

PROCEEDINGS
OF
2nd ANNUAL NATIONAL
CONVENTION
ISPOR INDIA-KARNATAKA
REGIONAL CHAPTER
6-8 MARCH, 2015

Manipal College of Pharmaceutical Sciences

Manipal University, Manipal



2nd Annual National Convention
ISPOR India-Karnataka Regional Chapter
6-8 March, 2015



ABSTRACTS OF SPEAKERS



**2nd Annual National Convention
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Dr Shobha Rani R Hiremath, MPharm, PhD

Professor and Principal
AI-Ameen College of Pharmacy, Bangalore

Methods of Pharmacoeconomic Evaluation – An Overview

Pharmacoeconomics is defined as a “Branch of health economics which particularly focuses upon the costs and benefits of drug therapy”. Pharmacoeconomic research identifies, measures and compare the costs (resources consumed) and consequences (clinical, economical, humanistic) of pharmaceutical products and services. Pharmacoeconomics is one of the strongest pillars of health economics to make the allocation decisions with respect to the medicines and there by ensure that society allocates minimal health care resources wisely, fairly, and efficiently.



Dr M S Ganachari, MPharm, PhD

Professor and Deputy Registrar
KLE University, Belgaum

Outcome Research – A Pharmacist Perspective

Outcomes research is a facet of research that measures results of various medical treatments and/or interventions in patient populations. The process involves identifying, measuring and evaluating effects of care provided to patients. Results of outcomes research, which consider clinical, economic, and humanistic outcomes, can guide health care decision makers in selecting the most effective treatment and/or procedural strategy or to improve upon current treatments and medical interventions.



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Dr Mrs Chanda Kulkarni, MD, PhD, FSASMS

Neuro-Psycho-Pharmacologist, Research Consultant and Professor of Pharmacology

St John's Medical College and Hospital Bangalore

Practical application of basic Concepts of Pharmacoeconomics & Outcome Research

Pharmacoeconomics [PE] and outcomes research [OR] studies are gaining attention in the recent past. This is primarily due to global explosion of pharmaceuticals. Townsend introduced the term OR in 1986 and Bootman JL, introduced the concept of PE in 1995. While, PE deals with analysis of costs of pharmaceutical products and their consequences; OR broadly helps in measuring and evaluating the end results of healthcare services.



Dr Anantha Naik Nagappa, MPharm, PhD

Professor, Department of Pharmacy Management, MCOPS, Manipal

Opportunities in Pharmacoeconomics and Pharmacy practice services

The pharmacy in India has grown only on industrial front and has remained stagnant in the area of pharmacy practice. The pharmacy practice is a major professional opportunity in developed countries. The pharmaceutical care is the need of the hour due to emergence of life style diseases like diabetes, hypertension, COPD, obesity and Asthma. The patient engagement and education are the critical factors which can play a major role in reducing the burden of morbidity and mortality of the diseases. The talk will be based on the experiences of Pharmaceutical care and Pharmacoeconomics Research by the author.



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Dr Shripathi Acharya G, BAMS, MD

Ex. Dean & Director (Academic), Dept. of PG Studies, MIAMS, Manipal

Ayurveda drug market

Healthcare system in the world is becoming out of reach of poor people. Because of non availability or lack of hospitals and skillful persons, village and remote areas are devoid of healthcare facility. Ayurveda drugs being natural and herbo mineral in origin can be made available even to the people of low socio economic group and also in village area.



Mr Bejon Kumar Misra

International Consumer Policy Expert

The Partnership for Safe Medicines-India: Lessons for Partnerships in Emerging Markets

While medicines are always expected to be a safe remedy for human ailments, unfortunately, there is also the phenomenon of 'unsafe medicines' due to unscrupulous elements in society manufacturing and marketing fake, spurious, mislabeled medicines, as well as medicines with sub-standard ingredients.



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Dr Ravindra Prabhu Attur, MBBS, MD, DM (Nephrology), DNB (Nephrology)

Professor and Head Department of Nephrology, Kasturba Medical College Manipal

Economic aspects of renal replacement therapies

Chronic Kidney Disease is a disorder which results in progressive loss of endogenous kidney function leading to a state of uremia requiring some form of renal replacement therapy. It is diagnosed by either persistent reduction of glomerular filtration rate or albuminuria. It involves a significant burden of suffering and reduction in quality of life and is associated with comorbid conditions which are created/increased by chronic kidney disease.



Dr Manthan Janodia, MPharm, PhD

Associate Professor, Department of Pharmacy Management
MCOPS, Manipal

Pharmacoeconomics and Health Outcomes in India – An overview

The increasing expenditure on pharmaceutical products is a matter of worry for low-income country like India. Governments are finding increasingly difficult to provide basic healthcare needs to their people, which is aggravated by insufficient public spending on healthcare. Studies in health-economics and pharmacoeconomics (PE) may help the in optimizing use of medicines among budget constrained governments, including India.



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Dr Sr Daisy PA, MPharm, PhD

Associate Professor and HOD, Department of Pharmaceutics, St. Joseph's College of Pharmacy, Cherthala.

ECHO Model Outcome Research- A Tertiary care Hospital Experience

Outcome research is a scientific discipline that evaluates effect of health care interventions on patient reported outcomes. It focuses on patient's benefits. Identifying a research problem carefully finding suitable methodology is paramount in getting expected results. Methodology include interview cum surveys, retrospective chart review, prospective clinical trials, observational studies and/or computer modelling studies.



Dr Vaishnavi Naik, PharmD

Drug Utilization in Health care System

Drug Utilization is defined by WHO as the marketing, distribution, prescription and use of drug in society, with special emphasis on the resulting medical, social and economic consequences. The initiatives on drug utilization started in Northern Europe and United Kingdom in mid-1960. Drug Utilization is one of the method to assess the rationality behind the usage of the drugs.



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Dr S Rajan, MPharm, PhD

Associate Professor, Department of Pharmacy Practice
MCOPS, Manipal

Cost-of-illness

Cost-of-illness studies measure the economic burden of a disease or diseases and estimate the maximum amount that could potentially be saved or gained if a disease were to be eradicated. Cost of illness assesses the impact of illness on society and plays a key role in public health policy debates.



Dr E Vigneshwaran, MPharm, PhD

Associate Professor and Head in the department of Pharmacy Practice
Raghavendra Institute of Pharmaceutical Education and Research (RIPER).

Pharmacoeconomics – Formulary Decision Making Process

Essential medicines are those that satisfy the priority healthcare needs of majority of the population. It addresses the disease burden based on its prevalence in nation. Further the listed drugs should be available at affordable costs and with assured quality.



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Mr Suhaj A, MPharm

Assistant Professor, Department of Pharmacy Practice
MCOPS, Manipal University

Outcome measures in Chronic Obstructive Pulmonary Disease

Chronic Obstructive Pulmonary Disease (COPD), comprises a group of diseases associated with airflow obstruction and breathing-related problems. COPD cannot be cured but adherence to the therapy can improve management of symptoms and delay disease progression. Patients' knowledge and awareness about the disease are important in improving quality of life.



Dr Vijayanarayana K, MPharm, PhD

Associate Professor, Department of Pharmacy Practice, MCOPS, Manipal

Introduction to Evidence-based Healthcare

Systematic reviews and meta-analyses are a key element of evidence-based healthcare. Decisions regarding the care of patients must be made through the diligent, unambiguous and thoughtful use of current best evidence. Evidence-based medicine is an exhortation to integrate individual clinical proficiency with the best available evidence from systematic research. It was introduced in the 1980s by a group of clinicians at McMaster University in Canada. Systematic reviews give a clear and consistent picture of the research instead of a number of smaller studies which may give contradictory answers to the same question.



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Dr Uday V Mateti, PharmD (PB)

Research Scholar, MCOPS, Manipal University, Manipal

Emerging Comparative Effectiveness Research

Comparative effectiveness research is the methodical research comparing the cost and consequences of diverse treatment interventions and strategies to prevent, diagnose, treat and monitor health conditions. The rationale of comparative effectiveness research is to help doctors, healthcare professionals, patients, and policy makers to make informed decisions that will improve health care at both the individual and population levels. In this talk, author would like to address the important components of comparative effectiveness research such as Incremental cost-Effectiveness Ratio (ICER) and Quality-Adjusted Life Year (QALY).



Mr Kanav Khara, MPharm

Assistant Professor, Dept. of Pharmacy Practice
MCOPS, Manipal University, Manipal

Patient reported outcomes research

Patient-reported outcomes (PROs) are important in the outcomes like clinical, physiological or caregiver-reported. It is useful for physicians, pharmacists and patients for the assessment and improvement of the therapy. The author would like to elaborate important concepts for understanding of PRO, significance, ideal properties, types, development and evaluation of PRO.



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ABS-P101

A STUDY ON PRESCRIBING PATTERN OF ANTI-HYPERTENSIVE IN A TERTIARY HEALTH CARE HOSPITAL IN MALABAR REGION

Vandana.D, Levin Thomas, Sharon Joseph, Neethu Varghese, Hadiya Aboobacker
Alshifa College of Pharmacy, Kerala

Hypertension is an important public health challenge because of the associated morbidity and mortality and the cost to society. A prescription monitoring study for antihypertensive drugs was undertaken in the medicine outpatient department of 450 bedded private tertiary level referral hospital in south Malabar region of Kerala. The purpose of this study was to investigate the current trend of pattern of prescribing of antihypertensive drug and to identify whether such pattern of prescription is appropriate and accordance with the national guidelines for pharmacotherapy of hypertension. A retrospective study of 4 months duration was undertaken from January 2014 to May 2014. A specially designed data collection form was used for collecting patient's data. The data collection form contained details on age, gender, social history, blood pressure readings, brand name of drugs, drug, dosages and duration of the patient's treatment. 165 patients with primary hypertension without any associated co-morbidities were selected for the study. Phadke's criteria were used for assessment of appropriateness of prescribing. From the study it was found that most patients were being treated with two or more drugs. Calcium channel blockers were most frequently prescribed antihypertensive medicines followed by diuretics, beta blockers, α -blockers, ACE inhibitors, ARBs, vasodilators, $\alpha+\beta$ blockers and central sympatholytics. Among the 165 prescriptions, 67.92% of the patients were prescribed combination therapy. Most commonly used combination was CCB+ β blocker+ α blocker (7.55%). Based on the Phadke's evaluation criteria, 87.27% prescription was found to be rational, 12.72% semi-rational and 0% were irrational.



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**ABS-P102
A CASE OF STEROID DEPENDENCE ADRENAL INSUFFICIENCY
REPORTED TO A TERTIARY CARE HOSPITAL**

**Merin Joseph
KMCH College of Pharmacy, Coimbatore**

Objective: Importance of pharmacovigilance awareness among common people and health care professionals to report serious adverse drug reactions. **Introduction:** Prednisolone is a corticosteroid. It works by modifying the body's immune response to various conditions and decreasing inflammation. Caution needs to be exercised in its usage, otherwise the patient become prone to serious side effects. **Case details:** A 75 year old male patient reported to a tertiary care hospital with anorexia, altered behavior and vomiting. When history was taken he revealed that he has been taking prednisolone 10 mg for itching without physicians advice for more than 10 years and after that, he developed the above symptoms. He was hospitalized where he was evaluated to have developed steroid dependence adrenal insufficiency. After treatment with supportive care he improved dramatically. **Conclusion:** From the above case-report, its clearly known that pharmacovigilance awareness is important for both common people and health care professionals. The present ADR would have been avoided if the patient would have the knowledge of ADR. The pharmacists should be strictly advised not to sell drugs (other than OTC drugs) without physician's prescription.



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**ABS-P103
A CASE REPORT - PHARMACIST INTERVENTION IN
DRUG-INDUCED SKIN RASH**

**Neelkantreddy P, Neha K, Mithun S, Archana K
M R Medical College, Kalaburgi**

Skin rash is a rare but sometimes extremely dangerous adverse drug reaction which can be caused by any drug. We report the case of a 26-year-old female with a well-documented lab investigations and images of the skin rash, who received drug therapy for the treatment of atrophic rhinitis with nasal myiasis. Two days later after therapy skin rashes appeared. On medication chart review it was thought to be an interaction between ceftriaxone and gentamycin or a rare adverse reaction due to ceftriaxone alone. But after cessation of gentamycin rashes continued on ceftriaxone administration. On cessation of ceftriaxone therapy, skin rashes disappeared. Hence, a relation between ceftriaxone therapy and skin rash was presumed. The drugs along with ceftriaxone which might have caused this adverse reaction are discussed. The signs, symptoms and treatment are summarized and proposals are made concerning the action to be taken in the event of ceftriaxone induced skin rash.



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ABS-P104

A COMPARATIVE EVALUATION OF PRICE AND QUALITY OF SOME
BRANDED VERSUS BRANDED GENERIC MEDICINE
MANUFACTURER IN INDIA

D Tagoore Vijayalakshmi

Chalpathi Institute of Pharmaceutical Sciences, Andhra Pradesh

Objective:To compare and evaluate the price and quality of “branded” and branded-generic equivalents of some commonly used medicines manufactured by the same pharmaceutical company in India. **Materials and Methods:**Five commonly used medicines: alprazolam, cetirizine, ciprofloxacin, fluoxetine, and lansoprazole manufactured in *branded* and *branded-generic* versions by the same company were selected. Price-to-patient and price-to-retailers were found for five “pair” of medicines. Both quantitative and qualitative analysis were performed following the methods prescribed in the Indian Pharmacopoeia 2007 on five pair of medicines. The tests performed were identification test, chemical composition estimation test, uniformity of contents test, uniformity of weight, and dissolution studies. **Main Outcome Measures:**Price-to-patient, retailer mark-up and qualitative analysis of branded and branded-generic medicines.



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ABS-P105

**A COMPARATIVE STUDY ON THE EFFECTIVENESS OF ANGIOTENSIN
CONVERTING ENZYME INHIBITORS (ACEIs) AND ANGIOTENSIN
RECEPTOR BLOCKERS (ARBs) IN DIABETIC NEPHROPATHY**

Athira B M, Shanoob C
Al-Shifa College Of Pharmacy, Perinthalmanna

Diabetic nephropathy, or diabetic kidney disease is one of the leading causes of chronic renal failure in India. This study was carried out to determine the most suitable drug for controlling the progression of the diabetic nephropathy. The study was conducted in a tertiary level referral hospital in northern Kerala. The main aim of the study was to compare the effectiveness of ACE inhibitors and ARBs on diabetic nephropathy. It was a prospective study among 70 patients with type 2 diabetic nephropathy. The demographic details and the relevant laboratory parameters were collected by using a specially designed data collection form and six months follow-up was done for each patient. The most prevalent co-morbidity in this study was pre-existing hypertension. So we can suggest that pre-existing hypertension is a major risk factor for diabetic nephropathy. Compared to ACE inhibitors ARB showed better improvement in blood pressure. Blood sugar level, HbA1c level and renal parameters (blood urea, creatinine and potassium) were also improved by ARB than ACE inhibitors. Haemoglobin level was also increased in patients who were treated with ARBs. Comparing the effect of ARB and ACEI on all the relevant laboratory parameters that has to be monitored in diabetic nephropathy, this study reveals that ARB shows better effect than ACEIs in treating diabetic nephropathy.



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ABS-P106
A PROSPECTIVE ANALYSIS OF ADVERSE DRUG REACTION IN
GERIATRICS AT A TERTIARY LEVEL REFERRAL HOSPITAL IN
KERALA

Elizabeth Joseph, Mammen Paul, Sabin T. Sojan, Muhammed Lubab, Shinu.C, Shibil PK
Al-Shifa College of Pharmacy, Perinthalmanna

Adverse drug reactions (ADRs) are becoming a major health concern in elderly inpatients. Polypharmacy and physiological changes along with poor compliance contribute to increasing adverse events. The study was conducted to measure the prevalence of ADRs among elderly inpatients in various departments of a tertiary care hospital, to compare the risk factors. A prospective study was conducted for ADRs among elderly inpatients admitted in various departments of a tertiary care hospital for a period of 10 months (October 2013– July 2014). A total of 27 Adverse Drug Reactions were reported showing an increased tendency of ADR as the age increases, with 44% of the ADR belonging to the age group of 70-79 years. Most of the ADRs were reported in males (77%) compared to females (22%). According to Naranjo Causality Assessment, 51% of the ADRs were assessed as Possible and 48% as Probable. According to WHO-UMC Criteria, 29% of the ADRs were assessed as Severe, 40% as Moderate and 29% as Mild. As the incidence ADRs in elderly inpatients is increasing adequate measures must be taken to monitor and report them. Awareness of all healthcare professionals must be assessed and measures to improve ADR reporting should be taken.



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ABS-P107

A PROSPECTIVE STUDY ON CONGESTIVE HEART FAILURE AND ITS TREATMENT IN SECONDARY CARE HOSPITAL HYDERABAD

Narendra Gadi, Suma latha Chokkakula, Venkata Vasanthi Bavineni
Shri Vishnu College of Pharmacy, Bhimavaram

Aim and Objective: The present study was aimed to identify and evaluate in prescribing patterns in CHF patients. **Methods:** It was a prospective observation study that was conducted in a secondary care non teaching hospital. The study focused on the CHF diagnosed patients of either sex, age above 18 years with or without co-morbidities who met the inclusion criteria were included in the study. **Results:** A total of 600 patients who met the inclusion criteria during October 2013 to November 2014 were selected for the study. Male were about 72.5 and female were about 27.5. In the study smokers (53%) were found more prone to CCF. The main reason for admission were due to chest pain with SOB (72%) and general weakness (28%). Diabetes mellitus (18%) and hypertension (57%) were the main co-morbid conditions associated with CHF. Mainly poly-pharmacy was encouraged in patients. The main drug class prescribed are Cardiac glycosides (37%) and ACE inhibitors (28%). Combination therapy of Glycosides and ACE inhibitors are high. The main drug prescribed is digoxin (38%). **Conclusion:** Congestive heart failure is the disease with high mortality rate. Smoking and alcohol were the main ecological causes. The main symptoms include shortness of breath, chest pain and general weakness. The main co-morbid conditions with CHF are diabetes with hypertension. Cardiac glycosides and ACE inhibitors are the first choice of drugs.



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ABS-P108
A PROSPECTIVE STUDY ON DRUG–DRUG INTERACTIONS
ASSOCIATED WITH POLYPHARMACY IN THE DEPARTMENT OF
CARDIOLOGY IN A TERTIARY CARE HOSPITAL

Minnu Omanakuttan, Levin Thomas, Stephy Simon
Al-shifa College of pharmacy, Perinthalmanna

Drug–drug interactions (DDIs) are defined as two or more drugs interacting in such a manner that the effectiveness or toxicity of one or more drugs is altered. Patients admitted to cardiology department are mostly on polypharmacy. So DDIs drugs are quite common. The aim of the present study was to assess the incidence and risk factors of DDIs in patients admitted in cardiology unit of a tertiary care hospital. A prospective, observational study on 150 prescriptions was conducted for a period of 3 months, patients who were taking atleast two medications and who had a hospital stay of atleast 24 hrs were enrolled. It was found that 87 patients had at least one DDI. The percentage of DDIs was higher in males compared to females (68.2% vs. 31.8%). DDIs were observed more in the age group of 60 years and above (70.4%). Patients with more than 8 prescribed drugs developed DDIs more frequently. On assessment of severity of DDIs, the incidence of mild reactions was 12.41%, that of moderate reactions was 77.93%, and that of severe reactions was 9.65% of all enrolled patients. Aging, male gender and increase in concurrent medications, co morbid conditions were found to be associated with increased DDIs.



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ABS-P110
**A STUDY ABOUT METABOLIC SYNDROME IN A TERTIARY
CARE HOSPITAL**

**Anagha Ambrose, Levin Thomas, Aravind P, Febitha KV,
Anagha Vijayan
Alshifa College of Pharmacy, Kerala**

According to the International Diabetes Federation (IDF) for a person to be defined as having metabolic syndrome they must have raised triglyceride (≥ 150 mg/dl), reduced HDL cholesterol (< 40 mg/dl), raised blood pressure ($> 130/85$ mmHg), raised fasting plasma glucose (≥ 100 mg/dl). A prospective study to analyse age, sex wise distribution and to assess the risk and components of metabolic syndrome was conducted in a 450 bedded tertiary level private hospital in Kerala. The study was carried out for a period of 4 months commencing from November 2013 to February 2014. A data collection form consisting of patient demography, reason for admission, past medical and medication history, social history, risk factors, relevant lab investigation was designed. 117 patients with metabolic syndrome in the age group of 35-70 years of age admitted in the hospital were selected for the present study. From the study it was found that the metabolic syndrome is more prevalent in 61-70 age groups (70%). 65% of male, 35% of female, 51.96% of non-vegetarian, 64.52% alcoholics and 52.54% of smokers was affected by metabolic syndrome. Among the components of metabolic syndrome fasting blood sugar was the major factor followed by hypertension, waist circumference, cholesterol and triglycerides. In the present scenario, as evidence proves metabolic syndrome has been known to be fast developing phenomena worldwide. As a pharmacist we would like to look into what we could do on our part.



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ABS-P111

A STUDY OF POLYCYSTIC OVARY SYNDROME RISK FACTORS AND COMPLICATIONS IN WOMEN-A PROSPECTIVE STUDY

Ashna Mariam Anu, Merin Elizabeth Mathew, Sujisha Surendran,
R Venkata Narayanan
RVS College of pharmaceutical Sciences, Coimbatore

Background: Polycystic ovary syndrome (PCOS) is a problem in which a woman's hormones are out of balance. **Introduction:** PCOS is the principal androgen-excess disorder and affects between 5-10% of all women. **Aim and objectives:** The purpose of the study was to investigate the risk factors and complications in women with PCOS and the management of PCOS. **Methodology:** It's a non-experimental, prospective study carried out in 106 PCOS outpatients those who satisfied the inclusion criteria in tertiary care hospital. Relevant clinical data has been collected from the patient medical records by designing a data collection form. **Results:** 45.72% were in the age group of 21-30 years. 92.38 % was treated with metformin, 45.71 % were given hormone therapy and 42.76% were given fertility treatment. Only 5.76 % were undergone oophorectomy and 3.80% undergone ovarian diathermy. **Conclusion:** Most of the patients had an irregular menstruation pattern. PCOS complications include infertility, hirsutism, obesity, oligomenorrhea, type 2 Diabetes mellitus, irregular cholesterol level, hypertension, miscarriage. This information may be vital in clinical practice for the management of PCOS and prevent its complication. Those women should be given notice of the additional risks they may have, as well as screening for these complications.



