orthopaedic surgery.

METHODOLOGY: This was a prospective observational study on patients reported based on proposed criteria in the orthopaedic department. The medical and non-medical cost of patients who have used the mentioned drugs were analysed. The socio economic status, incidence of post thrombotic syndrome and bleeding events were measured.

RESULTS: 102 patients were enrolled into the study. The total cost incurred for apixaban and enoxaparin were reported to be 40612.7 Indian rupee and 52937.1 Indian rupee respectively. When post thrombotic syndrome and bleeding events were analysed, the incremental cost effectiveness ratios were understood as 2951.1 and -42428.3 respectively. Results from the cost effective plain analyses were obtained in fourth quadrant with lowest cost and highest effect.

CONCLUSION: Equal probabilities were provided to apixaban and enoxaparin for bringing out its maximum efficacy in patient’s education. There was a need for frequent coagulation monitoring and increased days of hospitalization with enoxaparin. It caused an increase in the total cost to patients prescribed with enoxaparin. The results from cost effective analyses also confirmed the same. Thereby, apixaban was noticed to be the cost effect option.

Keywords: APIXABAN, ENOXAPARIN, COST EFFECTIVENESS
ASSESSMENT ON AWARENESS OF TOBACCO SMOKING AND ITS RISK IN HYPERTENSION

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Abstract:
BACKGROUND: Cardiovascular diseases (CVDs) are the most serious among all human diseases. Cigarette smoking and exposure to second hand smoke is an emerging risk factor for CVD, comprising 10% of all CVD cases according to World Health Organization. The main aim of the study is to assess the awareness about tobacco smoking and its risk for hypertension and other CVDs among people in South Kerala. OBJECTIVE: To obtain the qualitative and quantitative data regarding the awareness and prevalence of tobacco smoking and its risk for CVDs in South Kerala and to assess other risk factors leading to CVDs. METHODOLOGY: A cross-sectional observational study was conducted among 300 males of age group 18-65 years in South Kerala, and data was analyzed by statistical tools. RESULT: Total 300 males voluntarily participated in the study, among which 37% (n=111) were hypertensive smokers and 27% (n=81) were hypertensive non-smokers, while 12.66% (n=38) were normotensive smokers and 23%(n=70) were normotensive non-smokers. In this, 41.86% responded that food habit is the major risk factor for hypertension, followed by smoking (29.23%). Among the hypertensives (64%), only 34.33% followed healthy diet in spite of being recommended by health care professionals to control BP, and only 54% are properly taking medicines. DISCUSSION: Based on the study results, most of the males who are hypertensive are smokers and do not follow healthy diet or take proper medicines, even though they are aware about the complications. People need to be educated well about the cardiac complications due to improper control of blood pressure. CONCLUSION: Through this study an awareness can be provided on the complications of tobacco use and importance of medication adherence and diet to prevent CVDs.

Keywords: hypertension, smoking, cardiac complications
ASSESSMENT OF AWARENESS ABOUT MICROVASCULAR AND MACROVASCULAR COMPLICATIONS OF DIABETES MELLITUS

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Abstract:

BACKGROUND: Diabetes Mellitus is a metabolic disease that result in high blood sugar level in body. Prolonged duration of diabetes in a person can affect the eyes, nerves, kidneys and other organs. Complication of diabetes mellitus include micro vascular and macro vascular complications. The aim of this study is to assess the awareness about diabetic complication among people in South Kerala. OBJECTIVE: To obtain quantitative and qualitative data regarding the awareness of diabetic complication in South Kerala. METHODOLOGY: It was a cross-sectional observation study done by simple random sampling based on a questionnaire and data were analysed statistically. This study was conducted in 300 people among rural and urban area of South Kerala. RESULT: A total of 300 people was participated in the study where 147 were males and 153 were females. 34% (n=102) of people were aware about the micro vascular and macro vascular complications of diabetes mellitus and 66% (n=198) were unaware. 451 responses were obtained while assessing the awareness about the organs that affected by diabetes. In which 33.7% (n=152) responded that diabetes affect eyes, 21.5% (n=97) responded as feet, 17.51% (n=79) responded kidney, 11.30% (n=51) responded as nerves, 9.09% (n=41) responded as heart, and 6.87% (n=31) responded as do not know. DISCUSSION: Based on the study results most of the people were unaware about the micro vascular complications such as retinopathy, nephropathy, neuropathy and diabetic foot disorder and macro vascular complications such as coronary artery disease, peripheral arterial disease and stroke of diabetes mellitus. CONCLUSION: Nowadays diabetes mellitus is globally increasing. And the people are unaware about the diabetic complication and need of proper treatment. Through this study the awareness of diabetes mellitus as well as its complication has been assessed.

Keywords: Diabetes Mellitus, Macro vascular complications, Micro vascular complications, awareness.
NUTRITION, BMI AND ITS ASSOCIATED RISK FACTORS IN ADOLESCENTS

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Abstract:
BACKGROUND: Body Mass Index or BMI is a screening tool that can indicate whether a person is underweight, healthy weight, overweight, or obese. Obesity causes non-communicable diseases such as hypertension, dyslipidaemia, Type 2 DM and cardiovascular disease. Weight loss is the primary goal and is important for the population to gain knowledge about nutrition and underlying disease caused by obesity. The aim of the study is to assess knowledge about nutrition, BMI, and associated risk factors. OBJECTIVE: To obtain quantitative and qualitative data regarding assessment of knowledge on nutrition, BMI and its associated risk factors on adolescents. METHODOLOGY: It was a questionnaire based cross-sectional study done by stratified random sampling and data was analyzed statistically. This study was conducted among adolescents in South Kerala. RESULT: Total 200 adolescents participated in the study in which 43%(n=86) were males and 57%(n=114) were females. 72% adolescents knows about BMI while 28% were unaware. Only 36% have checked their BMI whereas 64% haven’t. 60.5% believes that persistence of childhood obesity into adulthood depends on multiple reasons like presence of obesity in both parents, siblings and also the age at which child becomes obese. Around 40% of adolescents always take food while watching television. About 45.5% disagrees that people should cut out fat completely to maintain healthy weight while 39% agrees with the comment and 15.5% are not sure. DISCUSSION: Based on the above study most adolescents are familiar with BMI but only very few have checked it. Most are aware about risk factors associated with being obese but preventive measures are less implemented. CONCLUSION: Nowadays Obesity is an increasing health disorder in adolescents. Through the study, awareness need to be provided to adolescents on nutritional status and non-communicable diseases caused by obesity.

Keywords: Nutrition, BMI, Knowledge in adolescents
PREVALENCE OF OPPORTUNISTIC INFECTIONS AND THEIR IMPACT ON HEALTHCARE IN HIV SEROPOSITIVE PATIENTS IN A EMERGING ECONOMIC COUNTRY

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Abstract:
Background: Opportunistic Infections (OIs) are the major cause of morbidity and mortality among Human Immunodeficiency Virus (HIV) infected patients which greatly impact their health and quality of life. Global evidence shows that the pattern of OIs may vary from place to place. Objectives: The aim of this study is to determine the incidence and pattern of various OIs and the economic burden and risk factors. Methodology: This prospective observational study was conducted for a period of 8 months in AIDS Care and Research Centre, Mysuru. All in-patients were reviewed intensively and patients who met the study criteria were enrolled in the study. The incidence of various OIs was determined and the risk factors were assessed by using Chi-Square test. The economic burden/cost of illness was assessed by calculating the direct medical cost. Result: Out of 353 admitted patients during the study period, 177 (50.14%) were having opportunistic infections & were enrolled in the study. Male patients were more in the study population (64.40%) and mean age of the study population was 41±9 years. The majority of the patients were belonging to stage 4 (74.57%) and were having CD4 count less than 200 cells/ul (61.01%). The median CD4 count was found to be 100.5 cells/ul (49 cells/ul - 206.5 cells/ul). TB (50.84%) was found to be the most common OI, followed by PCP (18.64%) and Candidiasis (18.64%). The average length of hospital stay was 7±4 days. The average direct medical cost was found to be Rs.8779.30 (range: Rs.1255.77; Rs.40,423.81). Conclusion: TB was found to be the most common OI in our study. OIs remain a challenge in patients receiving ART in resource-limited settings. In spite of the free supply of drugs for HIV, patients' economic burden is higher due to the cost incurred in management OIs.

Keywords: HIV, OIs, AIDS, Tuberculosis
A STUDY ON THE ASSESSMENT OF THE EFFECTIVENESS OF BARICITINIB IN PATIENTS DIAGNOSED WITH RA

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Abstract:
BACKGROUND: Rheumatoid arthritis (RA) is a chronic systemic autoimmune disease characterized by persistent joint inflammation leading to loss of joint function as well as cartilage and bone damage. Although the outcome for patients with rheumatoid arthritis (RA) has improved in the past decades, adequate disease control cannot be achieved in a substantial proportion of patients. New drugs with a novel mechanism of action, may represent a valuable addition to the current medical resources. Baricitinib is an oral targeted synthetic disease-modifying antirheumatic drug (DMARD) that mainly inhibits JAK1 and JAK2. This study aims to determine the efficacy of Baricitinib in patients diagnosed with RA.

OBJECTIVE: The objective of the study was to assess the effectiveness of Baricitinib in patients diagnosed with RA.

METHODOLOGY: Study design: Retrospective Observational Study. Based on the inclusion criteria, 7 RA patients receiving T. Baricitinib 4 mg OD along with other cDMARDs during the period of July 2018 to November 2019 were included in the study. Disease activity was measured based on DAS 28 score. Baseline DAS 28 were calculated and compared it with the DAS 28 score after 3 months to evaluate the efficacy. RESULT: Baseline mean DAS 28 score was found to be 6 and after 3 months it has reduced to 2.86 which can be considered as a significant improvement in the disease activity. Four patients discontinued the therapy and the reason was found to availability and affordability issues as it cost around Rs 21000/- per month.

CONCLUSION: Baricitinib was found to be an effective alternative choice of treatment of RA. However, the hefty cost is the major concern that reduces the patient adherence to this medication.

Keywords: Rheumatoid arthritis, Baricitinib
EFFICACY AND TOLERABILITY OF APREMILAST, A NOVEL AGENT IN THE TREATMENT OF PSORIATIC ARTHRITIS

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Abstract:
BACKGROUND: Psoriatic arthritis is a chronic immune disease and the manifestations include Psoriasis, swollen and tender joints, pain, enthesitis and dactylitis associated with impaired physical function and health related quality of life. The novel agent apremilast, PDE4 inhibitor has a unique mechanism in modulating the expression of both proinflammatory and anti-inflammatory cytokines. OBJECTIVE: The objective of the study was to evaluate the efficacy and tolerability of apremilast in Psoriatic arthritis. METHODOLOGY: Study design: Retrospective single centre study. 120 patients aged above 18 years who was diagnosed with psoriatic arthritis according to CASPAR criteria from November 2017 to September 2018 were included in the study. Patient details were retrieved from the EMR and was entered into data collection form. The follow up end points were 4th week, 12th week and 16th week. The baseline parameters of the patients were compared with those at each followup week. The efficacy endpoints were reduction in PASI score, EMS, TJC, SJC, PGA, BASDAI and ESR after adding Apremilast. The safety and tolerability assessments included adverse events, drug discontinuations and laboratory parameters. RESULT: A 65.09% reduction was observed in the PASI score at 16th week and PASI 50 response was achieved. The mean BASDAI of 4.36 at baseline significantly reduced to 1.73 at 16th week. Significant reduction was found in both SJC and TJC. Mean change in ESR was significant at week 16. Common ADRs reported were gastritis (38.2%), diarrhoea (32.4%), and fatigue (26.5%). 20.6% of patients had 4 adverse events. No clinically relevant laboratory changes were observed. Most events were mild to moderate. 25 patients discontinued the therapy due to treatment emergent adverse events. CONCLUSION: Apremilast was found to be a promising agent in the treatment of PsA.

