

INDONESIAN PREOPERATIVE ANXIETY SCALE (INPOAS) : THE PATIENT'S ANXIETY ASSESSMENT SCALE FOR SURGERY

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ABSTRACT

Background : Anxiety surgery in patients has an impact on several perioperative aspects. The need for premedication and analgesic drugs is greater at the time of induction, the doses of anesthesia maintenance drugs are greater, including the need for postoperative analgesic abortion also increase in addition to the impact of the extended recovery phase so that it can increase the length of treatment which gives the effect of increasing the cost of hospitalization. The incidence of preoperative anxiety from various studies around the world varies greatly from 60% to 90%. Indonesia does not yet have data on the incidence of preoperative anxiety in patients undergoing elective surgery. The incidence of preoperative anxiety in Indonesia is thought to be quite high. **Purposes** : Develop valid and reliable preoperative patient anxiety assessment instruments. **Method** : Conduct preoperative anxiety measurement instruments from literature studies, conduct psychometric test instruments on respondents. The instrument that was tested was used to measure the anxiety of 65 respondents then their validity and reliability were assessed. The results of measuring anxiety with INPOAS compared to the HAM-A anxiety instrument were then tested by the Cohen's Kappa. **Result** : Respondents involved as many as 65 people, 0.011 determinant test results that indicate each statement is interrelated. All statements on the INPOAS scale are valid with Corrected Item-Total Correlation $r_{total} 0.989 > 0.254$. All statement items have a Cronbach Alpha value (α) > 0.70 with the Cronbach Alpha value (α) overall 0.812 **Conclusion** : *Indonesian Preoperative Anxiety Scale (INPOAS)* is a valid and reliable instrument for measuring preoperative anxiety.

Keywords : INPOAS, Preoperative anxiety, validity and reliability

INTRODUCTION

Anxiety is a condition that often occurs in patients approaching surgery with anesthesia, especially occurs in patients who have experienced surgery for the first time. This happens because new experiences will become stressors for patients. Anxiety needs to be detected early so that more effective management can be given so that it does not cause more anxiety that can interfere with the operation process. Anxiety or anxiety is a feeling that is not typical, caused by allegations of danger or frustration that will endanger the sense of security, balance or life of a person or social group (Sadock et al, 2010). Anxiety surgery in patients has an impact on several perioperative aspects. The effects of anxiety include the need for premedication and analgesic drugs to be greater at the time of induction, the

dose of anesthesia maintenance medication is greater, including the need for postoperative analgesic drugs to also increase in addition to the impact of the extended recovery phase so as to increase the length of treatment which gives the effect of adding inpatient costs (Jawaid M, Mushtag A, Mukhtar S, Khan Z.2007; Laufenberg-Feldmann R, Kappis B, 2013).

Firdaus (2014) mentions the anxiety experienced by patients who will undergo surgery, influenced by many factors such as age, sex, level of education, type of surgery, duration of surgery, underlying disease, previous operating experience and the ability of each individual to deal with stressful situations. Based on the results of the study, female patients have higher anxiety levels compared to men. Patients who do not have prior surgical experience tend to have higher anxiety levels than those who have had surgical experience. Patients with higher information needs tend to be more anxious than patients whose information needs are lower. (Jawaid M, Mushtag A, Mukhtar S, Khan Z.2007; Laufenberg-Feldmann R, Kappis B, 2013)

The incidence of anxiety varies between 60% -90%. Most patients will experience anxiety in the waiting period leading up to surgery (Matthias, 2012). Many anxiety measurement instruments have been used throughout the world, including the Spielburger State-Trait Anxiety Inventory (STAI), Visual Analog Scale (VAS), and The Amsterdam Preoperative Anxiety and Information Scale (APAIS). Indonesia itself does not yet have an instrument that measures preoperative anxiety in surgical patients, some instruments from countries that have developed this instrument have advantages and disadvantages so we need to develop a simple instrument formula but can still measure patient anxiety validly and reliably, which can be widely applied in all hospitals in Indonesia.