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ABS-P112

A STUDY ON ADVERSE DRUG REACTIONS, ASSOCIATED FACTORS AND PHARMACOECONOMIC IMPACT AMONG THE INPATIENTS OF A TERTIARY CARE HOSPITAL IN DAKSHINA KANNADA

Neethu Fathima Umar, CS Shastry
NGSM Institute of Pharmaceutical sciences, Mangalore

This was a prospective study conducted for a period of six months among the in-patient settings of a tertiary care hospital. During the study period a total of 61 ADRs were observed. Among the study population 29 were males and 32 were females, the female population dominated in this study. The age wise categorization of the study population were such that majority of the patients belonged to >50 year age group, followed by 18-49 age group and only two patients belonged to <17 years of age group. The drugs implicated included antibiotics (27.9%), anticancer drugs (24.6%), antihypertensives (8.2%) followed by NSAIDs, antidiabetics, corticosteroids, opioid analgesics, antianxiety drugs, anticholinergics, anticoagulants, antipsychotics, detoxifying agents, immunosuppressants, sclerosing agents, vasopressin receptor agonist and diuretics. The skin was the most commonly affected organ system followed by CNS, GI, CVS, Musculoskeletal system, ENT, Respiratory system, haematological system and sense organs. The ADRs were classified as per the Wills & Browns reaction, it was observed that majority of the reactions belonged to type A. The causality of the ADRs were assessed as per the WHO UMC scale, majority of the reactions were possible followed by probable and certain. The causality assessment utilizing Naranjo scale was also carried out and majority of the reactions were classed as possible. The Hartwigs severity assessment rated majority of the ADRs as level 1. Most of the reactions were predictable (73.2%) & 40% of the ADRs were probably preventable. The most common management of the ADR was withdrawal of the offending drug, followed by adding another drug and substituting with another drug. In most of the cases the treatment was symptomatic. In 44 patients dechallenge showed definite improvement and in 12 patients rechallenge caused recurrence of symptoms. Rash and itching was the most common manifestation of the ADR, among which Steven Johnsons syndrome was serious ADR. Poly pharmacy was found to be a risk factor in majority of the cases. The pharmacoeconomic impact of the ADR was calculated by computing the direct cost involved and comparing it with a control group. It was found that the overall direct cost in the patients with ADRs was INR 7526 and that of control was INR 9372. The ADR had a significant pharmacoeconomic impact in the affected patients. A sound knowledge on the drugs and their ADRs is necessary to prevent such events. Trained health care professionals in the hospital can be helpful in detecting and preventing the adverse drug events.



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ABS-P113
A STUDY ON THE ROLE OF PHARMACOECONOMICS IN RECENT
INDIAN HEALTHCARE SYSTEM

¹Anjali Elsa Sam, ¹Johana Joseph, ¹Aleena Anna Eldho, ¹Anita Antony, ¹Mr.Sam Johnson
Udayachander, R.Sivasakthi, ²Dr.Sindu J Punnooran, ¹Dr.R.Venkatanarayanan

1. RVS College of Pharmaceutical Sciences
3. KG Hospital and Research Centre, Coimbatore

Pharmacoeconomics can aid the policy makers and the healthcare providers in decision making in evaluating the affordability of and access to rational drug use. Efficiency is a key concept of Pharmacoeconomics, and various strategies are suggested for buying the greatest amount of benefits for a given resource use. Pharmacoeconomic evaluation techniques such as cost minimization analysis, cost effective analysis, and cost utilization analysis which support identification and quantification of cost of drugs, are conducted in a similar way in measurement of value of health benefits and outcomes. This article provides a brief overview about pharmacoeconomics, its utility with respect to the Indian pharmaceutical industry, and the expanding insurance system in India. Pharmacoeconomic evidences can be utilized to support decisions on licensing, pricing, reimbursement, and maintenance of formulary procedure of pharmaceuticals. For the insurance companies to give better facility at minimum cost, India must develop the platform for pharmacoeconomics with a validating methodology and appropriate training. The role of clinical pharmacists including Pharm D graduates are expected to be more beneficial than the conventional pharmacists, as they will be able to apply the principles of economics in daily basis practice in community and hospital pharmacy.



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ABS-P114

A SYSTEMATIC REVIEW OF PHARMACO-THERAPIES FOR SMOKING CESSATION: AN ECONOMIC EVALUATION

J Sam Johnson Udaya Chander, Grace Thomas, J Subadradevi, R Venkatnarayanan
R.V.S College of Pharmaceutical Sciences, Coimbatore

Introduction: One of the most important tools to improve our understanding of the costs and effects of healthcare services is an economic evaluation. This will help to create a cost-effective healthcare system. This article aims to critically assesses and review various articles on economic evaluations of pharmaco-therapies for smoking cessation. Some medications have been proven to help people to quit smoking. The licensed products available in Europe and the USA are nicotine replacement therapy (NRT), Bupropion, and Varenicline. Cytisine (a treatment pharmacologically similar to varenicline) is also licensed for use in Russia and some of the former socialist economy countries. Other therapies including nortriptyline and bupropion have also been tested for effectiveness. **Methodology:**An extensive literature review of PubMed, Wiley Online, and Science Direct was conducted. The covered nicotine replacement therapy (NRT), antidepressants (Bupropion and Nortriptyline), nicotine receptor partial agonists (varenicline and cytisine), anxiolytics, selective type 1 cannabinoid receptor antagonists (rimonabant), Clonidine, Lobeline, Dianicline, Mecamylamine, Nicobrevin, Opioid antagonists, nicotine vaccines, and silver acetate. The outcome of interest is continuous or prolonged abstinence from smoking cigarettes for at least six months from the start of treatment. **Results and Conclusions:**When compared with placebo, both NRT and bupropion were superior in increasing the quitting rate. Out of 267 studies, we found out that Nortriptyline increased the chances of quitting with 95% confidence interval. Neither nortriptyline nor bupropion were shown to enhance the effect of NRT compared with NRT alone. Clonidine increased the chances of quitting with 95% confidence interval, but this was offset by a dose-dependent rise in adverse events. Mecamylamine in combination with NRT may increase the chances of quitting, but the current evidence is inconclusive. Other treatments failed to demonstrate a benefit compared with placebo. Nicobrevin's license in UK is now revoked and the manufacturers of rimonabant, taranabant and dianicline are no longer developing or testing these treatments. This review suggests that smokers in India may be made aware of these kinds of drugs and small changes in health policies may definitely reduce the smoking rates in India and improve the economic condition of the country.



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**ABS-P115
A SYSTEMATIC REVIEW OF SELECTED POTENTIAL ANTI-DIABETIC
HERBS IN INDIA**

**Ujwala TK, Shawn Tomy, Sandra Celine, Sam Johnson Udaya Chander,
R Venkatanarayanan
R.V.S College of Pharmaceutical Sciences**

Introduction: Diabetes mellitus is a chronic metabolic disorder resulting from insulin deficiency characterized by hyperglycaemia, altered metabolism of carbohydrates, protein and lipids and an increased risk of vascular complications. India has more diabetics than any other country in the world, the disease affect more than 62 million Indians, which is more than 7.1% of India's adult population and being termed as the "diabetes capital of the world. The use of herbal drug in treating diabetes mellitus is long proven which also promises more effective control of sugar level with fewer side effects. This study aims to review various herbal plants available in India to treat diabetes. **Methodology:** An extensive review was conducted by analyzing various websites like Science direct, PubMed and NLS. During this review we were able to sort down various medicinal plants available in median subcontinent for the cure of diabetes mellitus. **Result and Conclusion:** A number of reviews have been published on plants screened for hypoglycemic activity in India. The present review has presented comprehensive details of some potential anti-diabetic plants used in the treatment of diabetes mellitus. However, many other active agents obtained from plants have not been well characterized. More investigations must be carried out to evaluate the mechanism of action of medicinal plants with antidiabetic effect. The toxic effect of these plants should also be elucidated.



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ABS-P116
ABDOMINAL TUBERCULOSIS - A RETROSPECTIVE ANALYSIS

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Background: Tuberculosis (TB) is an age-old, re-emerging communicable infectious disease and India accounts for 24% of the total reported cases of TB. Thus we have been given the highest global priority by the WHO. Abdominal TB (AT) presentation is often vague and non-specific; the disease is a great mimic of infectious and non infectious diseases making its diagnosis a challenge. Aim: To characterize the demographic and clinical features of abdominal TB to improve its diagnosis and facilitate quality care. Method: All patients, without an age restriction who were diagnosed with abdominal TB in Kasturba Medical College in the years of 2011 and 2012 were included. (n=90). Results: Median age was found to be 35 with a minor male predominance. It was observed to be a disease more prevalent in young adults. Abdominal pain, fever, weight loss and emaciation were most frequent symptoms as seen in the study. Ascites (identified by free fluid or shifting dullness) and tenderness on palpation were observed during physical exam. The highest proportion of patients had peritoneal TB (46.3%). We found that 69% of the patients had hyponatremia at their first presentation. Conclusion: No single test or procedure serves as a gold standard for the diagnosis of AT. However, laparoscopic evidence and high Adenosine deaminase in ascetic fluid are new and improved tools for rapid and specific diagnosis of AT. Once diagnosis is made in a timely manner, AT remains a disease that can be well managed with medical therapy alone of Category I medications for six months.



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ABS-P117
'ANTIBIOTICS; NEED FOR NEW FENCES'
A PROSPECTIVE UTILIZATION EVALUATION OF CEPHALOSPORIN'S
AND ITS COMBINATION IN A TERTIARY CARE HOSPITAL

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Drug therapy is considered to be an integral part of patient management in health care settings. Of the various drug classes, antibiotics have got a special attention. The misuse or inappropriate uses of these antibiotics lead to increase in healthcare expenses, development of drug resistance and serious adverse drug reactions. Among all antibiotics, cephalosporins are the largest and most diverse family of antibiotics available. The spiralling cost of these drugs and chances of developing resistance due to their widespread use has warranted the need for drug utilization evaluation (DUE) of cephalosporin. The main aim of the study was to evaluate the effectiveness of medication therapy for improving the patient safety. The study was conducted in four departments of the hospital for the period 3 months. The factors like drug selection, days of therapy, age, the culture sensitivity reports, de-escalation and some other relevant parameters were studied. A 76% of cases collected were complied in accordance with the hospital antibiotic guidelines. In 69 % of cases, the days of therapy satisfied the guideline. But it was a matter of concern that, only in 85% cases the culture was considered.



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ABS-P118
ANTIHYPERTENSIVE PRESCRIBING PATTERN IN DIABETIC
PATIENTS IN A TERTIARY CARE HOSPITAL – A PROSPECTIVE
SURVEY

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Background and Introduction: Type 2 Diabetes is a component of the metabolic cluster, which is associated with other risk factors like insulin resistance, dyslipidemia, hypertension. Majority of patients who visit diabetes clinic may also have hypertension as one of the comorbidity and the antihypertensives that are prescribed to them may have a significant interaction with the anti-diabetics that they are taking. **Aim and Objectives:** To analyze the prescribing pattern of antihypertensives in diabetic patients with special focus on type 2 diabetic patients. **Methodology:** A non-experimental, prospective, cross-sectional study conducted on a total of 250 diabetic outpatients from the Endocrinology and Diabetes Department of a tertiary care hospital in Coimbatore. Prescriptions, treatment charts, and laboratory data of outpatients were taken into consideration for determining the cardiovascular risk factors and for analyzing the prescribing pattern of antihypertensive drugs. Therapeutic data such as names of drugs, doses, route of administration, and the laboratory data were collected and documented in a pre-designed documentation form. The collected data were analyzed by descriptive statistical analysis. **Results:** Regarding the distribution of patients on the gender basis and it was found that 56.5% of patients were male and the remaining 43.5% were female patients. The mean age of the male patient was 45.2 and the mean age of female patients was 34.81. Calcium channel blockers were prescribed for 15.2% of patients and least prescribed drug class was beta blockers. Regarding angiotensin-receptor blockers, losartan was the major drug prescribed which amounts to 27.8%. **Conclusion:** In the present study the most preferred class was angiotensin receptor blocker (33%) followed by angiotensin converting enzyme inhibitors (22.3%). This study suggests that ACE inhibitors may be prescribed as a primary drug for diabetics if it is not contraindicated.



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ABS-P119
ANTI-INFLAMMATORY ACTIVITY OF METHANOL EXTRACT OF THE
LEAVES OF *BUTEA MONOSPERMIA*

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The main objective of the study was to investigate the methanolic extract of leaves of *Butea monospermia* against carrageenan induced acute inflammation in Rats. The material was dried in shade, they were powdered and Extracted with methanol. Preliminary phytochemical tests were done. Methanol extract showed presence of phenolic compounds and flavanoids. Albino rats were used for the experiments. Acute anti-inflammatory activity was determined by carrageenan induced paw edema model and Chronic anti inflammatory activity was determined by using Cotton pellet Granuloma model. The extract of the leaves administered orally at a dose 200 mg/kg and 400 mg/kg. The anti-inflammatory activity of methanolic extract of *Butea monospermia* was carried out. The Methanol extract significantly inhibited ($P < 0.05$) carrageenan induced paw edema in rat at 400 mg/kg.. The leaves of *Butea monospermia* contains flavonoids. Results revealed that the methanol extract of this plant shows the acute anti-inflammatory activity. The activity was attributed to the presence of Flavanoids in the tested extract.



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ABS-P120

**APPROPRIATENESS OF USE OF CEPHALOSPORINS IN AN INPATIENT
SETTING OF A SECONDARY CARE HOSPITAL**

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Shri Vishnu College of Pharmacy, Bhimavaram.

Aim and Objective: To assess the appropriateness of cephalosporins use in an inpatient setting of a secondary care hospital. **Methods:** A prospective study based on inpatient case sheets in a secondary care hospitals for a period of 30 days from Oct 2014-Nov 2014 referring to NHS antibiotic policy. **Results:** Cephalosporins were prescribed for 56 patients. Among 56 patients males are 40 members and females are 16 members. Among the class of cephalosporin's, cefoperazone (36.7%), ceftriaxone (21.4%), cefotaxime (19.6%), cefroxime (14.1%) and ceftazidime (1%) were prescribed. The appropriateness of cephalosporin's use was 68% and 32% was inappropriately prescribed. **Conclusion:** The inappropriateness was mainly due to Antibiotic use without indication. So , awareness must be needed for antibiotic use to increase the appropriateness.



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ABS- P 121

ASSESSMENT OF HEALTH AND ECONOMIC OUTCOMES IN PATIENTS WITH GASTROESOPHAGEAL REFLUX DISORDER USING STRUCTURED EDUCATION BY PHARMACIST (StEP) TRIAL

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INTRODUCTION: Gastroesophageal reflux disease (GERD) is a common medical disorder seen by clinicians from various specialties. GERD refers to symptoms or mucosal damage that results from abnormal reflux of the stomach contents into the esophagus. When the esophagus is repeatedly exposed to refluxed material for prolonged periods of time, inflammation of the esophagus (reflux esophagitis) occurs, and in some cases, it can progress to erosion of the squamous epithelium of the esophagus (erosive esophagitis). Complications of long-term reflux may include the development of strictures, Barrett's esophagus, or adenocarcinoma of the esophagus which drastically impairs the patient's quality of life which eventually puts a huge economic burden of the patients. The main aim of this study is to study whether structured education by a pharmacist may improve the Health Related Quality of Life (HRQL) and to decrease economic burden of patients with GERD. The study was conducted at K.G. Hospitals and Post Graduate Research Institute Center, Coimbatore. A total of 26 patients were enrolled into the study from both inpatient & outpatient departments of Gastroenterology who are diagnosed as having GERD. The study was conducted as a randomized controlled trial where the patients were divided into two groups viz., intervention and usual care group. The intervention group received structured education by the clinical pharmacist which included education about disease, drugs, and the importance of adhering to the therapy regimen. The usual care group received the usual care given by doctors. At the end of the study, the outcomes were measured in both groups in terms of health-related quality of life as well as absenteeism rate of the patient. At the end of the study, it was found out that the health-related quality of life score improved from score of 44 to a score of 62 with a P value of <0.05, which was statistically significant. There was no statistically significant improvement in the absenteeism rate of the patient. Even though there was no noticeable improvement in the absenteeism rate of the patients, there was a significant change in health-related quality of life which indirectly improves the functional capacity of the patient subsequently decreasing the economic burden of the patient as well as the society as a whole.



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ABS-P122
ASSESSMENT OF HEALTH RELATED QUALITY OF LIFE (HRQL)
USING EQ-5D IN TYPE 2 DIABETES MELLITUS PATIENTS IN A
UNIVERSITY TEACHING HOSPITAL

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Diabetes mellitus is the one of the most profoundly found metabolic disorder. Type 2 diabetes (Non-insulin dependent diabetes, NIDDM) constitutes 90% of the diabetic population in any country. India has earned the dubious distinction of being termed as diabetes capital of the world. As per Diabetes Atlas 2006 by diabetes international federation, the number of people with diabetes in India is 40.9 million in 2007 and expected to rise to 69.9 million by 2025. The higher prevalence is attributed in Asian Indians because of genetic susceptibility. Over the next 30 years the global prevalence will increase by 100%. In this planned study Quality Of Life (QOL) of the patient will be assessed using the validated tool Euroqol 5-D(EQ-5D)[7] which validated generic instrument that has five dimensions: mobility, self-care, usual activities, pain/discomfort, and anxiety/depression. Each dimension has three levels: no limitations, some limitations, and severe limitations. EQ-5D also consists of VAS(visual analog score) which assesses patient on the scale of 0-100, 0 denotes the worst health state and 100 denotes the best health state. This study is to evaluate the Health Related Quality of Life since type 2 diabetes is a chronic disease that hinders a patient's general health and well-being in various ways such as diabetes-related complications, episodes of hypoglycaemia, fear of hypoglycaemia, change in life style and fear of long term disease effects HRQL. Main objective is to measure the health-related quality of life (HRQL) of diabetes mellitus patients using the validated Kannada version of EQ-5D, and examine the relationship between clinical condition and health status. We expect that the outcome of the studies proposed here will help in identifying the health status of diabetes mellitus patients in our setting, which will provide valuable information about the outcome of the therapy.



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ABS-P123

ASSESSMENT OF HEALTH-RELATED QUALITY OF LIFE AND MENTAL STATUS OF PATIENTS WITH DYSPEPSIA BY USING STRUCTURED EDUCATION BY PHARMACIST (STEP) TRIAL

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INTRODUCTION: Dyspepsia is a symptom or a set of symptoms that originate from the gastro-duodenal region. The symptoms are postprandial fullness, early satiation, and epigastric pain or epigastric burning. The symptoms of dyspepsia includes: Belly pain or discomfort, Bloating, Feeling uncomfortably full after eating, Nausea, Loss of appetite, Heartburn, Burping up food or liquid (regurgitation) & Burping. Most people will experience some symptoms of dyspepsia within their lifetimes. The study was conducted at K.G. Hospitals and Post Graduate Research Institute Center, Coimbatore. A total of 26 patients were enrolled into the study from both Inpatient & Outpatient Departments of Gastroenterology who are diagnosed as having Dyspepsia. The study was conducted as a randomized controlled trial where the patients were divided into two groups viz. intervention and usual care group. The intervention group received structured education by the clinical pharmacist, which included education about disease, drugs, and the importance of adhering to the therapy regimen. The usual care group received the usual care given by doctors. At the end of the study, the outcomes were measured in both groups in terms of mental status of the patient using HADs scale and also health-related quality of life. At the end of the study, it was found out that the anxiety score of the patients increased from 10.3 ± 2.4 to 08.3 ± 1.2 with a P value of <0.05 . This trial did not have any significant impact on depression scores of the patient. The health-related quality of life showed a very significant improvement which increased from 58.3 ± 1.1 to 38.3 ± 0.2 with a P value of <0.05 , which is significant. The dyspepsia symptoms also remitted to a noticeable level. The study statistically improved the anxiety score as well as the health-related quality of life score. Even though the depression score does not show any significant decrease, the study holds good in improving mental status of the patient in terms of anxiety and also increases the functional capacity of the patient.



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ABS- P124

ASSESSMENT OF NOSOCOMIAL INFECTION IN PATIENTS ADMITTED IN M.I.C.U IN TERTIARY CARE HOSPITAL IN BHIMAVARAM

**K Pallavi, T Jahnavi, S Tejaswini
Shri Vishnu College of Pharmacy, Bhimavaram**

Background: Infections acquired during hospital stay are generally called nosocomial infections. Formerly, they were defined as infections arising after 48 hours of hospital admission. In the present study we monitored and assessed the patients with nosocomial infections admitted in MICU in a tertiary care hospital, Bhimavaram, Andhra Pradesh. To assess rate and distribution of nosocomial infections in patients. Prospective observational study was conducted on 128 patients who were admitted in tertiary care hospital in Bhimavaram for 8 months. Study revealed incidence of nosocomial infections in MICU patients was 10.93% (14/128 patients). Urinary tract infection (42.85%) was the most frequent; followed by Lower respiratory infection (14.28%), surgical site infection (14.28%), Gastroenteritis (14.28%), Blood stream infection and Meningitis (7.14%). The nosocomial infection was seen more in the 40 to 60 year of age group. The male patients were more prone to nosocomial infections than the female. It also revealed that the incidence of infections increases with use of invasive devices. Early recognition of infections restricted and short term use of invasive devices can therefore, contribute significantly towards decreasing the incidence of nosocomial infections.



