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**Theme: Patient Engagement in Healthcare: Asian Perspective**

**Book of Abstracts**

## **Empowering patients, transforming healthcare: the China story**

**ISPOR MANIPAL/2024/001**

Arijita Ganguly\*, Srijan Bose

2nd Year B.Pharm, Manipal College of Pharmaceutical Sciences, Madhav Nagar, Manipal-576104

Presenting Author: 2nd Year B.Pharm, Manipal College of Pharmaceutical Sciences, Madhav Nagar, Manipal-576104

E-mail: [arijita.mcopsmpl2022@learner.manipal.edu](mailto:arijita.mcopsmpl2022@learner.manipal.edu)

Phone Number: 82872 50167

**Objective:** To provide a comprehensive overview of the current state of patient engagement in China, considering key drivers, challenges, and promising practices.

### **Abstract:**

People in traditional Chinese culture fear death, which prevents them from talking about it and leaves them without a logical knowledge of it. This anxiety stems from the emphasis on life and the scarcity of research on the ontological nature of death. Patient engagement changes the patient's position in healthcare from that of a passive recipient to that of an active partner. Patients are encouraged to freely discuss their thoughts and concerns with healthcare providers throughout interactions with the system so that they can work together to make decisions that will ultimately improve their quality of life, among other potential benefits. It is as a broad and culturally aware concept, is becoming more and more recognized in research as an essential part of delivering high-quality healthcare services. Healthcare systems in China are in the process of causing a paradigm shift in the planning and delivery of healthcare, navigating through the stigma and superstitions attached to cancer and other chronic or incurable diseases. Patients' opinions must be heard, and their wants and preferences must be taken into account and respected throughout the whole healthcare process, not just during the treatment phase (such as diagnosis and rehabilitation). Although aspiring medical professionals are apprehensive about the state of affairs, many are optimistic about improvements in the future. Tension between patients and providers is influenced by patient, provider, and social factors. Whenever regulatory or social initiatives are being explored to enhance the patient-provider relationship, all facets of the healthcare industry should be thoroughly taken into account. Patient, provider, and societal variables all led to tensions between patients and providers. Readjusting the incentives for healthcare providers may be aided by non-governmental, nonprofit healthcare. Incentives for the present first- and second-tier healthcare systems to deliver more pre- and post-acute care should be taken into consideration by hospital regulating systems. This allows tertiary care staff to reallocate their responsibilities, potentially leading to improved bedside manners and patient-provider contact. Public health and health care services training must be taken up by the government and academic medical institutions. Despite existing obstacles, China's dedication to patient-centered care holds the potential to unlock a transformative era of patient engagement.

Keywords: patient engagement, paradigm, healthcare systems, public health

In China, people rarely talk about life and death and believe that talking about death will bring bad luck. The children hardly talk about this topic with their elderly parents as they fear that it will produce negative emotions for their parents. There are few in-depth discussions about life and death.

health systems are under a paradigm shift in the planning and delivery of healthcare from patients being viewed as passive recipients of care to being more active and accountable for their health (Osborn and Squires, 2012). More and more theories and practices have advocated considering patients to be key resources in the self-management of chronic diseases. The evidence-based Chronic Care Model illustrated the importance of productive interactions between patients and health practitioners and also highlighted the crucial connection between patient engagement and desirable health outcome

Patient engagement aims to shift the clinical paradigm from determining “what is the matter?” to discovering “what matters to you?”

# **Impact of pharmacist-led intervention on pain-related outcomes: An umbrella review of published systematic reviews**

ISPOR MANIPAL/2024/002

Sunil Shrestha<sup>1</sup>, Ayesha Iqbal<sup>2</sup>, Siew Li Teoh<sup>1</sup>, Shaun Lee<sup>1</sup>, Vibhu Paudyal<sup>3</sup> & Siew Hua Gan<sup>1</sup>

<sup>1</sup>*School of Pharmacy, Monash University Malaysia, Subang Jaya, Selangor, Malaysia.*

<sup>2</sup>*Office of Lifelong Learning and the Physician Learning Program, Faculty of Medicine and Dentistry, University of Alberta, AB T6G1C9, Edmonton, Canada.*

<sup>3</sup>*School of Pharmacy, College of Medical and Dental Sciences, Sir Robert Aitken Institute for Medical Research, University of Birmingham Edgbaston, Birmingham, B15 2TT, UK*

Correspondence: Sunil Shrestha [Sunil.shrestha@monash.edu](mailto:Sunil.shrestha@monash.edu)

## **Abstract**

### **Introduction**

Pain is a pervasive and challenging healthcare issue, affecting millions worldwide. Addressing pain management effectively is becoming increasingly important in contemporary healthcare delivery.