Keywords: Psoriatic arthritis, Apremilast
IMPACT OF FOCUSED CARE IN THE MEDICATION ADHERENCE AND QUALITY OF LIFE OF PATIENTS APPROACHING A MULTIDISCIPLINARY HEART FAILURE CLINIC

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Abstract:
BACKGROUND: Heart failure is considered as a global health issue as it affects about 26 million people worldwide. Thus, a focused and personalized heart failure management programs are being required for the proper management of heart failure patients of which heart failure clinics can be foreseen as a beneficial remedy which reduces the highest mortality rates by improving the quality of life of patients. OBJECTIVE: The objective of the study was to assess the quality of life, medication adherence, complication and adverse drug reaction among heart failure patients treated under Heart Failure clinics and patients consulting in other cardiology OPD. METHODOLOGY: 200 heart failure patients who consulted in the heart failure clinic and other general cardiology OPDs in the hospital in the year of 2017 who satisfied the inclusion and exclusion criteria were selected for the study. Patients were followed for a period of one year. Patient health outcomes like complications and adverse events were collected retrospectively from the electronic medical record corresponding to patients first, sixth and twelfth month visit. Quality of life and medication adherence were obtained prospectively by interviewing the patients using the questioners. RESULT: Patients treated under HF clinic had reduced complications and adverse reactions within 1 year when compared to other study group. Quality of life of patients treated under HF clinic were significantly higher than patients treated under other cardiology OPD (p=0.00). Also, patients in HF clinic had greater adherence to medication (p=0.00) when compared to other study group. CONCLUSION: Patients in HF clinic had a comparatively higher level of medication adherence and hence had better quality of life. Interventions done through HF clinic had resulted in reduced occurrence of adverse drug reactions and HF associated complications.

Keywords: Heart failure, medication adherence
NANOTECHNOLOGY BASED DRUG DELIVERY IN PRECISION MEDICINE: A SYSTEMATIC REVIEW

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Abstract:

Background: The emergence of nanomedicine in the recent future has changed the perspective of diagnosis and treatment with its extensive application in molecular and nano diagnostics, drug delivery, bio-sensors, in-vivo imaging, biomaterials, neuro-electric interfaces and pharmaceutical products. The effect of nanomedicine in health economics with respect to cost of care or therapy, more so in precision medicine is very significant. This systematic review focuses on the drug delivery systems by nanoparticles in targeted therapies to enhance the pharmacological and therapeutic actions along with the economy and efficacy of terminal outcome in specific diseases. The review finally underlines the importance of occupational health considerations will have for achieving an effective and sustainable development of nanotechnology.

Method: Predetermined search terms related to drug delivery, nanomedicine, personalized medicine, economy was used to build a Embase, MEDLINE, Cochrane Library search strategy for extraction articles. Clinical trials involving use of nanomedicine (liposomes, nano-conjugate) in patients with cancer were specifically evaluated as well. Reference list of included studies were checked to search for additional potential articles and unpublished data. Two independent authors were assigned to assess the articles based upon the inclusion criteria. Extracted data from the included reviews and trials were analysed to conclude the study.

Result: Satisfying the inclusion criteria, ultimately 156 articles and 14 clinical trials (phase I/II) were analysed. These studies exemplified that targeted therapy with nanoparticles increases their efficacy whilst lowering the toxicity with its primary use over the decade in chemotherapeutic agents thereby, making nanomedicine occupy 19.6% of all pharmaceuticals with a significant increase in global sales.

Conclusion: This systematic review will apprise the healthcare professionals extending from pharmaceutical industries to clinicians about the impact of nanomedicine in targeted therapies and its sustainability along with its market potential.

Keywords: Drug delivery, nanomedicine, personalized medicine, economy
PHARMACOGENOMICS
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CLINICAL EVALUATION OF METFORMIN EFFECTS BETWEEN TAMIL NADU AND KERALA PATIENTS IN COIMBATORE ZONE

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Abstract:
Aim and Objective: Diabetes mellitus is metabolic disorder and also more prevalent diseases in India. The recent research is concentrating on discovering new biguanides like that drugs and also lesser number of novel drugs entered in the market due to lack of pharmacogenomics studies of metformin. Methodology in our care cohort study was conducted in Coimbatore zone and also collected 150 patients, which segregated Kerala patients and Tamil Nadu patients. Results: In our finding totally sixty patients were prescribed with metformin. Twenty-five Tamil Nadu patients were taken metformin and thirty-five Kerala patients consuming. The Tamil Nadu patients' blood glucose level were marked decreased(P<0.05) and (P<0.001) when compare to Kerala patients. The DM patients’ glucose level alterations were indicated a slightly increased Glucose level with DM (19.1± 0.5), DMT -I (74.5±2.74) DMT -II (173.5± 6.85) when compared to normal healthy volunteer (125.7±2.73). Conclusion Based on the findings, concluded of metformin produce more prominent against Tamil Nadu diabetic patients when compare to Kerala patients in Coimbatore zone due to genetically prone gene present in Tamil Nadu Patients. This study indicated that feedback to the registered pharmacist for create alertness about rational use of anti-diabetic medicines. The hospital formularies should be shaped as per the local requirement, mostly necessary anti diabetic drugs were maintained, prescribed and stored by specified in standard guidelines.

Keywords: Diabetes mellitus, metformin, glucose level.
EVALUATION OF ANTI-DIABETIC DRUGS EFFECT BETWEEN KERALA POPULATION AND TAMILNADU POPULATION IN COIMBATORE ZONE

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Abstract:
AIM AND OBJECTIVE: Diabetes mellitus is emergent global metabolic disorder. The recent research is concentrating on discovering new drugs but lesser number of novel drugs are entered and available in the market due to lack of pharmacogenomic studies in our country.

METHODOLOGY: In our study collected 200 patients and segregated Kerala patients and Tamil Nadu patients and find the specific anti-diabetic drug effects towards above patients. RESULTS: The results revealed that the segregated 100 patients in Kerala population 50 patients are taken sulfonylureas derivatives, 19 patients taken biguanides and remaining 31 patients taken PPAR-gamma agonist drugs. In Tamil Nadu 100 patients in that 60 patients were taken metformin and 21 patients taken PPAR- gamma agonist the remaining members 19 Patients taken sulfonylureas. Whereas glucose level milder decreased for Kerala patients when compared to Tamil Nadu patients.

Keywords: Diabetes mellitus, sulfonylureas, biguanides, metformin, PPAR- gamma agonist
CASE REPORTS
ADULT STILL'S DISEASE
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Abstract:
Adult stills disease (ASD) is a rare systemic inflammatory disorder of unknown etiology, typically characterised by clinical triad (daily spiking high fever, evanescent rash and arthritis) and a biological triad (hyperferritinemia, hyperleukocytosis with neutrophilia and abnormal liver function test). There are no specific diagnostic tests for ASD, so the diagnosis of ASD remains one of the exclusion and differential diagnosis may be lengthy. A 17-year-old lady who had presented with fever for 2 weeks back and fever was continues and low grade, relived on taking medications. No history of night sweat, rashes over cheeks and forearm. Along with the fever she also gives history of joint pain for 1 1/2 week. No history of throat pain, cough, vomiting, diarrhoea, burning micturition. Similar history was noticed 8 months back and taking thyroxine for hypothyroidism since 2 months. Haematological investigation showed high ESR, leucocytosis and hyperferritinemia. The introduction of corticotherapy and Disease Modifying Anti Rheumatoid Drugs (DMARD) resolved symptoms and alterations in the lab values. Adult Stills Disease is a heterogeneous and rare disease and the lack of serological markers as a true gold standard makes diagnosis difficult. Since these disease has no specific known risk factors for the development as well as no known preventive measures, this disease become clinically more relevant. We believe that reporting this case would add more information to the existing fund of knowledge.

Keywords: ASD-Adult Stills Disease, DMARD-Disease Modifying Anti Rheumatoid Drugs
CASE REPORT ON SEIZURE WITH COADMINISTRATION OF LEVOFLOXACIN AND THEOPHYLINE

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Abstract:
OBJECTIVE: To report a case of seizure following administration of levofloxacin and theophylline. CASE SUMMARY: An 84-year-old man was admitted to the hospital due to seizure episodes. One week before the patient was admitted in the same hospital with complaints of COPD exacerbation and was discharged with a prescription of levofloxacin, theophylline ceftriaxone, pantoprazole, Monteleukast, methylprednisolone, budesonide nebulisation ipratropium bromide nebulisation and syrup codylex. After receiving one dose of oral levofloxacin, the patient experienced a seizure. The patient was hyperglycaemic at the time of admission and had no history of a seizure disorder. DISCUSSION: Here the cause of seizure could be a drug-drug interaction (between theophylline and levofloxacin) with CYP1A2 substrates with no epileptogenic effects which could augment the concentration of levofloxacin and consequently results in seizures. In spite of that it has to be kept in mind that the drug-drug interactions originate at various pharmacodynamic and pharmacokinetic levels and that drugs CYP affinities are rarely completely CYP-specific. Thus levofloxacin may have drug interactions at the level of CYPs other than CYP1A2. CONCLUSION: the clinicians are advised to closely monitor the possibility of seizures in COPD patients who+ are taking both levofloxacin and theophylline. The physicians should also be encouraged to use the techniques of TDM to individualise the dose of narrow therapeutic drugs to avoid serious adverse effects

Keywords: Levofloxacin, theophylline, seizure
Abs_00018

PHENYTOIN INDUCED STEVEN’S JOHNSON SYNDROME- TOXIC EPIDERMAL NECROLYSIS OVERLAP EXACERBATED BY CEPHALEXIN IN A 65YEAR OLD NEUROSURGICAL PATIENT: A CASE REPORT.

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Abstract:
Introduction SJS/TEN is an unpredictable, rare cutaneous disease, drugs (carbamazepine, lamotrigine, phenytoin and antibiotics) are the main causes of SJS/TEN, followed by genetic changes and infections. The prevalence rate of SJS/TEN was found to be 1 to 2 per million people/year. Case description This study presents a rare case of drug-induced overlap of Steven-Johnson Syndrome and Toxic Epidermal Necrosis Syndrome exacerbated by cephalixin in a 65-year-old female patient who was admitted in the hospital with chief complaints of peeling of the skin and redness all over the body with increased body temperature. She was under treatment with Anti-epileptic (Phenytoin) to prevent the post-surgical complications of Communicating Hydrocephalus. After a detailed examination, we found that the patient had misemployed with an overdose of phenytoin. The patient was found with nikolsky sign and diagnosed as an overlap of SJS and TEN syndrome. Investigation Serum phenytoin level, Naranjo Algorithm, Modified Hartwig and Siegel scale, WHO-UMC assessment. Differential diagnosis Hydrocephalus surgery complications, Serum phenytoin level. Management Discontinuation of phenytoin and the patient was treated with parenteral corticosteroids, antihistamines, topical antibiotics along with other medical support measures. Outcome Subsiding of rashes was seen in patient after two weeks of treatment. This case report emphasizes the importance of drug induced SJS and TEN syndrome associated with phenytoin exacerbated by cephalixin. Clinical importance The association between SJS-TEN overlap and phenytoin therapy is well established already; special care must be taken while administering phenytoin, By knowing the most prevalent risk factors, expected drug interaction and Sever adverse reactions can be minimized.