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ABS-P125

ASSESSMENT OF NOSOCOMIAL INFECTION IN PATIENTS ADMITTED IN M.I.C.U IN TERTIARY CARE HOSPITAL IN BHIMAVARAM

**Tiruveedhula Jahnavi, S Tejaswini
Shri Vishnu College of pharmacy, Bhimavaram**

Background: Infections acquired during hospital stay are generally called nosocomial infections. Formerly, they were defined as infections arising after 48 hours of hospital admission. In the present study we monitored and assessed the patients with nosocomial infections admitted in MICU in a tertiary care hospital, Bhimavaram, Andhra Pradesh. To assess rate and distribution of nosocomial infections in patients. Prospective observational study was conducted on 128 patients who were admitted in tertiary care hospital in Bhimavaram for 8 months. Study revealed incidence of nosocomial infections in MICU patients was 10.93% (14/128 patients). Urinary tract infection (42.85%) was the most frequent; followed by Lower respiratory infection (14.28%), surgical site infection (14.28%), Gastroenteritis (14.28%), Blood stream infection and Meningitis (7.14%). The nosocomial infection was seen more in the 40 to 60 year of age group. The male patients were more prone to nosocomial infections than the female. It also revealed that the incidence of infections increases with use of invasive devices. Early recognition of infections restricted and short term use of invasive devices can therefore, contribute significantly towards decreasing the incidence of nosocomial infections.



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ABS-P126
ASSESSMENT OF NOSOCOMIAL URINARY TRACT INFECTION IN A
TERTIARY CARE HOSPITAL – KERALA

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Nosocomial Infections (NIs) are the infections acquired in hospital by a patient who was admitted for a reason other than that infection. It comprise one of the leading causes of preventable injuries and deaths in hospitals, affecting 5% to 10% of hospitalized patients in worldwide and contributing to increased morbidity, mortality, length of stay and cost. A cross-sectional, retrospective study was carried out at a tertiary care hospital, Kerala for period of eight months (August 2012 – March 2013) with the aim of assessing the prevalence and occurrence of Nosocomial Urinary Tract Infections (NUTI) and also to identify the risk factors contributing towards it. Out of 988 patients selected 140 (14.17%) developed NIs and the maximum prevalence was found to be UTI 38.57%. Out of 140NIs, 134 were bacterial (95.72%) and 6 were fungal infections (4.28%). Within the bacterial species, 107 were belongs to gram negative (79.85%) and 27 were belongs to gram positive bacteria (19.28%). *Escherichia coli* were the most common pathogen identified, responsible for NUTI (38.88%). In our study the major risk factor for NUTI was found to be geriatric population (62.96%). In a total of 54 NUTI 48 (88.88%) were found to be catheter associated. The study reveals that geriatric population is highly vulnerable to NIs and invasive devices are the major risk, thus an important public health concern in Kerala. Early recognition, restricted and short term use of invasive devices can contribute significantly towards decreasing the incidence of NIs.



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ABS-P127
ASSESSMENT OF OTC DRUG LABELS FOR PATIENT INFORMATION
IN COMMUNITY PHARMACY IN MALAPURAM DISTRICT

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Over the counter drugs, usually referred as OTC, is defined as a “medication which is safe and effective for use by the general public without seeking treatment by a healthcare professional”. In most countries of the world, there exists a category of OTC drugs. OTC drugs have no legal recognition in India, hence all the drugs not included in the list of “prescription – only drugs” are considered to be OTC drugs. A cross sectional study was carried on a total of 480 OTC drugs selected from 7 community pharmacies and 3 hospital pharmacies located within the Malappuram district to evaluate whether OTC drug primary labels have adequate information for patients to make proper self- medication choices. The study was conducted for 3 months. The primary labels of these OTC drugs were then carefully assessed based on the “DRUG FACTS” label guidelines provided by the USFDA for OTC drug labelling. The study revealed that the required information provided on OTC drug labels in India is usually quite insufficient for the patient for ensuring safe, effective, and rational use of OTC drugs. The regulatory authority should immensely implement proper labelling standard for the OTC drug in India for ensuring their safe, effective and rational use.



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ABS-P128

ASSESSMENT OF SELF-MEDICATION PRACTICES AMONG STUDENTS AT A TERTIARY CARE TEACHING HOSPITAL, ANDHRA PRADESH

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Background: Practicing of self medication is increasingly recognized throughout the world. This present study was designed to assess the prevalence and reasons for self medication among medical, pharmacy, and nursing students at Kamineni medical college in Hyderabad. **Aim and Objective:** To find out the reasons, extent, and correlates of self-medication practices among under graduate medical students. **Methods:** A cross-sectional study with one year illness recall was conducted. A Questionnaire consisting of questions on demographic profile, illness and treatment strategies was prepared and administered to the students, selected as the sample population. Different variables like sex, course, self-care orientation, and medication knowledge, were investigated for assessing self-medication practices. Multiple logistic regression and Chi-square statistics were used in data analysis. **Results:** Of a total 446 students, 410 (91.92%) reported at least one episode of an illness, and 386 (86.54%) of them practiced self-medication. Most drugs for self medication were obtained from the pharmacy and the most commonly used drugs were antibiotics, cough syrups and analgesics. Common reported illnesses were cold/flu (92.74%) followed by headache and fever (83.93%). Knowledge from books and previous experience of the illness were the major contributors for self-medication. There was no significant difference between the self-medication practices of medicine, pharmacy and nursing students ($P=0.367$), males and females ($P=1.000$) and year of study ($P=0.406$). **Conclusion:** Self-medication practices were common among the medical students and was practiced with a range of drugs from the conventional antibiotics to herbs. Although the practice of self medication is inevitable; drug regulatory authorities and health professionals need to educate medical students about the side effects and adverse drug reactions of drugs and the consequences of self medication.



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**ABS-P129
BUDGET IMPACT ANALYSIS ON SUPPLYING FREE OF COST
MEDICINES FOR DIABETES MELLITUS IN INDIA**

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Objective: To Estimate the impact on the union budget if they are intended to supply free of cost medication to diabetic population of India. **Method:** Studies published in English language between 2005 and 2014 were retrieved from PubMed, Medline, wiley online library databases. The search was done using keywords like DUE of diabetes mellitus in India, adherence, diabetic complication, QOL of DM using Morisky's instrument. Then the data was estimated for the whole diabetic population (65 million) of India. Cost of the drugs was then calculated. Articles were included in such a way that the region was not repeated. **Results:** Of 46 studies screened, 32 studies were included in the review. A total of 10694 patients drug utilization patterns were reviewed in which 69.6% (7438) were on oral hyperglycemic drugs. In which the major share were biguanides 34% of all prescribed drugs followed by sulfonylureas 23.7%, glucosidase inhibitors 7.5%, thiazolidinediones 2.8%. When these values are generalized for the whole population the budget impact on the union government was calculate to be 230.1 crores per month, with which 68% of adherence can be improved. **Conclusion:** By improving the adherence of diabetic drugs, complications can be decreased by which extra burden on patients can be decreased and there by a healthy Bharath can be seen by 2050.



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**ABS-P130
CARBAPENEM INDUCED NEUROTOXICITY**

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Carbapenems have a neurotoxic potential that seems to be higher than that of the penicillins and cephalosporins. Seizures have been reported in several large studies of patients treated with carbapenems. However, it seems clear that the main factor increasing the risk of neurotoxicity with carbapenem is administration of excessive dosages relative to bodyweight and/or renal function. If the manufacturer's dosage recommendations are followed, the risk of seizures in patients receiving this combination is minimal. With meropenem, a newly registered carbapenem, the safety margin with respect to neurotoxic reactions has been increased compared with imipenem and meropenem can be used at higher doses than imipenem/cilastatin. Since the neurotoxicity of beta-lactam antibacterials seems to be caused by an interaction with gamma-aminobutyric acid (GABA) receptors, other drugs with a similar mechanism of action, such as fluoroquinolone antibacterials, should be used with caution when combined with carbapenems.



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ABS-P131
CLINICAL EVALUATION OF SHUDDHA GUGGULU IN
HYPOTHYROIDISM PATIENTS

Hariprasad, Shripathi Acharya

Introduction: Hypothyroidism is a disorder effecting Infants, teen and adult and also the condition of other diseases or effect of some treatment. Ayurveda is the best option in modern scientific world to invent safe and curative medicines. Shuddhaguggulu is one of the such efforts considering in the treatment of hypothyroidism patients. **Methods:** A randomized single blind clinical study, from the OPD MIAMS, Manipal. N379 32 dropped out, Trail period 90 days. clinical features of Hypothyroidism either sex 20 to 60 years. Trial drug: Triphalakwathashoditha guggulu 1000mg thrice daily. BMI, Joint pain, Muscle cramps and Tiredness value of T3 and T4 to normal range, decline the TSH Cholesterol taken for the assessment. Study was statistically analysed by using the Z test. **Result:** 55.55% relief in Joint pain and 23.68%, relief in Tiredness $p < 0.001$, BMI, Muscle cramps and Anorexia 2.2%, 45.45% and 38.71% relief respectively $p < 0.005$. 23.73% relief in T3 26.72% relief in T4 45.86% relief in TSH, 10.47% relief in Cholesterol $P < 0.001$. **Discussion:** The gum resin contains Guggulusterones Z and E, Guggulusterones I-V cembrene A and Mukulol. In this way Shuddhaguggulu might have acted collectively based on their pharmacological action in Hypothyroidism patients by increasing the cellular metabolism. **Conclusion:** The Hypothyroidism can be controlled by shuddha Guggulu treatment. The study further reveals that the Hormone secretions can be modulated by the Ayurvedic drugs.



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ABS-P132
CLINICAL PRESENTATION AND TREATMENT PATTERN OF
CERVICAL CANCER PATIENTS ADMITTED TO A TERTIARY CARE
HOSPITAL - A RETROSPECTIVE STUDY

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Introduction: Cervical cancer is the most common cause of cancer death among Indian women, accounting for 22,000 deaths annually. The Gynecologic Oncology Group (GOG) suggests chemotherapy agents like cisplatin or combination of cisplatin, 5-FU, and hydroxyurea in patients treated concurrently with pelvic irradiation and brachytherapy. **Objective:** To find the clinical presentation and treatment pattern of cervical cancer patients admitted to a tertiary care hospital. **Method:** Retrospective data was collected from the medical records of women with cervical cancer admitted between 2012 and 2013 in a tertiary care hospital. The epidemiological profile was prepared which included median age of diagnosis, median age at marriage, median number of children, median age of last child birth, median age of menopause, commonly observed symptoms, FIGO stage of cervical cancer, occurrence of metastasis, type of treatment, commonly observed ADRs, radiation induced complications, recurrence, condition at discharge. **Results:** A total of 165 women were identified. Median age of diagnosis was 55 (16) yrs. Among the study population, 91.5% women were housewives. Most women were either in stage IIB (28.3%) or stage IIIB (27.7%). Bleeding per vaginum (59.4%) and white discharge per vaginum (49.1%) were the commonly reported symptoms. Total of 65.5% received concurrent chemo-radiation with 25 cycles of extended beam radiation therapy (50 Gy over 5 weeks) and weekly Cisplatin followed by Intracavitary Radiation. Abdominal pain (16.3%), diarrhea (15.1%) and vomiting (16.3%) were the commonly reported side effects of cisplatin. Total of 12.1% developed radiation induced proctitis. In study population, 9.7% underwent hysterectomy followed by radiation therapy. 23.6% of the patients developed metastasis. 63% showed improvement and 2.4% expired. **Conclusion:** Cervical cancer is the leading cause of cancer mortality among women in India. This cancer is easily treatable if detected early. Women should be encouraged for regular gynecological examination. Chemoradiation induced side effects can be minimized by individualized supportive care for each patient.



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ABS-P133
COMPARATIVE ANALYSIS OF COST EFFECTIVENESS OF NON DRUG
MEDICINE (NONPHARMACEUTICAL HOLISTIC, COMPLEMENTARY
AND ALTERNATIVE MEDICINE/CAM) AND BIOMEDICINE
(PHARMACEUTICAL DRUGS) FOR ALL CLINICAL CONDITIONS

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Aim: To compare the cost-effectiveness of CAM (non-drug talk touch therapy) and biomedicine (pharmaceutical drugs) for all clinical conditions. **Method:** Calculating cost per cured patient with physical, mental, existential and sexual health issues, year 1-50 for most efficient CAM treatments aneutical: NNT = 5-50). The cost of one year of short-term therapy (20 sessions) and drugs was most efficient pharmaceuticals. Mean NNT (number needed to treat) numbers were used (CAM: NNT = 2-6, pharmacively. **Results:** We found CAM to be 100 (10-500) times as cost-effective as pharmaceutical drugs for most clinical condition. The 50 years estimated cost for one patient cured was for: drugs 1,000,000€; physical therapy 100,000€; psychotherapy 200,000€; mind-body medicine 100,000€; holistic mind body medicine 30,000€; one-session shamanistic healing with hallucinogenic drugs 2,000€. A large number of clinical conditions could be cured with CAM but not with drugs, which mainly only reduced symptoms. CAM is more efficient than drugs and has no side (adverse) effects and events, whereas treatment with drugs almost always has many often severe adverse effects and events. **Interpretation:** Drugs turn patients into chronic patients instead of curing. Half the population of the western world today is chronically ill, seemingly because of national health organ's preference of biomedicine instead of CAM. The shift from drugs to CAM would improve health radically in the society and reduce the cost of healthcare to a small fraction. Strict laws should be introduced immediately in all countries to stop pharmaceutical industries from promoting drugs without evidence of long term effect and from repressing CAM.



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ABS-P134

COMPARISON OF EFFECTIVENESS OF COMBINATION OF ATROPINE AND GLYCOPYRROLATE WITH ATROPINE ALONE IN THE TREATMENT OF ACUTE ORGANOPHOSPHORUS POISONING

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Background: Organophosphorus (OP) poisoning is a major problem in India. In hospital based studies of India, mortality rates associated with pesticides have been reported to be as high as 50–70%. The management mainly includes treatment with atropine and oximes. But recently glycopyrrolate also used as an alternative treatment of OP poisoning. **Objective:** comparison of effectiveness of combination of atropine and glycopyrrolate with atropine alone in the treatment of acute organophosphorus poisoning. **Method:** A prospective, open labeled, cross-sectional, non-randomized observational study was conducted including 256 patients of all acute OP poisoned patients, irrespective of age and gender were enrolled in the study. Unknown poisons were excluded from the study. Assessment of clinical outcomes of the patients was performed for the both the gender groups of varied age group. Primary outcomes were measured in terms of rate of mortality, sequel and recovery. The secondary outcomes were measured in terms of duration of ventilation days, duration of hospitalization days, incidence of intermediate syndrome and adverse drug reactions of atropine. **Results:** The Glasgow coma scale, APACHE-II of the control group was found out to be 12.8 ± 6.34 and 8.9 ± 6.2 while that of study group was found out to be 9.8 ± 3.12 and 15.9 ± 6.8 respectively. Overall assessment indicates that study group has better outcome in terms mortality, recovery, duration of ventilation days and incidence of adverse drug reaction of atropine. **Conclusion:** The use of glycopyrrolate in combination with atropine was found to be effective and more beneficial over atropine monotherapy.



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ABS-P135
COMPARISON OF INTERFERON- γ RELEASE ASSAYS AND
TUBERCULIN SKIN TEST IN PREDICTING ACTIVE TUBERCULOSIS
(TB) IN CHILDREN

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The testing and treatment of children at risk for Mycobacterium tuberculosis infection represents an important public health issue. Until recently, diagnosis has relied upon the tuberculin skin test (TST). New interferon- γ release assays (IGRAs) offer improvements over TST, but these tests have not been studied in children. A retrospective analysis of data from children investigated for active TB at six large paediatric centres. All centres had used TST and at least one of the commercially available IGRA in the diagnostic work-up for active TB. TST and IGRA in definite and probable TB in children have their combined sensitivity. Overall, the findings demonstrate performance of IGRAs equivalent or superior to that of the TST. However, IGRAs have biological limitations similar to TST and some technical problems of their own, and critical gaps in our knowledge remain. Within the definite cohort, TST had a sensitivity of 82%, Quantiferon-Gold in tube (QFT-IT) had a sensitivity of 78% and T-Spot. TB of 66%. Neither IGRA performed significantly better than a TST with a cut-off of 15 mm. Combining the results of TST and IGRA increased the sensitivity to 96% for TST plus T-Spot. TB and 91% for TST plus QFG-IT in the definite TB cohort. Conclusions A negative IGRA does not exclude active TB disease, but a combination of TST and IGRA increases the sensitivity for identifying children with active TB.



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ABS-P136
COST EFFECTIVE TREATMENT FOR ESOPHAGEAL CANCER (EC),
WITHOUT COMORBIDITIES

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Introduction: The global burden of cancer continues to increase largely because of the aging and growth of the world population. EC is world's sixth most common cancer. It has unique features of rapid development, poor prognosis and less than 10% 5-year survival after diagnosis. According to world cancer report 2014, there was 400 000 deaths due to esophageal cancer. In India, EC is second and fifth most common cancer in males and females respectively. India's per capita income is ₹74,920 in 2013 -2014 which accounts for ₹6,243 per month. Thus there is need to assess the economic burden on patients suffering from EC. **Objective:** This review is aimed to estimate the treatment costs of EC, which could provide basic cost inputs for further systematic health economic evaluation. **Methodology:** We reviewed 5,000 articles out of which about 20 articles in PubMed with search term EC, economic analysis of EC was selected. Articles with economic review and comparative study of drug for EC are included while articles based on EC with complications and EC as comorbidities are excluded. We followed the treatment guidelines for treatment given by American Cancer Society. **Discussion and Results:** In India cost of stay in hospital is about ₹ 342127 - ₹435434 per week while in tertiary care hospital cost of general esophageal cancer treatment without surgery is about ₹44,594 which includes one dose of chemotherapy and one radiation therapy. Whereas in china chemotherapy for EC costs about ₹288,270- ₹493,638. Chemotherapy therapy by itself rarely cures EC, thus it is accompanied by surgery and radiation therapy. According to American Cancer Society there are six regimen which can be used for treatment of EC, out of which two had radiation therapy and four are combination therapy. There is no significant differences between the groups for postoperative morbidity, with or without Chemoradiation Therapy. **Conclusion:** On review of meta-analysis done, cost effective treatment regimen for Indian scenario for EC is Cisplatin and 5fluorouracil(5FU)(often combined with radiation) which costs about ₹27,000. Chemoradiation is often used before surgery. This can lower the chance of cancer reoccurrence and help people live longer than using surgery alone. Further studies is required to assess the effectiveness of pre- and post-operative Chemoradiation in EC patient.



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ASB-P137
COST MINIMIZATION ANALYSIS OF LOW DOSE HEPARIN
COMPARED WITH ENOXAPARIN IN THE SURGICAL
THROMBOPROPHYLAXIS

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Thromboprophylaxis with pharmacological agents are used in either patient with moderate or high risk of venous thromboembolism (VTE) as per the Caprini VTE risk assessment score. The drugs used are Low dose Unfractionated heparin (LDUH) 5000U sub-cutaneous three times daily or Low Molecular Weight Heparin (LMWH) in the form of Enoxaparin 40mg sub-cutaneous once daily. Though the ACCP 9th Antithrombotic Guidelines recommends the use of either LMWH or LDUH in combination with mechanical prophylaxis, the results of different RCTs on their comparative efficacy are contradictory and there is no clarity in the preference for either of these agents. The study was performed in 2 general surgery departments of a tertiary care hospital. A total of 73 patients were enrolled in the study of which 35 were assigned to LDUH group and 38 to Enoxaparin group. Their direct cost of VTE pharmacological prophylaxis was obtained by setting the cost of each drug as the average of prices of brands used in the study sample. The result showed that the cost of therapy of LDUH (Rs.3234.9) was greater than that of Enoxaparin (Rs.2578.75) in contrast to their unit dose costs which were Rs.97.66 and Rs.435.75 respectively. This suggests that the use of Enoxaparin instead of LDUH will be economically beneficial to the patients in the current institution setting.



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**ABS-P138
COST MINIMIZATION ANALYSIS**

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Cost-minimization analysis is a method of calculating drug costs to project the least costly drug or therapeutic modality. Cost minimization also reflects the cost of preparing and administering a dose. This method of cost evaluation is the one used most often in evaluating the cost of a specific drug. Cost minimization can only be used to compare two products that have been shown to be equivalent in dose and therapeutic effect. Therefore, this method is most useful for comparing generic and therapeutic equivalents of drugs. In many cases, there is no reliable equivalence between two products and if therapeutic equivalence cannot be demonstrated, then cost-minimization analysis is inappropriate.



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**ABS-P139
COST OF BENEFIT ANALYSIS IN HEALTHCARE**

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Issues of health related quality of life (HRQOL) have become increasingly important in economic evaluation of health program. With the advance in technology, the ultimate output of healthcare systems are health interventions that cure, prevent or alleviate disease and thus improve health status and quality of patients' lives. Measures such as quality adjusted life years are used to valuate benefits of health programs as medical treatments aim at improving the quantity as well as the quality of life. The objective of this paper is to modify the existing economic analysis of health sector by integrating the issues of quality of life to develop a new cost benefit analysis to show how social choice theory under a welfare economics framework can be applied to estimate HRQOL in health economics and policy evaluation. Under social choice theory, individual choices and preferences form part of the evaluation criteria of health programs. The paper demonstrates the advantages of this extended framework of valuation and the role played by HRQOL in the costs and benefits estimates and health program evaluation decisions.



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**ABS-P140
COST OF ILLNESS**

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Cost-of-illness (COI) studies aim to assess the economic burden of health problems on the population overall, and they are conducted for an ever widening range of health conditions and geographical settings. While they attract much interest from public health advocates and healthcare policy makers, reporting have made interpretation difficult, and have ostensibly limited their usefulness. This aims to provide non-expert readers with a straightforward guide to understanding and evaluating traditional COI studies. The intention is to equip a general audience with an understanding of the most important issues that influence the validity of a COI study, and the ability to recognize the most common limitations in such work. This includes: Direct and indirect costs, Perspective, Incidence based versus prevalence-based studies, Top-down, bottom-up and econometric approaches, Discount rate and Sensitivity analysis



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ABS-P141
DAILY CONSUMPTION OF ANTI OXIDANTS:-PREVENTION OF
DISEASE IS BETTER THAN CURE

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Our life is threatened and unstable due to oxidative stress produced by a large population, pollution economy, unhygienic surrounding, insufficient intake of functional food, dietary supplements and nutraceuticals. Majority of population in India is suffered by unaffordable cost, poor economy and regular tension. smoking, drugs, illness, even exercise can increase exposure to free radicals thus it contributes to oxidative stress, individual assessment of susceptibility becomes important. High altitude exposure results in decrease oxygen pressure and increased formation of reactive oxygen and nitrogen species. Oxidative stress leads to cause of several disease as Diabetes, cancer, atherosclerosis, Rheumatism, Myocardial infraction, Hypertension etc. Anti oxidants are abundant in vegetables and fruits and are also found in grain Cereals, Teas, Legumes and Nuts. Anti oxidants are our first line defense against free radicle damage and critical for maintaining optimum health and wellbeing. This review describes sources of free radicle generation, causes of different disease, damage to DNA by free radicals, role of antioxidant in prevention of disease, antioxidants in normal physiological function, uses of antioxidants in treating cancer, Diabetes, Hypertension, Rheumatoid arthritis, Alzheimer, Parkinson disease and ageing.