### **Objective**

To systematically review published systematic reviews (SRs) examining the impact of pharmacist interventions on pain-related clinical, humanistic and economic outcomes.

### **Methods**

A review was conducted by searching the literature from six electronic databases [APA PsycINFO, Ovid MEDLINE(R), Embase, Cochrane Central Register of Controlled Trials, CINAHL, Scopus and DARE] from their inception to June 2023. Only review articles published in English were included. Two independent reviewers screened the titles and abstracts of the studies for selection based on the inclusion/exclusion criteria. The methodological quality of the studies was also assessed.

### **Results**

From a total of 2055 titles retrieved, 11 SRs reporting on the effectiveness of pharmacist-led pain management interventions were included. They covered a range of strategies, including educational sessions, medication reviews and adjustments, and multi-component interventions aimed at addressing various facets of pain management. The findings indicated that pharmacist-led interventions were effective in clinical outcomes (decreasing pain intensity and achieving pain relief, better pain medication management and adherence, identification and counteracting adverse drug reactions and drug-related problems, improved physical functioning and mental health, decreased length of stay and increased) and humanistic outcomes (better confidence

among healthcare providers, healthcare utilization and quality of life, patient satisfaction as well as chemotherapy knowledge of cancer patients). The economic impact of pharmacist-led interventions was also investigated in four SRs. Two reviews reported statistically significant cost savings associated with pharmacist-led interventions. However, one study reported that pharmacist-led interventions were more expensive than usual care.

### **Conclusions**

Our findings suggest that pharmacist-led pain management interventions effectively improve clinical, humanistic, and economic outcomes, which can significantly reduce the burden of pain management on healthcare systems.

### **Keywords**

Pharmacist, pain, Systematic review, umbrella reviews

# Prediction of total hospitalization cost associated with complications in organophosphate and carbamate poisoning.

ISPOR MANIPAL/2024/003

*Adrian Rex Coutinho*<sup>1\*</sup>, *Sibyl George*<sup>1\*\*</sup>, *Rutuja Rajendra Pagnis*<sup>1</sup>, *Siddhanth Mahesh Shetty*<sup>1</sup>, *Rajalakshmi Rajendran*<sup>1</sup>, *Muhammed Rashid*<sup>1</sup>, *Pooja Gopal Poojari*<sup>1</sup>, *Vijayanarayana Kunhikatta*<sup>1</sup>, *Sreedharan Nair*<sup>1</sup>, *Vasudeva Guddattu*<sup>2</sup>, *Girish Thunga*<sup>1,3</sup>

<sup>1</sup>Department of Pharmacy Practice, <sup>3</sup>Centre for Toxicovigilance and Drug Safety, Manipal College of Pharmaceutical Sciences, Manipal Academy of Higher Education, Manipal, India. <sup>2</sup>Department of Data Science, Prasanna School of Public Health, Manipal Academy of Higher Education, Manipal, India. \*Presenting Author, \*\*Co-Author

## Abstract:

**BACKGROUND:** Organophosphate and carbamate (OPC) poisoning is an extensive issue among the rural and impoverished communities in India, incurring significant economic burden through treatment and other associated complications. Our study aims to forecast hospitalization costs concerning severe OPC poisoning complications.

**METHOD:** A retrospective analysis of 638 patients diagnosed with OPC poisoning from January 2012 to July 2018 in a South Indian tertiary care hospital was conducted. A regression tree model was created from derived data and divided into subsets.

**RESULTS:** The model revealed the highest costs incurred by patients requiring tracheostomy, followed by those with seizures. In each complication, the model predicted a negative impact on cost in most patients.

**CONCLUSION:** The OPC poisoning-associated complications significantly increase treatment expenses. The regression tree model is a unique and valuable tool for predicting OPC poisoning treatment costs and complications. It encourages further research into similar cost-effective methods to tackle this glaring public health issue in an Indian setting.

