

## Effect of Health Education with Spinal Anesthesia Video to Lower Pre-Anesthesia Anxiety in Genteng General Hospital, Banyuwangi, East Java, Indonesia

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### ABSTRACT

**Background:** Spinal anesthesia is an anesthetic method by injecting local analgesic drugs into the subarachnoid space in the lumbar region. The purpose of the study was to analyze the effect of health education with spinal anesthesia videos on anxiety in pre-anesthesia in the operating room of the Genteng Regional General Hospital Banyuwangi.

**Subjects and Method:** A quasi-experiment study was conducted in Genteng General Hospital, Banyuwangi, East Java, in August 2022. A sample of 15 patients who underwent surgery under spinal anesthesia was selected by incidental sampling. The dependent variable is anxiety. The independent variables were video educational intervention. Anxiety was measured by Anxiety Analog Scale (AAS). Other variables were collected by questionnaire. The difference test in the paired group was examined using paired t-test.

**Results:** Anxiety level after intervention (Mean= 180; SD= 80.84) was lower than before (Mean= 305; SD= 75.12) with  $p < 0.001$ .

**Conclusion:** Video of spinal anesthesia intervention lower anxiety in pre-anesthesia surgery.

**Keywords:** anxiety, spinal video, pre-anesthesia, spinal anesthesia, health education

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### BACKGROUND

Spinal anesthesia is an anesthetic method by injecting local analgesic drugs into the subarachnoid space in the lumbar region. Spinal anesthesia is the most widely used regional anesthetic technique and is currently being developed. Spinal anesthesia is used because it is safer, simpler, economical, and has a rapid onset of anesthesia (Morgan, 2011). Surgery with spinal anesthesia causes arterial dilatation and venous congestion (decreased systemic vascular resistance) and hypotension. Dams in the veins cause a decrease in venous return

to the heart, a decrease in cardiac output, and eventually cause hypotension (Soenarto, 2012). This hypotensive state increases the risk of nausea and vomiting to aspiration and affects mental status.

Spinal anesthesia is an action performed before surgery so that patients feel safe and comfortable during surgery and avoid postoperative pain. However, the side effects of spinal anesthesia are something that cannot be avoided because it can cause the patient to experience nausea and vomiting and even decrease consciousness. High anesthesia spinal block is a very worrying

complication. This happens because the anesthetic can reach the cranium and will cause total paralysis. The occurrence of these complications can usually be identified from the following signs, namely a sudden decrease in consciousness, apnea, severe hypotension, and pupillary dilation (Pramono, 2015). Therefore, to prevent complications of the above problems from occurring, it is very important to carry out a thorough and thorough pre-anesthesia assessment.

Based on data from the World Health Organization (WHO) in 2013, it is known that there is an increase in the number of cases of pre-anesthesia patients who experience anxiety disorders before undergoing surgery, which is about 20% in the United States. In Indonesia alone, the prevalence of anesthesia patients who experience anxiety is estimated to range from 9-12% of the total population (Sartika et al., 2013). Based on data from the Fatmawati Central General Hospital (RSUP) in 2012, it is known that of the total patients who will undergo surgery, 10% of them experience delays or cancellations of the operation process, one of which is due to anxiety. In general, there are three main factors known as the cause of the cancellation. Twenty percent of the cases of cancellation or delay in the operation process were caused by the patient experiencing menstruation, 50% of cases due to increased blood pressure, and 30% of cases caused by the patient experiencing fear and the family refusing to do the surgery process because of anxiety (Ferlina, 2012). This data clearly shows that pre-anesthesia anxiety is still very high in Indonesia.

Based on a preliminary study conducted, at the Genteng Regional General Hospital in 2021, the number of patients undergoing anesthesia and surgery amounted to 1833 patients if an average of around 152

people per month. Data obtained in December 2021 revealed that about 166 patients underwent surgery. Patients with Spinal Anesthesia (SAB) were 105 patients. Based on this description, researchers are interested in researching "The effect of health education with spinal anesthesia videos on anxiety in pre-anesthesia in the operating room of the Genteng Banyuwangi General Hospital".

## SUBJECTS AND METHOD

### 1. Study Design

A quasy experiment study was conducted in Genteng General Hospital, Banyuwangi, East Java, in August 2022.

### 2. Population and Sample

The population taken were all patients who underwent surgery under spinal anesthesia was 30 patients. This sampling technique uses incidental sampling. The samples taken in this study were 15 samples of patients who underwent surgery under spinal anesthesia. Inclusion criteria: Adolescent and adult patients aged 17 – 45 years, patients undergoing surgery for the first time. Patients who underwent surgery under spinal anesthesia (SAB), patients with compositis consciousness, Has no hearing loss. Exclusion criteria, namely patients with cito/emergency surgery.

