PP228 Strategy For Including Information On The Research Priorities Of Patients And Experts In Health Technology Assessment Reports

Beatriz León-Salas (beatriz.leonsalas@sescs.es), Ana Toledo-Chávarri, Yolanda Ramallo-Fariña, Claudia Morales-Manrique, Francisco Rivas-Ruiz and María M. Trujillo-Martín

Introduction. The process of health technology assessment (HTA) is an opportunity to identify gaps in the existing knowledge on the technology assessed. In January 2020, the Evaluation Unit of the Canary Islands Health Service, belonging to the Spanish Network of Agencies for Assessing National Health System Technologies and Performance, started a structured strategy to include in its HTA reports information on research priorities for the assessed technologies from the perspective of patients, clinicians, and researchers. The aim of this poster is to explain the methodology behind this strategy.

Methods. The following three-step process was proposed:

(i) Identify the knowledge gaps regarding the technology from systematic reviews on effectiveness, safety, and cost effectiveness, in addition to ethical, patient, social, legal, and organizational aspects analyzed for the HTA report;
(ii) Search for specific studies on research needs regarding the technology on the websites of specialized initiatives such as the Core Outcome Measures in Effectiveness Trials (COMET) and the James Lind Alliance; and
(iiii) If no needs are identified in the previous two steps, consult a group of clinicians or researchers and patients related to the technology being assessed with two online survey rounds using the Delphi method. The first round identifies the research needs and the second round prioritizes the identified needs.

Results. Since the methodology to identify future research needs during a HTA process was designed, it has been used in three HTA reports during 2020 with satisfactory results. Only one of the three reports required a Delphi study.

Conclusions. The proposed strategy provides a comprehensive list of knowledge gaps on health technologies that need to be addressed in the near future from the point of view of patients, clinicians, and researchers.

PP230 Safety, Effectiveness, And Cost Effectiveness Of Interventions For Preventing Delirium In Hospitalized Patients

Beatriz León-Salas (beatriz.leonsalas@sescs.es), Renata Linertová, Javier García-García, Pilar Pérez-Ros, Francisco Rivas-Ruiz, Ana Toledo-Chávarri and María M. Trujillo-Martín

Introduction. Delirium is a prevalent syndrome in the hospital setting and the elderly are the most affected. The objective was to assess the safety, clinical effectiveness, and cost effectiveness of interventions for preventing delirium among people aged 65 years or older at hospital admission.

Methods. A systematic review of available scientific literature (randomized controlled trials) on the safety, effectiveness, and cost effectiveness of the interventions was conducted. The overall effect size for each type of intervention was estimated through a meta-analysis. A cost-effectiveness study in the context of the Spanish National Healthcare System was performed.

Results. Forty-nine studies were included for the effectiveness and safety assessment (25 on pharmacological interventions, 12 on perioperative interventions, 2 on non-pharmacological interventions, and 10 on multicomponent interventions). The following interventions reduced delirium incidence relative to usual care or placebo: hypnotics and sedatives (13 studies; risk ratio [RR] 0.54: 95% confidence interval [CI] 0.36–0.80); perioperative interventions aimed at limiting opioid use (two studies; RR 0.50, 95% CI: 0.29–0.86); controlling the intensity of general anesthesia (three studies; RR 0.77, 95% CI: 0.59–0.99); and multicomponent interventions (10 studies; RR 0.62, 95% CI: 0.54–0.72). In addition, multicomponent interventions reduced the duration (mean difference −1.18, 95% CI: −1.95 - −0.40) and severity of delirium (standardized mean difference −0.98, 95% CI: −1.46 - −0.49), while dexmedetomidine reduced the duration of delirium (mean difference −0.70, 95% CI: −1.03 - −0.37).

The economic analysis of a multicomponent preventive intervention estimated an average cost of EUR7,282 per patient, which was EUR140 per patient more expensive than usual care. The incremental cost-effectiveness ratio was EUR21,391 per quality-adjusted life-year, which is below the acceptability threshold used in Spain. The literature review yielded two economic evaluations that estimated the cost effectiveness of a multicomponent intervention in the United Kingdom and found that the multicomponent intervention was a dominant strategy.

Conclusions. This meta-analysis suggests that multicomponent interventions and dexmedetomidine are effective in reducing the incidence of delirium in hospitalized patients and that multicomponent interventions could be a cost-effective strategy in Spain.

PP231 Safety, Effectiveness And Economic Analysis Of Exercise Intervention For Prevention Of Cognitive And Functional Deterioration In Hospitalized Patients

Beatriz León-Salas (beatriz.leonsalas@sescs.es), Renata Linertová, Javier García-García, Pilar Pérez-Ros, Francisco Rivas-Ruiz, Ana Toledo-Chávarri and María M. Trujillo-Martín

Introduction. Cognitive and functional deterioration is common in hospital setting and occurs in 40 percent of admitted older patients. One of its main causes is physical inactivity. The objective of our health technology assessment was to assess the safety and clinical effectiveness of a structured multicomponent

https://doi.org/10.1017/S0266462321001392 Published online by Cambridge University Press

intervention of physical exercise (Vivifrail) for the prevention of the cognitive and functional deterioration in hospitalized patients aged 70 years or older and to estimate costs and the budgetary impact for the Spanish National Health Service.