**KEYWORDS:** carbamate; complication; organophosphate; poisoning; pharmacoeconomics

## **Effectiveness of continuous infusion of Pralidoxime in methyl parathion poisoning**

ISPOR MANIPAL/2024/004

*Ayush Jindal<sup>1</sup>, Sakshi Mestry<sup>1</sup>, Girish Thunga<sup>1,2</sup>, Rajalakshmi Rajendran<sup>1</sup>, Muhammed Rashid<sup>1</sup>, Pooja Gopal Poojari<sup>1</sup>, Sureshwar Pandey<sup>3\*</sup>*

<sup>1</sup>Department of Pharmacy Practice, <sup>2</sup>Centre for Toxicovigilance and Drug Safety, Manipal College of Pharmaceutical Sciences, Manipal Academy of Higher Education, Karnataka, India, 576104. <sup>3</sup>School of Pharmacy, The University of the West Indies, St Augustine, Trinidad and Tobago.

### **Abstract**

**BACKGROUND:** Organophosphate (OP) poisoning is a prevalent issue in developing countries, particularly India, with high mortality rates linked to methyl parathion. Atropine is common antidote used to manage OP poisoning symptoms, but pralidoxime (PAM) is a specific antidote whose optimal dosage has been debated.

**METHOD:** This study, conducted from 2009 to 2013, analysed 256 OP poisoning patients in a tertiary care teaching hospital. Patients were divided into four groups based on PAM dosage regimens: no PAM, intermittent dosing, 500mg/hour, and 1g/hour.

**RESULTS:** Result revealed that continuous PAM infusion led to significantly ( $p < 0.01$ ) better recovery rates, reduced intermediate syndrome, fewer days of ventilation, lower atropine requirements, shorter hospitalization days, and decreased mortality. Blood PAM levels were consistently higher with continuous infusion, without associated adverse effects. Methyl parathion blood levels significantly influenced clinical severity and outcomes, with higher PAM leading to better post-treatment methyl parathion levels.

**CONCLUSION:** Continuous PAM infusion in patients with OP poisoning maintained consistently high PAM levels and resulted in improved clinical outcomes. Methyl parathion levels also played a significant role in patient severity and outcomes, highlighting the importance of tailored antidote regimens in managing OP poisoning.

**Keywords:** *antidote; management; methyl parathion; organophosphate; pralidoxime*

# **Predicting, Preventing, and Treating: How Personalized Medicine Redefines Healthcare**

**ISPOR MANIPAL/2024/005**

Boyeekati Mohammad Rizwan\*, Dr.C.Haranath

Department of pharmaceuticals, Raghavendra Institute of Pharmaceutical Education & Research (RIPER) – Autonomous, K.R Palli cross, Chiyyedu post, Ananthapuramu, Andhra Pradesh 515721

## **Abstract:**

Modern genetic profiling in personalized medicine provides customized treatment, but in order to fully get into its potential, new data approaches beyond linear analysis are required. These instruments need to explore far, comprehending the dynamic nature of entire biological systems and integrating across them. Three essential components are necessary for success: harmonization between science, healthcare, and society, including ethical and cultural issues; uniform data collecting across study sites; and smooth team collaboration. By grasping these, we can create a framework for personalized medicine that is flexible, all-encompassing, and genuinely individual, forming a future in which healthcare is tailored to your particular needs. The "one-size-fits-all" approach to healthcare is being phased out. Personalized medicine was born, adjusting care to your particular biology. Consider more than just population averages Cutting-edge technologies like gene tests are opening doors to more effective sickness prediction, prevention, and treatment tailored to your specific needs. But even more cutting-edge technology is required if we are to fully harness this future. Prepare for a revolution in healthcare when personalization meets precision.

Keywords: Personalized medicine, customised treatment, healthcare, prevention, prediction.



# **A five-year Retrospective study assessing antimicrobial sensitivity pattern and financial expenses among Diabetic foot ulcer patients in a rural setting of South India**

**ISPOR MANIPAL/2024/006**

CHITTEMVINAY<sup>1</sup>, B. SAHITHI<sup>2</sup>, B.PRADEEP KUMAR<sup>3</sup>

Email ID:vinaychitem99@gmail.com

<sup>1</sup> Resident intern, department of pharmacy practice, Raghavendra Institute of Pharmaceutical education and research (RIPER) Autonomous, Ananthapuramu-515721, Andhra Pradesh.

<sup>2</sup> Associate professor, Department of pharmacy practice, Raghavendra Institute of Pharmaceutical Education and Research (RIPER) Autonomous, Ananthapuramu-515721, Andhra Pradesh.