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ABS-P142
DEMOGRAPHY, CLINICAL CHARACTERISTIC AND TREATMENT
PATTERN OF ORGANOPHOSPHORUS POISONING

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Introduction and Objective: The demographical component of the OP poisoning patients plays important role in the patient management. To study the demography, clinical characteristics, severity, treatment and outcomes of patients admitted for acute organophosphorus poisoning in a tertiary care hospital in South India. **Methodology:** The study is prospective and observational. The inpatient files of 256 patients, admitted in the Emergency department of Kasturba Hospital, Manipal from February 2009-November 2012, with a clinical diagnosis of Acute Organophosphorus Poisoning were reviewed prospectively. Patients who had a history of chronic occupational exposure of OP poisoning and patients with history of mixed poisoning were excluded from the study. The demographic details were collected. **Results:** 256 patients are enrolled in the study. The mean age of the study population was found to be 33.44 ± 13.55 years and majority of them belonged to the age group of 21-30 years (n=97 (37.9)). Only 68(26.6%) patients received activated charcoal every 6th hourly for 1-2 days. All the patients received atropine as antidote, while 62 (24.2%) patients received atropine and glycopyrrolate. The outcome analysis of OP poisoning cases admitted during the study period showed that 195 (76.2%) of them recovered, 15(5.9%) of them were sequel and 43(16.8%) of them expired. The mean hospitalization period and ventilator period of study population was found to be 10.21 ± 6.33 and 3.09 ± 4.05 days respectively. **Conclusion:** Majority of the people consumed WHO Ia category of pesticide with intentional harm. Majority of them received GI decontamination followed by atropine and few patients received glycopyrrolate with atropine in combination.



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ABS-P143
DEVELOPMENT AND ESTABLISHMENT OF ANTIMICROBIAL
STEWARDSHIP PROGRAMME (ASP) AND ASSESSMENT OF ITS
IMPACT

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“Antimicrobial stewardship is defined as a rational, systematic approach to the use of Antimicrobial agents (AMA) in order to achieve optimal outcomes”. The primary objective of the study was to develop and implement an Antimicrobial Stewardship Committee (ASC); the secondary are intravenous to oral conversion of antimicrobial agents, de-escalation therapy, medication error associated with AMA and finally the reduction in the usage and the cost of AMA. The study was conducted as two phases, pre-ASP and post-ASP in the inpatients of general medicine department those who have undergone antimicrobial therapy. The data from 50 patients in the Pre-ASP phase, 52 patients in the Post-ASP phase were collected by providing proper recommendations, educational classes and educational notes only in the Post-ASP phase. Statistical comparisons of each strategy were performed between two phases of study. Finally reduction in the usage, cost of AMA was determined and compared between two phases. ASC was constituted with proper quorum requirements. 66.24% increments were achieved in IV to PO conversions in the Post-ASP phase and that was statistically significant ($p < 0.05$). De-escalation strategy was also found to be statistically significant ($p < 0.05$) with an increase from 23.06% to 40%. Reduction in the medication errors were also achieved by the ASP. The impact of ASP was clearly identified by the reduction of the usage of AMA and its cost by 0.573 DDD/100 Bed days and Rs. 76,657.818 respectively.



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**ABS-P144
DISPOSAL OF PHARMACEUTICAL WASTE AND HEALTH OUTCOMES;
ROLE OF PHARMACIST**

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The consumption of pharmaceuticals has increased in the last few decades. After usage, pharmaceuticals are excreted as human waste to wastewater treatment plants where they are subjected to treatment processes, and discharged into rivers. Exposures to environmental pollution remain a major health related risk throughout the world, as risks are higher in developing countries, where poverty, lack of concern may add to high pollution levels. The disposal of pharmaceutical waste refers to the disposal of unwanted pharmaceuticals and pharmaceuticals' packaging including expired, unused and contaminated pharmaceuticals all of which cannot be reused and require disposal. Pharmacists, with their professional commitment to the quality use of medicines and their active participation in the medicines management pathway, have the potential to play a greater role with the environmentally responsible disposal of pharmaceutical waste and the education of other health professionals and the general public on this topic.



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ABS-P145
DOCKING STUDIES OF THE COMPOUNDS ISOLATED FROM
ORTHOSIPHON STAMINEUS: HEPATOPROTECTIVE ACTIVITY

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Computational Biology and bioinformatics have the potential not only of speeding up the drug discovery process thus reducing the costs, but also of changing the way drugs are designed. Rational drug design (RDD) helps to facilitate and speedup the drug designing process, which involves variety of methods to identify novel compounds. One such method is the docking of the drug molecule with the receptor (target). The site of drug action, which is ultimately responsible for the pharmaceutical effect, is a receptor and docking is the process by which two molecules fit together in 3D space. A bioactive compounds has been already reported from the leaves of *Orthosiphon stamineus* and *Coccinia grandis*. The aim of the present study is to investigate the inhibitory activity of the compounds on hepatotoxicity by molecular docking studies and to analyze the ADME/T properties of the compounds Compound 1- Eupatorin Compound 2- Rosmarinic acid Compound 3- Orthosiphol A Compound 4- Sinenstein Compounds 1 to 4 were used for docking on NF-KB Receptor (Nuclear Factor kappa-light-chain-enhancer of activated b cells), Pregnane X Receptor (PXR), protein. Glide docking uses the assumption of a rigid receptor, although scaling of vander Waals radii of nonpolar atoms, which decreases penalties for close contacts, can be used to model a slight “give” in the receptor and/or ligand. Docking studies of designed compounds were carried out using GLIDE (Grid-based Ligand Docking with Energetics) module version 5.9. Schrödinger, LLC, New York, NY, 2013. The software package running on multi-processor Linux PC. GLIDE has previously been validated & applied successfully to predict the binding orientation of many ligands.



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ABS-P146
DRUG UTILIZATION PATTERNS IN PICU AT A
TERTIARY CARE HOSPITAL

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BACKGROUND: To promote rational drug use in developing countries. It is important to assess drug use pattern using world health organisation (WHO) drug use indicators. **AIM:** To assess the drug utilization pattern in paediatric intensive care unit of Tertiary care hospital. **METHOD:** This study was a prospective study that spanned for a period of 6 months. Prescriptions & patient records were received & analysed using WHO indicators. Rationality of drug usage was also evaluated by analysing the drug prescriptions. **RESULTS:** A total of 59 paediatrics were admitted in PICU. The total numbers of drugs prescribed were 398 average numbers of drugs prescribed were 2.94, parenteral route (69%) was the commonest route of drug administration .19.84% of drug were prescribed in generics. 24.37% of the total drugs was anti microbials & 54.87% of the drugs prescribed were in compliance with the list of essential medicines for children of india. **CONCLUSION:** Assessment of WHO core prescribing indicators for drug utilization studies in PICU of Tertiary care hospital has revealed useful information that are reflective of the quality of health care provided by this unit. The prescribing practices in this study are not in par with WHO prescribing indicators and are not satisfactory. The study was undertaken to give feedback to prescribers so as to create awareness about the rational use of drugs.



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**ABS-P147
DRUG UTILIZATION PATTERNS IN PICU AT A
TERTIARY CARE HOSPITAL**

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Drug utilization research is an essential part of pharmacoepidemiology as it describes the extent, nature and determinants of drug exposure. The World Health Organization (WHO) in 1997 defined drug utilization as the marketing, distribution, prescription and use of drugs in a society, with special emphasis on the resulting medical, social and economic consequences. Drug use is a complex process. In any country a large number of socio-cultural factors contribute to the ways drugs are used. In India, these include national drug policy, illiteracy, poverty, use of multiple health care systems, drug advertising and promotion, sale of prescription drugs without prescription, competition in the medical and pharmaceutical market place and limited availability of independent, unbiased drug information. The complexity of drug use means that optimal benefits of drug therapy in patient care may not be achieved because of underuse, overuse or misuse of drugs. Inappropriate drug use may also lead to increased cost of medical care, antimicrobial resistance, adverse effects and patient mortality. Hence in recent years studies on drug utilization have become a potential tool to be used in the evaluation of health systems. The interest in drug utilization studies began in the early 1960's and its importance has increased since then because of increase in marketing of new drugs, wide variation in the pattern of drug prescribing and consumption, growing concern about delayed adverse effects and the increasing concern regarding the cost of drug. Medicines play an important role in health care delivery and disease prevention. The availability and affordability of good quality drugs along with their rational use is needed for effective health care. However, irrational prescribing, dispensing, and administration of medications. Also, the World Health Organization (WHO) reports that more than half of all medicines are prescribed, dispensed or sold inappropriately and that half of all patients fail to take them correctly. To improve the overall drug use, especially in developing countries, international agencies like World Health Organization (WHO) and the International Network for the rational use of drugs (INRUD) have applied themselves to evolve standard drug use indicators. These indicators help us to improve our performance from time to time.



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ABS-P148
DRUG UTILIZATION PATTERNS USING WHO CORE PRESCRIBING
INDICATORS IN DIFFERENT OUT-PATIENT DEPARTMENTS AT A
TERTIARY CARE HOSPITAL

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Drug utilization evaluation (DUE) is a system of ongoing, systematic, criteria based evaluation of drug use that is designed to maintain the appropriate and effective use of medications. Assessment of WHO core prescribing indicators for drug utilization in outpatients in a tertiary care hospital has revealed that generic prescribing was too low in all the departments. Efforts to encourage generic prescribing have to be initiated. Polypharmacy was seen in nephrology (8.37%) and cardiology (5.35%) departments. Over use of antibiotics was observed in urology (68.18%), gastroenterology (36.36%) and OBG (31.14%) departments. Antibiotics use has to be maintained optimal by using an appropriate antibiotic policy in the hospital. Over use of injections was seen in nephrology (55.40%) and psychiatry (26.92%) departments and injection use was completely absent in urology and gastroenterology departments. Percentage of drugs prescribed from EDL was optimal in all the departments and is high in psychiatry (90.34%) department. The prescribing of drugs from EDL has to be improved. The overall prescribing trends in all departments are not in par with the WHO reference range. So steps have to be undertaken to improve them for maintaining rational drug use. All the results obtained in the current study were reported to respective departments and for better prescribing DUE studies have to be continued.



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**ABS-P149
EBOLA VIRUS DISEASE**

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Ebola virus disease (EVD), formerly known as Ebola haemorrhagic fever, is a severe, often fatal illness in humans. The virus is transmitted to people from wild animals, and spreads in the human population through human-to-human transmission. (EVD) first appeared in 1976 in 2 simultaneous outbreaks, one in Nzara, Sudan, and the other in Yambuku, Democratic Republic of Congo. In human population it is through close contact with the blood, secretions, organs or other bodily fluids of infected humans or animals. It can take from 2 to 21 days but usually 8 to 10 days after infection for signs of Ebola to appear. Common symptoms are the flu at first sudden fever, feeling tiredness, muscle pains, headache, and sore throat. There is no approved medicine or vaccine to treat or prevent Ebola. Symptomatic treatment will be provided along with supportive care (fluids and oxygen). Conclusion: It is a challenging disease for treating ebola viral disease so everyone needs to acquire knowledge in preventing ebola.



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ABS-P150
ECONOMIC EVALUATION OF END STAGE RENAL DISEASE
PATIENTS UNDERGOING HEMODIALYSIS

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In India the incidence of end stage renal disease (ESRD) is increasing day by day and the main option for the treatment of ESRD is dialysis or transplantation. In the present scenario, due to the high cost of treatment normal people can afford only hemodialysis rather than transplantation. Since the cost of hemodialysis differs across the country, research is needed to evaluate its exact cost. The main objective of the study is to analyze the healthcare cost of hemodialysis in a tertiary care hospital of Kerala. Patient demographic data as well as cost details were collected prospectively for a period of three months. Thirty patients were selected for the study according to inclusion and exclusion criteria. ESRD patients who are aged 18 years and above of either sex, and hemodialysis patients who had completed three months of maintenance hemodialysis were included in the study. Patient perspective was taken for the analysis of cost, and both direct and indirect costs were analyzed. The cost of each session of dialysis and the overall cost for 3 months were calculated and found that the direct cost is more than the indirect costs. The total cost per session was found to be around Rs.3000. These findings are important to find out the impact of cost of hemodialysis on patients suffering from ESRD.



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ABS-P151
ECONOMIC EVALUATION OF PARENTERAL IRON PREPARATIONS IN
IRON DEFICIENCY ANEMIA PATIENTS

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Objective: To conduct an economic evaluation comparing Iron Sucrose [IS] with Ferric Carboxymaltose [FCM] in the management of iron deficiency anemia. **Material and Methods:** A prospective cost-effectiveness analysis was conducted since many of the clinical trials showed a beneficial effect of FCM in anemia condition. This economic study was conducted from the patient's perspective. The economic evaluation was conducted for inpatients (ie, medical patients or patients hospitalized due to a disease related to chronic or acute blood loss). The individual drug cost was considered for the economic evaluation and all other direct cost was assumed same for both arms. Incremental cost was projected on the basis of cost implicated for each unit outcome (percentage improvement in hemoglobin). The baseline hemoglobin was considered and compared with the hemoglobin recorded after one month follow up. The patients were on oral iron supplements after discharge. **Results:** The mean dose administered for parenteral iron sucrose was 229.16 mg against the 541.6 mg of FCM. The difference in hemoglobin and MCV improvement compared to IS arm was 0.89% and 1.9 % respectively in FCM arm. The direct mean drug cost in the FCM arm was Rs. 1845 compared to Rs. 530 in IS arm. The incremental cost effectiveness ratio [ICER] was found to be Rs. 1477 for 0.89% improvement in hemoglobin in FCM arm. **Conclusion:** The ICER generated does not favour the extra cost to be borne to achieve a clinically non-significant hemoglobin improvement in a tertiary care hospital.



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**ABS-P152
EDUCATION AND RESEARCH AREAS IN PHARMACOECONOMICS
AND OUTCOMES RESEARCH**

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Pharmacoeconomic (PE) is becoming more important in pharmaceutical reimbursement decision and drug evaluation. To ensure its appropriate application, conduction and assessment of studies it is important to have well trained and educated professionals. Pharmaceutical faculties all over the world have established PE in under- and post-graduate curricula's. In this pilot research we examine situation in B&H. In Bosnia-Herzegovina, education in this field is poor and only one faculty for pharmacy has introduced PE as subject in its program. Objective of this study is to explore understanding of PE and its concept and analysis and to evaluated adopted knowledge among graduate (fifth year/tenth semester) pharmacy students who have listened subject „pharmacoeconomics“ in previous semester. A self-administered questionnaire was developed consisted of 12 questions and survey was conducted among students. Results are analyzed in MS Excel and we used descriptive statistics. Even graduate students have lessons from PE they understand its scope and definition, but do not feel capable for conducting PE studies, but show interest in additional education and getting competencies in this field finding it applicable in their future professional engagements.



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**ABS-P153
EFFECT OF DPCO ON VARIOUS ANTIBIOTICS AVAILABLE IN A
COMMUNITY PHARMACY**

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Under the provision of Drug Price Control Order (2013) the maximum prices for 348 essential drug formulations cannot exceed the average price of various brands with a market share of one per cent or more. The objective of the study is to analyse the effect of DPCO on various commonly prescribed antibiotics using cost analysis. The study was conducted for a period of 2 months in a community pharmacy. List of antibiotics coming under DPCO were collected and out of it 8 antibiotics were selected according to inclusion and exclusion criteria. The percentage variation in the cost of different brands of each antibiotic before and after the price control were compared. A wide variation was observed between the costs of different brands of drugs before implementing DPCO. One of the results showed percentage variation in the cost of Azithromycin before DPCO was 87.34% and after DPCO was 15.73%. Also the current cost status of Cefpodoxime proxetil 200mg tab which is not included in the DPCO list was also analysed and it was found to be 162.13%. From this study it can be concluded that DPCO is effective in controlling the unnecessary hike in price of drugs. But still there are some antibiotics needed to be included in the DPCO.



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ABS-P154

EFFECT OF EPIDURAL ANALGESIA ON NEONATE – AN OVERVIEW

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Labor pain is the common phenomenon that can be mitigated by pharmacologic and non-pharmacologic methods. Today epidural analgesia is commonly used pharmacologic methods in many hospitals. The unintended adverse effects of the epidural analgesia on the infant are concerned. Nowadays anesthesiologists widely using different methods to analyze the neonatal effect which includes the APGAR score, umbilical cord and blood gas analysis, electronic fetal heart monitoring , fetal pulse oximetry etc. The epidural analgesia does not affect the one and five minutes APGAR score. But the umbilical artery pH, base excess and PCO₂ reflect the fetal and immediate neonatal condition. The values may also vary with differences in the sampling technique. While the umbilical artery pH, base excess and pco₂ are considered as the objective indicators of fetal hypoxia. Fetal wellbeing is dependent on perfusion of vital organs with oxygenated blood and SPO₂ which is correlated with saturation. There is no difference in the pre and post epidural baseline ,fetal heart rate ,accelerations or variability while giving epidural analgesia. Epidural analgesia did not appear to be inhibiting effective breast feeding and neuro behavioral status. The administration of the analgesia would be safe and efficacious for the mother and fetus, which should not have short or long term impact on neonatal outcome.



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ABS-P155
EFFECT OF PHARMACIST'S INTERVENTION ON POST DISCHARGE
FOLLOW UP OF ASTHMA PATIENTS – A RANDOMIZED CLINICAL
TRIAL

Komati Venkatesh, J Sam Johnson Udaya Chander, R Sivasakthi, R Venkatanarayanan
RVS College of Pharmaceutical Sciences

Objective: To study the effect of structured educational intervention done by pharmacist in patients with asthma. **Background:** Asthma is a disease that affects the breathing passages of the lungs (bronchioles). This disease necessitates a patient to take the medicines prescribed for a longer duration. The symptoms and duration of medicines intake predisposes a patient to compromise in their quality of life. So, a method has to be devised to put back the quality of life in the patient. Pharmaceutical care may be an option to improve asthma control and improve the quality of life. **Methodology:** In a double-blind randomized clinical trial, 72 patients with uncontrolled asthma were enrolled. The patients in the control group received information about the disease, drug used, and importance of adherence. The control group patients received usual care of the doctor. The patients were asked to follow up every three months. Hospital readmission rate, medical adherence, and health related quality of life were evaluated at each visit. **Results:** At 12 months of follow up, the medication adherence rate of intervention group increased moderately than in control group. The mean days of hospital stay per patient in intervention group were 10.2 (SP = 18.5) versus 5.6 (SP=14.1) in the intervention group. There was 53% increase in health related quality of life score in the intervention group compared to 12.2 % increase in health-related quality of life in the control group. Since there was effective symptom control, the rate of readmission may also be decreased in the intervention patients which needs a broader study. **Conclusion:** Post discharge follow up by pharmacists reduces the number of rehospitalisation and increases the quality of life in asthma patients.



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ABS-156
EFFECT OF TOPICAL INSULIN IN ACCELERATING WOUND HEALING
IN NORMAL AND DIABETIC RATS: A RANDOMIZED CONTROLLED
STUDY

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R.V.S College of Pharmaceutical Sciences, Coimbatore

Background: Wound healing is impaired in diabetes mellitus, but the mechanisms involved in this process are virtually unknown. Proteins belonging to the insulin signaling pathway respond to insulin in the skin of rats. Thus the wound healing may be affected by the presence of insulin. **Objective:** The purpose of this study was to investigate the regulation of the insulin signaling pathway in wound healing and skin repair of normal and diabetic rats and, in parallel, the effect of a topical insulin on activation of this pathway and eventually wound healing. **Research Design and Methods:** We investigated insulin signaling by immunoblotting during wound healing of control and diabetic animals with or without topical insulin. **Results and Conclusions:** Expression of IR, IRS-1, IRS-2, SHC, ERK, and AKT are increased in the tissue of healing wounds compared to intact skin, suggesting that the insulin signaling pathway may have an important role in this process. These pathways were attenuated in the wounded skin of diabetic rats, in parallel with an increase in the time of complete wound healing. Upon topical application of insulin cream, the wound healing time of diabetic animals was normalized, followed by a reversal of defective insulin signal transduction. In diabetic patients, topical insulin cream markedly improved wound healing, representing a cost-free and sophisticated method for treating this curse of diabetes.



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ABS-P157
EFFECT OF VITAMIN B12 ON BLOOD GLUCOSE LEVEL IN TYPE 2
DIABETES PATIENTS ON METFORMIN DOUBLE BLIND
CONTROLLED TRIAL

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OBJECTIVE: To study the effect of vitamin B12 supplementation on blood glucose level in type 2 diabetes patients on Metformin double blind controlled trial. **BACKGROUND:** The first line of treatment of type 2 diabetes mellitus is Metformin & biguanides. Previous studies have indicated that Metformin can cause several gastrointestinal upset thereby leading to malabsorption of various vitamins (vit B12), When present in deficient amount leads to various complications of DM (neuropathy). Hence this study is aimed to assess the usefulness of Vit B12 on type 2 DM patients who are on metformin therapy. **METHODS :** T2DM patient aged more than 40 were enrolled in study. The control group patients received usual care of Physician. The intervention group patients received education about the disease and the importance of various vitamins (vit B12). Intervention group also received daily vit .B12 supplement .The primary outcome measured is fasting blood glucose. The secondary outcome measured is cytokine level ,which may be decreased when glucose level is high. **RESULT :** At 12 months follow up ,the patient in intervention group showed 43.3% decreased in fasting blood glucose level than the patient in control group with p value of 0.005 which statistically significant .The cytokine level does not show any significant change in this trial, though patient in intervention group showed increased disease knowledge and improved symptom control(e.g. decreased numbness) **CONCLUSION:** The study concluded that pharmacist intervention along with vit B12 supplementation proved beneficial in reducing blood glucose level .