Keywords : Phenytoin, SJS, TEN, neurosurgery
A STUDY ON THE COSTS INVOLVED IN THE MANAGEMENT OF ADVERSE DRUG REACTIONS IN THE GENERAL MEDICINE DEPARTMENT OF A TERTIARY CARE HOSPITAL

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Abstract:

Background: Adverse drug reactions (ADRs) continue to be a challenge in our healthcare system owing to the increasing complexity of therapy and other contributing risk factors. Objective: to calculate the costs involved in the management of ADRs. Material and Method: A prospective observational study was carried out for a period of 8 months and 240 patients were included in the study as per the study criteria and monitored for ADRs. Patients of either gender aged more than 18 yrs. who were admitted in the general medicine department were included. Patient demographics, treatment provided to inpatients, type of ADRs and the cost involved in their management were evaluated. The data was analysed using descriptive statistics. Out of the 240 patients that were included in the study, 127 (52.91%) were males and 113 (47.08%) were females. Out of the 44 ADRs analysed, 36 (81.8%) were probable and 8 (18.2%) were possible based on the WHO Probability Scale. It was found that Isoniazid/ Rifampicin/ Pyrazinamide/ Ethambutol was the most common causative drugs responsible for ADRs. The most commonly observed reaction during the study was vomiting (11.4%), followed by hepatitis (9.1%), rashes (6.8%) and other reactions were DRESS syndrome, hypoglycaemia, Steven Johnson Syndrome, ototoxicity. Total costs for the management of ADRs was INR 173673. Conclusion: The study reveals that the cost of ADR management will cause a significant increase in burden on the patient. Proper monitoring and reporting of ADRs can help in taking appropriate measures to prevent future ADRs which can help in decreasing the clinical and financial burden on inpatients.

Keywords: ADRs, Probability, Costs
Abstract:
Ursodeoxycholic acid (UCDA) is an example of chenodeoxycholic acid. UCDA is mainly used for chemo dissolution of bile duct stone, gallstone during rapid weight loss, chronic hepatitis, primary biliary cholangitis and the major side effects are hypersensitivity reaction, rashes, diarrhoea, indigestion, nausea, vomiting dizziness etc. A 44 yrs. old male patient admitted under RTA underwent minor surgery and prescribed with antibiotics, pain killers and PPIs. On subsequent day the patient developed sharp epigastric pain, and was referred by Physician for ECG & USG. ECG was found to be normal, and USG reported small gallstone (<1.1mm) thus the physician related the pain to gall stone and the Clinical pharmacist intervened and related the pain to the side-effects of antibiotic (Ampilox). The NSAIDS given reduced the pain and UCDA was prescribed for gallstone as prophylaxis and discharged the patient. Patient returned in couple of days and reported dark yellowish-brown urination, thus prescribed for LFT. The test results showcased increase in, all enzymes levels and bilirubin. The Physician related the result to Gallstone induced obstruction and suggested for a surgery, but the Clinical pharmacist suspected an ADR and requested the stoppage of UCDA, for a trial, as negligible literature was found, the Physician hesitated and requested the patient to check LFT after a day or two days after stopping UCDA. On very next day the LFT was found, getting reduce and reaching near normal. By using ADR probability scale, it was found to be Certain in WHO scale and Probable in Naranjo scale. This is an unusual ADR caused by UCDA and this case report will caution clinicians about the ADR of commonly prescribed UCDA.

Keywords: Ursodeoxycholic acid, ADR, LFT
Abstract:
Conn’s Syndrome characterized by excess secretion of aldosterone from the adrenal gland, is manifested by hypertension, hypokalaemia, and hyporeninaemia. The prevalence of primary aldosteronism in the hypertensive population is 0.1% to 2%. Previous studies have shown that adenomas are the most frequent cause of primary aldosteronism (50% to 70%), followed by bilateral hyperplasia (30%). Usually, adenomas are managed surgically and bilateral hyperplasia, medically. The case report of a 31-year-old man with a 10-year history of hypertension. At the time of presentation at the clinic, he was being treated with Spironolactone 125mg OD and Prazosin 5mg OD yet had elevated BP (160/90mmHg) along with hypokalaemia (2.9mEq/l), elevated plasma aldosterone concentration (22ng/dl), and suppressed plasma renin activity (0.69ng/ml). The 24-hour test of urine catecholamines (metanephrine) were 213.3 mcg/24hr, ruling out Pheochromocytoma. The salivary cortisol was 4.27 mg/dl, ruling out Cushing’s syndrome. A CT scan of abdomen and pelvis showed well defined oval, small, right adrenal lesion which could be adenoma. Adrenal vein sampling confirmed unilateral adrenal adenoma. Laparoscopic right adrenalectomy was done in the patient and the specimen was send for histopathological studies. Histopathological report of right adrenalectomy specimen shows features consistent with adrenal cortical adenoma benign. The patient was stable at the time of discharge and was asked to continue with Prazosin 5mg until normotensive. This case illustrates the difficulty of defining the etiology of primary hyperaldosteronism and we review the biochemical and scanning techniques available to aid in diagnosis. Hypertension is unusual in adolescents and endocrine causes are very rare, but Conn's syndrome should always be considered in the differential diagnosis. The accurate diagnosis can minimise the consumption of unindicated drugs, improve the quality of life of the patient and reduce the economic burden.

Keywords: Conn’s syndrome, Adrenalectomy
POMALIDOMIDE INDUCED DRUG REACTION WITH EOSINOPHILIA AND SYSTEMIC SYMPTOMS (DRESS), A CASE REPORT

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Abstract:
Drug reaction with eosinophilia and systemic symptoms (DRESS), is a rare potentially fatal cutaneous reaction attributed to drug hypersensitivity. It is characterised by a long latency period of two weeks to two months from drug exposure to rash emergence. A 67-year-old patient with H/O Multiple Myeloma (2 years), Hypertension (4 years), Hypothyroidism, Diffused Osteoporosis and abnormal blood count. He was on T. Cilacar (10 mg), T. Thyronorm (25 mcg), Bortezomib, Dexamethasone, Cyclophosphamide and Zolendronic acid. The patient was not willing for bone marrow transplantation. He was on Lenalidomide maintenance with Ibandronic acid and Shelcal. After 4 days he developed itching and oedema all over face and extremities. Thus Lenalidomide was discontinued and managed with T. Atarax, T. Wysolone and Bortezomib. After 5 months, bone marrow biopsy showed progressive disease. 1st cycle of chemotherapy was done with Pomalidomide, Dexamethasone, Bortezomib. On the 3rd week of 1st cycle patient experienced diffused erythromatous papules, plaques, fever (38.4°C), Eosinophils - 28%. Dermatologic consultation confirmed the reaction as Pomalidomide induced DRESS with skin biopsy and discontinued chemotherapy. After 10 days of treatment with Antibiotic- Inj. Cefoperazone/Sulbactam, Vit. C, Antacids, Prednisolone and supportive measures, patient became better- gradually facial puffiness and skin rashes decreased. Thus antibiotics de-escalated, steroids were tapered and stopped. Later he developed itchy scalp, fever, multiple papular lesions and treated with steroids. Although lenalidomide induced DRESS have conclusive report, it is for the first time the similar condition with Pomalidomide has been reported. Since this patient has a history of Lenalidomide induced rash, Pomalidomide should have been used with caution. The RegiSCAR score is 5(probable) for DRESS syndrome.

Keywords: DRESS, Pomalidomide, RegiSCAR
A CASE REPORT ON ANAPLASTIC ASTROCYTOMA

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Abstract:
Anaplastic astrocytoma is a rare malignant brain tumour. Symptoms arise due to increased pressure within the brain which include headaches, lethargy, and changes in mental status. In some cases, seizures, vision problems, weakness of the arms and legs resulting in coordination difficulties may also occur. A 63 yrs. old male patient with his first neurological symptoms (seizure, cognitive dysfunction) presented 2 years back. MRI: Lesion within middle temporal gyrus. BIOPSY: Invasive neoplasm composed of cells arranged within gliofibrillary back ground, increase in nuclear pleomorphism, scattered mitosis. IHC: GFAP (+VE). LCA: Only the mature looking perivascular lymphocytes are highlighted. p53 :20-25 % of the cells show moderate nuclear positivity. K1 -67: 8-10 %. DIFFERENTIAL DIAGNOSIS 1) Metastasis 2) Lymphoma 3) Granuloma He was managed with surgery and radiotherapy. Later relapse occurred and was managed with 4 cycles of chemotherapy (bevacizumab +irinotecan, bevacizumab alone for maintenance, carboplatin+bevacizumab) He recently admitted with the complaints of cognitive dysfunction, fever, seizure and COPD. Symptomatic treatment was given. His disease progressed to grade IV (glioblastoma multiforme). He was not taking antiepileptic medication for past one month. It’s a rare case with a incidence of 5-8 cases per 100000 general population.

Keywords: anaplastic astrocytoma, glioblastoma multiforme
A CASE REPORT ON DOCETAXEL INDUCED ACUTE URTICARIA AND BURGDORF’S REACTION

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Abstract:
Docetaxel is used to treat solid tumours like breast cancer. Palmoplantar Erythrodysesthesia, Hand-Foot Syndrome (HFS) or Burgdorf’s reaction, is an adverse event characterized by intense, painful erythema of the palms and soles that can progress to the formation of vesicles or bullae. A 53-year-old lady known case of right breast carcinoma, stage IIIA, underwent right modified radical mastectomy, chemotherapy, radiotherapy followed by reconstruction in 2008. She was on Tamoxifen for 3 years and Letrozole for 2 years. In 2014, she came with chest wall recurrence while on Letrozole, underwent radiotherapy to sternum followed by chemotherapy with Gemcitabine, Carboplatin + Zoledronic acid for 12 cycles and on Exemestane with calcium supplement. In 2019, she came with lump in left breast, found to have invasive carcinoma left breast, Receptor assay: ER- Positive, PR- Positive, Her-2 negative and Ki-67 25%. PET CT revealed metastasis to lung, liver, brain. Planned to start to chemotherapy with docetaxel but patient deferred drug with hair loss hence liposomal doxorubicin with Zolderonic acid given for 6 cycles. On response evaluation showed progressive disease. She was started on chemotherapy with Docetaxel 120mg. She presented to the hospital on C1D10 with rashes all over the neck and trunk along with HFS, fever spikes, neuropathic pain, oral thrush and hypotension. Suspecting febrile neutropenia with drug reactions, she was treated with IV antibiotics and other supportive measures, neutrophil count 2820. Dermatologic consultation was sought out for skin reactions, skin biopsy obtained, treated conservatively with Hydroxyzine, Dermadew caloe lotion mixed with Propyderm NF (Clobetasol + Clotrimazole + Fusidic Acid) for LA. Later on skin biopsy result showed drug rash with grade 3 HFS. The patient gradually improved. Docetaxel was stopped and planned to continue with weekly Paclitaxel with close monitoring. The identification and management of systemic & dermatological adverse events is critical for maintaining the quality of life in cancer patients.

Keywords: Docetaxel, Burgdorf’s reaction, CaBreast
AMOXICILLIN INDUCED STEVENS’ JOHNSON SYNDROME: A CASE REPORT

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Abstract:
Steven’s Johnson syndrome (SJS) is one such instance of a serious cutaneous emission. The situation offers with excessive purulent conjunctivitis, serious stomatitis with large mucosal putrefaction, and purpuric macules. The etiology is connected to the utilization of medications as adverse to other factors SJS can be separated from other skin stipulations according to three scientific criteria: (1) individual skin injuries, (2) appropriation of sores, and (3) degree of epidermal separation. Medication-induced SJS is portrayed via mucosal disintegrations in addition to far reaching circulation of peculiar objectives or purpuric macules and epithelial separation, including beneath 10% body floor vicinity on the storage compartment, face and extremities. SJS must be clinically separated from viral stomatitis, pemphigus, erythema multiforme (EM), toxic epidermal necrolysis, and the sub epithelial resistant rankling issue, such as pemphigoid. Amoxicillin and clavulanic corrosive mix cure was once recognized as the causative expert in light of the fleeting connection between the corporation of the combine and the begin of the ejections. Overuse of medications such as NSAIDs, anti-infection agents, and anti-seizure drugs can result in SJS and risky epidermal necrolysis, which is a perilous condition. Medical practitioners must be aware of the risks and propose their patients accordingly. Amoxicillin-Induced SJS can be treated with anti-infection agents, such as Cefotaxime and chloramphenicol maleate, and with corticosteroids. A hazard assessment is required for avoiding damage to more tissue.