<sup>3</sup>Associate professor, Department of pharmacy practice, Raghavendra Institute of Pharmaceutical Education and Research (RIPER) Autonomous, Ananthapuramu-515721, Andhra Pradesh.

## **Abstract**

Diabetic foot ulcers (DFU) are among the most frequent consequences of diabetes mellitus (DM) and if untreated, can result in amputation, infection, and even death. This was a retrospective and the study was conducted in hospital having the duration of 6 months and the study population included Patients of both genders from age group above 18 and below 80, diagnosed with Diabetic Foot Ulcers from 1st grade to 5th grade of Wagner Meggitt classification who had undergone detailed examination, routine investigations and treatment in the surgical ward during the time period of January 2018 to December 2022 were included in our study .

There were 201 people treated for DFU overall between January 2018 and December 2022. Patients average ages ranged from 48.5 to 48.5 years; the youngest were 18 and the oldest were 79. Out of 201 patients, 148 (73.6%) were men and 53 (26.36%) were women. The age categories of those over 48 and 58 had the highest prevalence of ulcers (25.0%). The age group over 58 had the highest debridement frequency (40.21%). The four most isolated bacteria were Klebsiella Pneumoniae (15.44%) followed by Escherichia coli (14.47%) and Staphylococcus aureus (13.65%), pseudomonas aeruginosa (10.76%) Additionally, vancomycin was the antibiotic with the highest level of sensitivity, followed by gentamicin, meropenem, and chloramphenicol. Further, we develop an antibiogram based on the data obtained from the study, so that financial expenses can be minimized to both patient and hospital. To identify the economic burden of diabetic foot ulcer, a prospective study has to be conducted.

Key words ; diabetic foot ulcer, Wagner Meggitt classification, infection,

# Helping patients become equal stakeholders in healthcare decision-making: The challenges and successes of patient involvement in Singapore

ISPOR MANIPAL/2024/008

<sup>1</sup>Fiona Pearce

<sup>1</sup>Agency for Care Effectiveness (ACE), Ministry of Health, Singapore

## **Introduction**

To encourage meaningful patient input in health technology assessments (HTAs) in Singapore, patient involvement processes were established by the Agency for Care Effectiveness (ACE) in 2021. This presentation describes the challenges and successes of encouraging patients to share their experiential knowledge to inform ACE's work.

## **Methods**

In 2021, stakeholder mapping was conducted to identify all local patient and volunteer groups (n=106), determine their interest in participating in ACE's work and identify any resources or support that they may need. A Consumer Panel comprising 15 patient representatives was also appointed as the collective voice of patients and carers with experience engaging with the Singapore healthcare system, to provide strategic advice on priority-setting, communication strategies, and opportunities to foster collaborative working relationships. Plain English resources, training materials, and a process and methods guide to encourage patient involvement in topic selection, HTAs, guidance production and the development of educational resources were co-developed with local patient organisations, drawing upon international best practices contextualized to local patients' needs.

## **Results**

Patient input addressed uncertainties in the scientific evidence and informed funding decisions by helping decision-making committees understand how different conditions affect patients and their carers, the outcomes that matter most to patients, and the benefits and disadvantages of different treatments.

## **Conclusion**

Continuous process improvement in response to feedback; providing patient input templates in different formats and languages to improve accessibility; and regular feedback to patient organisations on how their inputs have informed HTAs increased patient participation, and improved the legitimacy and acceptance of ACE's work.