### 3. Study Variables

The independent variable in this study was spinal video education. The dependent variable in this study is the level of anxiety.

### 4. Operational definition of variables

**Audio-visual media** is media that is produced through mechanical and electronic processes by presenting information or messages in audio and visual ways.

**Anxiety** is a feeling of uncertainty and helplessness that is felt by the patient during intraoperatively which is measured before and after the intervention.

## 5. Study Instruments

In this study, the measuring instrument used was a questionnaire and Anxiety Analog Scale (AAS).

## 6. Data analysis

The data analysis used is univariate test and bivariate test. Univariate test was carried out to see the characteristics of respondents used frequency distribution and descriptive statistical results. Bivariate test was conducted to prove the research hypothesis. The difference test in the paired group with normal data distribution was carried out using the paired t-test.

## 7. Research Ethics

The research ethics sheet obtained is a certificate of ethical feasibility from STIKes Karya Husada, namely Number:160/EC/-LPPM/STIKES/KH/2022

# RESULTS

## 1. Sample Characteristics

In the age category of respondents, it was found that almost half of the respondents in the video spinal anesthesia education group were aged 18-25 years (adolescents) and 26-35 (early adults), namely 6 respondents (40.0%). The gender of the respondents showed that most of the respondents in the video spinal anesthesia education group were female, namely 10 respondents (66.7%). The marital status variable showed that most of the video spinal anesthesia education group were unmarried, namely 8 respondents (53.3%). In the last education category, it was found that almost half of the respondents in the high school spinal anesthesia video education group were 7 respondents (46.7%). The work variable showed that almost half of the spinal anesthesia video education group were included

in the IRT category, namely 7 respondents (46.7%). In the type of education category, it was found that almost half of the respondents in the spinal anesthesia video education group were in the category of ob-gyn surgery, namely 6 respondents (40.0%).

Specific data contains the characteristics of the findings of the focus of research on the influence of health education with spinal anesthesia videos in the operating room of the Genteng Banyuwangi General Hospital, as follows.

Table 2 shows the results of the characteristics of the research variables based on pre-anxiety. The pre-anxiety variable showed that almost half of the spinal anesthesia video education group was in the category of severe anxiety, namely 10 respondents (66.7%). The post-anxiety variable showed that almost half of the spinal anesthesia video education group were in the non-anxious category, namely 10 respondents (66.7%).

The bivariate test analyzed the effect of health education with spinal anesthesia videos on reducing anxiety in pre-anesthesia in the operating room of the Genteng Banyuwangi General Hospital. In paired data (before after intervention) the analysis used in this study is the Paired t-test because the pre-anxiety data is normal and homogeneous. In unpaired data (post spinal anesthesia video education group) the analysis used in this study was an independent t-test because the pre-anxiety data were normal and homogeneous.

Analysist the decrease in anxiety before and after the video spinal anesthesia intervention in pre-anesthesia in the operating room of the Genteng Banyuwangi General Hospital.

**Table 1. Characteristics of Research Subjects Based on Age, Gender, Marital Status, Last Education, Profession, Type of Surgery**

Characteristics	Spinal anesthesia video education	
	n	%
<b>Age</b>		
18-25	6	40.0
26-35	6	40.0
36-45	3	20.0
<b>Gender</b>		
Male	5	33.3
Female	10	66.7
<b>Marital Status</b>		
Not Married Yet	8	53.3
Married	7	46.7
<b>Last Education</b>		
Elementary School	0	0
Junior High School	4	26.7
Senior High School	7	46.7
Diploma Degree	2	13.3
Bachelor Degree	2	13.3
Master Degree	0	0
<b>Profession</b>		
Student	2	13.3
Housewife	7	46.7
Government Employees	0	0
Entrepreneur	6	40.0
Laborer	0	0
<b>Type of Surgery</b>		
Urology	4	26.7
General Surgery	5	33.3
Obstetrics and gynecology	6	40.0

**Table 2 Characteristics of Specific Data for Research Subjects**

Characteristics	Spinal anesthesia video education	
	n	%
<b>Pre Anxiety</b>		
No Anxiety	0	0
Mild Anxiety	2	13.3
Moderate Anxiety	2	13.3
Severe Anxiety	10	66.7
Panic	1	6.7
<b>Post Anxiety</b>		
No Anxiety	10	66.7
Mild Anxiety	0	0
Moderate Anxiety	2	13.3
Severe Anxiety	3	20.0
Panic	0	0

## 2. Bivariate Analysis

**Table 3. Paired t test of anxiety reduction test before and after anesthesia video spinal intervention**

Group	N	Mean	SD	p
Pre	15	305.00	75.119	< 0.001
Post	15	180.00	80.844	

The results of the analysis showed that the mean value of the pre-test (305.00) for anxiety was higher than the post-test score (180.00) for anxiety. The p-value obtained was  $p < 0.001$ , which indicates that there is a decrease in anxiety before and after the video spinal anesthesia intervention in pre-anesthesia in the operating room of the Genteng Banyuwangi General Hospital.