Methods. A systematic review of available scientific literature (including experimental and observational designs) on the safety and effectiveness of Vivifrail was performed. A costing study and budgetary impact analysis of the incorporation of Vivifrail as a therapeutic alternative to standard care with a time horizon of 5 years was performed.

Results. One randomized controlled trial (RCT) (n = 370) showed positive effects of Vivifrail compared to usual care in functional capacity (mean difference (MD) = 2.20, 95% confidence interval (CI) 1.78 to 2.62), cognitive state (MD = 1.80, 95% CI 1.24 to 2.36), and quality of life (MD = 13.20, 95% CI 12.70 to 13.70). Regarding other variables, the Vivifrail increased the grip strength of the dominant hand (MD = 2.30; 95% CI = 1.79 to 2.81), verbal fluency (MD = 2.15; 95% CI = 1.56 to 2.74), performance of double tasks (MD = 0.10; 95% CI = 0.07 to 0.13), executive function (MD = −31.07; 95% CI = −49.23 to −12.91) and emotional state (MD = −2.00; 95% CI = −2.50 to −1.50).

The total cost of implementing Vivifrail in a 1,000-bed general hospital would be EUR18,000 per year (adjusted to 2020 currency), with approximately 150 patients older than 75 years benefited. This represents a cost of EUR120 per patient.

Conclusions. The Vivifrail could improve functional and cognitive capacity, although available evidence on the Vivifrail is very scarce. More well designed and executed RCT and cost-effectiveness study confirming or refuting the promising findings are needed for a new assessment.

PP234 Analysis Of Discussions On Twitter On The Topic Of COVID-19 Tests: Exploring A Natural Language Processing Approach

Savitri Pandey (spandey@companieshouse.gov.uk), Christopher Marshall, Maria Pokora, Anne Oyewole and Dawn Craig

Introduction. Various strategies to suppress the Coronavirus have been adopted by governments across the world; one such strategy is diagnostic testing. The anxiety of testing on individuals is difficult to quantify. This analysis explores the use of soft intelligence from Twitter (USA, UK & India) in helping better understand this issue.

Methods. A total of 650,000 tweets were collected between September and October 2020, using Twitter API using hashtags such as '#oxymeter', '#oximeter', '#antibodytest', '#infraredthermometer', '#swabtest', '#rapidtest', and '#antigen'. We applied natural language processing (TextBlob) to assign sentiment and categorize the tweets by emotions and attitude. WordCloud was then used to identify the single topmost 500 words in the whole tweet dataset.

Results. Global analysis and pre-processing of the tweets indicate that 21 percent, seven percent and four percent of tweets originated from the USA, UK, and India respectively. The tweets from #antibody, #rapid, #antigen, and #swabtest were positive sentiments, whereas #oxymeter, #infraredthermometer were mostly neutral. The underlying emotions of the tweets were approximately 2.5 times more positive than negative. The most used words in the tweets included 'hope' 'insurance', 'symptoms', 'love', 'painful', 'cough', 'fast test', 'wife', and 'kids'.

Conclusions. The finding suggests that it may be reasonable to infer that people are generally concerned about their personal and social wellbeing, wanting to keep themselves safe and perceive testing to deliver some component of that feeling of safety. There are several limitations to this study such as it was restricted to only three countries, and includes only English language tweets with a limited number of hashtags.

PP254 Double-Counting In Evidence Synthesis Including Routinely Collected Data: Methodological and Practical Considerations

Humaira Hussein (hh270@leicester.ac.uk), Clareece Nevill, Anna Meffen, Sylwia Bujkiewicz, Nuala Sheehan, Alex Sutton, Keith Abrams and Laura Gray

Introduction. The use of real-world data, as an alternative to randomized controlled trials, is becoming increasingly common in the evaluation of new health technologies. With this rise in real-world literature, such data will also enter evidence synthesis models. While it can be beneficial to utilize data from all available sources, this can introduce the problem of double-counting of participants.

Methods. Using a number of case-studies, we discuss and illustrate various issues around double-counting. These include synthesis of studies using the same database or the same subset of participants, overlapping use of intervention arms across studies and the use of registry data from the participants overlapping with those in randomized controlled trials. The implications in research are considered along with common methods used currently to overcome these issues.

Results. Double-counting of participants in evidence synthesis can artificially inflate precision, potentially leading to inappropriate conclusions. Common methods currently used to help mitigate the impact of double-counting includes stratifying analysis to different timelines, using the most comprehensive study in the evidence synthesis model or using the study that has the largest sample size. However, in all of these cases, sensitivity analyses would need to be considered to ensure robust results.

Conclusions. Currently, there are no published guidelines on how to address the issue of double-counting. With the increased use of real-world data in evidence synthesis, double-counting has the potential to become a significant issue. Therefore, it is of significant importance that methodologies and guidelines are developed to address this.

https://doi.org/10.1017/S0266462321001392 Published online by Cambridge University Press