Keywords: Steven’s-Johnson syndrome, Amoxicillin, Clavulanic acid, Epidermal necrolysis
MACROPHAGE ACTIVATION SYNDROME WITH CRYOglobulinemic VASCULITIS: A RARE CASE REPORT

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Abstract:
Macrophage Activation Syndrome (MAS) is a life threatening complication of rheumatic disease that, for unknown reasons which is characterised by pancytopenia, liver insufficiency, coagulopathy, persistent high-grade fever, hepatosplenomegaly, neurologic symptoms, lymphadenopathy, haemorrhagic manifestations, and a sepsis-like condition. From the clinical features, it is usually difficult to differentiate between a true sepsis, disease flare-ups, or MAS. This condition is thought to be caused by the activation and uncontrolled proliferation of T-lymphocytes and well differentiated macrophages, leading to widespread hemophagocytosis and cytokine over production. It is a subset of hemophagocytic lymphohistiocytosis (HLH). A 26-year-old female patient who has H/O Cryoglobulinemic vasculitis, Hepatitis C, CLD, Anaemia was admitted in the hospital with the complaints of fever, fatigue, altered liver function and anaemia. On clinical examination revealed anaemic syndrome, fever at 39°C. On biological examination, there was pancytopenia with anaemia at 8g/dl, leukopenia at 800/mm3, thrombocytopenia at 40000 and hyperferritinemia at 45795ng/l. The triglycerides were 276mg/dl, HDL-15mg/dl, LDL-618mg/dl, Bil (T)-15.5(Indirect and direct bilirubin were elevated). SGPT (266), SGOT (492) and ALP (1159) were also elevated. RA factor was found borderline (13.9). Histopathological examination of bone marrow revealed hemophagocytic lymphohistiocytosis/MAS. And this condition was managed by etoposide, prednisolone, and antibiotic, PPIs, acetylcysteine, fluid therapy and hepatoprotectant. MAS is a rare and potentially fatal complication of childhood rheumatic disorders, and yet in this case it was reported in a 53-year-old lady. There is negligible literature available which account for the occurrence of MAS with Cryoglobulinemic Vasculitis.

Keywords: MAS, Cryoglobulinemic vasculitis, HLH
Abs_00165

CASE REPORT ON HURTHLE CELL NEOPLASM IN A PATIENTS HAVING CHRONIC KIDNEY DISEASE

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Abstract :

CASE PRESENTATION- A sixty one year old male was presented with gastric symptoms (vomiting and acid regurgitation). Urine output was adequate and there was no hematuria or oliguria. The patient had gastric ulcer 6 years back and dyspeptic symptoms since then. 1 year back, he was evaluated for swelling legs and detected to have deranged RFT (serum creatinine: 5.0). The patient was diabetic and has history of glomerulonephritis.

INVESTIGATION Routine hematological investigation and biochemical investigation was performed. Haemoglobin level was very low. Bone marrow aspiration was done which showed 10% plasmocytosis, clustering of plasma cells and binucleate cells. the thyroid function test had done to the patient. DIFFERENTIAL DIAGNOSIS- Physical examination was done and each thyroid lobe was measured in 2 dimensions using a tape measure. Multiple nodules were present which suggest a multinodular goitre. FNAC thyroid was done which showed palpable nodules of size 1.9cm and loose clusters of polyhedral cells with abundant granular cytoplasm and enlarged nucleus. Thyroid function test revealed T3, 1.15 mcg/ml; T4, 9.78 mcg/dL; TSH < 0.004 IU/L.

MANAGEMENT- The choice of drug was Inj. Sorafenib 30mg (day 2, 3, 4 and 5) along with premedication. Inj. Erythropoetin 4000 IU S/C was administered twice weekly and one unit PRBC was transfused (day 2). OUTCOME /FOLLOW UP Chemotherapy is started to the patient. 4 cycles of chemotherapy were planned. Thyroidectomy was planned for the patient. The patient is response to the therapy. CLINICAL IMPORTANCE- Diabetes mellitus and chronic glomerulonephritis were found to be the major causes of chronic kidney disease in this patient. Chronic kidney disease and cancer are associated because they share common risk factors, most often toxins. Surgical excision is the main treatment for patients with hurthle cell neoplasm, however, some experimental trials have yielded promising results. Early detection and treatment of these tumours increases the survival rate.

Keywords : Hurthle cell neoplasm ; Sorafenib
CREUTZFELDT- JACOB DISEASE: A RARE CASE REPORT

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Abstract:
Creutzfeldt-Jakob disease (CJD) is a rare neurodegenerative disorder of unknown etiology that causes rapidly progressive dementia. It can be divided into four categories: sporadic (sCJD), familial (fCJD), iatrogenic (iCJD), and variant forms (vCJD). The patients mostly die within 12 months. Clinical findings include myoclonus, visual disturbances, and cerebellar and pyramidal/extrapyramidal signs in addition to rapidly progressive cognitive and functional impairment. We present a 60-year-old male patient with chief complaints of insomnia since 3 months associated with multiple jerks, behavioural changes, crying, and anger outbursts, gait disturbance with ataxia and tendency to fall. He was apparently normal until 1 month back when he developed insomnia, which progressed to such extend that he used to remain awake for almost 3 days together. He consulted a physician and was prescribed some medication with which there was no improvement. His wife also reports a change in his behaviour, with excessive anger outbursts for trivial things, bouts of crying and agitation and anxiety, gradually developed difficulty in walking since the past 2 weeks was swaying to the sides while walking and would fall if not caught. He also had episodes of sudden jerky movements of his limbs, more at the time of falling asleep initially, which became more frequent and was present throughout the day. There is also history of sudden startle to loud noise. Then his wife noticed he was fumbling to do familiar tasks and would often need to be told to do daily chores. He also had decreased appetite. CJD confirmed by pathologic prion protein deposition in the brain, and there were periodic sharp wave complexes on EEG, determination of 14-3-3 protein in the CSF, and abnormal signal changes in diffusion weighted or fluid attenuated inversion recovery MRI. Although CJD is incurable and there is no generally accepted treatment currently available, it is important to make an early diagnosis.

Keywords: Creutzfeldt-Jakob disease, prion disease
RITUXIMAB INDUCED CARDIOMYOPATHY: CASE REPORT

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Abstract:
Background: Rituximab is an anti-CD20 antibody that has shown efficacy in chronic lymphocytic leukaemia (CLL), both as a single agent and in combination with traditional chemotherapy. Safety and risk awareness of rituximab’s cardiotoxicity profile is necessary to improve patient care. Objective: To evaluate rituximab induced cardiomyopathy in chronic lymphocytic leukaemia. Description: A case wherein a 56-year-old man diagnosed with chronic lymphocytic leukaemia werecription treated with one cycle of rituximab and bendamustine during chemotherapy. Subsequently, he developed loose stools which subsided after two days. He further developed giddiness leading to admission in the casualty ward of the hospital. A chest x-ray and 2d echocardiography were done. Brain natriuretic peptide (BNP), hematological tests were performed. These findings are suggestive of cardiomyopathy and are treated with Ramipril, Torsemide, and Carvedilol. Lung toxicity was confirmed by the presence of nodular opacities and bronchiectasis in both the lobes of the lungs. Further development of cough led to the administration of Meropenem and Teicoplanin. After symptomatic relief the patient’s vitals were stable, he was discharged from the hospital with advice to come again for follow up after a few days. Result: The pharmacokinetic profile of rituximab shows a long half-life vs of approximately 1 week which coincides with the onset of the symptoms and the radiological findings. Primarily, dilated cardiomyopathy due to rituximab is confirmed by the radiology findings and further lung toxicity is confirmed by chest x-ray findings. Conclusion: This case illustrates the potential for cardiomyopathy with the use of rituximab in patients with chronic lymphocytic leukaemia and a need for further studies to look into the potential mechanisms and treatments of rituximab induced cardiomyopathy.

Keywords rituximab, cardiomyopathy
Abstract

INTRODUCTION: Global LV dysfunction is a rare ADR reported in 2-4% of cases following the administration of Bevacizumab. We report a case of 43 Y/F presented with complaints of abdominal distention on 7/1/19. She was diagnosed as ovarian cancer and underwent 12 courses of chemotherapy with Injection Oxaliplatin 150mg, Injection liposomal Doxorubicin 40mg. CA 125(marker used in ca ovary) was elevated from 500 to 900.5 units /ml shows that patient was unresponsive to the initiated therapy. On 1/11/2019 chemotherapy was modified with Injection Cyclophosphamide 800mg, Injection Methotrexate 50mg, Inj. 5-Fu 750mg, Inj. Bevacizumab 400mg. After 3 days, patient developed chest pain, dyspnea and become unconscious and admitted to ICU. She was ventilated and was on supportive care. Echocardioradiography found to have global LV and RV hypokinesia, severe LV systolic dysfunction, moderate RV dysfunction, grade III diastolic dysfunction, mild MR. On 15/11/19 patient was becoming better and discharged. Some studies show bevacizumab can induce global LV dysfunction when compared with other concomitant medication. Further chemotherapy was done on 21/11/19 with a new regimen (Inj. bevacizumb was replaced with Inj. gemcitabine): Injection cyclophosphamide 800mg, Inj. 5-Fu 750mg, Inj. gemcitabine 1.4mg, Inj. methotrexate 50 mg. after this patient had no complaint of chest pain, dyspnea and SpO2-98%. Based on the patient’s previous medical history, subjective and objective evidences, there is no conclusive evidences of previous cardiac illness in the patient. CONCLUSION: Antineoplastic agent Bevacizumab causes reversible global LV dysfunction. It is necessary for the clinicians to consider the adverse reaction associated with the drug and close monitoring is needed.

Keywords: BEVACIZUMAB, GLOBAL LV DYSFUNCTION
A CLINICAL PRESENTATION OF ETHAMBUTOL INDUCED OPTIC NEURITIS IN TUBERCULOUS CERVICAL LYMPHADENITIS DIAGNOSED PATIENT.

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BACKGROUND: Ethambutol is one of the primary anti-tubercular drug with rare complication of optic neuritis. The severity is dose dependent. We report a rare complication of Ethambutol induced optic neuritis in extra pulmonary tuberculosis patient. OBJECTIVE: To evaluate the case report on ethambutol induced optic neuritis in tuberculous cervical lymphadenitis diagnosed patient. METHODOLOGY: A 40 years old female (59 kg), known case of tuberculous cervical lymphadenitis presented with complaints of gradually decreasing vision during day-time, anxiety and fear since one month. Medication history comprised of antitubercular regimen (ATT: HREL) of Isoniazid (H:300 mg), Rifampicin (R:450 mg), Ethambutol (E:800 mg), and Levofloxacin (L:500 mg) since 4 months. Suspecting ethambutol induced optic neuritis, ATT was discontinued. Basic ophthalmological examination was performed. This includes visual acuity, tonometry, Ishihara colour vision test and fundoscopy. RESULTS: Visual acuity finger counting at a distance of 3 meters was disturbed. Tonometry revealed increased intraocular pressure (12mmHg for left eye and >14mmHg for right eye). Ishihara colour vision test showed defective colour vision. Fundoscopy revealed mild hyperaemia of disc. She was treated for neuritic symptoms with supplementation of Vitamin B complex. Suspecting isoniazid induced psychosis or idiopathic anxiety disorder, she was prescribed clonazepam (0.5 mg/day) and escitalopram (10 mg/day) for one month. She was also advised to administer gabapentin (100mg TID) for neuropathic pain and vitamin E capsules (400 mg OD). The causal association between ethambutol and optic neuritis was found to be certain according to WHO-UMC causality assessment scale. After one month, patient reported improvement in both peripheral and colour vision. CONCLUSION: Ethambutol induced optic neuritis is a rare but serious adverse reaction which requires timely recognition and necessary withdrawal.

