Multiple Diseases - Clinical Outcomes

PMU1
PROPOFOL VERSUS MIDAZOLAM FOR SEDATION IN ADULT PATIENTS IN INTENSIVE CARE UNIT (ICU): A META-ANALYSIS

Garcia R,[1] **Salluh JIF,**[2] Andrade R,[3] Farah D,[4] da Silva PSL,[5] Bastos DF,[6] Fonseca M[7]

[1]*AxiaBio, São Paulo, Brazil,* [2]*Instituto D'Or de Pesquisa e Ensino, Rio de Janeiro, Brazil,* [3]*AxiaBio, Sao Paulo, Brazil,* [4]*Federal University of São Paulo, São Paulo, Brazil,* [5]*Hospital do Servidor Pu, Sao Paulo, Brazil,* [6]*Aspen Pharma, Sao Paulo, Brazil,* [7]*Federal University of São Paulo, São Paulo, SP, Brazil*

Objectives: To compare propofol and midazolam in adult intensive care patients in relation to length of ICU stay, length of mechanical ventilation (MV) and time until extubation. ***Methods:*** MEDLINE, EMBASE, LILACS and Cochrane databases were searched from inception until July 2019 to retrieve RCTs that compared propofol and midazolam use as sedatives in adult ICU patients. There was no language restriction. We extracted and combined data from studies that reported to length of ICU stay, length of MV and time until extubation. A random-effects, meta-analytic model was applied in all calculations. Cochrane collaboration tool and GRADE were used to assess bias and certainty of the outcomes of the included studies, respectively. Two groups of patients were analyzed: elective surgical patients and critically ill patients. ***Results:*** Elective surgical patients receiving propofol reduced ICU stay by 5.07 hours (MD -5.07; 95% CI -8.68 to -1.45; p <0.006, I^2 = 41 %, 5 studies), MV time by 4.28 hours (MD -4.28; 95% CI -4.62 to -3.94 (p <0.00001, I^2 = 0, 3 studies), extubation time by 1.92 hours (MD -1.92; 95% CI -2.71 to -1.13; p <0.00001, I^2 = 89%, 9 studies) compared to patients receiving midazolam. Critically ill patients receiving propofol reduced extubation time by 32.68 hours (MD -32.68; 95% CI -48.37 to -16.98; p <0.0001, I^2 = 97%, 7 studies) compared to patients receiving midazolam. GRADE was very low for all outcomes. ***Conclusions:*** We conclude that propofol is a safe sedation strategy for general and elective surgery patients in the ICU. It is associated with improved outcomes when compared to the use of midazolam. Our data is in accordance with the recent sedation guideline (PADIS) recommendations where propofol can be used as the first-line sedative in adult ICU patients.

PMU2
DEVELOPMENT AND USE OF SIMULATION-BASED TOOL INFORMING CLINICAL AND MARKET ACCESS STRATEGY

Wiecek W,[1] Kondic A,[2] Huang S,[3] Amzal B[4]

[1]*Certara, London, UK,* [2]*Certara, Montclair, NJ, USA,* [3]*Certara, Jersey City, NJ, USA,* [4]*Analytica Laser - a Certara company, Paris, France*

Objectives: To develop, validate and use streamlined bridging-to-effectiveness modeling tool for clinical and HTA decision support. ***Methods:*** A generic R-based Bayesian dynamic model was built to allow for virtual patient-level cohort simulations of both exposure and clinical outcomes. This simulation platform relies on identification and quantification of drivers of disease progression and drug effectiveness. Longitudinal sequences of treatment and outcome patterns are modeled with competing hazard functions and then mapped into Markov cohort or Discrete Event Simulation economic models to allow for real-world cost-effectiveness analyses. This disease-agnostic tool was tested to generate evidence to support long term effectiveness predictions, performance-based pricing rationales, optimal study design, positioning or prescription decisions. ***Results:*** The tool was successfully applied in a dozen of access situation across various indications, shortening modelling time by a >10-fold factor. In an oncology example supporting outcome-based pricing, the tool showed a 2-fold difference in predicted survival between trials-based predictions vs. modelled effectiveness. In a cardiovascular example, long term morbidity and mortality predictions were matching cohort data validation resulting in higher pricing decisions. In Hodgkin's lymphoma, extrapolation between progression-free and overall survival was validated and used for regulatory support. ***Conclusions:*** Such tool allows for fast evidence-based decision support for market access.

PMU3
EFFECTIVENESS OF IMPLEMENTATION OF ANTIMICROBIAL STEWARDSHIP PROGRAMMES IN INDIA: EVIDENCE FROM SYSTEMATIC REVIEW AND META-ANALYSIS