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EFFECTIVENESS OF AMRUTADI GUGGULU AND MANDOORA
BHASMA IN SANDHIGATAVATA (OSTEOARTHRITIS)

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AIM: Evaluation of effect of Amrutadi Guggulu and Mandoora Bhasma in the management of Sandhigataavata (Osteoarthritis) **OBJECTIVES :** There is increased evidence of occurrence of Osteoarthritis patients in Indian population. OA is a degenerative joint disorder which occurs usually after the age of 45 years. Indian population is more prone to this disease as they are exposed to faulty life style and food habits. As the conventional system Allopathy is treating these diseases with analgesic and steroid drugs, causes serious side effects like peptic ulcer, hepatic and renal toxicity, a better treatment module was planned by usage of Ayurvedic drug and the effect was evaluated. **Materials and methods-** 40 cases of RA patients selected from OPD and IPD of Muniyal Ayurveda Hospital and Research centre , Manipal, and grouped as Group A and Group B. Group A given Amrutadi guggulu and Mandoora bhasma and Group B thrayodasanga guggulu. Clinical parameters like pain in joints/sandhi shoola and sandhi sotha , sandhi graham/stiffness, sparsa sahatwa/ joint tenderness . Crepitus and laboratory parameters like TLC, DLC, Hb% , ESR, radiological evidence where taken for assessments. **RESULTS-** a significant improvement was observed after the treatment in both groups however, better response seen in group A compared to group B. **DISCUSSION-** the ingredients of the drugs processed vata hara, Rasayana, vedana sthapana. Like Guggulu (Commiphora mukul),Guduchi (Tinospora cordi floia). Haematinic actions where seen in mandoora basma. Osteo arthritis patients usually had Iron deficiency anemia above 50 yrs age group , hence these patients had responded well to the treatment. **CONCLUSION –** above Ayurveda treatment given in osteo arthritis patients showed better results.Group A showed better results than group B. This treatment was cost effective, safe and affordable.



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ABS-P159
EFFECTIVENESS OF KATIBASTI IN SCIATICA SYNDROME
PATINENTS

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Aim and Objective - To evaluate the effect of katibasti in the management of Gridhrasi w.s.r. to Sciatica syndrome patients. **Need of the study** -Pain and disability are the important symptoms which will be an obstacle in the daily life of a person. It is the one among top10 reasons of patient seeking care from a family physician. Gridhrasi is considered as one among the Nanatmaja vatavyadi in Ayurveda and characterized by pain in the lower limb order and associated with pricking pain stiffness S and fasciculation . Moreover, the modern treatment of sciatica is not very satisfactory and includes use of analgesic and few surgical procedures with is often associated with many adverse effects. Among the panchakarma therapy; Kati Basti is reliable to control the diseases. Hence an effort is made to compare the effect of Kati Basti with Sahachara taila and Ksheer bala Taila in the management of Gridhrasi. **METHOD**- It was an open clinical study with a pre and post design, for the duration of 14 days for both groups .In this study 30 patients, fulfilling the inclusion and diagnostic criteria, were selected and randomly divided in to 2 groups with 15 patient in each group. In group Sahachara, Katibasti with sahachara Taila was performed daily during the trial period while in Ksheer Bala group Kati basti with ksheerbala taila was performed. **RESULT**-The mean value of the pain in lower extrimitiy with sahachara taila and ksheerbala taila before and after treatment were 1.46 ,0.22 and 1.5,0.33 .mean value of Pricking pain in lower extremity of affected limb before and after treatment were 1.06,0.33 and1.22,0.44 .Mean value of SLR score before and after treatment in 30 patient were 1.6,0.2 and 1.26,0.33.These values were statistically evaluated by t test and were found effective. **CONCLUSION**-kati basti with Sahachara Taila is more effective then ksheer Bala Taila in the management of Gridhrasi .



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ABS-P160
EVALUATION OF APPROPRIATENESS OF PRESCRIBING IN
GERIATRICS USING VARIOUS CRITERIAS IN A TERTIARY CARE
HOSPITAL

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Inappropriate prescriptions are particularly more prevalent in older patients and are often associated with adverse drug events (ADEs), hospitalization, and wasteful utilization of resources. A potentially inappropriate medication (PIM) is assumed if the risk of ADE outweighs the clinical benefit, if safer and/or more effective medications are available for the condition. The objectives of this study was to evaluate the appropriateness of prescription and provide interventions for improving geriatric care, study and familiarize various criteria used in detecting inappropriateness, compare various criteria that guide the prescribing in elderly and to determine the criteria that can be practiced in the hospital. The study was conducted prospectively for a period of 6 months by assessing the case files of patients whose age is greater than 65years admitted to the various departments, in a tertiary level hospital. Patients in ventilator and those receiving palliative care were excluded from the study. Out of the total number of prescriptions analysed 70.91% were found to be inappropriate according to beer's and START/STOPP criterias. Compared to START/STOPP criteria, the inappropriateness found by Beer's criteria were more. This study helped to assess the inappropriateness of prescribing drugs in the elderly population and provided better understanding of various criteria guiding the prescribing pattern, thereby helped in improving the appropriateness of prescription.



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**ABS-P161
EVALUATION OF POSSIBLE DRUG INTERACTIONS OF
POLYPHARMACY PRESCRIBED IN ISCHAEMIC HEART DISEASE
PATIENTS BHIMAVARAM**

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Shri Vishnu College of Pharmacy, Vishnupur, Bhimavaram**

Background: Ischaemia is a restriction in blood supply causing a shortage of oxygen and glucose needed for cellular metabolism (to keep tissue alive) in such conditions there is use of polypharmacy . Polypharmacy is the use of four or more or more medication by patients
Objective: Presently there is situation of polypharmacy in ischaemic heart disease where drug interactions come into light Patients and methods : In the present studies we have monitored and assessed the possible drug interactions in 50 elderly patients of age group 40-60 by using simple percentile ratio with chronic ischaemic condition where polypharmacy has been used
Result: We noticed that about 60 % of patients are having drug interactions like renal implications
Conclusion: Being a clinical pharmacist we should be like a bridge between doctors and patients and help them to overcome the problem of drug interactions



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ABS-P162
EVALUATION OF SELF MEDICATION PRACTICES AMONG
MEDICAL STUDENTS IN MALAPPURAM DISTRICT

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Self medication is defined as medication of oneself especially without the advice of a physician. The objective of the study is to evaluate the self medication practices among medical, pharmacy, nursing, paramedical students in Malappuram district. For the study, students were asked for their one year illness recall and answer to the questionnaire. A questionnaire consisting of demographic profile, illness and treatment strategies was prepared and investigated and analysed. Of a total of 330 students, 314, (95.15%) reported that they have practiced self medication. Most of the self medication practices were obtained from the pharmacy field and the most commonly used drugs were antihistamines, analgesics, cough syrups, topical agents, H₂ blockers and antibiotics. Common reported illnesses for which the self medication practices were followed were, cold and fever (92.12%) followed by headache, gas trouble and joint pain. About 310 (94%) students prefer self medication to them and their family members. Knowledge from health magazines, internet, and books were major sources of self medication. About 45% were using other system of medicine like Ayurveda as self medication. Reason behind self medication is ease of availability and fast onset of action. Drug regulatory authorities and health care professionals have to educate medical students about their side effect and adverse drug reaction.



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ABS-P163
EVALUATION OF THE EFFECTIVENESS OF ANTIBIOTICS IN
INCREASING THE FUNCTIONAL CAPACITY AND REDUCING THE
ECONOMIC BURDEN IN FEMALES WITH URINARY TRACT
INFECTION

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Background: More than half of the women have at least one episode of urinary tract infection in their lifetime and the risk of contracting urinary tract infection increases with post-menopausal women. Recurrent UTI is a distressing condition which impacts on the patient's Quality of Life and represents a substantial economic burden for the patient and the healthcare system. **Objectives:** The study was conducted with the objective of evaluating the effectiveness of antibiotics in increasing and improving the functional capacity and Quality of Life and also to provide a cost effective treatment to the patient. **Methodology:** A prospective case control study was conducted in a tertiary care hospital in Coimbatore. The drug details and culture reports of 50 patients were collected using a standard data collection form and were analyzed. **Result:** The functional capacity score before antibiotic administration was found to be 28-36(severe-75%) but after antibiotic administration, the functional capacity score was found to be 19-27(moderate-45%).The Quality of Life score before antibiotic administration was found to be 18-20(severe-85%) and it was found to be 11-15(moderate-50%) after antibiotic administration. **Conclusion:** Selection of appropriate and more sensitive antibiotic for treatment of female urinary tract infection increases the functional capacity and decreases the abstention rate of working women, prevents recurrent urinary tract infection attacks, which in turn reduces the economic burden of the patients.



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ABS-P164
EXPERTISE AND KNOWLEDGE OF STUDENT MEDICAL
PROFESSIONALS ON DRUGS – A CROSS SECTIONAL EVALUATION

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BACKGROUND: Student medical professionals are the future of medical science. In an era of medical advancements, it is very important for them to stay updated about the “magical molecules”, the drugs. Lack of knowledge in drug interactions, dosing adjustments, adverse drug reactions etc can cause threat to the life of the patient they serve and may increase the economic burden of the whole society. Therefore, for ensuring the desired treatment outcome, student medical practitioners should very well be trained on the mechanism of action, mode of administration, adverse drug reactions, dosing adjustments, etc., of the drugs. This study aims at analysing the expertise and knowledge of student medical professionals on drugs. **METHODOLOGY:** This is a self-administered questionnaire-based Cross-Sectional evaluation in which a set of twenty five questions were prepared to assess the knowledge and expertise level of student medical professionals. The main domains of the questionnaire included Drug Interactions, adverse drug reactions, and dose calculation. The questionnaire was circulated among 50 final year medicine, 50 final year Pharm D, and 50 final year postgraduate nursing students. The students were given twenty five minutes time for answering the questionnaire. The students were not allowed to refer any software, internet etc. **RESULT:** Out of 150 questionnaires issued, only 120 participants responded to the survey (80% response rate) out of which there were 34 medicine students, 40 Pharm D interns, and 46 PG nursing students. In questions related to Drug-Interactions, the percentage of doctors correctly answering the questions were around $70.4\% \pm 1.8\%$ where as $72\% \pm 1.3\%$ Pharm D students and $55\% \pm 1.6\%$ PG nursing students answered correctly. For questions related to adverse drug reaction, about $68\% \pm 1.2\%$ of physicians answered correctly compared to $71\% \pm 0.3\%$ of Pharm D students and $43\% \pm 0.8\%$ of PG nursing students answering correctly. $82\% \pm 2.2\%$ of physicians answered correctly to the questions related to dose calculation where as $70\% \pm 1.5\%$ of Pharm D and $56\% \pm 2.6\%$ of PG nursing students answered correctly. **CONCLUSION:** Overall, the knowledge of Pharm D students were found to be slightly better than physicians in the area of drug interactions and adverse drug reactions where physicians have more knowledge in the area of dose calculation. A proper training module and hands-on-experience will eventually improve the Pharm D students' expertise on drugs thereby increasing their confidence level in the practice setting.



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ABS-P165
FACING HEALTH CRISES, INDIA SLASHES HEALTHCARE-
GENERAL COMPARISON WITH SINGAPORE HEALTH CARE
EXPENDITURE

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Comparing the health care expenditure of our country with other country helps in assessing the stage where we are present in the world health care scenario. Frequently criticised for having one of the emerging world's most ramshackle health systems, India had committed to increase its spending on health to 3% of Gross Domestic Product (GDP) from about 1% at present. With fewer doctors, hospitals and other health infrastructure than any of the BRICS (Brazil, Russia, India, China, South Africa) and the lowest public-health spending, India, already the poorest among these countries, forces its people to spend a greater percentage of their incomes on private healthcare than any other BRICS nation. As a small city state with a population of 5.4 million people, Singapore has a clear sense of what it wants from its health system. This is captured in the 1993 Singapore Government White Paper [Affordable Health Care](#) – a 60-page manifesto that clearly embodies a national health policy, a vision and a guiding philosophy.



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ABS-P167
FORMULATION AND EVALUATION OF ACORUS CALAMUS GEL FOR
TOPICAL CANDIDITIS

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In the developing world majority of population is on the way of traditional medicine as their primary health care needs. Traditional medical practice emphasis the use of herbal medicines in complimentary or alternative therapy in the developed countries. Among the indications herbal medicines are used for the treatment of skin and skin related disorders. The objective of the study is to formulate and evaluate the herbal antifungal gel of alcoholic extract rhizomes of *Acorus calamus* showed effective antifungal activity against *Candida albicans* which was studied by agar well diffusion method (1.1 cm). The extract was converted into phytosomes into gel and studied the effect of combination of honey on antifungal activity which was evaluated for its physiochemical parameters and invitro antifungal activity. Zone (1.1cm) for *Acorus calamus* gel was found to be 1.1 cm and combination of honey was found to be 1.0 cm and preformulated study indicates that the developed formulation have good spreadability, extrudability and homogeneity. PH was found to be within the range 6.4 which indicate that it won't irritate to the skin.



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ABS-P168
GUILLAIN-BARRE SYNDROME – A REVIEW

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Guillain–Barré syndrome (GBS) is a potentially life-threatening rare postinfectious disease characterized by rapidly progressive, symmetrical weakness of the extremities. About 25% of patients develop respiratory insufficiency and many show signs of autonomic dysfunction. Guillain-Barré syndrome (GBS) is a rare autoimmune neurological disease in which the body's immune system produces antibodies against its own nerves, resulting in damage to them. However, certain bacteria and viruses have protein coverings that resemble some normal proteins on the sheath that wraps around nerves (myelin sheath). Guillain-Barré syndrome (GBS) is an eponym for a heterogeneous group of immune-mediated peripheral neuropathies. A feature common in all GBS variants is a rapidly evolving polyradiculoneuropathy preceded by a triggering event, most often an infection. GBS generally manifests as a symmetric motor paralysis with or without sensory and autonomic disturbances. The patient with GBS typically presents with weakness accompanied by tingling dysesthesias in the extremities. This weakness is prominent in the proximal muscles; legs are more often affected than arms. Paresthesias occur, spreading proximally but seldom extending past the wrists and ankles. Deep tendon reflexes disappear within the first few days of symptom onset. Diagnosis can usually be made on clinical grounds, but lumbar puncture and electrophysiological studies can help to substantiate the diagnosis and to differentiate demyelinating from axonal subtypes of GBS. This Review summarizes the clinical features of and diagnostic criteria for GBS, and discusses its pathogenesis and treatment.



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**ABS-P169
HEALTH CARE SYSTEM IN INDIA**

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The Indian health system includes public and private hospitals as well as specialized Ayurvedic hospitals offering this traditional Indian system of alternative medicine. English-speaking doctors are easy to find, as most Indian doctors speak fluent English. All major cities and medium-sized urban centres have private hospitals that provide an excellent standard of care. Health insurance only covers hospitalisation and emergency costs. Other care must be paid for upfront, but even privately it is extremely reasonable compared to other countries, so medical costs should not be a significant expense. Most western experts working in India take out private health cover, either independently or as an employee benefit. As such, foreigners should head to or call a private hospital in an emergency, as the quality of treatment and care is likely to be better than a state hospital.



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**ABS-P170
HEALTH OUTCOMES AND PHARMACOECONOMICS IN INDIAN
SCENARIO ABRIEF OVERVIEW**

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The disciplines of Health Outcomes and Pharmacoeconomics are relatively new in the health care arena, having evolved along with the era of managed care. In effect, the origin of the word Pharmacoeconomics. Health outcomes evaluations find applicability globally; many countries with government-funded health care. The role of pharmacist is very important in pharamco economic evaluation health outcomes and list different types of outcomes that are measured in pharmacoeconomic analyses. Compare and contrast four cost-consequence analyses that are commonly used in pharmacoeconomics applications of health outcomes and pharmacoeconomic in today's "real world" pharmacy practice environment. This article provides a brief overview about pharmacoeconomics, its utility with respect to the Indian pharmaceutical industry, and the expanding insurance system in India. The role of clinical pharmacists including PharmD graduates are expected to be more beneficial.



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**ABS-P171
HEALTH RELATED QUALITY OF LIFE**

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Health-related quality of life (HRQL) is increasingly used as an outcome in clinical trials, effectiveness research, and research on quality of care. Factors that have facilitated this increased usage include the accumulating evidence that measures of HRQL are valid and "reliable," the publication of several large clinical trials showing that these outcome measures are responsive to important clinical changes and the successful development and testing of shorter instruments that are easier to understand and administer. Because these measures describe or characterize what the patient has experienced as the result of medical care, they are useful and important supplements to traditional physiological or biological measures of health status.



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ABS-P172

HEALTH TECHNOLOGY ASSESSMENT (HTA) FOR MEDICAL DEVICES

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Health Technology Assessment (HTA) is the collective name given to a number of activities applying systematic methods of scientific inquiry to the evaluation and use of new or existing healthcare technologies. The evaluation can focus on all impacts of a particular healthcare technology, including its clinical, ethical, social, legal and economic implications. In our paper we want to distinguish between the methodology of gathering and analyzing data within an HTA - the assessment - and the decisions on e.g. coverage, funding or reimbursement of a health technology, which can be termed the appraisal. The overall objective of HTA is to provide robust and objective information for decision-making in healthcare at different levels. HTA methodologies have recently been increasingly used to assist governments to reach decisions on the coverage and/or the funding of particular healthcare technologies and on clinical guidance. Already more widely established in the field of pharmaceutical products, HTA is being increasingly applied to other healthcare technologies, including medical devices. However, given the diversity of the various healthcare technologies in question, no single approach will suit them all. It is important to recognise that the experience and expertise gained with pharmaceuticals, is not automatically applicable to medical devices. However, while it is valuable to achieve a harmonisation of the methodologies applied under HTA, responsibilities for conducting HTA. The existing differences between health care systems, e. g. in cost structures, require national autonomy in the initiation of HTA and in the decisions made on the basis of HTA. It is essential for an innovative and fast-moving medical devices that HTA processes allow for multiple access points for new medical technologies. Ideally, HTA should be done from a societal perspective, including all health effects and costs. Where this is not acceptable/appropriate, a “health service perspective”, taking into account all costs and benefits within the national healthcare system, is considered the second best solution and we wish to focus on this aspect in our presentation.



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ABS-P173

**A STUDY TO ASSESS THE AWARENESS AND UNDERSTANDING OF
PERSONALISED MEDICINE IN STUDENTS PURSUING PHARMACY
COURSE**

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The focus of conventional medicine is being shifted to that of personalized medicine. It is very much evident that people trust the physicians blindly and just by meagre physical examination the physician prescribe the medications. But how far is this rational? Is it not possible to prescribe based on one's requirement? Personalized medicine is an answer to that. Awareness of the same has to be evaluated and studied upon. Personalized medicine is the tailoring of therapies to defined subsets of patients based on their likelihood to respond to therapy or their risk of adverse events. The advent of improved genomic tools has greatly hastened our understanding of the molecular pathology of diseases, enabling us to redefine disease at the molecular level. Every person has a unique variation of the human genome. Although most of the variation between individuals has no effect on health, an individual's health stems from genetic variation with behaviours and influences from the environment. Modern advances in personalized medicine rely on technology that confirms a patient's fundamental biology, DNA, RNA, or protein, which ultimately leads to confirming disease. Personalized medicine requires a systemic implementation. A non-profit organization known as personalized medicine coalition to address the pharmaceutical, biotechnology, diagnostic and information technology information. Personalized medicine is majorly applied in the field of diagnosis and intervention, drug development and usage and cancer genomics. Major challenges arising during the use of personalized medicine are regulatory oversight, IPR issues, reimbursement policies, patient privacy and confidentiality.



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ABS-P174

HENOCH–SCHÖNLEIN PURPURA IN AN ADULT CHARACTERIZED BY CLASSICAL TETRAD - CASE REPORT

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Henoch–Schönlein Purpura is defined as a leucocystoclastic vasculitis involving small vessels with the deposition of immune complexes containing IgA. It is characterized by the classical tetrad of skin, joint and gastrointestinal manifestations that may occur in successive episodes. In addition to these manifestations, renal involvement is common and the long-term prognosis depends on its severity. We report the first and a rare case of a 50 year old female with well documented laboratory investigations and images, who presented with cutaneous and gastrointestinal manifestations along with arthralgia. She was successfully treated symptomatically along with steroids. Later after two days of her discharge she was readmitted with the re-occurrence of the disease associated with renal involvement and was treated symptomatically. The signs, symptoms and treatment are summarized and proposals are made concerning the supportive treatment available for the management of the disease.



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**ABS-P175
IMMUNIZATION STATUS – COVERAGE AND PRACTICES AMONG
CHILDREN IN PERINTHALMANNA**

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Immunizations work by stimulating the immune system, the natural disease-fighting system of the body. Here we performed a cross-sectional survey to assess the immunization status of children under the age of 10 at Perinthalmanna municipality of Malappuram district in Kerala for a period of three months. The primary tool used for the survey was a structured and pre-validated questionnaire in the regional language which consisted of 23 questions. A total of 174 families were randomly selected as the sample for the survey. Of these, (77.595%) families had been immunized in comparison to (22.41%) which were not immunized. The impact of the child's delivery setting on immunization status was assessed, which indicated that (95.69%) children were immunized when their delivery setting was a government hospital as compared to (73.03%) in private settings. The study showed no impact of parent's education on the immunization status of children. Reasons for abstinence from immunization were obtained through the questionnaire and the most commonly found reason were fear of side effects (itching, nausea, fever)(20.51%),opposition from parents, relatives & friends(17.95%) and loss of immunization card . Study indicates that there is a need of increasing the practices of immunization among children in Kerala. The government authorities and health department have to implement awareness program and methods like implementation of computerized system instead of vaccination card, vaccination help desk, mobile vaccination unit, vaccination alert booth etc. This shall help to improve the status of immunization and achieving the desired goal from immunization programme



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**ABS-P176
IMPACT OF HRQOL OF ADOLSCENTS WITH MENSTRUAL PROBLEMS
- A PROSPECTIVE STUDY**

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The objective of this study is to examine the impact of health related quality of life of adolescents with menstrual problems which is highly prevalent in adolescent girls. The study was conducted in a tertiary care teaching hospital for 6 months. Here we have used peds QL4.0 as our tool to assay the qol of adolescent girls. 80 subjects were considered in the study and we have found some alarming responses and also identified factors which had impact on it the most common menstrual problems were dysmenorrhea, amenorrhea and oligomenorrhea which had an impact on their social life which is a major concern to health care.



