Original research article

Predictors of preoperational anxiety in surgical patients

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ABSTRACT

In clinical practice for the diagnosis of anxiety it is very useful to know the various predictors which increase the risk of preoperational anxiety in patients. The aim of this study is to identify which predictors (gender, age, type of surgery, type of anaesthesia, previous experience with surgery, time before surgery, and medical diagnosis) are significant predictors of preoperational anxiety.

A total of 278 respondents who had a medical diagnosis that required abdominal surgery, aged between 18 and 86 (AM = 46.04; SD = 16.5) participated in the study. To assess anxiety in the patients we used the Anxiety Level-12 scale, which was designed by modifying the measurement tool "Anxiety Level from the Nursing Outcomes Classification (NOC)" and had been validated in the conditions of the Slovak Republic. Anxiety assessment in the patients was carried out before their surgeries at various times (AM = 8 h; SD = 5; Mdn = 6.50). The research was approved by the Ethics Committee. The software, SPSS 22.0 multiple linear regression analysis, was used for the statistical data analysis.

Gender, type of surgery, type of anaesthesia, and time before the surgery are significant predictors of preoperational anxiety; previous experience with surgery, age, and medical diagnosis are non-significant predictors.

Knowing the predictors of preoperational anxiety would help nurses identify at risk patients. They could implement effective intervention strategies ahead of time to reduce preoperational anxiety and ensure a smooth surgery and postoperative period.

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Introduction

In clinical practice, the condition of anxiety is characterized as an unpleasant feeling of discomfort; it is described as an individual's ability to adapt to stress, it can cause disease or other related factors [1]. Nurses might come into contact with the concept of anxiety in various settings of clinical practice and should have professional competences for its assessment and intervention [2].

In the classification system of nursing diagnoses the NANDA-I, the nursing diagnosis Anxiety (00146), is placed in Domain 9 – Coping/Stress Tolerance, Class 2 – Coping Responses. It is defined as ''*a vague, uneasy feeling of discomfort or dread, accompanied by an autonomic response (the source is often nonspecific or unknown to the individual); a feeling of apprehension caused by the anticipation of danger. It is a warning sign that alerts of impending danger and enables the individual to take measures to deal with that threat*'' [3]. According to the NANDA-I, the related factors for the onset of anxiety include: major change in economic status, environment, health status, role status, situational crisis, stressors, threat of death, and unmet needs [3]. According to the authors [4,5], there is also a high incidence of anxiety in surgical patients. Not only the surgery itself, but also changes in the environment related to hospitalization; the presence of other patients who are not always pleasant, or diagnostic tests may increase the risk of anxiety. In the preoperational period, fear of failed surgery, fear of anaesthesia, fear of loss of self-control and fear of death dominate. Pain, loss of physical functions, disturbed body image, and return to daily routine and work life are present in the postoperative period.

Preoperational anxiety and postoperative anxiety correlate [4]. Therefore, in clinical practice, if we were able to identify increased anxiety in the preoperational period, and if effective intervention strategies were implemented to reduce it [6], we would prevent postoperative complications (prolonged hospitalization, more intense and longer pain perception) [4,7,8]. Thus the diagnosis of preoperational anxiety is a subject of scientific interest for experts from various fields.

According to the latest approaches in the theories of anxiety, besides the threat of a stressful situation, the authors emphasize in particular the influence of personal characteristics [9]. These characteristics, also called psychological characteristics, include coping strategies. Besides key (dispositional) characteristics, anxiety levels are also affected by situational characteristics [10] resulting from situations in which other people occur.

Knowing the theories or various predictors of anxiety in the process of diagnosis is very useful; it is recommended that dispositional, situational as well as socio-demographic characteristics should be considered in order to assess the risk of anxiety in patients in both the preoperational and postoperative periods [4].

Multiple research studies have examined the characteristics related to levels of state anxiety in patients before surgery. The significant predictors of preoperational anxiety most frequently include: type of surgery [11,12], medical diagnosis [6,11], gender [4,6,12], time before surgery [13], and age [4,6]. The non-significant predictors include experience with surgery [6,11] and age [11,12].

Materials and methods

In the research study there were 278 respondents who were hospitalized in the Surgical Clinic, the Teaching Hospital in Nitra. They were aged between 18 and 86 years (AM = 46.04; SD = 16.5). The inclusion criteria in the sampling frame consisted of surgeries (planned or acute), abdominal surgeries with a medical diagnosis according to ICD-10: ruptures in the abdominal cavity – hernias (K40–K46) 44.2%; other diseases of the intestines (K55–K63) 28.8%; disorders of the gallbladder, biliary tract and pancreas (K80–K87) 23%; diseases of the appendix (K35–K38) 4%. Exclusion criteria consisted of the administered premedication, and the presence of an oncologic medical diagnosis that was considered a specific situational characteristic, as anxiety levels in such groups of patients are described as higher [6,10]. There were 27% women; 82% planned surgeries, 18% acute surgeries; 93.5% respondents operated on for the first time; 6.5% respondents re-operated on; 74.5% respondents operated on under general anaesthesia; and 25.5% respondents operated on under spinal anaesthesia.

To assess anxiety in patients in preoperational care, we used the Anxiety Level-12 scale, which was designed by modifying the measurement tool: Anxiety Level from the Nursing Outcomes Classification (NOC) [14], which had been validated in the conditions of the Slovak Republic [15]. The scale has good construct and factor validity, and is applicable for the evaluation of psychological variables in the context of nursing diagnosis. It consists of 12 items of behavioural, physiological and psychological character (sleep pattern disturbance, sadness, verbalized anxiety, nervousness, crying, heart pounding, trembling, fear, decreased ability to concentrate, irritability, exaggerated concern about life events, and increased heart rate). A rater (a nurse) rates the levels of these manifestations on a scale from 1 (none) to 5 (severe). The final anxiety level is given by a total score, which ranges between 12 and 60 points.

Anxiety assessment was carried out by two nurses who were trained to use the scale. The patients were assessed before their surgery at various times (AM = 8 h; SD = 5; Mdn = 6.50) (min. 1 h before surgery; max. 18.75 h before surgery), and always before premedication administration. The research was approved by the Ethics Committee of the Teaching Hospital in Nitra.

The software SPSS 22.0 was used for the statistical data analysis. Multiple linear regression analysis, the stepwise method [16], was used to examine the relationship between state anxiety and its predictors.

Results

The results answer the question related to the investigation of the predictors of state anxiety in patients before surgery. We evaluated seven predictors: gender, age, type of surgery (planned or acute), type of anaesthesia, previous experience with surgery, time before surgery, and medical diagnosis.

Multiple linear regression analysis (the stepwise method) was used for data evaluation; it statistically eliminates