Keywords: ethambutol, optic neuritis, tuberculous
CASE REPORT ON 5-FU INDUCED CEREBROVASCULAR ACCIDENT

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Abstract:

INTRODUCTION: 5-Fluorouracil is an antimetabolite antineoplastic agent that belongs to fluorinated pyrimidine analogue, used for treatment of Colorectal, Breast, Head and neck and GI malignancies. Acute cerebellar syndrome, encephalopathy and cardiovascular toxicities are the rare reactions associated with the drug. CASE DESCRIPTION: A 43 years old Female patient presented to a tertiary care hospital in 2016 with complaints of bleeding per rectum, loss of weight, loss of appetite since one month. She was diagnosed with Carcinoma Rectum and had 6 courses of chemotherapy with Inj. Oxaliplatin 150mg and T. Capecitabine 500mg 2-0-2. Recently in 2019, she had disease progression which was confirmed by CT guided TRUCUT biopsy. Hence the patient was started on chemotherapy with FOLFIRI regimen (Inj. 5-FU, Inj. Calcium Leucovorin and Inj. Irinotecan). On the day of discharge after her 6th cycle, she developed headache, vomiting, dysphagia, regurgitation of food, urinary incontinence and facial deviation along with high blood pressure that marked 260/160 mmHg. MRI study of brain revealed Acute non-haemorrhagic lacunar infarct in left half of pons suggestive of stroke. Patient was managed with T. Aspirin, T. Clopidogrel, T. Atorvastatin, Inj. Ondansetron T. Amlodipine after a stat dose of T. Nicardia-R. Patient improved symptomatically and was discharged with single antiplatelet agent and antihypertensives. The cerebrovascular event is supported by the evidence of comparison with initial subjective and objective details and the current status of the patient. CONCLUSION: 5-FU induced cerebrovascular accident is a rare ADR that is possible to occur during management of cancer. Early identification of symptoms and necessary management of the same is important to avoid permanent harm to the patient.

Keywords: 5-Fluorouracil, Cerebrovascular accident
CISPLATIN INDUCED PERIORBITAL EDEMA

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Abstract:
Cisplatin, one of the most effective anticancer agents used to treat a number of cancers including testicular, ovarian, cervical, bladder, etc. often presents with complaints of ototoxicity and nephrotoxicity. However, a case regarding cisplatin induced periorbital edema is being spotted recently. A pediatric patient, 1yr 6months old was diagnosed with Germ Cell Tumour and presented to the hospital for her routine chemotherapy. During the course of treatment, the patient was administered with Inj. Ifosfamide 450mg+ 200ml normal saline, Inj. Mesna 150mg, Inj. Cisplatin 125mg+100ml normal saline and Inj. Ondansetron 1mg. On the second day of administration of Cisplatin, periorbital edema was observed in the patient. Thereby, the reports were forwarded to the ophthalmic department for evaluation and the reports confirmed that cisplatin had caused the edema. BERA (Brainstem Evoked Response Audiometry) test was done for the audiological evaluation as cisplatin is known to cause ototoxicity and the reports revealed normal hearing sensitivity. As a result of the confirmatory reports from the ophthalmologist regarding periorbital edema, Inj. Cisplatin was discontinued and as a substitute Inj. Carboplatin was administered to the patient. As an outcome of this substitution, the edema was found to subside.

Keywords: Cisplatin, Carboplatin, Periorbital edema
CASE OF HIGH-DOSE METHOTREXATE-INDUCED FULMINANT HEPATIC FAILURE AND PANCYTOPENIA IN AN ACUTE LYMPHOBLASTIC LEUKAEMIA PAEDIATRIC PATIENT

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Abstract:
Methotrexate treatment has been associated with an array of liver-related adverse events like asymptomatic transaminase elevations, fatal necrosis and fibrosis. Fulminant hepatic failure (FHF) is rare in children and characterised by massive necrosis of liver cells. Here we present the case of a seventeen years one month-old boy, diagnosed with T-cell Acute Lymphoblastic Leukaemia who developed and died of high dose methotrexate induced encephalopathy, febrile neutropenia with septic shock and disseminated coagulopathy (DIC) soon after the administration of high-dose MTX. This case is unusual due to a series of adverse events that led to severe toxicity. The child had received 1 g/m2 HDMTX infusion for 36 hours in such a way that 10% of the total MTX dose (maximum to 0.5 g) was given intravenously for the first half an hour and the rest was administered evenly during the subsequent 35.5 hours. The child had abdominal pain and loose motions, after the start of HDMTX infusion. After starting MTX infusion, in the 72nd hour, the child had leucopenia, thrombocytopenia and elevated SGPT 660 IU/L, grade 2 mucositis, loose motion, and melena. The same day the child had altered sensorium with deteriorating liver functions, bleeding continuously through NG tube and anal orifice. Investigations revealed severe pancytopenia along with grossly deranged liver function tests and coagulation profile. On the tenth day of Pediatric Intensive Care Unit admission, the child had a cardiac arrest, and the child could not be revived even after resuscitative measures.

Keywords: Methotrexate, pediatric, toxicity, ALL
CLINICAL PHARMACOKINETICS
DIPEPTIDYL PEPTIDASE-4 INHIBITORS FOR THE TREATMENT OF TYPE 2 DIABETES MELLITUS: COMPARISON, SAFETY AND EFFICACY.

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BACKGROUND: Diabetes mellitus is a group of metabolic disorders characterized by hyperglycemia and abnormality in glucose metabolism. There is a need for identification of appropriate treatment as the prevalence of Diabetes Mellitus is increasing. OBJECTIVES: The purpose of the study was to determine the safety and efficacy of dipeptidyl peptidase 4 inhibitor as mono-therapy and in combination therapy. The impact of body mass index, disease duration and gender, on the efficacy of DPP-4I were also studied. METHODOLOGY: A prospective observational study was conducted among the patients with type 2 diabetes mellitus. The study consisted of six groups: 1. Metformin + Glimipride, 2. Metformin + Teneligliptin, 3. Glimipride + Teneligliptin, 4. Metformin, 5. Teneligliptin, 6. Glimipride. Fasting and post prandial blood sugar and HbA1c were monitored before and after six months of therapy. RESULT: In combination therapy, the adverse effect was higher in Group 3 followed by group 1 and 2. The mean fbs reduction was 21.57mg/dl, 28.32mg/dl and 20.08mg/dl in group 1, 2 and 3 respectively. The mean post prandial blood sugar reduction was 27.63mg/dl, 42.78mg/dl and 34.13mg/dl in group 1, 2 and 3 respectively. The mean HbA1c reduction was 1.30%, 1.41% and 0.80% in group 1, 2 and 3 respectively. In case of monotherapy, the adverse effects were more in group 6 followed by 4 and 5. The mean fbs reduction was 16.10mg/dl, 18.54mg/dl and 15.19mg/dl in group 4, 5, and 6. The mean post prandial blood sugar were 25.77mg/dl, 32.09mg/dl and 23.23mg/dl in group 4,5 and 6 and the HbA1c reduction were 1.13%, 0.74% and 0.63% in group 4,5 and 6 respectively. CONCLUSION: The Teneligliptin was safe and efficacious compared to glimepiride in monotherapy and in combination therapy, metformin + teneligliptin was more efficacious. There was no significant impact of gender, BMI class and disease duration on the efficacy of the drug.

KEYWORDS: TYPE 2 DIABETES MELLITUS

A Prospective Observational Study on Cytochrome P 450 Mediated Drug Interactions with Anti Epileptic Medications in a Tertiary Care Teaching Hospital

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BACKGROUND: The broad range of drugs that undergo CYP mediated oxidative biotransformation is responsible for the large number of clinically significant drug interactions during multiple drug therapy and potentially leads to an augmentation of its pharmacologic effects.

OBJECTIVE: Study of cytochrome P450 mediated drug interactions with anti-epileptic drugs and to analyze prescription pattern in epilepsy patients in a tertiary care teaching hospital.

METHODOLOGY: A prospective observational study was carried out in 154 patients in a tertiary care teaching hospital in Mangalore for a period of 6 months. All inpatients of general medicine department except Poisoning cases which were diagnosed with epilepsy, pregnant women and emergency cases were included in the study.

RESULTS: Among the 154 patients, 101(65.5%) patients were males and 53(34.5%) patients were females receiving anti-epileptic medications and number of 114 cytochrome P450 based drug interactions were observed. Epilepsy was mainly observed in people of age group of 19-60 years with incidence of 40.3%. Incidence of CVS disorders as a comorbidity with epilepsy was high. Most of the drug interactions were found to be in the moderate category (87.7%). Interaction of levetiracetam and clobazam was frequent, which contributes 5.2% of the entire list of drug interactions observed. Interactions caused by phenytoin were highest (29.3%) followed by Lvetiracetam (18.9%), Valproic acid (17.2%). The enzyme involvement in the drug interactions were - CYP3A4(38.8%), CYP2C9(16.5%), CYP3A5(12.9%), CYP2D6 & CYP2C19(8.8%), CYP2B6(7.7%), CYP3A4(6.5%). The study also showed majority of inhibitors of CYP2C9, CYP2C19, CYP1A2 are CBZ, Phenobarbital and Phenytoin. Antiepileptic drugs that was found to be commonly prescribed was Levetiracetam(50%).

CONCLUSION: This study represents that most of the interactions occurred were mainly due to the interaction between anti-epileptic drugs prescribed and metabolising enzymes CYP450 in patients. By understanding the unique functions and characteristics of CYP enzymes, physicians can better anticipate and manage drug interactions.

KEYWORDS: CYP450, Anti-epileptics, Interactions.
BACKGROUND: End stage renal disease (ESRD) is considered as major health problem in worldwide which leads to increased risk of mortality, prolonged hospitalisation, readmission and decreased life expectancy. Clinical Pharmacists play an important role in identifying drug therapy problems (DTPs), resolving and preventing potential DTPs through careful pharmaceutical practices which turns improved quality of life.

OBJECTIVE: To analyse the impact of clinical pharmacist activities in nephrology department at a tertiary care hospital.

METHODOLOGY: It was a prospective interventional study conducted in inpatients diagnosed with chronic kidney disease who were selected during ward rounds over a period of five months. Pertinent laboratory and treatment details were obtained from the treatment charts and made appropriate dosage adjustments for various drugs according to Cockcroft Gault equation.

RESULT: Out of 204 cases analyzed, 200 cases with antibiotic auditing and 60 interventions were done. Around 113 patients were counseled at the time of discharge. We made 24 interventions in dosage adjustment of prescribed drugs used in nephrology department. Among this 14 (58%) cases with interventions got accepted by the physicians and 10 (41.6%) got rejected. Most of the cases were identified with inappropriate dosage adjustment of meropenem. 2 cases with inappropriate loading dose of colistin and fluconazole were identified and 7 ADRs were identified during our study.

CONCLUSION: Clinical Pharmacists are routinely involved in pharmaceutical care by providing patient counselling, close monitoring of prescribed medications, antibiotic auditing, reconciliation, drug interaction and ADR monitoring. The high acceptance rate of our interventions emphasize that a clinical pharmacist can bring out better therapeutic outcome.

KEY WORDS: End Stage Renal Disease, Drug Therapy Problems.
BACKGROUND: Pharmacovigilance plays a key role in the healthcare system through assessment, monitoring and categorization of ADRs and their effects in human. Nowadays, it has been grown significantly as worldwide and recognized its importance in the health care system.

OBJECTIVE: We aimed to determine the incidence of Adverse drug reactions, severity and categorization of suspected ADRs occurred in all departments a tertiary care hospital.

METHODOLOGY: A prospective observational study was carried out, at different departments (Oncology, GM, gynaecology, neurology, nephrology, urology, cardiology, pediatrics, orthopaedics, dermatology, rheumatology, Psychiatry) hospital during a 4 months period.