# **STROKE LEADS TO VISION DEFICITS AND IMPACT ON QUALITY OF LIFE (QOL): A REVIEW**

ISPOR MANIPAL/2024/010

***Kamaljeet<sup>1</sup>, Hardik Kumar<sup>1\*</sup>, Sourabh Kosey<sup>1</sup>, Amit Sharma<sup>1</sup>***

*<sup>a</sup>Department of Pharmacy Practice, ISF College of Pharmacy, Moga.*

## **Address for Correspondence:**

*Mr. Hardik Kumar*

*Assistant Professor*

*Department of Pharmacy Practice,*

*ISF College of Pharmacy (An Autonomous College), Moga, Punjab -142001, India.*

*Email id: [hardikkochar24@gmail.com](mailto:hardikkochar24@gmail.com)*

*Telephone number: +91 8427180570*

## **ABSTRACT**

Strokes are a common medical condition that can have a major impact on the ability of a person to lead an independent and active life. The stroke itself can cause a wide range of visual issues, such as gaze palsies, visual field defects, diplopia, declined vision, ptosis, pupillary and eye movement deviations, and cortical blindness. The frequency of stroke and, eventually, the number of people with stroke-related visual impairment are predicted. Visual problems may entirely or partially recover, but many people experience persistent limitations. Although this disability is frequently less apparent than impairment of motor or verbal capabilities, it is inversely connected with the success of rehabilitation and may significantly affect day-to-day functioning. Having vision problems after a stroke reduces the quality of life and causes social isolation since it makes it more difficult to move around and get around. A complete diagnosis is necessary, including focused examination and subsequent follow-up with an eye diagnostic and perimetry, to determine the severity of the visual impairment and determine the appropriate rehabilitation approach. Patients appear to benefit from visual rehabilitation that emphasizes coping techniques.

**KEYWORDS:** Stroke, Diplopia, Ophthalmoplegia, Vision, Rehabilitation.

# **“ASSESSMENT OF MEDICATION KNOWLEDGE, ADHERENCE AND QUALITY OF LIFE AMONG PATIENTS UNDERGOING HEMODIALYSIS IN A TERTIARY CARE TEACHING HOSPITAL”**

**ISPOR MANIPAL/2024/011**

Author: KEERTHANA P MELANTA

## **ABSTRACT**

### **Introduction**

Chronic Kidney Disease (CKD), a global health concern, involves irreversible kidney function loss and requires multidisciplinary management. Assessing medication knowledge, adherence and patient's QOL is vital to improve overall well-being of the patient.

### **Aims and Objectives**

This study aims to evaluate the level of medication knowledge, medication adherence, and QOL among patients undergoing hemodialysis (HD) within the context of a tertiary care teaching hospital.

### **Methodology**

This is a prospective cross-sectional study conducted at a tertiary care teaching hospital in Mangalore. It included 111 CKD patients aged 18 to 80 undergoing hemodialysis. The data was analysed using SPSS version 26, with descriptive statistics computed and significance calculated using the 'P-value',  $P < 0.05$  was taken to denote a statistical significance.

### **Result**

There was a significant improvement in medication knowledge from baseline to the second follow-up. Adherence scores also increased significantly from baseline ( $5.98 \pm 1.635$ ) to the first follow-up ( $7.24 \pm 1.064$ ) and to the second follow-up ( $7.77 \pm 0.583$ ). The association between medication adherence and overall QOL was found to be statistically significant at baseline ( $P = 0.042$ ) and at the second follow-up ( $P = 0.005$ ) also patients' mean QOL scores increased significantly from baseline to second follow-ups.

### **Conclusion**

The study highlights the importance of medication knowledge, adherence, and quality of life in managing CKD among hemodialysis patients, emphasizing the need for comprehensive management.

### **Key words:**

CKD, Hemodialysis, Medication Knowledge, Medication Adherence, MKAQ, MQOL-R, GR-SMAQ-HD.

## **Identified medication related problems during clinical pharmacist intervention in an Intensive Medical Care Unit**

ISPOR MANIPAL/2024/013

Neelima Ganzi<sup>1</sup>, R.S. Savitha<sup>2\*</sup>, Subhash Chandra<sup>2</sup>

**Introduction:** Intensive medical care unit is complex environment where patients receive polypharmacy, increased possibility of occurring medication related problems may interfere with desired health outcomes.

**Objective:** The study aimed to identify and resolve medication related problems and interventions provided by research pharmacist in MICU.

**Methodology:** A Prospective Interventional study was carried at tertiary care teaching hospital during May2023 to December2023. Case reports forms were prepared for collecting medical & medication history from patients. Study participants were divided into 2 groups (with/without clinical pharmacist services).The Identified DRPs were mapped by using the Pharmaceutical Care Network European V9.1 (PCNE) and proposed interventions were discussed with physicians. The study provides evidence for the effectiveness of interventions by research pharmacist in reducing DRPs. The total cost benefit was determined by combining the cost savings from intervention and the cost avoidance of adverse events.

**Results:** 579 DRPs were found in 441 patients. Out of them 348 DRPs in 223 patients in control group whereas 231 in 218 patients in test group. DRPs occurred at rate of 1.56 in control group &1.06 in test group. The frequent treatment related problems were dosage too high (26.8% &24.1%), inappropriate drug(17.7%&14.3%), dosage too low(15.5%&12.6%), need additional drug therapy (15.2%&20.6%), unnecessary drug treatment (14.3%&17.8) and ADRs (9.2%&9.3%). A total of 231 interventions were performed in test group and acceptance rate is 82%.The interventions performed by research pharmacist resulted in direct cost saving 737,184.1 (229,569.66) & cost avoidance 1,811,175 (564,026.34).