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ABS-P177

IMPACT OF PHARMACEUTICAL CARE ON CARDIOVASCULAR RISK IN DIABETIC PATIENTS – A RANDOMIZED CONTROLLED TRIAL

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Background: The major cause of death worldwide is coronary heart disease, which is the most common form of heart disease. This is also a major cause of death in India¹. Previously, it was thought that higher income countries are affected mostly by this deadly disease, but now it is proven that CHD affects both low-income and developing countries like India¹. The primary mode of intervention for CHD is lifestyle modification. Several studies have shown that pharmaceutical care (intervention by a pharmacist) also helps in reducing the risk of coronary heart disease by reducing the risk factors such as uncontrolled blood glucose, blood pressure, and blood cholesterol levels. **Objective:** To assess the effect of pharmaceutical care intervention on cardiovascular risk and to assess the 10-year heart attack risk using Framingham Score. **Method:** Both hypertensive and diabetic patients with high cholesterol levels and aged >45 years (N=208) were enrolled in the study. Written informed consent was obtained from each patient enrolled. The pharmaceutical care intervention included counseling on alcohol reduction, weight reduction, smoking cessation, medication compliance, increased exercise and dietary changes. The outcomes measured are blood glucose, blood pressure (both systolic and diastolic), BMI, total cholesterol, LDL cholesterol, and HDL cholesterol. Baseline data were gathered at first visit; and subsequently at second and third visits. **Result:** The interventions given by pharmacists brought on a significant decrease in blood glucose (fasting sugars by 15.2% and postprandial sugars by 19.3%), blood pressure (systolic blood pressure by 8.6% and diastolic blood pressure by 9%), total cholesterol by 11.3%, LDL cholesterol by 13.7%, and HDL cholesterol increased by 12.3%. There was also a 5.2% decrease in BMI. The mean 10-year heart attack risk decreased from 44.1% (first visit) to 30.8 (final visit) with a P value of 0.0001 which is very significant. **Conclusion:** The pharmaceutical care intervention aids in reducing the risk of developing a heart attack in the next 10 years.



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ABS-P178

IMPACT ON QUALITY OF LIFE IN PATIENTS WITH TYPE2DIABETES

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Type 2 diabetes mellitus (T2DM), a chronic disorder now reaching epidemic proportions, imposes a huge burden on individuals and health care systems. In recent years, pharmacists, highly trained health care professionals with expertise in medicines, have sought to develop an expanded role in diabetes care. Evidence suggests that pharmaceutical care produces improvements in glycemic control; however, little is known about its impact on humanistic outcomes such as health-related quality of life (HRQoL). This review aimed to address this gap. A systematic search was conducted of English language articles published from 1996 to January, 2013 in Cochrane databases of systematic reviews and clinical trials, CINAHL, Embase, MEDLINE, PubMed, International Pharmaceutical Abstracts, PsycINFO, and Web of Science databases to identify relevant original research articles and reviews linking pharmaceutical care, T2DM, and HRQoL. The quality of selected articles was assessed using a modified version of the Downs and Black checklist. Of a total of 122 articles addressing pharmaceutical care in T2DM, 17 articles were suitable for inclusion: 12 studies used generic HRQoL instruments, six used diabetes-specific HRQoL scales, and one study used both. Because of the different scales used and the level of detail, it is difficult to compare between studies. The results provide some preliminary evidence that pharmaceutical care in T2DM can have a positive impact on HRQoL, with the evidence pointing to a greater effect on mental rather than physical health; however, these findings are inconclusive. The mean quality score for the 13 studies included in the quality rating was 0.63 ± 0.11 (range 0.40–0.76), which is classified as only fair. Future studies should use robust research designs to bolster the evidence for the impact of pharmaceutical care on HRQoL using both generic and disease-specific measures.



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ABS-P179
INCREASED SUBARACHNOID HEMORRHAGE RISK IN PATIENTS
WITH SYSTEMIC LUPUS ERYTHEMATOSUS

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Background Frequent occurrence of spontaneous subarachnoid hemorrhage (SAH) was noted in patients with Systemic lupus erythematosus (SLE) and it is poorly handled.

Introduction SLE is an autoimmune disease in which the body's immune system mistakenly attacks healthy tissues. It mainly occurs in women of child bearing age. Spontaneous SAH due to an aneurism rupture usually occurs between the ages of 40-60 years. **Aim & objectives** To access the Spontaneous subarachnoid hemorrhage risk in Systemic lupus erythematosus patients. **Methodology** A multivariable proportional hazards model was used to evaluate the risk factors of SAH in SLE patients. Sample size of 500 SLE patients selected from KG hospital those who satisfied the inclusion criteria and compared the incidence rate of SAH with randomly selected age- and sex- matched non-SLE subjects. The relevant data's were obtained from the medical records department and these data's were entered in a predesigned data collection form. **Results** SLE cohort had a higher risk of SAH with an incidence rate ratio of 4.84. Despite a younger age, the mortality rate after SAH was significantly higher in SLE patients compared to all other non-SLE SAH patients. **Conclusion** The study demonstrated that SAH is a rare but associated complication of SLE with a high mortality rate.



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**ABS-P180
INTERVENTIONS TO ENHANCE MEDICATION ADHERENCE IN
CHRONIC MEDICAL CONDITIONS**

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Background: Approximately 30% to 50% of patients are not adherent to medical therapy. This review was performed to summarize, categorize, and estimate the effect size (ES) of interventions to improve medication adherence in chronic medical conditions **Objective:** Primarily focused on the management of poly-pharmacy and reducing healthcare costs. Adherence was measured using different tools and estimates of adherence, and interventions were predominantly delivered by pharmacists. Studies were included if they reported an unconfounded RCT of an intervention to improve adherence with prescribed medications for a medical or psychiatric disorder; both adherence and treatment outcome were measured interventions, controls, and findings. **Data Synthesis :** Forty-nine percent of the interventions tested were associated with statistically significant increases in medication adherence and only 17 reported statistically significant improvements in treatment outcomes. Almost all the interventions that were effective for long-term care were complex, including combinations of more convenient care, information, counseling, reminders, self-monitoring, reinforcement, family therapy, and other forms of additional supervision or attention. Even the most effective interventions had modest effects. **Conclusion :** Current methods of improving medication adherence for chronic health problems are mostly complex, labor-intensive, and not predictably effective. The full benefits of medications cannot be realized at currently achievable levels of adherence; therefore, more studies of innovative approaches to assist patients to follow prescriptions for medications are needed.



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ABS-P181
INVIVO ANTITUMOUR ACTIVITY OF COMBINED EFFECT OF
ORTHOSIPHON STAMINEUS AND COCCINIA GRNADIS ON EAC
CELLS

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Ehrlich Ascites Carcinoma (EAC) cells were aspirated from peritoneal cavity of the tumor bearing mice and 0.1ml containing 1×10^6 cells/ml was injected intraperitoneally into all the animals. The drug administration has started next day after the induction of tumor and continued for 10 consecutive days. The animals were observed for the development of ascites tumor and death due to tumor burden was recorded for 30 consecutive days. The animals of the tumor control group inoculated with EAC cells survived for a period of 19.28 ± 1.79 days. The animals treated with cyclophosphamide survived for 27.42 ± 0.97 days. The *OSM* (Orthosiphon Stamineus) at 200 and CGM 200 mg/kg body weight slightly increased the average life span of animals by 20.32 ± 0.72 days and 20.19 ± 0.89 days respectively. But combined treatment of OSM and CGM 200 mg/kg body weight was found to be more inhibiting the proliferation of EAC cells with the percentage increase in life span by 27.04 % than the fractions of OSF and CGF (20mg/kg) (14.81 %).



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**ABS-P182
IS THERE A ROLE FOR PHARMACOECONOMICS IN DEVELOPING
COUNTRIES?**

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Why is pharmacoeconomics vital for developing countries? Pharmacoeconomics is a complex science and its practical utility depends on the context in which it is being applied. To appreciate the true value of this 'science' as a decision-making tool, it is important to elaborate on the context within which healthcare decisions are being made. Furthermore, an understanding of the local health system is also required in order to establish whether complex economic techniques need to be applied and whether they are feasible and valuable tools for a particular jurisdiction. We argue that there is a need for a model that could aid in determining the perceived need and benefits of using pharmacoeconomics in formulary development in a given developing country. However, we do not present a full model; rather, we highlight some of the components that could be used to build such a model. Health and pharmaceutical indicators from international agencies, evidence-based pharmacy-system research as well as the literature concerning 'how people perceive pharmacoeconomics' in developing countries could serve as these components.



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ABS-183
MANAGEMENT OF GESTATIONAL DIABETESMELLITUS:
A PROSPECTIVE STUDY

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Background: GDM is diagnosed when higher than normal blood glucose levels first appear during pregnancy. Insulin therapy is generally started when glucose level exceeded 105 mg/dL in the fasting state and two hour after meals 120mg/dL. **Introduction:** Gestational diabetes mellitus (GDM) is defined as any degree of glucose intolerance with onset or first recognition during pregnancy. **Aim&Objectives:** To evaluate the management pattern of GDM based upon age, weight, route of administration and based upon the therapy used. **Methodology:** One year prospective observational study carried out in a tertiary care hospital. All necessary and relevant data's were collected based on inclusion criteria from the medical report department. **Results:** 200 patients diagnosed with GDM were,95% (n=190)was diagnosed in the second trimester and 5% in the third trimester. 150 were treated with monotherapy, among them 25.30 %were treated with metformin. 29.41 % patients were treated with human actrapid , 8.82%were treated with humilin and 36.47% patients were on Human mixtard. **Conclusion:** Due to proper management and care there is no birth defect and miscarriage for the GDM patients.The future direction should focus on the earlier prediction and effective preventive measures before GDM development.



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ABS-P184
MOBILE APPS AND DEVICES USED AS DRUG INFORMATION
REFERENCE AMONG HEALTH CARE PROFESSIONALS AT AN
ACADEMIC HOSPITAL IN KERALA

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The last decade has seen the introduction of new technology in clinical practice which has transformed many aspects of accessibility to easy drug information reference. This may change how therapeutic and drug information is learned and practised now and in the future. This study examines how healthcare professionals which includes physicians, pharmacists, pharmacy practice faculty members, nurses, medical students, pharmacy practice students and nursing students, are currently using mobile applications and handheld devices for drug reference in medical education and clinical practice, and how they envision the availability of quick access to drug information on the electronic medical record (EMR). A questionnaire that comprised of 12 questions was reviewed and evaluated by healthcare professionals, prior to the survey. The survey was conducted with 175 participants at an academic hospital in Kerala. Based on the survey, 53% of healthcare professionals and students use mobile apps and devices. The majority of users (75%) agreed that they held a level of comfort when using mobile apps, over a hard copy reference. The study also reveals the mobile apps that are most often used and relied, identifies the features related to drug information that would be helpful if incorporated into the EMR and reviews the existing guidelines on mobile applications.



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ABS-P185
**NEED OF PHARMACOECONOMICS IN INDIAN HEALTH CARE
SYSTEM**

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In India, nearly 3.1 million households below the poverty line and those are unaffordable for private health care. Cost of medicines are growing constantly as new medicines are marketed and are under patent law, preference of drug therapy over invasive therapy, and the irrational drug prescription. In a developing country like India 85% of total health expenditure is financed by house-hold, out-of-pocket expenditure. The proportion of insurance in health-care financing in India is very low. Many poor people frequently face a choice between buying medicines or buying food or other necessities due to limited resources and high pricing of drug. So medicine prices do matter. The main objective of study is to show the importance of pharmacoeconomic evaluation in Indian health care. Methods to be used for pharmacoeconomic evaluation are Cost-effectiveness analysis, Cost minimization analysis, Cost-benefit analysis and Cost-utility analysis. Review of pharmacoeconomic evaluation sample studies shows the pharmacoeconomics became more important 1. To find the optimal therapy at the lowest price. 2. Numerous drug alternatives and empowered consumers also fuel the need for economic evaluations of pharmaceutical products. 3. The use of economic evaluations of alternative healthcare outcomes. 4. Healthcare resources are not easily accessible and affordable to many patients; therefore pharmacoeconomic evaluations play an important role in the allocation of these resources. The study concludes that in India the pharmacoeconomic evaluation is essential to optimal therapy at lowest price, alternative treatment plans, which help the poor and middle class Indians to obtain well health care services.



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**ABS-P186
NEUTRACEUTICALS IN CANCER PREVENTION – A REVIEW**

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A nutraceutical is a substance that can be considered as a food or part of a food that provides medicinal benefits, encompassing prevention and treatment of diseases. Nutraceuticals were widely used in the cancer prevention and also to control the symptoms of cancer, alleviate the unwanted side effects of certain therapies (chemotherapies). Majority of the nutraceuticals do possess multiple therapeutic benefits however this present review, much effort has been devoted to nutraceuticals in the prevention of cancer. Phytochemicals that are derived from the herbs and spices have potential anticarcinogenic and antimutagenic properties among the other beneficial health effects. In the prevention of the prostate, breast cancers the “phytoestrogens” are recommended. Many industries manufacture and market the nutraceuticals, where the side effects of these nutraceuticals are not reported or often unproven. In this review we conclude that often the use of dietary supplements appears to be highly prevalent in patients in active treatment for cancer, and later in cancer survivors. In order to have scientific knowledge about the nutraceuticals, the public should be educated, where recommended daily doses of these nutraceuticals should be known by each consumer. Patients should carefully weigh the potential risks and potential benefits with their caregiver when ingesting nutraceuticals during cancer therapy and in a post-cancer lifestyle.



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ABS-P187
OFF LABEL DRUGS IN PAEDIATRICS

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The aim of our review is to supply children and adolescents with effective drugs, as safe as possible with known and well documented side effects and with accurate and up to date information on dosage and administration. The problem shows not only a still remaining lack of medical knowledge, but also persistent weakness in the ethical, legal, medical, pharmacological and political practices that surround the phenomenon off label use in pediatrics. Off label drug use remains an important public health issue for infants, children and adolescents because most of the drugs still have no information in the labeling for use in pediatrics. Treatment of children may be difficult because of shortage of properly formulated or approved drugs. The off label and unlicensed use of drugs to treat children is a common practice that occurs either in hospital or in the community. Off label prescribing of drugs for pediatrics is a continuing public health concern. More clinical trials in children are needed, as well as more focused interventions such as careful post marketing surveillance of the drugs safety of drug treatment in children, including the occurrence of ADR and other drug related problems should be thoroughly documented in clinical practice.



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ABS-P188
OLANZAPINE VERSUS HALOPERIDOL IN THE TREATMENT OF
SCHIZOPHRENIA, TERTIARYCARE HOSPITAL

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Background: Schizophrenia is a heterogeneous condition that includes positive, disorganized, dysphonic, and negative symptoms. Objective: This multicenter double-blind trial was designed to compare the therapeutic profile of an atypical antipsychotic, olanzapine, with that of a conventional dopamine D2 antagonist, haloperidol. Method: A total of 1,996 patients at 174 sites in Europe and North America were randomly assigned to treatment with olanzapine (N=1,336) or haloperidol (N=660) over 6 weeks. The primary efficacy analysis involved the mean change from baseline to endpoint in total scores on the Brief Psychiatric Rating Scale (BPRS). Secondary analyses included comparisons of the mean change in positive and negative symptoms, co morbid depression, extra pyramidal symptoms, and overall drug safety. Results: A total of 1,996 patients at 174 sites in Europe and North America were randomly assigned to treatment with olanzapine (N=1,336) or haloperidol (N=660) over 6 weeks. The primary efficacy analysis involved the mean change from baseline to endpoint in total scores on the Brief Psychiatric Rating Scale (BPRS). Secondary analyses included comparisons of the mean change in positive and negative symptoms, co morbid depression, extrapyramidal symptoms, and overall drug safety. Conclusions: Olanzapine shows a superior and broader spectrum of efficacy in the treatment of schizophrenic psychopathology, with a substantially more favourable safety profile, than haloperidol. It meets several of the criteria for a novel atypical antipsychotic agent.



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**ABS-P189
OVERVIEW OF HEALTH INSURANCE IN INDIA**

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Health care financing in India can be considered almost unique in several respects. One, the share of public financing in total health care financing in the country is considerably low just around 1% of GDP compared to the average share of 2.8% in low and middle-income countries or even relative to India's share in disease burden. Two, the beneficiaries of this limited public health financing are not only the poor as one would expect in a limited public spending to be, but also the well-off section of the society. Third, over 80% of the total health financing is private financing, much of which takes the form of out-of-pocket payments (i.e., user charges) and not any prepayment schemes. The World Bank (2002) estimates that one-quarter of all Indians fall into poverty as a direct result of medical expenses in the event of hospitalization. Health Insurance for the poor for the low-income people, insurance was never considered to be an option in the past and in our presentation we assumed they may be too poor to save and pay premium. Hence, the government assumed the responsibility of meeting health care needs of the poor. One could argue that some community based health initiatives do not involve any risk pooling and in our presentation we try to overcome the risks involved in the perspective of health insurance.



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ABS-P190
PERCEPTION OF HEALTHCARE PROFESSIONALS TOWARDS
ACQUIRING KNOWLEDGE ON DRUG-DRUG INTERACTIONS AND
CLINICAL PHARMACISTS' ROLE IN MANAGING THEM – A
DESCRIPTIVE STUDY

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Background: Given the high prevalence of medication use in many countries, the risk of drug-drug interactions (DDIs) and potential harm to the patient is of major concern. Healthcare professionals are expected to have a greater knowledge in identifying drug-related issues in a prescription. Until now, little is known about the determinants of prescribers' knowledge towards DDIs and clinical pharmacists' importance in a clinical setting. This study aims to assess the knowledge of healthcare professionals towards DDIs and their perception about clinical pharmacist's role in managing DDI. **Methodology:** The study was conducted at K.G. Hospitals and Post Graduate Research Institute; Coimbatore .The study population included all healthcare professionals (physicians, physician assistants, nurses, and PG interns). A total of 50 healthcare professionals who were willing to take part in the study were enrolled and they were informed about the details of the study. The prepared assessment form was circulated among the participants of the study. Every query in the form were explained by the investigators to the participants and their response was recorded and evaluated. **Result:** From the study, it is concluded as 94% of physicians and 96% of PG interneers accepted the importance to have knowledge on drug interaction and its reporting whereas less acceptance were shown by physician assistant (85%) and nurses (81%).The perception level of physicians, PG interns, physician assistants, and nurses on need of drug interaction training program in their work setting were 84%, 93%, 78%, and 86% respectively. The perception of physician towards the role of clinical pharmacist in reporting and systematic management of drug interaction was high (92%) whereas PG interns, physician assistants, and nurses perceived it at a rather less level viz., 89%, 87% and 89% respectively. **Conclusion:** Even though physicians have an adequate knowledge in identifying and managing drug interaction, the role of clinical pharmacist in reporting and managing drug interaction is vital and this study proves that the perception of physicians and other healthcare professionals towards the clinical pharmacist role and presence in identifying, training, and reporting drug interactions was very positive.



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ABS-P191
TO STUDY OF MEDICATION ERRORS IN GENERAL MEDICINE
WARDS OF A TERTIARY CARE HOSPITAL

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In a developing country like India, research work is needed to find the medication error rate and its causes in Indian setup. A prospective interventional study was conducted in general medicine wards of a 2032 bedded tertiary care hospital for a period of 6 months. Totally 497 patients selected randomly were followed to study the opportunities which can increase the risk of occurrence of medication errors. The study also planned to study the healthcare professional's knowledge, attitude and practice of medication errors and its reporting. The overall rate of medication errors was found to be 6.4%. The rate of administration error was higher than prescription error. Among the factors that increase risk of medication errors, 453 medication documentation errors were identified in which 437(96.5%) prescribing errors, 15(3.3%) administration documentation errors and 1(0.2%) transcription errors. Total of 574 possible drug-drug interactions were present and Majority (374; 65.2%) were moderate category and 93 (16.2%) were of major category. A knowledge, attitude and practice (KAP) survey was conducted among 75 health care professionals (25 physicians, 25 nurses and 25 pharmacists). Majority of the prescribers (14; 56%) consider illegible handwriting, poor communication among healthcare professionals and work load as causes of prescription error. Maximum number of nurses (15; 62.5%) considers inadequate/missing documentation, poor communication, work load as causes of administration errors. Majority of pharmacists (18; 75%) consider poor understanding of incomplete/illegible handwritten prescription, look alike and sound alike drugs, work load as causes of dispensing errors. The number of nurses (28; 87.5%) involved in errors were more than physicians (4; 12.5%). Study reports higher number of administration errors (28; 87.5%) than prescription errors (4; 12.5%). It was observed that knowledge level of nurses regarding medication errors were slightly lower than pharmacists and physicians. The attitude and practice of physicians regarding medication errors, its preventive measures and reporting was slightly lower than pharmacists and nurses. This shows that though they had better knowledge about errors and their causes and reporting, they are not imbibing them into their practice. Therefore a medication error reporting system could be developed for our hospital with the help of clinical pharmacists which will greatly improve the quality of our healthcare service and clinical pharmacist can play a significant role in detection and evaluation of these medication errors.



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ABS-P192

PHARMACIST ROLE IN TOXICOLOGY SERVICES – A REVIEW

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Drug induced negative effects are the most concerned issue to the health care society. Here toxicology is the study of dynamic interaction of chemicals with living systems. The early and throughout application of assays for non-genetic toxicity is of great interest to the pharmaceutical industry, although few systems have been validated as being of good predictive value. There are numerous studies that have proved drug induced toxicity in different setups thereby imparting a patient's quality living. This toxicity usually takes birth by unintentional or intentional consumption or over dose of drug by the sufferer. Here we have focused on the importance of clinical pharmacist in managing these drug related issues, thereby minimizing patient suffering. This review identifies the commonly involved drug products, contributing factors, and opportunities for the pharmacist in prevention of this drug toxicity.



