Level Of Patient's Anxiety On Patient Who Undergo Elective Operations Measured With Visual Analogue Scale For Anxiety (VAS-A) At Haji Adam Malik General Hospital Medan

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DOI: 10.29322/IJSRP.10.02.2020.p9851
http://dx.doi.org/10.29322/IJSRP.10.02.2020.p9851

Abstract- **Introduction:** The incidence of preoperative anxiety had a high incidence rate, which is largely due to lack of knowledge or information obtained, related to the operation to be performed.

Objective: To determine the level of anxiety of patients undergoing elective surgery assessed by Visual Analog Scale for Anxiety (VAS-A)

Method: This research was an analytic study with cross-sectional design. The study was conducted at the Adam Malik Central Haji General Hospital Medan (RSUP HAM) from October to November 2019. The total sample obtained was 72 patients. Data collection using the VAS-A instrument.

Results: From the results obtained that the mean value of VAS-A in 72 patients was 4.14 ± 1.9. The female group had a higher mean VAS A value (5.77 ± 1.2) than the male group (3.79 ± 1.8) (p = 0.001). The ASA I group had a higher mean VAS A value (5.06 ± 1.9) compared to the ASA II group (3.79 ± 1.8) (p = 0.733). The general anesthesia group had a higher mean VAS A value (5.52 ± 1.69) compared to the male group (3.69 ± 1.4) (p = 0.001). The orthopedic surgery group had a higher mean VAS A value (5.27 ± 1.77) compared to the types of digestive, obstetric gynecological and neurosurgery operations which had a VAS A value of 4.56 ± 1.24 respectively 4.35 ± 1.57; 1.73 ± 0.79 (p = 0.001).

Conclusion: There is a significant difference in the value of VAS-A with gender, type of anesthesia and type of surgery, but there is no significant difference between VAS-A and ASA.

Index Terms- Preoperative Anxietas, preoperative visits, VAS-A

I. Introduction

Surgery is a form of invasive medical treatment that is carried out routinely in various health service centers. Based on data obtained from the World Health Organization (WHO), number of patients with surgery has very significantly increased from year to year. Recorded in 2011, there were 140 million patients at all hospitals in the world who underwent surgery, while in 2012 this number has increased to 148 million people.

Elective and emergency surgery are an intense complex event, because in addition to the patient experiencing physical disorders, psychological problems can also occur. One of emotional reaction from the patient is anxiety. Anxiety is a condition where patients experience anxiety due to threats or unclear causes that are manifested by physiological, emotional and cognitive symptoms. A study conducted by Bedaso (2019) found that of 402 patients who were scheduled to undergo surgery in Ethiopia, they found anxiety in 47% of patients. This number is quite high which indicates that anxiety is found in nearly half of patients.[1]

High anxiety can have an effect in influencing the physiological function of the body which is characterized by an increase in blood pressure, pulse rate, respiratory rate, fear, nausea/vomiting, anxiety, dizziness, diaphoresis, shaking, hot and cold sensation. In very severe conditions, anxiety can result in an increase of sympathetic tone to the point that it can affect the patient's general condition, such as high blood sugar levels, exacerbations of chronic lung disease, or even cord arrhythmias.[2] The consequences of perioperative anxiety mainly occur in cardiac events (Cardiac Events) such as acute myocardial infarction, heart failure, and pulmonary edema (first 6 months, 1 year), and poor quality of life. The impact correlates with high postoperative pain, increased analgesic and anesthetic consumption, length of hospital stay, adverse effects during induction of anesthesia and patient recovery and decreases patient satisfaction with perioperative experience.[3]

The Amsterdam Preoperative Anxiety Analog (APAIS) conducted by Joaquin Hernandez (2015), provides a simple measurement and can be used to measure the level of preoperative anxiety in patients who are undergoing cardiac surgery, where in this study conducted with 300 patients (25% female and 75% male). In addition, 40% of patients had ASA class of III and 60% showed an ASA class of IV. In interviews, 94% of patients showed preoperative anxiety (VAS-A> 0), with 37% resulting in high level anxiety. (VAS-A ≥ 7).[4]

This anxiety is almost always found in preoperative patients which is largely due to lack of knowledge or obtained information, related to the operation that will be performed. This can be caused by a lack of memory, incorrect interpretation of information about the operations, or not being familiar with the

source of the information. Patient's confidence will usually be slightly reduced if you get additional information from other people who have had the same surgery. If with all that concern still surrounds, the surgeon and anesthetist can become a source for questions/informations.[5] An objective measurement of anxiety is relatively difficult. Therefore, many researchers try to develop an anxiety assessment instrument that can measure patient's anxiety level. Various anxiety measurement instruments had successfully developed include the Corah's Dental Anxiety Scale (CDAS), Spielberger's State Trait Anxiety Inventory (STAI), Beck Depression Inventory (BDI) and Visual Analog Scale for Anxiety (VAS-A). Of all these instruments, the method of measuring anxiety using VAS-A is considered the easiest, simplest and can be understood by patients. VAS-A has also been proven to have validity and reliability to measure patient anxiety levels so that they can be used on a daily basis.[6]

II. METHODS

This study is an analytic study with a cross-sectional design carried out at Haji Adam Malik General Hospital Medan. Consecutive sampling is a sample selection technique by which all subjects who come and meet the selection criteria are included in the study until the number of subjects is met. In this study, the subjects were all patients who will undergo elective surgery. After obtaining approval from the Ethics Committee, Faculty of Medicine, University of North Sumatra, based on inclusion criteria (age 19-65 years, ASA class 1-2, PHQ9<5) and exclusion criteria (patients who have psychiatric abnormalities in the form of anxiety disorders before surgery is planned, patients who are not cooperative and unable to communicate during preoperative visits), 72 research samples were collected. All subjects were recorded for their identity. Researchers provide comprehensive information regarding the form of anesthesia to be performed, prognosis, alternatives and risks of the anesthesia. Researchers as an anesthetists measure the patient's anxiety level by using the Visual Analog Scale for Anxiety (VAS-A) at the clinic. Then anxiety levels's data before the preoperative visit were statistically analyzed.