**Conclusion:** Integrating a clinical pharmacist in MICU team provides cost savings and avoidance benefits.

**Keywords:** Research pharmacist, Medication related problems, Intensive Medical care unit, Pharmaceutical Care Services

**IDENTIFICATION OF ETIOLOGICAL FACTORS AND COMORBIDITIES ASSOCIATED WITH DIFFERENT TYPES OF CANCER: A HOSPITAL BASED CROSS-SECTIONAL STUDY**

## ISPOR MANIPAL/2024/014

*Pentapalli V. N. S. H. Vardhini*

**Study Background:** Cancer is a condition where cells in a specific part of the body grow and reproduce uncontrollably. Greater the number of etiological factors, higher the likelihood of developing cancer.

**Study Objectives:** To study the etiological factors and comorbidities associated with different types of cancer, and to identify the impact of lifestyle choices – physical activity, smoking, alcoholism, eating habits leading to cancer.

**Study Methodology:** A hospital based, cross sectional study was conducted for a period of four months in the Department of Radiotherapy, King George Hospital (KGH), Visakhapatnam. A study population of 178 subjects were screened for different types of cancer, out of which 120 patients were diagnosed with one or more types of cancer during our study period.

**Results:** Out of 120 patients, 97 (80.8%) were found to be females and 23 (19.1%) were males. Majority of the study population belong to the age group of 41-50 (n=40, 33.3%) and 51-60 (n=39,32.5%) respectively. In our current study, n=53 (44.1%) patients were diagnosed with breast cancer followed by cervical cancer (n=23, 19.1%), chronic myelogenous leukemia (CML) (n=12, 10%), stomach cancer (n=3, 2.5%), tongue cancer (n=2, 1.67%), ovarian cancer (n=2, 1.67%), prostate cancer (n=2, 1.67%). Hypertension (n=40), diabetes (n=32), gastritis (n=14) and arthritis (n=9) were reported as the most common comorbidities associated with cancer.

**Conclusion:** Our study has significant potential for understanding the etiological factors and comorbidities associated with cancer and can provide valuable insights for development of effective prevention and treatment strategies for cancer.

**Keywords:** Cancer, etiological factors, comorbidities, lifestyle.

## Reimagining Drug Discovery: Artificial Intelligence Drives a New Era of Personalized Medicine

ISPOR MANIPAL/2024/015

Shaik Farheen Taj\*, Dr.C.Haranath

Department of pharmaceuticals, Raghavendra Institute of Pharmaceutical Education & Research (RIPER) – Autonomous, K.R Palli cross, Chiyyedu post, Ananthapuramu, Andhra Pradesh 515721

Abstract:

Artificial intelligence (AI) has brought in a new era of innovation and efficiency for the pharmaceutical sector. The pharmaceutical industry is on the verge of a transformative era driven by artificial intelligence (AI). AI is revolutionizing drug discovery by streamlining processes, improving accuracy, and enabling personalized medicine. The impact of AI on various stages of drug development, from target identification and lead optimization to clinical trial design and post-market surveillance, Target validation and identification, high-throughput screening, predictive drug toxicity modeling, customized therapy, and more are among the uses of AI in drug discovery. Personalized medicine, supply chain optimization, and drug repurposing. These technologies not only speed the medication development process but also increase accuracy and lower the likelihood of failure in later stages. Furthermore, the ethical considerations and regulatory frameworks surrounding AI in healthcare emphasize the need for responsible development and use of these technologies. It paves the way for a deeper understanding of AI's potential to accelerate the discovery and delivery of safer, more effective medications, ultimately improving health outcomes for patients worldwide.

Keywords: artificial intelligence, drug development, personalized medicine, target identification, lead optimization, toxicity prediction, drug repurposing, ethical considerations, regulatory frameworks

# **“PHARMACOECONOMIC EVALUATION: COST EFFECTIVE ANALYSIS OF ORAL ANTIDIABETIC DRUGS IN TYPE 2 DIABETES PATIENTS IN TERTIARY CARE HOSPITAL”**

ISPOR MANIPAL/2024/016

AUTHOR: SRUJANA.M

ABSTRACT

## **Introduction**

Diabetes is rapidly becoming an epidemic in India, and poses a substantial future healthcare burden. Patients with Type 2 Diabetes Mellitus (T2DM) often require multiple medications due to hyperglycaemia and its complications. Patient adherence to treatment is influenced by the financial cost of therapy. This study focusses on evaluating the cost-effectiveness of antidiabetic drugs for T2DM patients.