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ABS-P193
PHARMACOECONOMIC ANALYSIS OF PNEUMONIA PATIENTS IN
INTENSIVE CARE UNIT

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Objective: To evaluate the antibiotic utilization and Phrmaco-economic analysis of pneumonia patients admitted in intensive care unit. **Materials and method:** Patient admitted to intensive care unit of Kasturba medical college hospital who had pneumonia during their stay in ICU were evaluated retrospectively for demographic data, indications, duration of ICU stay, drug utilized for pneumonia and status of patient when shifted out from ICU. Antibiotics prescribed were divided into 5 groups. Group 1 was betalactum antibiotics, group 2 was carbapenems, group 3 was antistaphylococcal antibiotics, group 4 was macrolides and group 5 was miscellaneous antibiotics. For pharmacoeconomic evaluation ICU bed and nursing cost, ventilator cost, supportive cost, antibiotic cost, investigational cost, steroids and bronchodilator cost, organ support cost and miscellaneous cost were calculated. Costs per patient were calculated separately for ventilated and non ventilated patient. Cost of pneumococcal and influenza vaccine was also calculated. **Result:** Out of 320 cases evaluated 110 cases were of pneumonia with 63.6% males and 36.4% females and a median age of 65(44,64). 28.2% of people had pneumonia as their primary diagnosis and 71.8% had hospital acquired/aspiration pneumonia. The mean length of ICU stay was 3.30 ± 1.91 days. 21.8% patients were put on ventilator. The mortality rate was 34.5%. Group 1 antibiotics were prescribed for 91% patients, group 2 for 20%, group 3 for 51% of patients and group 4 and group 5 antibiotics were prescribed in 25.5% and 36.4% patients respectively. Betalactum antibiotic along with betalactmase inhibitor and clindamycin combination was most commonly prescribed antibiotic. Average cost per patient who was not put on ventilator was Rs 27,123 where as ventilated patient per cost was Rs44, 812. The influenza vaccination cost was Rs2, 500 and pneumococcal vaccine cost was Rs2, 310. **Conclusion:** length of ICU stay, hours of mechanical ventilation and antibiotics are the important cost drivers for pneumonia patients in intensive care unit. Highest numbers of pneumonia were hospital acquired/aspiration pneumonia, cost effective techniques to avoid or reduce aspiration should be employed. Vaccination may help in community acquired pneumonia.



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ABS-P194
PHARMACOECONOMIC EVALUATION OF ACUTE EXACERBATIONS
OF COPD TREATMENT IN A RURAL TERTIARY CARE HOSPITAL

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In India because of growing pressure on the healthcare budget, appropriate justification of current expenditures and future investments in public healthcare are becoming a priority. COPD is a major cause of healthcare burden worldwide and it is the one of leading cause of death with increasing the prevalence. It is a prospective, observational study conducted in COPD in patients to evaluate the pharmacoeconomic impact over a period of 9 months. Over all 50 were enrolled including 42 male and 8 female COPD patients. 60% of patients stayed over a period of 6-10 days in hospital. 4% of patients had a history of duration of illness >10 years. 64% of patients were farmers and only 4% had a monthly income Rs. >10000. 44% had a history of past smoking and 6% were smokers. 34% of patients had co-morbidities with COPD. Minimum total direct medical cost was Rs. 188.79 and maximum was Rs. 9982.12 with a mean±SD 2510.51±1904.11, in which medicine cost was high (mean 1949.21). Minimum total direct non-medical cost was Rs. 10.00 and maximum was Rs. 700.00 with a mean±SD 154.16±166.56, in which travel expenses was high (mean 84.56). Maximum total direct cost was Rs. 10682.12 and minimum was 268.79 with a mean±SD 2664.67±2030.76. This study concluded that, major COPD patients were farmers and they had less monthly income and it was not sufficient for the treatment of acute COPD exacerbations.



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**ABS-P195
PHARMACOECONOMIC EVALUATION OF METABOLIC SYNDROME
IN A TERTIARY CARE HOSPITAL**

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The International Society for Pharmacoeconomics and Outcomes Research (ISPOR) defines “Pharmacoeconomics as the field of study that evaluates the behavior of individuals, firms and markets relevant to the use of pharmaceutical products, services and programs and which frequently focuses on the costs and consequences of that use”. Metabolic Syndrome is referred as a group of diseases that includes diabetes mellitus, dyslipidemia and hypertension. Pharmacoeconomic analysis helps to compare and correlate the socioeconomic status of a patient with that of treatment cost. Cost of treatment plays a pivotal role in assessing the patient’s economic burden. Patient’s possible cost was taken for the analysis including direct medical, indirect medical and direct nonmedical costs. The study considered 50 patients for duration of six months in various departments of a tertiary care hospital. This considers cost of admission, laboratory investigations, medications, food, transportation, wages lost etc. From this study we concluded that direct medical cost can always create burden to the patient. Socioeconomic status of the patient was considered using modified Kuppuswamy’s scale. The assessment of cost of illness can help patients understand the depth of the disease and patients were provided with a ‘Cost Diary’ for assessing cost of illness. Patients were counseled about lifestyle modification to reduce cost of illness.



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**ABS-P196
PHARMACOECONOMICS - NEED FOR TODAY INDIA**

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India, the pill factory of the world, a good news in terms of manufacturing. But today in India diseases like diabetes, kidney failure, heart failure are tumbling the citizens of our country. It is estimated that 20 million people in India fall below the poverty line each year because of indebtedness due to healthcare needs (Price water house Coopers.2007),and are spending 12 billion USD annually. So a good frame work is needed to decrease the burden on individual.

Economic evaluation is the formal process of weighing benefits and costs in an incremental analysis. It is essentially a framework that draws up a balance sheet between costs and benefits to assist decision-making. Economics concepts can be applied to the healthcare industry for assessing health care technology. Governments worldwide are seeking to curb their soaring prescription drug costs by greater use of generics, thus giving importance to cost-effectiveness and cost-benefit analysis studies. In other words, they are implementing the concept of Pharmacoeconomics. Unfortunately, even after the availability of tremendous data on health sciences and clinical research, this data is not used for outcomes research and pharmacoeconomic analysis. The reason for this being the quality of primary data available and its suitability for secondary database research. Therefore, the centre point for the future of outcomes research and pharmacoeconomic analysis in India is the development of a proper database to be used for comparative effectiveness research.



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ABS-P197

**PHARMACOVIGILANCE AND PHARMACOECONOMICS: METHODS,
RECENT DEVELOPMENTS AND FUTURE PERSPECTIVES IN INDIA**

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Pharmacovigilance and pharmacoeconomics have now become the talk of the city where the absence of any one will be devastating in the healthcare scenario. Pharmacoeconomics deals with cost effectiveness in every treatment whereas pharmacovigilance deals with safe delivery of drug to every patients. So, both go hand-in-hand and are complementary to each other. Pharmacovigilance is defined by the World Health Organisation as ‘the science and activities relating to the detection, assessment, understanding and prevention of adverse effects or any other drug-related problem’ plays a key role in ensuring that patients receive safe drugs. Pharmacoeconomics is defined as ‘a branch of health economics which particularly focuses upon the cost and benefits of drug therapy’. Our knowledge of a drug’s adverse reactions can be increased by various means, including spontaneous reporting, intensive monitoring and database studies. New processes, both at a regulatory and a scientific level, are being developed with the aim of strengthening pharmacovigilance. While reviewing the articles, four major techniques are used for economic evaluation, namely cost-minimisation analysis, cost-effective analysis, cost-utility analysis and cost-benefit analysis. The choice of evaluation method depends on the nature of outcome and the context in which the choices need to be made. To determine the likelihood of relationship between the drug and the event, assessment of causality is done which is rather the important task in conducting the National Pharmacovigilance Programme in each country, but along with pharmacovigilance the cost of giving safe medications also need to be ascertained which should be economical at the end. While major advancements of the discipline of pharmacovigilance and pharmacoeconomics have taken place in the West, not much has been achieved in India. Hence the Objective of these review article to describe the present aspects of pharmacovigilance and pharmacoeconomics, including new methodological developments of adverse event detection and documentation and reporting methods in our country.



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ABS-P198
PRECLINICAL EVALUATION OF ANTICATARACT ACTIVITY OF
DIFFERENT FRACTIONS ISOLATED FROM METHANOLIC EXTRACT
OF WHOLE PLANT OF *Hygrophila auriculata* ON ISOLATED GOAT
LENS: BY IN-VITRO MODEL

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The present study investigate effect of different fractions isolated from the methanolic extract of whole plant of *Hygrophila auriculata* on cataract induced by glucose. The methanolic extract of *Hygrophila auriculata* was subjected to column chromatography for purification. The column is equilibrated for one hour with petroleum ether & sample was loaded on the column & five fractions were collected using different eluents. From the above fraction-C was excluded from study due to low yield. Later fraction D & E were pooled into fraction F based on chromatogram on TLC plates. All three fractions were checked for their anticataract activity by invitro model on goat lens. The lens were removed from fresh goat eyeballs by extracapsular extraction & incubated in aqueous humour at room temperature & maintain ph 7.8. glucose at a concentration of 55mM was used to induce cataracts. Lenses were placed on a wired mesh with the posterior surface touching the mesh, the pattern of mesh number of squares clearly visible through lens was observed to measure lens opacity. Oxidative stress is an important factor for the development of cataracts and use of antioxidants may be advocated in patients to delay or prevent the formation of cataract. By this study fraction A obtained from methanolic extract of *Hygrophila auriculata* whole plant produce maximum protection against cataract compared to other fractions



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ABS-P199
PREDICTOR FACTORS CONTRIBUTING TO SEVERITY OF ILLNESS IN
PATIENTS WITH DENGUE FEVER IN A TERTIARY CARE TEACHING
HOSPITAL

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Dengue viruses (DEN) are small single stranded RNA viruses belonging to the genus Flavivirus, family Flaviviridae. They are the most common cause of arboviral (arthropod-borne viral) disease in the world. The principal vector of dengue is *Aedes aegypti* of *Aedes* species. It is a tropical & subtropical species, found worldwide between latitudes 35°N and 35°S. Dengue inflicts a significant health, economic & social burden on the populations of endemic areas. Lack of adequate knowledge of the risk factors contributing to the severity of dengue illness along with the ever growing global burden of the disease on the world requires adequate data which would elucidate & give a broader understanding of the disease. Not only are the number of cases increasing as the disease spreads to new areas, but explosive outbreaks are also occurring.



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ABS-P200

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

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Compliance of the therapy is helps in controlling hypertension along with preventing complications. Lifestyle modification seems to play an important role along with drug therapy in control as well as improving health related quality of life in patients. This is a prospective observational study, where eligible patients are enrolled into the study after obtaining the consent. Inclusion Criteria includes the patients newly diagnosed as Hypertension with age group of 30 to 80 years while the exclusion criteria for the study includes Patients with two or more comorbidities ,Complications of Hypertension, patients who are not willing to give the consent form, pediatric population and pregnant/lactating women . All information relevant to the study has been collected at the time of admission till the date of discharge and the data has been analysed by using suitable method for statistical analysis. Hypertension impairs vitality, social functioning, mental health, mood and psychological functioning, presence of complications and comorbidities influences the HRQoL in hypertensive patients more than hypertension itself. EQ-5D questionnaire was used as a health survey tool to measure the quality of life of patients. It is a well-known generic HRQOL instrument which consists of five dimensions: mobility, self- care, usual activities, pain/discomfort and anxiety/depression is used for hypertension.



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**ABS-P201
PREVALENCE OF ANEMIA IN GERIATRIC PATIENTS**

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Anaemia is defined as the decrease in oxygen carrying capacity by RBC. According to recent studies 164 million elderly people who constitute 23.9% of the elderly population in India are suffering from the disorder. It is a common concern in age group of more than 60yrs of age. According to WHO determines anaemia when the haemoglobin level is < 13gm/dl in males and <12 gm/dl in females. According to WHO the prevalence of anaemia is in the range of 8-44% with highest prevalence in men of 85yrs. From the studies that we are done in tertiary Care hospitals out of 100 patients 70% of people who are elderly aged group are suffering with anaemia. Out of these 45% are of females and 25% are of males with age group of > 60yrs of age. From our studies it is evident that this disorder mainly occurs due to nutritional deficiency and others due to chronic inflammation and renal insufficiency and others it is remain unexplained. Recent studies revealed that lack of adherence to physicians' advice is the major reason for this disorder. Awareness on proper nutrition and lifestyle could help control this disorder.



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ABS-P202
PREVALENCE OF METABOLIC SYNDROME AMONG THE PATIENTS
USING OLANZAPINE

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AIM AND OBJECTIVES: To study the prevalence of metabolic syndrome among the patients receiving olanzapine. This study involves the comparison of metabolic syndrome among the patients receiving the drug olanzapine in first episode schizophrenia patients. **METHODS:** The study was conducted in out-patients department of psychiatry by consulting Dr.Ponni Muralidaran MD (psy), K.G hospital. A prospective study conducted in the outpatient department of tertiary care hospital. Diagnosis was based on ICD-10.The study was conducted from January-August 2014. **RESULTS:** The prevalence of metabolic syndrome was calculated according to five parameters of NCEP guidelines Viz. high density lipoprotein, triglycerides, fasting blood glucose levels, blood pressure, waist circumference.17 patients were included in the study. There were significant differences in the following parameters on long term treatment. Fasting plasma glucose was found to be increased in five patients. Initially there was no significant changes in fasting plasma glucose levels but later in the process of treatment FPG level was found to have significant increase.29.4% of the total individuals were found to have increased in fasting plasma glucose levels. There was no significant change in the remaining 12 individuals.5 males along with 3 females HDL levels were found to decrease below the range of NCEP criteria.So,47.05% of the individuals is having decreased HDL levels. Rest of the patients there was no change. Waist circumference being one of the criteria ,5 patients(29.4%) was found to have increased central obesity.5 out of seventeen (29.4%) of the individuals under study were diagnosed to have higher triglyceride levels. Remaining 12 patients show no significant change.5 of the patients(29.4%) were found to have increased in blood pressure(130/80 to 150/100).On exposure to olanzapine long term treatment ,the rest of the individuals are having blood pressure in normal range. **CONCLUSION:** The most likely conclusion is that our hypothesis doesn't completely support our results and observations. So probably we need more randomised controlled trial to establish the effects of olanzapine[Jolyon MD;5-10mg] on overall metabolism in patients. The result confounds that Schizophrenia is a complex heterogenous disorders which require multi drug usage. So it again can't be concluded that olanzapine is only responsible for metabolic syndrome in schizophrenia patients.



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ABS-P203
PREVALENCE OF SWINE FLU AT SECONDARY CARE REFERRAL
HOSPITAL IN RESOURCE LIMITED SETTING

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Introduction: Influenza virus is a common human pathogen that has caused serious respiratory illness and death over the past century. In April 2009, a new strain of Influenza virus A H1N1, commonly referred to as “swine flu”, began to spread in several countries around the world, and India confirmed its first case on 16 May 16 2009. It causes fever, cough, sore throat, rash, chills, nausea, vomiting, diarrhea, fatigue and nasal secretions. On severe it may leads to Pneumonia, seizures and often Death. **Aim:** To study the clinical and epidemiological profile of Influenza A H1N1 cases at the Rural Development Trust (RDT) Hospital, Bathalapalli. **Materials and Methods:** Clinical epidemiological characteristics of Influenza A H1N1 cases from May 2014to April 2015 were retrospectively, descriptively analyzed using data from the Influenza A H1N1 screening center and isolation ward at the Rural Development Trust (RDT) Hospital, Bathalapalli. **Results:** At RDT Hospital, till April 2015, a total of 4379 patients were screened for Influenza A H1N1, of which 365 patients were tested. The most common symptoms were fever (87.6%), cough (49.77%), sore throat (27%) and breathlessness (23.9%). The most common presentation (42.30%) of Influenza A H1N1 cases was fever and cold-like features, not cough. 29.58% (108) of the tested patients were found to be positive for the disease. Maximum cases were detected in the month of December, and the patients less than 40 years of age accounted for 81.4% (44 cases) of the cases. Influenza A H1N1 resulted in death of 54.9% (28) of the admitted cases, of which 46% (12) deaths occurred within 48 hours of admission. **Conclusion:** On the basis of these findings, it is hypothesized that prevalence of Influenza A H1N1 is high in the younger population, and fever, cough and sore throat are the most common symptoms with which the patients usually present.



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ABS-P204
PREVALENCE OF VENTILATOR ACQUIRED PNEUMONIA IN
ORGANOPHOSPHORUS POISONING PATIENTS IN TERTIARY CARE
HOSPITAL

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Introduction: The different types of organism, their sensitivity pattern and treatment plays important role in the management of (Ventilator associated pneumonia) VAP being the major cause of poor outcome among patients in the intensive care units (ICU) is the main objective of the study. **Methodology:** Data was collected retrospectively from medical record section from 2008 to 2013. Demographical details of patients along with the information regarding treatment given, type of complication developed along with outcome measures such as recovery, discharge against medical advice, death, hospitalization period and ventilation period were also recorded. **Results:** 500 patients from the year 2009 to 2013 for management of op-poisoning were enrolled for the study. The mean age of the study population was found to be 33.31 ± 14.5 years. The entire population n(%), 495(98.8%) received atropine in their treatment out of which 395 (68.9%) patients received pralidoxime and 122(32.6%) received glycopyrrolate. 10.8% (n=54) developed pneumonia among which ventilation acquired pneumonia was seen in 8.2% (n=42). The most frequent causing organism were found to be *Pseudomonas aeruginosa* seen in 1.2% (n=6) patients followed by *Klebsiella pneumoniae* and *Acinobacter*, the antibiotics that were most commonly used in the patients were found to be Cephalosporins 56.1% (n=281), Penicillins 31.9% (n=160) followed by Aminoglycosides, Quinolones and Oxazolidindiones. **Conclusion:** It is seen that hospital acquired pneumonia (HAP) like ventilator acquired pneumonia (VAP) and aspiration pneumonia are very susceptible in patients suffering from op-poisoning. Also the antibiotics seen to be most commonly used in the treatment of VAP were beta-lactam antibiotics such as penicillins and cephalosporins.



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ABS-P205
QUALITY ASSURANCE AUDITING OF COMMUNITY PHARMACIES
ACROSS THE STATE OF KERALA

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Quality standards are an essential component of community pharmacies, as they determine the extent of professionalism and the quality of services provided by the pharmacist to the patients. The objective of the study was to conduct a quality assurance auditing of community pharmacies across the state of Kerala. The study design was a descriptive cross-sectional study and the study duration was one year. The study was conducted in 560 community pharmacies spread across every district in the state of Kerala. The investigator made a personal visit to these community pharmacies and the basic background and the objective of the study was explained to the Pharmacist/ In-charge of the respective pharmacy. A scoring worksheet for carrying out quality assurance auditing of community pharmacies was developed, based on the GPP guidelines developed by IPA in March 2002. There were 11 standards included in the worksheet namely premises, personnel, training, complaints and recall, medicine recall, documentation, procurement and inventory, prescription handling, dispensing indicators, patient counselling and storage. Under each standard, there were one or more finer standards. For each finer standard, there are one or more criteria. Then a guideline for rating/scoring each criterion was developed. They were a measure or indicator of compliance to the respective criteria and indirectly the finer standard and standard. Based on the total score, the pharmacy was awarded the final grading as A (excellent), B (good), C (satisfactory) and D (poor) which indicates a score of above 40%, 20%-40%, 10%-20% and below 10% respectively. From the study it was found that 3.57%, 29%, 59% and 8% of the community pharmacies were awarded with A, B, C and D grades respectively. It was found from the study that the adherence of community pharmacies in Kerala to the good pharmacy practice guidelines were quite poor. The time has come to necessitate immediate changes to the system of community pharmacy practice by the concerned regulatory authorities and in the attitude of pharmacist with respect to his professional duties and ethics.



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ABS-P206
RANDOMISED SINGLE BLIND CONTROLLED TRIAL ON
EVALUATING THE EFFECTS OF HEPARINISED AND NON-
HEPARINISED FLUSH SOLUTIONS ON MAINTAINING THE PATENCY
OF DIALYSIS CATHETER

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OBJECTIVE: This study aimed at comparing heparin and tri-sodium citrate used as long term catheter locking solution regarding the occurrence of pyrogenic reaction, bacteraemia, infection related hospitalizations, thrombosis and death. **BACKGROUND:** The increase in the incidence of stage V chronic kidney disease (CKD), has reached alarming figures worldwide in past years, and, in India, it has not been different. Most of those patients initiate dialysis therapy with haemodialysis (HD) and a central venous catheter. Haemodialysis catheters used for vascular access are frequently complicated by infection and catheter related thrombosis. Improvement of inter-dialytic locking solutions could reduce these problems. Thus the search for substance with anti-coagulant properties that also prevent catheter related infections is necessary. Tri – sodium citrate (TSC) has been advocated for haemodialysis catheter locking now days. **METHODOLOGY:** In a single blind randomised clinical trial 30 patients were enrolled who were candidates of catheter placement in dialysis department in a tertiary care hospital in Coimbatore. Patients are randomly assigned to have both lumens of their catheter locked with either un-fractionated sodium heparin 5000 U/ml or TSC 46.7%. After the haemodialysis treatment had been completed, each lumen of the catheter was flushed with 10 ml of 0.9% sodium chloride and locked with tri-sodium citrate using a volume exactly equivalent to the internal volume of the lumen noted on the catheter. The groups were compared regarding the occurrence of pyrogenic reaction, bacteraemia, infection related hospitalizations, thrombosis and death. **RESULT:** The result of this study show that for haemodialysis catheter, an inter-dialytic lock of TSC 46.7% is more effective. TSC reduced the risk for CRB by 75% and reduced the number of patients who died from this serious complication of haemodialysis catheter use. In conclusion, the use of TSC 46.7% for catheter locking in haemodialysis can contribute importantly to the reduction of catheter related complications in haemodialysis patients by prevention of premature catheter removal and catheter related infections. Probably, even a reduction in bacteraemia – related death can be achieved. In addition, bleeding complication and un-intentional heparinization can be reduced. **CONCLUSION:** The use of 46.7% Tri – sodium citrate solution effectively reduced the occurrence of pyrogenic reaction, bacteraemia, infection related hospitalizations, thrombosis and death in chronic kidney disease patients on haemodialysis with long term catheters compared to heparin.