METHOD

This research was conducted using cross sectional / cross sectional design with survey methods, held at Panembahan Senopati Bantul General Hospital. Inclusion criteria were patients undergoing elective surgery at Panembahan Senopati Bantul Hospital more than 17 years old, able to communicate well. Simple randomly selected samples include 60 respondents at the INPOAS scale setting stage and 65 respondents at the stage of comparing with HAM-A. Stages of research carried out through the study of theory and anxiety instruments to select statement items. Statement items compiled using psychological scale. The next stage is the assessment of the expert on the instrument, namely from the anesthesiologist, the surgeon and the nursing specialist. After getting input from experts, the instrument was repaired. Trials on 60 respondents for determining the cut-off point for anxiety statements were carried out through a psychometric test using the summed method rating (method of summated ratings).

Based on the test results, the instrument was repaired, items that did not meet the requirements were issued, so the list of statements that originally had twelve items became ten statements. The psychological scale of anxiety indicators that results from this test ranges from very often, often, sometimes, and never with successive values is 3,2,1,0. The next step is to compare INPOAS with the anxiety measurement standards that have been used so often, in this study the standard compared was HAM-A (Hamilton Rating Scale) on 65 respondents with different measuring devices and gauges on the same subject. The validity test of the

construction is carried out by the factor analysis method. The internal consistency reliability test is done by calculating the Cronbach's Alpha reliability coefficient, the agreement of measuring instruments of anxiety was tested with Cohen's Kappa.

RESULT

Characteristics of respondents can be seen in table 1 of 65 respondents from the age group at most between 18-40 years (46.2%), female gender (55.4%) more than men (44.6%), education the highest is the medium level (SLTA) as much as 49.2%, the history of never having surgery occupies the highest number (72.3%), the most type of surgery is in the type of moderate surgery (55.4%) and the type of regional anesthesia (53.8%) more than general anesthesia (46.2%)

Table Characteristics of Respondents (n = 65)

Variable	Frequency (f)	Percentage (%)
Age		
18-40 years old	30	46.2
41-60 years old	24	36.9
> 60 years old	11	16.9
Gender		
Male	29	44.6
Girl	36	55.4
Education		
Low	23	35.4
Is	32	49.2
High	10	15.4
Operating History		
Never	47	72.3
Once	13	20.0
More than once	5	7.70
Type of Operation		
Small	13	20.0
Medum	36	55.4
Big	16	24.6
Type of Anesthesia		
General	30	46.2
Regional	35	53.8

Validity test the contents of the experts obtained the coefficient of content validity INPOAS 1.0, this shows a very high validity. INPOAS Construction Validity Test is carried out by factor analysis with the Determinant of Correlation Matrix test with a 0.011 determinant result so that it can be concluded that the variable matrix of the ten statements contained on the INPOAS scale is interrelated. The results showed that the value of the Kaiser Meyer Olkin Measure of Sampling was 0.783. Therefore the KMO requirements met the requirements because they had values above 0.5. The results of calculations with SPSS produced a value of Barlett Test of Spehricity of 249.403 with a significance of

0,000. Thus the Bartlett Test of Sphericity meets the requirements because the significance is below 0.05 (5%).

Factor analysis measurement results for Measures of Sampling Adequacy (MSA) all statements in the INPOAS instrument consisting of ten statement items have alpha values above 0.5. The communality values of the statements on the INPOAS scale respectively from statement 1 were 0.736, 0.703, 0.172, 0.652, 0.685, 0.782, 0.744, 0.703, 0.800, and 0.721. Item validity test on the INPOAS scale is done by correlation analysis using SPSS by looking at the value of Corrected Item-Total Correlation. All statements on the INPOAS scale from the first statement up to the tenth statement are all declared valid with Corrected Item-Total Correlation values more than r table value of 0.254 and overall declared valid with total r of $0.989 > 0.254$. Reliability test shows all items have a Cronbach Alpha value (α) > 0.70 so that we can say the construct of INPOAS is reliable with the Cronbach Alpha value (α) overall 0.812

The consistency of anxiety measurement using INPOAS and anxiety measurement using HAM-A was tested by looking at the value of the Cohen's Kappa coefficient. The Kappa value on the instrument agreement test was obtained $k = 0.876$, so we can conclude that the INPOAS instrument has a very good agreement with HAM-A in measuring the anxiety of preoperative patients.