## **Aims and objectives**

To determine cost-effective drug among oral antidiabetic drugs and to compare the cost and percentage variation in price of single and combination therapy of oral antidiabetic drugs.

## **Methodology**

This prospective observational study was conducted for a period of 6 months. Case records of 146 patients were selected based on the study criteria. A suitably designed data collection form will be used to record all the necessary data. Statistical analysis was done using Microsoft Excel. To compare the cost and percentage variation we used price percentage variation and ACER formula.

## **Results**

This study revealed that Glimpiride 1mg in monotherapy and Glipizide + Metformin (5mg+500mg) in combination therapy were the most cost-effective treatments.

## **Conclusion**

This information can guide healthcare practitioners in selecting effective and economical treatment options for patients with type II diabetes mellitus. The study also emphasizes the importance of considering both cost and effectiveness in drug therapy decisions to enhance patient compliance.

## **Key words:**

cost effectiveness analysis, type2 diabetes mellitus, oral antidiabetic drugs, price percentage variation.



## **TELEMEDICINE : A ROLE OVER ON PATIENT ENGAGEMENT**

**M.Swathi**

**ISPOR MANIPAL/2024/017**

Department of pharmacy, Faculty of Engineering and Technology, Annamalai university, Annamalai Nagar, Chidambaram, 608002.

Corresponding autor:

M.Swathi

Phone number: 8111096718

Email ID : swathi18072002@gmail.com

### **ABSTRACT**

Patient engagement is defined as collaboration with their healthcare provider in order to improve their quality of life, and preventive cares. It is not followed by many asian population due to the lack of trust and comfort in healthcare provider along with health literacy. In order to engage patient in healthcare, Telemedicine is a way to make patient more collaborate with the healthcare professionals. It provides realistic communication between the patient and healthcare provider. It reduces the barriers in patient engagements such as mobility issues and the time those consume during a hospital visit. Thereby it improves the patient engagement as well the quality of life. Regular screening through it provides a better preventive care as well diagnostic service.

**KEY WORDS** : Patient engagement, telemedicines

## **Advancing Urology Through 3D Printing: Innovations in Research and Patient Care**

**ISPOR MANIPAL/2024/019**

Tadipatri Sameer\*, Dr. C. Haranath

Tadipatrisameer800@gmail.com

Department of pharmaceuticals, Raghavendra Institute of Pharmaceutical Education & Research (RIPER) – Autonomous, K.R Palli cross, Chiyvedu post, Ananthapuramu, Andhra Pradesh 515721

### **Abstract:**

3D printing represents a dynamic technology with significant implications across various fields, including urology, where its applications span patient education, clinician training, surgical planning, prosthetic development, and tissue bioengineering. Within the realm of urology, the four primary techniques employed in 3D printing—inkjet printing, extrusion printing, laser sintering, and stereolithography—have facilitated the creation of precise, customizable models essential for educational purposes and surgical simulations. In educational settings, 3D-printed models serve as invaluable tools for enhancing patient understanding and engagement. Clinicians can utilize these models to elucidate complex anatomical structures and disease processes, ultimately fostering improved communication and informed decision-making. Additionally, for aspiring urologists, such models offer hands-on learning experiences that bridge theoretical knowledge with practical skills. Beyond education, 3D printing revolutionizes surgical planning by providing surgeons with intricate replicas of patient-specific anatomy. These models enable meticulous preoperative assessments, facilitating the development of personalized treatment strategies and optimizing surgical outcomes. ultimately promote better communication and well-informed decision-making.

# **A digital health-supported community pharmacy-based lifestyle intervention program for overweight or obese adults with prediabetes, the PRediabetes Intervention, Management and Evaluation (PRIME) Program: a study protocol for a cluster randomized controlled trial**

ISPOR MANIPAL/2024/021

Author: Teoh Kah Woon

## **Abstract**

**Introduction:** People with prediabetes are at risk of developing type-2 diabetes. While lifestyle interventions are effective in preventing type-2 diabetes, prediabetes management initiatives in Malaysia are currently lacking. The PRediabetes Intervention, Management and Evaluation (PRIME) Program is a community pharmacy-based prediabetes management program, and involves a mobile application that allows for self-monitoring and access to a structured prediabetes curriculum.