Boya C, Chhabra M, Bansal D

National institute of pharmaceutical education and research, chandigarh, India

Objectives: Antimicrobial stewardship programmes (ASPs) aims to optimize antibiotic use and minimize antimicrobial resistance. From 2017 to 2021, India is implementing the National Action Plan on Antimicrobial Resistance to combat AMR and improve antibiotic use. The use of ASPs is increasing in developing countries like India, but their effectiveness in antibiotic consumption and their impact on clinical outcomes is not clear. The objective of the study is to assess the efficacy of ASPs and quality of ASPs conducted in India by using systematic review and meta-analyses. ***Methods:*** Electronic databases Pubmed, Embase and Google scholar were searched from inception to September 2019 for studies evaluating any ASPs in the community or hospital setting, without restriction on study design or outcome. Efficacy outcome like defined daily dose, length of stay, risk of mortality, improvement in rational use of Antimicrobials were used to assess the effectiveness of ASPs. Random effects models was used to pool the studies. ***Results:*** 11 studies, which evaluated the ASPs on N= 5484 subjects were included in this systematic review and five studies were conducted at private setting and remaining studies were at private tertiary care clinics. Among the included studies, following key strategies were used as ASPs: Prospective audit with feedback (n =4), formulary restriction (n =3), preauthorization (n =3), and guidelines (n =1). After implementation of ASPs, clinic outcomes defined daily dose (mean difference (MD); -11.64 (95% CI: -42.22 to 18.93) and length of stay (MD; 0.08 (95% CI -2.51 to 2.6) were reduced significantly. The pooled relative risk of mortality rate was 0.88 (95% CI = 0.77–1.001). ***Conclusions:*** The findings of this systematic review concludes that, Even though implementations of ASPs improved clinical outcomes, there was huge variation in the implementations ASPs in hospital and clinic settings in India. Hence we need proper guidelines in implementation of the ASPs.

PMU4
EVIDENCE FOR THE USABILITY OF THE E-TSQM

Williams P,[1] Palmer A,[2] Gemmen E,[3] **Rodriguez-Leboeuf AM**[4]

[1]*IQVIA, Cesson Sevigne, France,* [2]*IQVIA, Rockville, MD, USA,* [3]*IQVIA, Falls Church, VA, USA,* [4]*IQVIA; McGill University, Madrid, M, Spain*

Objectives: The Treatment Satisfaction Questionnaire for Medication (TSQM) is the most commonly used generic Patient-Reported Outcome (PRO) instrument measuring treatment satisfaction. Its psychometric properties have been rigorously assessed in paper form. Only recently has the electronic format of the TSQM been developed. Current guidance recommends assessing measurement equivalence of minor changes to the electronic migrations of paper PROs by usability testing and cognitive debriefing with patients. This study aimed to determine the usability of the electronic version of the TSQM. Cognitive interviews have been shared elsewhere. ***Methods:*** Electronic versions of both the TSQM v1.4 and vII were tested for usability. A electronic survey was conducted among subjects of an online patient community managed by IQVIA (MediGuard) in the US and in the UK. The survey included the TSQM and questions related to sociodemographics, disease diagnoses and treatment, and medical device use. Two TSQM items were randomly selected for concurrent probing, using item-specific usability questions, and retrospective probing, using general usability questions. This study represents a subset of the data collected. ***Results:*** The survey was completed by 108 and 354 patients in the UK and in the US, respectively. Most patients who responded had university-level education (67%), and most were female (68%). Mean (SD) age was 50 (±18.4) years. Patients had a wide variety of medical conditions and completed the survey on a smartphone (n=59%), computer (23%) or a tablet (18%). Most patients reported that the electronic versions of the TSQM (v1.4 and vII) were readable or very readable (92%), and they were able to select the response options appropriately with the device they used (98%) ***Conclusions:*** The usability of the eTSQM (v1.4 and vII) was obtained through concurrent and retrospective probing quickly using an online qualitative approach.

PMU5
PREVALENCE AND ASSOCIATED FACTORS TO PSYCHOTIC SUBSTANCE USE IN LOW-INCOME ADOLESCENTS FROM THE CARIBBEAN REGION OF COLOMBIA

Parra Padilla D,[1] Salcedo Mejía F,[2] Moyano L,[2] Jerez Arias M,[3] Gómez De la Rosa F,[1] **Alvis-Guzman N**[4]

[1]*ALZAK Foundation, Cartagena, BOL, Colombia,* [2]*ALZAK Foundation, Cartagena, Colombia,* [3]*Fundación SERSOCIAL, Cartagena, Colombia,* [4]*ALZAK Foundation, Universidad de la Costa, Barranquilla - Colombia, Cartagena, BOL, Colombia*

Objectives: To estimate the prevalence and associated factors to psychotic substance use in low-income adolescents from the Caribbean region of Colombia ***Methods:*** A cross sectional study was conducted. Adolescents between 10-24 years of age residents in 21 municipalities were randomly selected from the population affiliated to a subsidized-regime insurance company between 2014-2018. A previously constructed questionnaire was used to obtain information regarding sociodemographic variables and potential risk factors. Prevalence of lifetime use of substance abuse was assessed. Bivariate and multivariate logistic regression models were used to establish associated factors. Absolute and relative frequencies were compared with the Chi^2 test and continuous variables were compared with the t-test. A p value <0.050 was considered significant ***Results:*** A total of 35,214 adolescents with a mean (SD) age of 16.0 (4.1) years were included. Of these, 55.7% were women and 63.9% lived in urban areas. The lifetime prevalence of psychoactive substance use was 1.9% (95% CI: 1.7-2.0) and a higher prevalence of use was found in males compared to females (2.8% and 1.1%). A positive association between age and substance use was found (10-14yr: 0.7%; 15-19yr: 2.4% and 20-24yr: 2.9%). Compared to tobacco (4.4%), alcohol (28.8%) was the most frequent substance consumed by individuals. Risk factors for substance consumption were (OR 95% CI) being older than 14 years (15-19yr=OR 3.2; 2.4-4.2 and 20-24yr=OR 4.4; 3.3-5.8)(p<0.001), feeling sad/empty most of the time (OR 2.3; 1.8-2.9), having suffered constant physical abuse by parents (OR 2.8; 1.0-6.9), have executed school bullying (OR 2.0; 1.5-2.6) and urban residence (OR 1.6; 1.3-2.1). ***Conclusions:*** a correlation between substance use and adverse outcomes in mental health, family function and quality of life was found. Policies should consider the influence of social determinants of health in the consumption of psychotic substances in adolescents