RESULTS: A total of 8779 inpatients were analyzed. Among this, 79(0.9%) ADRs were observed. Most of the ADRs were observed in oncology department (49.2%) followed by General medicine. About 73.8% of ADRs were probable based on Naranjo’s scale and 70% were probable by WHO causality assessment scale. Severity of observed ADRs were categorized based on Hartwig’s severity assessment scale, which shows that 51% of reactions were moderate in severity, followed by 48.8% of mild in severity and no severe reactions were observed.

CONCLUSION: Hospital-based ADR monitoring and reporting systems helps to identify the risks associated with the drugs. Further pharmacovigilance studies and close monitoring of ADRs is essential in hospital settings to minimizing the ADRs which in turn improves the therapeutic efficacy.

KEYWORDS: Adverse drug reaction, Pharmacovigilance program of India
PATTERN OF INTERNATIONAL NORMALIZED RATIO VALUES IN DEEP VEIN THROMBOSIS PATIENTS TREATED WITH ORAL ANTICOAGULANT IN A TERTIARY CARE TEACHING HOSPITAL.

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INTRODUCTION: Anticoagulants are chemical substances that prevent or reduce coagulation of blood, prolonging the clotting time. To maximize therapy benefits and minimize complications like bleeding anticoagulant therapy should be monitored and adjusted within the narrow therapeutic index, the International Normalized Ratio. Deep Vein Thrombosis is the blood clots formed in a vein deep inside your body. A target therapeutic INR of 2.0-3.0 has long been considered as the safest range for DVT.

OBJECTIVES: To evaluate the pattern of INR values in DVT patients treated with oral anticoagulant in the Department of Internal Medicine and Clinical Hematology, Government Medical College, Thiruvananthapuram.

METHODOLOGY: The study design used was longitudinal study. The patients diagnosed with DVT and treated with oral anticoagulants were enrolled for study. About 110 patients were selected and categorized as ?new oral anticoagulant therapy patients? and ?chronic oral anticoagulant therapy patients?. By referring the case sheet, the information regarding age, sex, comorbidities and INR values were obtained. Follow-up was done every mouth for a period of six months. Time in Therapeutic Range was calculated using Roosendaal method.

RESULT: Warfarin and Acenocoumarol were prescribed in this study setting. Among the study participants, 80.9% were prescribed with Warfarin and 19.1% prescribed with Acenocoumarol. Among 110 patients, out of 37 patients in the chronic oral anticoagulant therapy group, 28 patients had good INR control and 9 had poor control. Out of the 73 patients in the new oral anticoagulant group, 17 had good INR control and 56 patients had poor control.

CONCLUSION: From the study it was clear that oral anticoagulant therapy must be closely monitored during both acute and chronic periods. Daily INR measurement and recognition of out of range INR might decrease the frequency of oral anticoagulant associated adverse events.

Keywords : Deep Vein Thrombosis; International Normalized Ratio; Oral anticoagulants.
Simultaneous quantification of Isoniazid and Rifampicin in human plasma by LC-MS/MS Method

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BACKGROUND: Antitubercular drugs concentrations maintenance in human plasma is essential in the treatment of TB disease particularly isoniazid and rifampicin during intensive phase.

OBJECTIVE: To develop a simple, accurate and precise method for the simultaneous measurement of plasma concentrations of isoniazid and rifampicin using LC/MS/MS to apply for therapeutic drug monitoring.

METHODOLOGY: Venous blood from patients was collected 2 h after ingestion of daily DOTS and separated plasma was stored at -80°C until analysis. Analytes were extracted from 150 µL of plasma using a liquid-liquid extraction with acetonitrile. To adjust for degradation and losses during sample preparation, isotopically labeled compounds were used as internal standards. Simultaneous separation was accomplished with a Thermo Scientific? Syncronis? C18 column and using a stepwise gradient technique with two mobile phases consisting of water, acetonitrile, ammonium acetate and formic acid with subsequent mass spectrometric quantification in a multiple reaction monitoring mode. The method was validated according to US Food and Drug Administration guidance.

RESULTS: The linear range of the calibration curve for isoniazid was 0.05?10 mg/L and for rifampicin 0.1?20 mg/L. The lower limit of quantification was 0.05 mg/L and 0.1 mg/L respectively. Precision estimated by the coefficient of variation was <15%. The total run time of each analysis was 12 min. The recovery of the analytes were more than 85% and the mean final concentration was found to be 2.2 mg/L and 9.8 mg/L for isoniazid and rifampicin respectively.

CONCLUSION: The LC-MS/MS method can readily be used for simultaneous quantification of primary first-line anti-TB drugs (isoniazid and rifampicin) in plasma and is well suited for therapeutic drug monitoring.

KEYWORDS: Isoniazid, Rifampicin, DOTS, TDM
Comparison of IV Gentamicin OD vs BD Regimen in Respiratory Tract Infections: A PK - PD Study in South Indian Pediatric Patients

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BACKGROUND: Gentamicin is being increasingly used in recent days, as a first line option for the treatment of severe infections due to Gram negative bacteria. This study is used to comparatively assess the pharmacokinetics, efficacy and safety of once daily and twice daily dosing of IV Gentamicin in pediatrics. To assess the Pharmacokinetics and pharmacodynamic Outcomes of IV Gentamicin in Respiratory Tract Infection and to compare Once daily dosing and twice daily dosing regimen in South Indian Pediatric patients.

OBJECTIVE: To perform the therapeutic drug monitoring of IV Gentamicin in predetermined time points. ?To determine the primary pharmacokinetic parameters of Gentamicin in pediatric patients. ?To assess the severity of respiratory tract infection in pediatric population using ReSVinet Scale. ?To monitor for Nephrotoxicity.


RESULTS: Among the 26 samples (n=9), 2 samples were having toxic concentrations, there may be risk of developing Nephrotoxicity. So there is need to monitor Nephrotoxicicity in Pediatric Patients with Gentamicin.

CONCLUSION: The biological factors such as age, gender and physiological development ?are the factors that determine the pharmacokinetic / pharmacodynamic variations. ?The patients Respiratory Infection was assessed using ReSVinet scale, in which the severity of respiratory infection was reduced and prognosis was found to be good after the Gentamicin therapy. ?Thus, the study concluded that once daily regimen is safe and efficacious without indication of nephrotoxicity in pediatric patients with respiratory tract infection. ?In our study we observed that 86% variation in the clearance of these patients while for volume of distribution found to be 25%. ?Therefore, further studies have to be conducted with larger sample sizes and more number of plasma samples.

KEYWORDS : GENTAMICIN
PHARMACOEPIDEMIOLOGY
STUDY OF DRUG PRESCRIPTION PATTERN OF CHRONIC KIDNEY DISEASE PATIENTS UNDERGOING MAINTENANCE HEMODIALYSIS

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Abstract :

Background: In the study, the prescribing pattern of CKD patients who have undergone maintenance hemodialysis was evaluated. Objective: The main objectives include assessing the drug use pattern in CKD patients; identifying the complications that arose during hemodialysis; identifying the gender and age groups where CKD is common.

Material and Method: A prospective observational study was done for 100 patients in the dialysis unit of a tertiary care teaching hospital for a period of 6 months (October 2017-March 2018). The necessary data on the drug prescriptions for each patient was obtained. The patient demographics, associated comorbidities and the complications that arose during dialysis were collected from the patients’ medical record. Results: The results showed that from the 100 patients, 77 were males and 23 females. The age wise distribution of the population showed that majority were in the age group of 54-62 years followed by 45-53 years. The most frequent comorbidities were hypertension (93.75%), anemia (87.5%) and type 2 Diabetes mellitus (41.45%). The most prescribed medicines were cardiovascular agents (24%), followed by hematopoietic (23%), GI agents (17%), multivitamins (13%), antidiabetic (11%), and phosphate binders (10%). Hypotension (18%), vomiting (18%), cramps (13%), chills (11%) and hypertension (14%) were the most frequent complications that arose during the sessions. Conclusion: The complications were managed accordingly. The study revealed that Chronic kidney disease patients are known to take large number of medications to treat their various comorbid conditions. Drug utilization studies are constructive in showing the prescribing trends according to various physicians.

Keywords : Chronic kidney disease, comorbidities, drug prescriptions, hemodialysis, complications
Prospective Study To Evaluate Bacterial Infections in Cirrhotic Patients in a Tertiary Care Teaching Hospital

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Objective: To evaluate bacterial infections and antibiotic treatment strategy in cirrhotic patients in a tertiary care teaching hospital.

Method: A prospective study conducted during 6 months in Father Muller hospital. Patients were enrolled as per inclusion (with cirrhotic infections) and exclusion criteria. Medical records and laboratory data were collected to identify the presence of bacterial infection, type of pathogen and site of infection in hospitalized cirrhotic patients. Treatment chart was reviewed for most common antibiotics used. Data were statistically analyzed through chi-square test.

Result: 60 cases with bacterial infections were identified in cirrhotic patients with 4 cases of mixed infection. The disease was more common in males compared to females. The disease was more common in the age of 51-60 years followed by above 60 years. 55% of the cases were culture positive for causative organism while 45% of the cases were absent. 60% of patients belong to class C followed by class B and class A with 31.7% and 8.3%. The most common causative organism was E. coli followed by K. pneumonia and Enterococcus spp. Majority of patients had SBP followed by UTI, LRTI, Sepsis, Cellulitis and Acute gastroenteritis. The most commonly prescribed antibiotic for infections was found to be Cephalosporin’s followed by other antibiotics Rifaximin and Penicillin with +/- lactamase inhibitor.

Conclusion: Health care providers should monitor patients with hepatic dysfunction for early diagnosis and proper treatment with antibiotics. Use of antibiotic prophylaxis in patients may prevent the development of infections and decreases the mortality and morbidity rate. However irrational use of antibiotics increases the chance of resistance and may lead to dangerous consequences.

Keywords: cirrhotic infections, chi-square test, hepatic dysfunction
PRESCRIBING PATTERN OF CORTICOSTEROIDS IN A TERTIARY CARE TEACHING HOSPITAL

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**Background:** Corticosteroids are powerful, non-selective anti-inflammatory drugs. This study can give an insight on use of corticosteroids in general medicine, dermatology, orthopaedics and respiratory departments for various diseases.

**Objectives:** To evaluate prescribing pattern of corticosteroids, monitor drug interactions, misuse and adverse drug reactions (ADRs) of corticosteroids and to conduct prescription audit.

**Methodology:** Time bound, retrospective and observational study was carried out for 6 months in general medicine, orthopaedics, respiratory and dermatology departments of Yenepoya Medical College Hospital, Karnataka on adult patients of both sex prescribed with corticosteroids and with corticosteroid induced morbidity.

**Results:** 172 cases with prescribed corticosteroids were collected. 52.90% were males and 47.09% were females. Budesonide (25.57%) was the most prescribed. The highest number of corticosteroids was prescribed for asthma (29.66%). Majority of the corticosteroids were taken through inhalation route (30.69%); mostly combined with bronchodilators (70.51%). Corticosteroids were mainly prescribed for 1 to 7 days (46.03%). Tapering was done for 44 (11.25%) corticosteroids. Clobetasol was mixed and applied with liquid paraffin (46.42%) frequently. Antibiotics (21%) and nutritional drugs (21%) were co-administered the most with corticosteroids. Medium potency corticosteroids (34.27%) were the most prescribed. Generic name, brand name, strength, quantity, duration, route of administration and frequency were mentioned for 10.23%, 88.23%, 5.37%, 58.06%, 97.70%, 100% and 97.70% corticosteroids respectively. Site of application was mentioned for 31% of topical corticosteroids. 5(2.90%) patients had developed ADRs to corticosteroids and Prednisolone (62.50%) was mainly prescribed for ADR management. Only 1(0.76%) drug interaction was major. Methylprednisolone (33.55%) had the highest number of drug interactions. Prednisolone (42.86%) was misused by patients most frequently.