**Objectives:** This study aims to evaluate the impact and sustainability of PRIME program on the clinical outcomes of overweight or obese adults with prediabetes. The study also will explore participants' views and perceptions towards the implementation of PRIME program.

**Methods:** This protocol describes the development of the PRIME program, the design of the mobile app, user acceptance tests, piloting, and the implementation of a cluster randomized controlled trial to determine the impact of the PRIME program on the clinical outcomes of overweight or obese participants with prediabetes in Malaysia. Fourteen community pharmacies from Selangor and Kuala Lumpur will be randomized to either the intervention arm or standard care. Overweight or obese adult participants (age  $\geq 18$  years) with prediabetes will be included in this study. Participants from the intervention arm will have access to the structured prediabetes education modules through the PRIME mobile app and will be invited to join the peer support chatgroup. The primary clinical outcome of this 6-month study includes changes in body weight, while the secondary clinical outcomes include changes in blood glucose profile, lipid profile, blood pressure, and adiposity measures. Subsequently, the sustainability of the PRIME program will be accessed using a follow-up survey. Focus group discussions and one-to-one interviews will be conducted for process evaluation. This study will inform the impact of community pharmacists-led digital health intervention in prediabetes management.

**Ethics and dissemination:** This study has been registered with [clinicaltrials.gov](https://clinicaltrials.gov) (NCT04832984) and approved by the Monash University Human Research Ethics Committee (MUHREC) (Project ID: 27512).

# Cost-effectiveness of ribociclib for the treatment of HR+/HER2- metastatic breast cancer among post-menopausal women in the Philippines

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Bernadette Joy Q. Almirol<sup>1\*</sup>, Jerome D. Gonzaga<sup>1</sup>, Salleh Abdul Rahman<sup>2</sup>, Adrian Goh<sup>2</sup>, Anggie Wiyani<sup>3</sup>, Sushant Anand<sup>1</sup>, Arthur Gregory A. Lui<sup>4</sup>, Katherine V. Hernandez<sup>4</sup>, and Corazon A. Ngelangel<sup>5</sup>

1. Novartis Healthcare Philippines, Inc., 2. Novartis Corporation (Malaysia), 3. Novartis Pharmaceuticals UK Ltd., 4. Southern Philippines Medical Center (SPMC), 5. East Avenue Medical Center (EAMC), 6. University of the Philippines-Philippine General Hospital (UP-PGH)

\*Corresponding author contacts: bernadette\_joy.almirol@novartis.com, +639209617329

**Objective** This study evaluated the cost-effectiveness of ribociclib plus aromatase inhibitor (AI) versus AI monotherapy, chemotherapy, and palbociclib plus AI among HR+/HER2- metastatic breast cancer patients in the post-menopausal age group from the perspective of a Government of the Philippines (GoP) payor to inform reimbursement decisions.

**Methods** A cohort-based partitioned survival model with three states (progression-free survival, post-progression survival, and death) was used in the analysis. Survival distributions for comparing ribociclib plus AI versus AI monotherapy were based on Kaplan-Meier plus parametric modelling, and comparisons versus other first-line treatments were based on hazard ratios (HR) derived from a network meta-analysis. Health-state utilities were estimated from EQ-5D-5L data from the MONALEESA-2 trial using a Philippine population utility tariff. Direct costs incurred by GoP were sourced from three public cancer centers and drug costs were obtained from publicly available sources. Costs and QALYs (quality-adjusted life years) were discounted at 7% annually.

**Results** Over a 30-year time horizon, ribociclib plus AI is dominant versus palbociclib plus AI. Using the net effective price of ribociclib, its incremental cost-effectiveness ratio (ICER) versus AI monotherapy was about 1 million PHP/QALY (17,700 USD/QALY), while the ICER was 560K PHP/QALY (9,900 USD/QALY) versus chemotherapy. Deterministic sensitivity analysis results showed that ICERs were driven by ribociclib HR, followed by drug costs and discount rate.

**Conclusion** Ribociclib plus AI is dominant versus palbociclib plus AI and is potentially cost-effective compared to AI monotherapy and chemotherapy from a GoP perspective, in the absence of an explicit willingness-to-pay threshold for oncology treatments.