DISCUSSION

Anxiety measurement instrument has been widely developed and used throughout the world, one of the anxiety measurement scales developed to measure anxiety symptoms experienced by patients both in the clinical and research fields completely measures both the physical and psychological aspects of anxiety. Hamilton Anxiety Rating Scale (PEST). Weakness HAM-A does not provide a question or statement form for each aspect measured, other than that the aspect measured includes 14 items that take between 10 to 15 minutes to take measurements. In addition, other instruments that are widely used to measure anxiety are The Amsterdam Preoperative Anxiety and Information Scale (APAIS). This instrument has six short questions relating to, anesthesia, surgery and patient's need for information. The APAIS scale consists of two questions about anesthesia, two questions about surgery or surgery and two questions about information needs, so that the number of items related to anxiety is only four questions namely questions about fear of anesthesia and fear of surgery of each question and question about think of anesthesia and surgery each one question.

According to Moerman (1996), anxiety manifestations related to anesthesia alone have six aspects to manifestations anxiety, not to mention manifestations related to operating anxiety. The instrument developed in this study measures the manifestation of anxiety from the environmental aspects represented by the statement "I feel afraid of the equipment and operating room environment", and the statement "I do not care about the environment around me". Manifestation of anxiety from the physical aspect is represented by the statement: "I have difficulty falling asleep hearing the decision to have surgery" and "I am anxious to undergo the surgical preparation procedure". Manifestation of anxiety from the aspect of surgery is measured by the statement: "I am afraid to imagine / see surgery", "I am constantly thinking about surgery and / anesthesia", "I am afraid of recovering

from the operation for a long time", "I am constantly thinking about the results or impact of surgery", and "I am afraid of pain due to surgery". Manifestations of anxiety from the anesthetic aspect are measured by the statement: "I constantly think about surgery and / anesthesia", and "I am afraid of being sedated". Some statements that are similar to the APAIS scale are statements about anesthesia and surgery namely "I am afraid of being sedated", statements that have gone through development are "I am constantly thinking about surgery and / anesthesia" and the statement "I am constantly thinking about the results or effects of surgery" (Boker A, Brownell L, Donen N, 2002).

In this study it was found that none of the patients did not experience anxiety, either using HAM-A measurement instruments or INPOAS. In measuring anxiety with INPOAS successively the most anxiety experienced by preoperative patients was 46.2%, moderate anxiety 36.9%, and experienced severe anxiety 16.9%. patients who experienced mild anxiety 46.2%, experienced moderate anxiety 38.5%, and experienced severe anxiety 15.4%.

Cronbach Alpha's INPOAS instrument reliability results are quite high at 0.812, this value is not much different from the Indonesian version of the APAIS instrument which is 0.852 (Firdaus, 2014). Preoperative anxiety is common in patients who will undergo surgery with anesthesia, as evidenced in this study there were no patients who did not experience anxiety. All patients experienced anxiety ranging from mild to moderate. According to Jawaid M, Mushtaq A, Mukhtar S, Khan Z (2007) sources of preoperative anxiety generally consist of anxiety over anesthesia and anxiety about surgery, while the results of research Kuzminskaite V, Kaklauskaitė J, Petkeviciute J (2019) found the experience of anxiety before surgery was dominated by anxiety related to successful surgery.

CONCLUSION

The Indonesian Preoperative Anxiety Scale (INPOAS) instrument consists of ten statements relating to anesthesia, surgery, physical and environmental, having four scales ranging from very often, often, sometimes, and never. Dividing The level of anxiety is divided into no anxiety, mild anxiety, moderate anxiety, and severe anxiety, is a valid and reliable instrument for measuring preoperative anxiety.

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