**Conclusion:** Misuse, ADRs and drug interactions can be avoided by careful monitoring and patient counselling. Continuing medical education and prescribing in generic name may increase rationality. Such studies can help in improving prescribing practice and rational use of corticosteroids.

**KEY WORDS:** Corticosteroids, prescribing pattern, misuse.
A SURVEY TO ASSESS AWARENESS ON POLYCYSTIC OVARY SYNDROME (PCOS) AMONG FEMALE POPULATION

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BACKGROUND: Polycystic ovary syndrome is considered as the most common endocrine disorder amongst reproductive age women, with features that suggest varying combinations of reproductive functional deficits (such as ovulatory dysfunction) and androgen excess (such as acne and hirsutism). Women with PCOS have difficulty becoming pregnant (i.e., are infertile) due to hormone imbalances that causes or result from altered development of ovarian follicles. One such imbalance is high blood levels androgens, which come from both the ovaries and adrenal gland. Symptoms of PCOS include irregular or no menstrual periods, acne, weight gain, excess hair growth on the face and body, thinning scalp hair, ovarian cysts. Women with PCOS are at risk for type 2 diabetes, high cholesterol, infertility, heart disease.

OBJECTIVE: The objective of the study is to analyze the awareness on PCOS in women.

METHODOLOGY: A questionnaire based online survey was conducted and was shared through social media and the results were analyzed.

RESULT: It was found that 45.45% of women do not know what is PCOS and the rest i.e., 48.25% know about PCOS. 33.56% agree that PCOS is a cyst and the rest say others like swelling, injury, cancer, etc. None of the women under the study know all the causes of PCOS. 5.59% of women have knowledge regarding most of the symptoms. 7% do not know any of the complications, 1.3% have knowledge regarding most of the complications.

CONCLUSION: By the above data it can be concluded that most of the women are unaware regarding PCOS and its complications.

KEYWORDS: PCOS, Dysfunction, Awareness
Abs_00092

A STUDY ON THE PREVALENCE AND RISK FACTORS OF TYPE 2 DIABETES MELLITUS IN PCOD PATIENTS IN A TERTIARY CARE HOSPITAL

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BACKGROUND In recent years the Polycystic Ovarian Disease (PCOD) or Polycystic Ovarian Syndrome (PCOS) is a globally emerging endocrine or metabolic abnormality among women. The clinical manifestations of disease include Oligomenorrhea or amenorrhea, hirsutism and frequent infertility. Most of the PCOD patients affected with insulin resistance and can cause type 2 DM, Which may be due to a number of co morbidities including metabolic syndrome. Normally the prevalence of type 2 DM in PCOD patients is found to be 20%, in this study it is 15%.

OBJECTIVE To study the prevalence and risk factor of type 2 Diabetic Mellitus in PCOD (Polycystic Ovarian Disease) patients in a tertiary care hospital

METHODOLOGY A prospective observational cross sectional study was conducted in both inpatients and outpatients of gynecology and general medicine department for a period of 6 months. Based on the inclusion and exclusion criteria the number of subject enrolled in the study were 160.

RESULTS The prevalence of type2 Diabetes mellitus in PCOD patients in our sample was found to be 15%. Insulin resistance is the most major risk factors of Polycystic Ovary disease. The most common risk factors in our study was food habit52.65%, 32.40% of the participants shows a family history of the disease, 31.25% of the participants shows a low physical activity in their life style and 31% of participants were having high BMI.

CONCLUSION In our study the prevalence of Type 2 Diabetes Mellitus in PCOD patients in our sample was found to be 15%, which is less and it varies from the duration of the disease and lifestyle changes of the patients. As PCOD is not a complicated disease it can be prevented by following a healthy life style. The treatment option also follows non-surgical treatment except for the complicated cases.

KEYWORDS : Type 2 DM, PCOD
BACKGROUND: Asthma is a social and economic healthcare burden affecting individuals of all age groups and glucocorticoids are widely prescribed due to its powerful anti-inflammatory and immunosuppressive properties, forming a part of standard treatment for asthma. The aim of this study was to assess the drug prescription patterns of glucocorticoids in asthma patients in a tertiary care hospital.

MATERIALS AND METHODS: The study was conducted in a 1200 bedded institution, Father Muller Medical College Hospital, Mangalore for 6 months.

RESULT: Out of 86 prescriptions, male patients were more (67.44%) and majority of the patients were from the age group 40-60 years (29.06%). Of 389 drugs prescribed, the average number of drugs per prescription was 4.52 and the average number of glucocorticoids per prescription was 1.60. The generic drug prescription was found to be 6.84%. The encounter with an antibiotic and injection prescribed were found to be 18.33% and 25.62% respectively. The drugs prescribed from essential drug list (WHO) was 63.7%. Nebulizers were prescribed most (45.45%) and the least prescribed with metered dose inhalers (9.84%). The drug interactions with glucocorticoids revealed 1.36% had severe interaction, 35.61% had moderate interaction and 63.01% had mild interactions. Appropriateness of the prescriptions showed 97.67% most appropriate.

CONCLUSION: The study concludes that glucocorticoids per prescription was in accordance to WHO recommendations. Antibiotic and injections prescribed showed slight deviation. Prescribing by generic name was low, and there was a small difference in the value of drugs prescribed from EDL. Even though drug interactions were observed in the study, benefits of the therapy outweigh the risks more.

KEYWORDS: Keywords: Glucocorticoid, Prescribing pattern, Asthma
A CROSS SECTIONAL STUDY TO DETERMINE THE ASSOCIATION AND PREVALENCE OF IRON DEFICIENCY ANEMIA IN FEBRILE SEIZURE AMONG PAEDIATRIC POPULATION

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BACKGROUND Febrile convulsions are the most common seizure disorder during the childhood, but they are age dependent and rare before the age of 9 months and after 5 years of age. Iron deficiency leads to dysfunction of myelination as well as tyrosine and tryptophan hydroxylase synthesis, which are necessary for neurotransmitter from vesicles.

OBJECTIVES ? To find the association and prevalence of Iron Deficiency Anemia in febrile seizure. ? To find out any relationship between analyzed variables. ? To find out the percentage of children with anemia.

METHODS A prospective cross-sectional study was carried out in the pediatric inpatient setting of respective hospital. A total of 100 children with the febrile seizure, from 6 months to 6 years were considered. Temperature and certain laboratory parameters like MCV, MCH, MCHC, RBC, RDW, etc. were collected. The collected data were analyzed using statistical package for social science (SPSS) version 30.0. Binomial proportion test was carried out to find out the proportion of Iron Deficiency Anemia in febrile seizure and Chi Square test was done to find out association between variables.

RESULT AND DISCUSSION The study explored to find the association between febrile seizure and Iron Deficiency Anemia. Types of seizure with equal distribution were generalized tonic-clonic seizure (30%), clonic seizure (33%) and tonic seizure (37%). 61% of seizures lasted for <15 minutes and 39% lasted for >15 minutes. Most of the patients were admitted with complaints of viral fever (38%) and acute respiratory infection (29%).65% of the sample had first episode and 35% had the history of febrile seizure.

CONCLUSION Iron Deficiency Anemia can be associated as a moderate risk factor that predisposes to Febrile Seizure in children. Hence IDA could be prevented on early stage of pregnancy with sufficient iron supplements continuing it to the toddlers and children under 6 years of age.

Keywords: IronDeficiencyAnemia, Seizure, Prevalence
OUTCOMES RELATED TO THE KNOWLEDGE, ATTITUDE AND PRACTICE OF HEALTHCARE WORKERS TOWARDS INFECTION CONTROL

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BACKGROUND: Infections acquired in healthcare facilities are a major public health concern, contributing to increased morbidity, mortality, and cost in both developed and developing countries. Healthcare workers must know the various measures for their own protection. They should improve organization of work, implement standard precautions and dispose biomedical waste properly to prevent occupational exposure. Additionally, there is limited information on healthcare worker infection prevention knowledge, attitude and practice.

AIM: This study is aimed at assessing the Knowledge and attitude towards Infection control measures amongst the healthcare workers in a medical teaching hospital of Pune, Maharashtra, India.

METHODOLOGY: The study was conducted among 120 Health Care Workers for a period of three months of a tertiary care hospital in Pune. Data was collected using a 30-item self-administered questionnaire which was analyzed to assess knowledge, attitude and practices regarding infection control among health care workers.

RESULTS: A total of 120 Health Care Workers filled the questionnaire out of which 34.7% were Physicians, 57.5% were Nurses, and 2.7% were Lab Technician and 5% were Clinical Pharmacists. In this study 73% respondents had good knowledge and 27% had poor knowledge towards infection prevention, 84% had positive attitude and 16% had negative attitude towards infection prevention, 77% followed safe practices and 23% followed unsafe practice toward infection prevention, suggesting good scores in this study.

CONCLUSION: This study revealed that the working experience was found strong predictor of knowledge towards infection prevention. There is a need for improvement in the Knowledge, attitude and practice of infection control measures amongst less experienced healthcare workers for both self and patient’s protection.

KEYWORDS: Nosocomial, Infections, Practice, Knowledge, Healthcare, Workers
**COMPARATIVE SAFETY OF COLISTIN AND POLYMYXIN B: A RETROSPECTIVE STUDY**

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**BACKGROUND** A dramatic rise of incidence of MDR and XDR strains of gram-negative bacteria led to reintroduction of polymyxins into clinical practice from early 2000s. Nephrotoxicity is one of the major risks associated with the use of polymyxins, the incidence of nephrotoxicity ranges from 15-60%. The current study was carried out to understand the safety associated with colistin and polymyxin B.

**OBJECTIVE** To compare safety and possible risk factors associated with nephrotoxicity in patients prescribed with colistin and polymyxin B in Kasturba hospital Manipal.

**METHODS** Retrospective observational study by case record review. Cases were screened as per inclusion or exclusion criteria. Data on demographics, lab values, drug use and detailed polymyxins use were documented. Descriptive analysis was performed to compare safety associated with two drugs. Spread sheet applications and R packages were used for data handling and statistical analysis.

**RESULTS** A total 227 were eligible for colistin and 23 patients for polymyxin B. We randomly selected 23 patients from colistin group and compared with 23 patients in the polymyxin B group. All demographic, therapy, lab and other data were documented and reviewed, Study cases were divided into two groups namely: cases where renal function improved post colistin and polymyxin B therapy and cases where renal function declined post colistin and polymyxin B use. Among 46 patients the common diagnosis was found to be AKI, 11 (23 %), T2DM 20 (43.4%), Pneumonia 23(50%) and sepsis 20(43.4%). CKD 2(8%) was only observed in the colistin group. The common pathogen was found to be E. coli 6(13%), Pseudomonas Aeruginosa 3(6.5%) and both Acetobacter baumannii and Klebsiella pneumonia 16(34.7%). The Age >65 were most affected in both groups.

**CONCLUSION** In our study we found no difference in both groups in terms of renal safety and had similar levels (39%) of reduction in renal function

**KEYWORDS:** MDR, XDR, AKI, CKD, T2DM
INTRODUCTION: The knowledge of MRSA and its current antimicrobial profile became necessary in the selection of appropriate empirical treatment of diabetic foot infection mortality and cost.

OBJECTIVE: To determine the antimicrobial susceptibility pattern and proportion of Methicillin resistant Staphylococcus aureus among patients with diabetic foot ulcer.

STUDY DESIGN, STUDY SITE, AND STUDY PERIOD: Cross-sectional study conducted in the department of General Surgery, Government Medical college hospital from December 2108 to June 2019. STUDY PROCEDURE: All information relevant to the study was collected from case records and direct interview with patient with the help of questionnaires. The laboratory reports were collected to determine the proportion and susceptibility pattern of Methicillin resistant Staphylococcus aureus. RESULTS: In the study population, the proportion of MRSA was found to be 9.9. MRSA was highly sensitive to Vancomycin 100%, followed by Linezolid 94.7%, Gentamycin 9.4%, Clindamycin 9.4%.