III. RESULTS

This study enrolled by 72 subject who undergo elective surgery at RSUP Haji Adam Malik Medan. Its included digestive, orthopaedic, obstetric, and neurosurgery under general and regional anesthesia.

Table 4.1 Sample characteristic

Characteristic	Total (n)	Percentage (%)
Sex		
Male	33	45,8
Female	39	54,2
Age	45,81±13,8	
ASA		
I	18	25
II	54	75
Anaesthesia		
General	46	63,9
Regional	26	36,1
Surgery		
Orthopaedic	22	30,5
Digestive	18	25,0
Obstetric	17	23,6
Neurosurgery	15	20,8
VAS A	4,14±1,9	

From demographic result (Table 4.1), mean subject ages was 45,81 ±13,8 years, which women are the most with 39 subject (54,2%), whereas 46 subject (63,9%) doing surgery under general anesthesia. Ini this study, mean VAS-A value was 4,14 ± 1,9.

Table 4.2 Correlation between anxiety level with gender, evaluated with VAS-A score.

Variable	Jenis kelamin		P value
	Male	Female	
VAS A			
Mean ± SD	3,79±1,8	5,77±1,2	0,001*
Median (Min-Maks)	4 (1-8)	5 (4-9)	

Table 4.3 Correlation between anxiety level with anesthesia procedure.

Variable	Anesthesia		P value
	General	Regional	
VAS A			
Mean ± SD	5,52 ±1,69	3,69 ±1,4	0,001*
Median (Min-Maks)	5 (1-9)	4 (1-5)	

Table 4.2, show correlation between anxiety level, graded using VAS-A score, with gender. Female group has mean VAS-A score (5,77 ± 1,2) higher than male group (3,79± 1,8) (p=0,001). While, relation between anxiety with anesthesia procedure, show that group who undergo general anesthesia had VAS-A score (5,52± 1,69) higher than regional group (3,69±1,4) (p=0,001), shown in Table 4.3

Table 4.4 Anxiety level with ASA Physical Status

Variable	ASA		P value
	I	II	
VAS A			
Mean ± SD	5,06±1,9	4,8 ±1,7	0,733
Median (Min-Max)	5 (1-9)	5 (1-8)	

Table 4.5 Correlation between anxiety level with surgical procedure

Variable	VAS
	Mean±SD
Orthopaedic	5,27 ±1,77
Digestive	4,56 ±1,24
Obstetric and gynecology	4,35 ±1,57
Neurosurgery	1,73 ± 0,79
P	0,001*

There is no significant correlation between anxiety level with ASA physical status, P value = 0,733 (Table 4.4). This study also found correlation between anxiety level with surgical procedure, orthopaedic procedure has VAS-A Score 5,27±1,77 higher than other procedure (p=0,001), which means statistically significant (Table 4.5)

IV. CONCLUSIONS

From this study, we can conclude that female group has higher anxiety level than male group, there a significant difference in VAS-A score. Subject who undergo surgical procedure under general anesthesia has higher VAS-A score than regional, which orthopaedic procedures have higher VAS-A than another procedure. There is no significant correlation between anxiety level with ASA physical status.

REFERENCES

[1] Bedaso, Asres and Mohammed Ayalew. 2019. Preoperative anxiety among adult patients undergoing elective surgery: a prospective survey at a general hospital in Ethiopia. Patient Safety in Surgery. 13 (18): 1-8.

[2] Matthias, Anne Ethushara. Samarasekera, Dharmabandhu Nandadeva. 2012. Preoperative anxiety in surgical patients – experience of a single unit. Acta Anesthesiologica Taiwanica. 50. 3 – 6.

[3] Székely, A., Balog, P., Benkö, E., Breuer, T., Székely, J., Kertai, M.D., Horkay, F., Kopp, M.S., Thayer, J.F., 2007. Anxiety Predicts Mortality and Morbidity After Coronary Artery and Valve Surgery—A 4-Year Follow-Up Study. Psychosom. Med. 69, 625–631.

[4] Joaquín Hernández-Palazón, Diego Fuentes-García, Luis Falcón-Araña. Visual Analogue Scale for Anxiety and Amsterdam Preoperative Anxiety Scale Provide a Simple and Reliable Measurement of Preoperative Anxiety in Patients Undergoing Cardiac Surgery. Int Cardiovasc Res J.2015;9(1):1-6.

[5] Friedman, Bowden & Jones, 2010, Buku Ajar Keperawatan Keluarga Riset,Teori & Praktik, edk 5, EGC, Jakarta.

[6] Facco, E. Stellini, E. Bacci, C. Manani, G. Pavan, C, et al. 2013. Validation of visual analog scale for anxiety (VAS-A) in preanesthesia evaluation. Edizioni Minerva Medica Anestesiology. 79 (12): 1389 – 1395.

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