

Abstract

Aim. This research study describes the process of developing and testing a clinical tool to assess Perioperative Nurses' knowledge of postoperative nausea and vomiting (PONV). It provides preliminary evidence for the reliability and validity of a new clinical tool.

Background. Post operative nausea and vomiting (PONV) is a common and undesirable side effect of surgical anaesthesia despite the advances in anaesthesia practice and numerous published management recommendations. It results in patients having delayed recovery time; delayed hospital discharge; increased anxiety discomfort and dissatisfaction; increased morbidity and mortality rates all of which have additional related health care costs. Perioperative Nurses observe that many of their patients present with PONV following general anaesthesia. Despite the plethora of available PONV research, current nursing practices remain ad hoc and inconsistent with little improvement in the management of patients who experience PONV. Perioperative nurses need specific evidenced based knowledge and skills in order to help identify and appropriately manage those affected patients. Achieving evidenced based practice (EBP) in nursing is a major objective frequently quoted by the profession and in government health directives. However consideration needs to be given to the methods used to assess nursing practice. Fundamental to the use of knowledge assessment tools are acceptable measurement scales that meet reliability and validity criteria for nursing studies in order to advance EBP.

Methods. The original intention of this study was to use an existing survey tool to measure Nurses' knowledge of PONV that had been previously used in the U.K. (2000) and Canada (2009). The problems with the existing tool are first discussed to justify the need for a new instrument. The development phases of the new clinical tool are presented with preliminary validity and reliability measures reported. Traditional scale development approaches were used to generate items with the use of both Classical Measurement Theory (CMT) and Item Response Theory (IRT) for psychometric evaluation.

Results. The final 34 item, true/false/uncertain clinical tool takes an average of approximately 9 minutes to complete. It covers PONV aetiology, risk factors; management; drug knowledge inclusive of pharmacological and non-pharmacological approaches to care.

Validity analysis suggests satisfactory content domain; content validity rating; content validity index quantification and; face validity. The PONV questionnaire computed the Pearson's product-moment correlation ($r = .844$) suggesting adequate test re-test reliability and an average intra-class correlation (ICC) coefficient of .915. Reliability statistics for internal consistency (Cronbach's alpha) measured .706. Due to the dichotomous answer format a further Kuder-Richardson coefficient (K-R 20) estimate was calculated at .70. In addition IRT measures were also used to compute the PONV questionnaire items for 'item difficulty' and 'item discrimination' index analysis.

Conclusion. The PONV questionnaire meets preliminary reliability and validity criteria for a new clinical tool to measure Perioperative Nurses knowledge of PONV. It provides instrumentation where a void previously existed and subsequent research findings could be used to help evaluate current services and practice; identify possible PONV misconceptions; serve as an assessment for future learning needs and; to examine 'before and after' targeted PONV education.