CONCLUSION: The degree of resistance or sensitivity of MRSA towards commonly used antibiotics is recognized to be diverse from region from region and Vancomycin was the only antibiotic found to give uniform sensitivity.

KEYWORDS: Diabetic foot ulcer, MRSA, Knowledge, Lesions, Practice, Prevalence, Susceptibility, Wound duration
OUTBREAK INVESTIGATION OF NIPAH VIRUS DISEASE IN KERALA: A REVIEW ON EPIDEMIOLOGICAL CHARACTERISTICS TO INFORM PUBLIC HEALTH DECISION MAKING

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INTRODUCTION: Nipah Virus (NiV) is a highly fatal emerging zoonotic virus and a potential threat to global health security. NiV infection is also called Nipah virus encephalitis and forms a new genus Henipavirus in subfamily Paramyxoviridae. Natural reservoir has been identified as fruit bats of the genus Pteropus. Here we describe the characteristics of the NiV outbreak that occurred in Kerala, India.

OBJECTIVE: To investigate and understand the epidemiology and outbreak of NiV infection.

METHODOLOGY: We performed the analysis of throat swab, blood, urine, and cerebrospinal fluid specimens from 3 primary cases and 9 secondary case patients to detect NiV. Further, the viral genome was sequenced and subjected to phylogenetic analysis. We conducted an epidemiologic investigation to describe the outbreak and elucidate the dynamics of NiV transmission.

STUDY DESIGN, STUDY PERIOD, STUDY SITE: A prospective observational study conducted in Government Medical College, Kozhikode from May 2018 to July 2019.

RESULTS: During 2-29 May 2018, 23 cases were identified, 18 were laboratory confirmed. The median age of cases were 45 years; the sex of 15 (65%) was male. The median incubation period was 9.5 days (range, 6-14 days). Of the 23 cases, 20 (87%) had respiratory symptoms. The case-fatality rate was 91%; 2 cases survived. Risk factors for infection include close proximity (i.e, touching, feeding, or nursing a NiV-infected person), enabling exposure to droplet infection.

CONCLUSION: This was the first recorded NiV outbreak in South India. It started with direct contact of humans with bats and consequent nosocomial infection. The reason for multiple outbreaks may be varied, nevertheless, low healthcare system capacity and lack of a robust surveillance strategy contribute to it. Interdisciplinary and multisectoral approach is vital. It is necessary to take rigorous research for developing vaccines and medicines to prevent and treat NiV.

KEYWORDS: Encephalitis, Epidemiology, Nipah, NiV,
HEALTH RELATED QUALITY OF LIFE OF PATIENTS WITH DYSLIPIDAEMIA ON ATORVASTATIN

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INTRODUCTION: Atorvastatin is the most commonly used drug for Dyslipidaemia and are associated with so many ADRs. Statin treatment in association with physical exercise can substantially reduce cardiovascular mortality risk of dyslipidaemic individuals. To improve patient compliance, it is essential to know various ADRs of Atorvastatin and their prevalence.

OBJECTIVES: To assess the health-related quality of life of patients with Dyslipidaemia on Atorvastatin therapy.

STUDY DESIGN, STUDY SITE AND STUDY PERIOD: A prospective observational study conducted in the Department of Internal Medicine, Government Medical College, Thiruvananthapuram from February 2019 to July 2019.

METHODS: 185 patients receiving Atorvastatin therapy, reporting ADRs of Atorvastatin were enrolled in the study. Patients demographic data, clinical data, dose, duration of therapy and ADRs were collected using standard data collection form. HRQOL of patients was assessed using short form-36 questionnaire.

RESULTS: Out of 185 patients 16 patients started receiving Atorvastatin during the study period. The scores of 8 scales of SF-36 physical health, role limitation due to physical health, vitality, emotional well-being, social functioning, pain and general health was calculated for each patients. There was no significant difference in patients who were currently on therapy and continued therapy while enrolling into the study.

CONCLUSION: Long duration of therapy is associated with development of Cognitive impairment and Type 2 Diabetes Mellitus in a small number of patients.

KEYWORDS: Atorvastatin, Diabetes Mellitus, Dyslipidaemia, Health related quality of life, Physical exercise
A STUDY IN PREVALENCE OF STRESS ON ACADEMIA: A PROSPECTIVE, CROSS-SECTIONAL, MULTI-CENTERED STUDY

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Abstract:

INTRODUCTION: Stress is one of the psychological disorders that has high prevalence and re-occurrent in nature with the ability to affect any group of a population. No much studies have been established in educational setting.

OBJECTIVE: To identify the prevalence of stress in academia and its correlation with profession along with the quality of life.

METHODOLOGY: The study was conducted in Adichunchanagiri University after obtaining informed consent. Data were collected in a well designed data collection form and PSS (Perceived Stress Scale) and The Quality of Life using WHO QOL(World Health Organisation Quality Of Life) were used for the assessment.

RESULTS: A total of 888 student participants were enrolled in the study. Among them 73 (8.2%) were from B.Ed, 239(26.9%) engineering, 88(9.9%) management, 264(29.7%) medicine, 74(8.3%) nursing and 150 (16.9%) were from pharmacy of which 91.50% aged between 18-22 years and 8.49% aged between 23-27 years. Engineering students have the highest level of stress and B.Ed students have lowest and there was significant relationship between course of study and stress (p=0.00). From QOL assessment it was found that course of study have significant effect on physical health (p=0.000) and social health( p=0.03) but no significant effect with environmental health (p=0.11) and psychological health (p=0.717). A total of 112 staffs participants were enrolled in the study. Among them 11 (10%) were from B.Ed, 49(44%) engineering, 8(7%) management, 19(17%) medicine, 10(9%) nursing and 15(13%) from pharmacy, of which 66% aged between 25-35 years, 25.9% in 36-45 years, 4.5% in 46-55 years and 3.6% in 56-65. Engineering staffs have the highest level of stress and management the lowest. From quality of life assessment it was found that profession having significant effect on environmental health (p=0.03) but it is not significant with social health (p=0.74), physical health (p= 0.33) and psychological health (p=0.56).

CONCLUSION: The study concluded that faculties in Engineering and Pharmacy and students in Engineering and Medical College have the higher stress. Stress, physical health and social health were significantly related to the course of study among the students; profession of staff among staff members.

KEYWORDS: Keywords: academia, stress, quality of life.
ADVERSE DRUG REACTIONS INDUCED BY ATORVASTATIN IN PATIENTS IN A TERTIARY CARE TEACHING HOSPITAL

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INTRODUCTION: Atorvastatin is the most widely used statin world-over. Although atorvastatin is beneficial in reducing cardiovascular morbidity and mortality, they are associated with Adverse Drug Reactions which are under-recognized as well as under-reported. To improve patient compliance, it is essential to know various ADRs of atorvastatin and their prevalence.

OBJECTIVE: To study the occurrence of adverse drug reactions associated with atorvastatin use and to promote rational use of drugs in the clinic.

METHODOLOGY: About 185 patients received Atorvastatin therapy, were reported with adverse effects in the study. Patients demographic data, clinical data, dose, duration of therapy and ADRs were collected using standard data collection form.

STUDY DESIGN, STUDY PERIOD AND STUDY SITE: A prospective observational study conducted in the Department of Internal Medicine, Govt. Medical College, TVPM, from May 2019 to October 2019.

RESULTS: The major ADR was myalgia (82%) followed by nervous system ADRs and gastrointestinal ADRs. Majority of adverse reactions were reported in patients undergoing therapy for 3 years and above and at a dose of 40 mg. 30% of them were probable and 22.4% were moderate in severity. There was a statistically significant association between dose and myalgia and duration of therapy with Cognitive impairment and new onset Diabetes Mellitus.

CONCLUSION: Myalgia was the most common cause for atorvastatin discontinuation which might place individuals at an increased risk of cardiovascular morbidity and mortality. Measures to identify and address atorvastatin induced myalgia should be given priority. Long duration therapy was associated with development of cognitive impairment and Type II Diabetes Mellitus in a small number of patients. Statins are a linchpin of current approaches to cardiovascular protection. Recognition of potential statin AEs is needed and may be fostered by an improved awareness both of relevant literature and of its limitations.

KEYWORDS: Atorvastatin, Cognitive impairment, Diabetes Mellitus, Myalgia
COMMUNITY HEALTH SURVEY FOR ASSESSING THE HEALTH, DISEASE AND MEDICATION STATUS OF THE COMMUNITY

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BACKGROUND: The survey was designed to collect a wide range of health information. Questions covered health conditions and behaviors, affordability of health care, access to health-care services, and other topics.

OBJECTIVES: To assess the demographic distribution of the community in this ward? To find out the food habits of this population? To evaluate the social habits of the community? Evaluate the prevalence of lifestyle diseases? To find out the pattern of medicine use and problems associated with medicine use.

METHOD: Questionnaire based community survey.

RESULT: In this survey a total of 323 families and 1270 members details were collected. The survey population had 50.39% of females and 49.60% of males. The age wise distribution shows that the 52.04% were under the age group of 15 to 50 years. This age and sex ratio was correlated to our state status. In blood group distribution, out of 1270 members, 607 (47.7%) members do not know their blood group while 52.20% people know their blood group. Out of the remaining members, a larger group of people belonged to O+ve (43.89%) blood group. The usage of alcohol and smoking habit was found to be a matter of concern in this area of study. The prevalence of these habits was seen in males between 18 to 67 years of age. The prevalence rate of non-communicable diseases in total study population was 14.48%. These lifestyle diseases were more prevalent in the age group of 40-80. Hypertension was the most reported lifestyle disease followed by Diabetes, dyslipidemia, asthma, CAD and Stroke. In this survey 49.45% of patients follow the doctors instructions regarding the use of medicines. 21.19% patients are non-adherent and 29.34% are don’t remember what the health care professionals advised them.

CONCLUSION: Social habits, lifestyle are the determinants of lifestyle diseases and there prevalence was increasing day by day. The adherence of patients towards medicines in lifestyle diseases was less.

KEYWORDS: community health survey
ASSOCIATION BETWEEN OCCURRENCE OF PIMS AND ADRS AMONG ELDERLY HOSPITALIZED PATIENTS

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BACKGROUND: Ageing is an inevitable process. The size of India’s elderly population is greater than that of many developed and developing countries. However, ageing is also responsible for the decrease in efficiency and physiological functions of the body. This situation demands constant need for monitoring dose adjustments and emphasizes more precautions while prescribing. Clinical Pharmacists can play an important role in the prevention and management of such drug related problems by promoting rational use of medicines (RUM) in the elderly

Objective: to assess the association between occurrence of PIMs and ADRs among elderly hospitalized patients.

METHODOLOGY: This was a prospective observational study which was conducted for a period of six months. All the elderly patients that were admitted to Departments of General Medicine and Surgery were reviewed intensively. The collected data were screened to assess the prescribing pattern of drugs. PIMs were assessed by using Beers’ Criteria 2015. Association between ADRs and PIMU was assessed using Chi Square Test.

RESULTS: Of the 656 patients enrolled male predominance was observed [359 (54.72%)]. Predictors of PIMs were found to be significant for patients having three co-morbidities, prescription of more than 8 drugs, duration of hospital stay of 6-10 days and administration of more than 100 doses during hospital stay. The incidence of ADRs was found to be 11.4%. In the patients who experienced ADRs, 34 patients were prescribed with PIMs. The average cost associated with the management of ADR was INR 210.07.

CONCLUSION: Incidence of ADRs and PIMs are high among elderly hospitalized patients. Hence, well-trained pharmacists can be an important asset in providing better pharmacotherapy services to elderly patients for detection and prevention of ADRs and PIMs. This would not only reduce morbidity and mortality but also decrease additional hospitalization costs significantly.

KEYWORDS: Geriatrics, Clinical Pharmacists, Potentially Inappropriate Medications (PIMs), Adverse Drug Reactions (ADRs), prescribing pattern