### DISCUSSION

Anxiety is a person's emotional turmoil, this is a sign of alertness to danger and allows a person to take action to overcome threats (Herdman, 2018). The impact of anxiety can also interfere with the pre-anesthesia process and during anesthesia, even the threat of death or disability (Flora, et al., 2014). Causes of anxiety in pre-anesthesia patients include a foreign environment, loss of independence so that they experience dependence and need the help of others, separation from spouse and family, cost problems, lack of information, threats of more severe disease and treatment problems (Tarwoto and Wartonah, 2015). The results of research conducted by Suswanti (2019) that preoperative anxiety is often associated with misunderstandings about surgery or limited information about events that will be experienced by patients, before, during, and even after the surgical procedure.

Spinal anesthesia keeps the patient awake Affandi (2017). Lack of information to patients about the implementation of anesthesia with spinal anesthesia techni-

ques because the patient is in a conscious condition during the operation process so that optimal information is needed from nurses, especially anesthesiologists so that individuals can be more relaxed and anxiety can be reduced. Following what Cholifah and Purwanti (2019) said that good information about the surgical process reduces anxiety levels.

Anxiety involves physiological, cognitive, behavioral, and affective responses. The results of this study indicate that post-operative anxiety is mostly influenced by the first cognitive response, the second is the affective response, the third is the physiological response and the last is the behavioral response. According to Kaplan and Sadock (2010), cognitive responses explain the emotions felt by individuals towards the results of the assessment of the situation they face involving the process of providing information. Providing information can reduce the anxiety of patients who will perform anesthesia, especially patients with spinal anesthesia.

Based on the characteristic frequency distribution of spinal anesthesia patients who experienced anxiety in the intervention group, the majority of respondents in the intervention group were aged 26-35 years. According to Stuart (2016), maturity or individual maturity will affect a person's ability to cope with mechanisms. More mature individuals have difficulty experiencing anxiety because individuals have a greater ability to adapt to anxiety than those of immature age. The results of this

study showed that most of the respondents in the intervention group had high school education. The results of this study are per Stuart's (2016) concept that the higher one's education, the higher one's knowledge.

The results of this study also showed that most of the respondents in the intervention group were female. This is to the research of Nisaa et al. (2020) that a woman's life which is dominated by feelings results in an easy increase in serotonin levels which will stimulate brain work. According to Kaplan and Sadock (2010) that the prevalence of depression and anxiety is greater in women than men because there are differences in hormone secretion, psychosocial stress, and types of behavior between men and women. There is a decrease in the level of anxiety from severe to moderate or mild anxiety or not anxiety and from moderate anxiety to mild or non-anxious. Research conducted by Sukariaji, et al. (2017) mentioned that after being given health education using a booklet, 1 respondent did not experience anxiety (4.2%), 15 respondents had mild anxiety (62.5%), and severe anxiety 8 respondents (33.3%), while respondents who experienced severe and severe anxiety is completely absent.

The use of audio-visual media is very helpful for patients in receiving information. Audiovisual is a form of delivering information that can display elements of sound and moving images (Agustina, 2018). The sophistication of today's technology makes it possible to express and present information not only in the form of images but also in audiovisuals. The researcher's opinion is that the audio-visual application of spinal anesthesia has advantages that allow patients to use it anywhere and anytime. Based on a study where it was seen that the provision of health education using the audio-visual application of spinal

anesthesia was still very rarely used to reduce pre-anesthesia anxiety levels. The results of the pre-anxiety study showed that almost half of the spinal anesthesia video education group were in the category of severe anxiety. The results of the analysis showed that there was a decrease in anxiety before and after the video spinal anesthesia intervention in pre-anesthesia in the operating room of the Genteng Banyuwangi General Hospital. The results of the post-anxiety study showed that almost half of the spinal anesthesia video education group were in the non-anxious category.

#### **AUTHORS CONTRIBUTION**

Suryanto and Katmini conceived and designed the experiments. Suryanto performed the experiments. Yenny Puspitasari analyzed the data. Katmini wrote the paper.

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#### **CONFLICT OF INTEREST**

There is no conflict of interest.

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