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ABS-P207
REVIEW ON BETTER EFFICACY OF METHOTREXATE GIVEN BY
INTRAMUSCULAR INJECTION THAN ORALLY IN PATIENTS WITH
RHEUMATOID ARTHRITIS

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INTRODUCTION: For treatment of rheumatoid arthritis, Methotrexate is one of the most popular and most frequently prescribed drugs. In fact, it is usually the first treatment and is sometimes taken for several years. Surprisingly, the process through which it reduces inflammation is not entirely understood. Nevertheless, it is clear that it not only treats inflammation, but also slows the destructive disease process of rheumatoid arthritis. Methotrexate typically takes effect within several weeks. It continues to become more effective for up to three months. Although many patients enjoy success with this drug alone, other patients go on to combine it with other disease-modifying antirheumatic drugs. The main aim of this study is to review the efficacy of methotrexate given by intramuscular injection than orally in patients with rheumatoid arthritis. Methotrexate is a disease-modifying antirheumatic drug used to slow the disease process and treat the pain and swelling of rheumatoid arthritis. The body's absorption of the drug, and therefore its effectiveness, varies among individual patients when the drug is taken orally. To improve methotrexate's effectiveness, physicians may increase the oral dosages or try intramuscular methotrexate injection. Although the injections may help improve the medication's effectiveness, the potential side effects and benefits of methotrexate are virtually the same whether it is given orally or by injection. Liver damage remains the main concern, and is monitored by frequent blood tests. Taking 1 mg of folic acid per day can help reduce other side effects related to methotrexate use, such as mouth sores or gastrointestinal irritation.

CONCLUSIONS: According to results from the first clinical trial to systematically investigate the optimal administration of methotrexate in patients with active rheumatoid arthritis, published in the January 2008 issue of *Arthritis & Rheumatism*, methotrexate injection (also referred to as subcutaneous methotrexate) is significantly more effective than oral administration of methotrexate at the same dosage, with no increase in side effects. There were 384 study participants in the 24-week study who were randomly assigned methotrexate injection or oral methotrexate. The study participants, said to have high disease activity at the start of the study, received 15 mg weekly methotrexate injection plus oral placebo or 15 mg weekly oral methotrexate and placebo injection. From the study data, researchers concluded that methotrexate injection, using a possible dosage of 15 mg/week for a period of at least 24 weeks (including a possible dosage increase), is superior to initiation of methotrexate by the oral route. At 24 weeks, the percentage of patients with an ACR20 response was significantly higher in the group receiving methotrexate injection (78%) than in the group receiving oral methotrexate (70%). Methotrexate given intramuscularly had improved clinical efficacy with fewer side effects than given orally. Intramuscular methotrexate administration should be considered when rheumatoid arthritis remains active in spite of high dose oral methotrexate.



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**ABS-P208
RURAL COMMUNITY KNOWLEDGE AND ATTITUDE REGARDING
MEDICATION: A SURVEY**

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Background: Medicine has emerged in such a way that it plays an essential part of life for all of us. Current medicines have improved the way in which diseases are managed and controlled however inappropriate use of medicines create serious health issues. Despite of all the benefits of medicine, evidence continues to show that adverse reaction to life saving medicines are common, yet it is preventable. Even though there is considerable amount of literature on patient's adherence to medication, much less attention has been paid to their attitudes and ideas about medication.

Objectives: The primary objective of the present study was to assess the knowledge and attitude of common population in some villages near to Adichunchanagiri Institute of Medical Sciences, B. G. Nagara, Mandya district (Karnataka), India, regarding medication and also to determine their medication adherence. **Method:** This was a six month community based observational and prospective study which was conducted in Chakenahalli and Agachahalli villages of Mandya. In the present study, 218 people of both sex were included and data regarding the usage of medication was collected according to the questionnaire prepared for this study. **Result:** Data obtained from the study revealed that, 79.35% males and 82.54% females know about the diseases for which they are consuming medicines. Most of the participants (78.84% of males and 77.78% of females) of this study believe that medication without prescription will help them to improve/manage their illness and poor medication adherence behavior has been observed. **Conclusion:** This survey shows that most of the common population in the rural areas know about the indication for which they are consuming medication, however the study also emphasizes the unawareness of common population towards proper usage of medication.



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ABS-P209

**STUDY OF PHARMACY STUDENTS' PERCEPTION ON NEW METHODS IN
TEACHING LEARNING PROCESS**

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There is an increasing demand of pharmacists at a global level and it is very important for the Indian pharmacy education system to be at par with the international pharmacy standards. The relevance of topics taught in the BPharm curriculum still remains ambiguous. The relatively new methods like team based learning, problem based learning and learning by online recorded lectures are yet to be explored. Active-learning methods, which help develop problem-solving and critical-thinking skills and provide a higher level of cognitive functioning leading to a greater degree of understanding and retention, should be embraced at all levels of the curriculum. Also, it is imperative to analyse how aware bachelor of pharmacy (BPharm) students are about their expected roles and responsibilities as pharmacists. There is an urgent need to improve the present condition of education in pharmacy for which it is of immense importance to analyse the perspective of students regarding the relevance of topics taught in class and the methodology of teaching. This study analyses the perception of students regarding the curriculum of BPharm, the teaching methodologies opted and their views about career in pharmacy.



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ABS-P210
STUDY ON INFECTIOUS DISEASE PATTERN IN A PEDIATRIC
DEPARTMENT OF A RURAL TERTIARY CARE HOSPITAL

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Introduction: Among the top ten causes of deaths, three are infectious diseases which cause mortality among children worldwide. These related deaths majorly observed from low to middle income countries with malaria, tuberculosis, HIV/AIDS, lower respiratory infections and diarrhea. ¹⁻³ Hence this study was conducted in pediatric inpatients to know the incidence, treatment pattern, and clinical outcomes. **METHODOLOGY:** This was a Prospective, cross sectional study conducted in AH&RC, Pediatric department from May 2014-Dec 2014 after obtaining IEC. A descriptive statistical analysis was applied. **RESULTS & DISCUSSION:** Among 80 patients, 72 patient's parents were accepted and given their assent. The Majority of the pediatrics age group were 2-5 years (29.2%) followed by <1 year age group (26.40%) and 11-15 years age group (22.22%). Average duration of hospitalization was 4.28±1.47 days. 87.5 % of pediatric patient's hospitalization was 1-5 days followed by 6-10 days. Among the pediatric infectious diseases, Pneumonia(40.27%) > Dengue(30.55%) >UTI(20.83%) >Viral fever(11.1%)>Bronchitis(5.5%).The antibiotic usage pattern showed 18% patients are not on any antibiotics, 75 % with single , rest were with 2 or 3 antibiotics. 60 % of them were treated with parenteral form of antibiotic. Among the antibiotic class, 37.5% of cephalosporin's followed by penicillin +beta lactamase (30.5%). The average number of drugs per prescriptions was 3.94 ± 1.71, in which average number of antibiotic prescribed & its cost was 0.90 ± 0.535 & 567.62 ± 912.03 respectively. **CONCLUSION:** This study clearly suggests that pharmaceutical care services are very essential in the pediatric rural population, for the promotion of rational use of antibiotics and for bringing the awareness about the infectious disease prevention and control.



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ABS-P211
STUDY ON PRESCRIPTION PATTERN OF INSULIN IN DIABETIC
PATIENTS IN A RURAL TERTIARY CARE TEACHING HOSPITAL

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Background: Insulin administration was found to be a better choice for diabetic patients who started surviving for longer periods till they developed vascular complications or infections. Many studies proved that although proper and appropriate insulin administration can prevent many of the adverse outcomes associated with hyperglycemia, there is a lack of patient education on proper glucose monitoring and optimization of insulin therapy and pharmacist can play a vital role in patient education and optimization of insulin therapy thereby leading to better outcomes. **Objectives:** To study the prescription pattern of insulin in diabetic patients in a Rural Tertiary Care Teaching Hospital. **Materials and Methodology:** This study is a Prospective and Observational study. Adults and geriatric patients of either sex, diagnosed as Diabetes (Type2), and those on insulin therapy, who were willing to participate were included in the study. A special design pro-forma was used to collect the data. Data was collected from patient prescriptions, patient case sheets, and questionnaires were used to assess the patient knowledge on insulin administration, storage, diet and side effects. **Results:** During the study period of six months (October 2013 to April 2014), a total of 120 patients diagnosed with diabetes were enrolled in the study, out of 81 (67%) were males and 39 (33%) were females, 7 patients (5.83%) belonged to the age group 30-40, 18 patients (15%) belonged to the age group 41-50, 35 (29.6%) were from the age group 51-60, 43 (35.835%) were from the age group 61-70, 13 patients (10.83%) belonged to the age group 71-80 and only 4 patients (3.33%) were found to be in the range of 81-90 years. Among the study population, 96 (80%) were found to be having an history of Type2 DM, among which 7 (7.29%) patients were having a history of diabetes not more than 1 year, 1-5 years of medical history were found for 37 (38.54%) patients, 35 (36.45%) patients were having medical history between 5-10 years, 12 (12.5%) patients were found having medical history between 10-15 years, Between 15-20 years, only 4 (4.16%) patients were found to have the history. Out of the total study population, 109 (90.83%) patients were found to be administered with Human Actrapid and 11 (9.16%) patients were prescribed with Human Mixtard, 84 patients (70%) were on insulin monotherapy and 36 patients (30%) were found to be administered with both insulin and other oral hypoglycemics. Awareness of insulin administration before counselling was 45.83% and after counselling it was raised to 92.5%. Their understanding about storage requirements of insulin was only 27.5% which was raised to 84.16%, knowledge about the site change of insulin administration was only 45% before counselling and has gone up to 92.5% after counselling. Awareness about dietary modification was 31.66% and had increased to 97.5% after counselling, awareness about the management of hypoglycemic condition before counselling was 48.33% and was found to be 95% after counselling. **Conclusion:** From the study, it was evident that most of the patients were on insulin monotherapy, and among the two insulin brands (H. Actrapid and H. mixtard) used in our hospital, Human actrapid was widely used. The study concluded a significant positive association between counselling by clinical pharmacist and the use of insulin therapy. As insulin was amongst the main stay of treatment within the study population, it was observed that when a patient understands his/her therapy, better chances of positive outcomes, which is directly linked with better compliance and lesser side effects providing optimal results.



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**ABS-P212
STUDY ON USE OF ANTIDEPRESSANTS IN ELDERLY PATIENTS IN A
TERTIARY CARE HOSPITAL**

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Depressive disorder is the most frequently occurring psychiatric illness of older people. It has a negative impact on quality of life, adds significantly to disability from physical disorder and is the leading cause of suicide in older people. It is important at each visit to monitor for any worsening of depression, emergence of agitation or anxiety, as well as for suicide risk, especially in the early stages of treatment. This prospective observational study aims to evaluate the trends of antidepressant use in elderly patients admitted in various departments of a tertiary care referral hospital for a period of 6 months. Required data were collected from case record, outpatient cards and by direct interview. Inclusion criteria of the study was male and female patients older than 60 years, number of drugs more than 3 and number of days of hospital stay more than 3. Critically ill patients were excluded from the study. Geriatric depression scale (GDS) were used to assess patients. Total number of male patient in the study was 46(56.09%) and that of female patients were 36(43.90%) in total patients 51.06% male patients and 48.93% females were using antidepressants. Risk factors and antidepressants use pattern were studied and also compared with the Beers list for elderly. Study results shown that antidepressants are widely used for insomniac elderly patients.



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**ABS-P213
SWINE FLU: A PANDEMIC DISEASE**

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Swine flu is an emerging viral infection that is a present global public health problem. Swine flu can produce a number of symptoms in both adults and children. In India, number of infected population is increasing day by day, so it is Important to take into consideration about this disease as it may prove deadly one. The intensity of this disorder can be lowered by diagnosing and taking proper treatments. Swine flu is a respiratory disease caused by **influenza** viruses that infect the respiratory tract. The 2009 swine flu outbreak (pandemic) was due to infection with the H1N1 virus. The most serious complication of the flu is **pneumonia**. The risk of complications is higher among those who have preexisting diseases, such as asthma, heart disease and kidney disease, and among pregnant women. Antiviral treatment is not necessary for those who are otherwise healthy, and have mild or uncomplicated illness. Vaccination is the best way to prevent or reduce the chances of becoming infected with influenza viruses. Preventive measures include shielding one's mouth and nose while coughing and sneezing, Wash your hands thoroughly and frequently with soap, avoiding mass gatherings and voluntary isolation by symptomatic individuals. Health care Professionals can play a vital role by educating the public in order to prevent/stop the rapid spread of deadly disease



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ABS-P214
THE COMPARISON OF TEACH BACK METHOD AND STANDARD
METHOD FOR A NEW PRESCRIPTION EDUCATION DURING
SIMULATED COUNSELLING SESSION

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Background: Teach back method is a Research based healthy intervention, that promotes adherence, quality and patient safety. **Introduction:** Teach back method is particularly important in the Department of Psychiatry because, patients depend on their medicines to appear normal. Therefore a thorough awareness of drugs instils in them knowledge to take medicines in the desired method. **Aim of the study** is to improve the adherence to medication and significantly elevates the knowledge retention of the patients and thereby improves therapeutic outcome. **Methodology:** 20 patients are selected randomly based upon the inclusion and exclusion criterias. The standard method is followed for 10 patients and teach back method for 10 patients. In teach back method patient is provided with open ended questions. The provider asks to repeat the provided instruction. This helps to increase the knowledge retention and memory retention skill. **Conclusion:** n evaluating the effectiveness of teach back with standard method it is proved that this method helps to improves the patients knowledge retention, memory retention and medication adherence skills.



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**ABS-P215
THE MEASUREMENT OF HEALTH-RELATED QUALITY OF LIFE
(HRQL) IN CHILDREN WITH CEREBRAL PALSY**

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The measurement of Health-related quality of life (HRQL) in children with cerebral palsy is a part of an emerging discipline. Theoretical models of disability and chronic illness developed by the world health organization, the national centre for medical rehabilitation research and others are being adopted for children. Development of HRQL measures in pediatrics lags behind the work completed with adults due to changes unique to children, such as ward domains to measure, whose perceptives to address and the developmental changes inherent to children. The descriptive HRQL studies of children with moderate severe cerebral palsy and comparisons of children with quadriplegia vs diplegia and hemiplegia are presented. Consistent with the functional measures, no significant difference in HRQL by treatment was documented in children with spastic diplegia participating in a randomized clinic trial of selective dorsal rhizotomy. HRQL measures that are specifically tailored to cerebral palsy need to be developed. Generic and individualized measures of HRQL are currently available and while limited, may be useful for evaluating the effect of different treatments for spasticity on the quality of life in children with cerebral palsy.



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**ABS-P216
TO ACCESS THE ANTIBIOTIC USAGE AMONG STUDENTS IN BOTH
HEALTH CARE AND NON HEALTH CARE DISCIPLINES**

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Background: Antibiotics are agents derived from microbes that help fight bacterial infections. However, some of the bacterial species can survive even after frequent exposure to antibiotics leading to antibiotic resistance, which develops as a part of defense mechanism in the pathogenic bacteria. It's more prevalent in cases of irrational use of antibiotics. The objective of this survey is to determine the extent of antibiotic resistance, due to self-prescribing, buying without prescription and indiscriminate use. We aim to determine the level of awareness in healthcare and non-healthcare professionals regarding antibiotic use, safety and resistance. **Methods:** An open ended KAP questionnaire was prepared using the Likert Scale. This is a prospective observational convenient sampling study, carried on for 3 months, targeting both healthcare and non-healthcare students in Manipal, India. Results analyzed using SPSS software. **Results:** Study carried out amongst 285 students from both healthcare and non-healthcare disciplines. The difference in the practice of antibiotic usage amongst health care and non-health care disciplines was noted in the case of frequency of antibiotic use, prescription purchase of antibiotics and experiencing adverse effects. **Conclusions:** Healthcare people have better awareness regarding antibiotic use and resistance compared to non-healthcare people. The pharmacist is trusted by many as a reliable guide to rational use of antibiotics. Many people also believe that sales of antibiotics over-the-counter should be regulated. The majority use the Internet as a guide for self-prescription, and it is widely believed that antibiotics should be prescribed only when needed.



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ABS-P217

TOP NEW DEVELOPMENTS IN THE FIELD OF MEDICINE: 2014-2015

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The poster is mainly meant for enhancing the knowledge of professional in the field of medical sciences. Today many articles reported that the professional knowledge update is very poor. Top 10 advances in the field of medicine are:

- 1.PCSK9 Inhibitors for Cholesterol Reduction.
- 2.Heel Pain Treatment: While walking heel absorbs 110% body weight while running it is 200%.
- 3.Daily cola 'raises cancer risk' due to caramel colouring.
- 4.BPPV Treatment: Around 20% of patients who present to the doctor with vertigo have BPPV.
- 5.Angiotensin - Receptor Neprilysin Inhibitor for Heart Failure.
- 6.Orexigen's Contrave, an antiobesity drug.
- 7.Pentoxifylline: New Use for Old Drug.
8. Dengue Vaccine.
- 9.New Medications for Idiopathic Pulmonary Fibrosis.
- 10.Synovial Sarcoma: This tumor represents around 10% of all soft tissue tumors.



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ABS-P218

UNINTENDED EFFECTS OF THE EPIDURAL ANALGESIA ON MATERNAL OUTCOME – A PROSPECTIVE STUDY

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Background: Epidural analgesia is used by more than half of laboring women, yet there is no consensus about what unintended effects it causes. **Introduction:** Epidural analgesia is the widely used technique for pain relief during labor. As the availability and acceptance of epidural analgesia increased, it is important that the physicians managing labor have a clear understanding about the benefits, risks and contraindications of epidural analgesia. **Aim & Objectives:** To evaluate the unintended effects of epidural analgesia, intensity of pain, duration of labor and complications. **Methodology:** Prospective observational study conducted on 100 patients to evaluate the unintended effects of epidural analgesia. Patients who requested for pain relief during labor included in the study. Epidural analgesia was provided with 15 mL bolus of 0.1% epidural ropivacaine along with 20µ fentanyl. **Results:** 63% of the patients are primiparous it may increase the duration of labor than multiparous. Second stage of labor prolonged to more than one hour in 47% of patients. 8% of patients experienced hypotension. Fever on 5 % of patients. **Conclusion:** The contemporary goal of providing maternal epidural labor analgesia is the relief of suffering and the pain of labor and delivery while minimizing the effects on maternal safety, awareness, progress of labor and maternal wellbeing.



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ABS-P219

VITAMIN B12 ORAL SUPPLEMENTS VERSUS INTRAMUSCULAR INJECTIONS: A COST EFFECTIVE ANALYSIS

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Background: Vitamin B12 deficiency can lead to adverse health effects such as anemia and, in some cases, permanent neurologic damage. In India, patients with vitamin B12 deficiency are typically given intramuscular injections, which incur considerable cost and inconvenience. The clinical evidence-based analysis has found that oral supplementation is as effective as intramuscular injections. **Objectives:** The purpose of the study was to investigate and compare the patient convenience and cost effectiveness of intramuscular and oral products of vitamin B12. **Methodology:** A total of 78 patients who have vitamin B12 deficiency were identified and enrolled into the study after their willingness was obtained. They were divided into two groups, one receiving Intramuscular vitamin B12 injection and the other group receiving oral tablets of vitamin B12. Vitamin B12 levels are measured in a fixed interval of three weeks using HPLC method. Cost Effective Analysis were made between parenteral and oral products. Results were documented and compared using statistical tools. **Results and Conclusions:** At the end of the study, it was found out that the plasma concentration of both oral and intramuscular vitamin B12 were almost equal and the study concludes that both the formulations; oral and intramuscular vitamin B12 are equally effective, but patient convenience is more in oral products. In geriatric population, where there is swallowing difficulties or non-cooperation with treatment, the intramuscular B12 will be beneficial. Overall, the cost effective analysis shows that oral products are more cost effective compared to parenteral products of Vitamin B12.



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ABS-P220
COMPARISON OF MONOTHERAPY VERSUS COMBINATION THERAPY FOR HYPERTENSIVE PATIENTS AT A TERTIARY CARE HOSPITAL

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Objective: To compare the therapeutic benefit of monotherapy and multiple therapy by assessing clinical outcome (BP measurement), to address and document the various adverse effects observed during monotherapy and multiple therapies for hypertensive patients, to compare the cost of both therapies during the treatment. **Material and Methods:** Two groups were included during the period of study, monotherapy and second group who received multiple therapy (dual therapy, triple therapy, quadruple therapy); Comparative study was done by measuring the outcome clinically by observing change in the BP. Safety of the treatment regimen was assessed by observing the ADRs and cost comparison was carried out between the groups. ANOVA test was applied to check the statistical significance of the above-mentioned parameters. **Results:** Out of total 200 patients, most of the patients (127) were females and the remaining (73) were males. Among 200 patients enrolled, 152 patients had hypertension along with other comorbidities and diabetes was the most common comorbid condition that was present in 126 patients. Most of patients were treated with monotherapy (96), which was followed by dual therapy (76). In monotherapy T Furosemide reduced SBP by 50mm Hg and T. Nifedipine and T. Metoprolol Reduced DBP by 20mmHg, whereas in dual therapy Inj. furosemide, T. Metoprolol decreased mean SBP by 60mm Hg and DBP by 40mm Hg respectively. Results showed that, triple drug therapy was most effective in reducing mean systolic (41.8-24%) and mean diastolic blood pressure (16.8-16.6%) and reduction of SBP by triple therapy was higher compared to other therapies. **Conclusion:** Combination therapy reduces both mean systolic and diastolic blood pressure compared to monotherapy. Triple drug therapy is more effective compared to dual and quadruple therapy. Pedal edema due to amlodipine is the most common ADR in both mono and multiple therapies. Combination therapy is more expensive than monotherapy, however triple therapy was most expensive compared to others.