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Original Article

The Effect of Hand Massage on Reducing the Anxiety Level of Pre-Surgery Clients in Tangerang City Regional Public

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ABSTRACT

Surgical procedures are important events in human life which complex and stressful. When hearing the word surgery, patients face situations that can cause fear, worry, helplessness, and anxiety. Surgical procedures may cause psychological and physical problems in patients undergoing surgery. Waiting in the preparation room is the most worrying moment for a patient undergoing a surgical procedure. The patient is faced with a situation where the patient is under a high level of anxiety. This study aimed to determine the effect of hand massage on reducing anxiety levels in pre-surgery clients at Tangerang City Regional Public Hospital. This study used a quantitative design with a quasi-experimental approach; a study provides treatment (intervention) and measures the effects of treatment. The approach technique was a one-group pre-test and post-test. The total number of study participants was 18 people. The study utilized a simple random sampling. The results showed that giving hand massage interventions could reduce anxiety levels by 8.2, from 58.3 to 50.1 after a hand massage. The results of the T-test obtained a p-value of 0.001. It was concluded that there was a significant difference between the level of anxiety before and after giving the hand massage intervention. It is recommended to conduct further research with a different approach.

Keywords : Surgery, Psychological, Physical, Anxiety, Patient.

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INTRODUCTION

Surgical procedures are considered as significant events in readily complex and stressful human life. The word of surgery triggers patients to face a situation that full of fear, worry, helplessness and anxiety. Anxiety experienced is usually related to all kinds of foreign procedures and anesthetic action to be experienced which may threat life safety. Infact, surgery is carried out as an alternative solution to the health problems experienced by patients[1].

In 2017, there were 140 million cases of patients undergoing surgical procedures in all hospitals in the world. Furthermore, in 2019, surgical procedures increased to 148 million cases[2]. Meanwhile, data on surgical patients at Tangerang City Hospital showed that there were 2,380 cases of surgical patients in 2021. Surgery is widely performed to diagnose or treat a disease, disability or injury, as well as treat conditions that cannot be cured with simple actions or medications[3].

According to the American Psychological Association (APA), anxiety is a feeling of tension, fear, nervousness, fear, discomfort, and autonomic activity with various intensities resulting from anticipation of danger or threatening events or something unknown[4]. Anxiety is one of the common problems that

occurs in 60% of patients who should face surgery. The prevalence of preoperative anxiety is reported to be in the range of 12.6-76.7% in the population in Western countries and 39.8-70.3% in Ethiopia[5].

The results of previous studies showed that patients who had to face surgery experienced certain levels of anxiety. A study conducted by Rismawan et al., (2019) which involved 42 preoperative respondents in Tasikmalaya City found that 50% of respondents had moderate anxiety and 28.6% had severe anxiety[1]. Another study involving 74 respondents in Pringsewu Lampung found that 45.9% of patients experienced severe anxiety and 21.6% were anxious about surgery[6]. Furthermore, a study conducted by Palla et al., (2018) concluded that 22.7% of respondents had severe preoperative anxiety and 59.1% of respondents had moderate anxiety[7].

Anxiety in the patient begins when the patient becomes aware of the need for a surgical procedure and culminates on admission to the hospital. Anxiety among patients who will undergo surgical procedures can be due to fear of death, uncertain surgical results, emotional feelings, financial worries, and an unfamiliar hospital environment[5]. Clinical symptoms experienced by patients include reactions of irritability, nervousness, insecurity, feelings of uncontrollable worry, poor concentration, sleeping disorder, headaches, sweating, tingling, tachypnea, tachycardia, and hypertension[4].

The most worrying moment for a patient undergoing a surgical procedure is within the waiting period in the preparation room. The patient usually faces a feeling of anxiety. Various interventions have been suggested to reduce the level of anxiety. Certain non-pharmacological interventions is believed to play a role in overcoming anxiety, such as deep breathing technique, classical music therapy, massage, and also fragrance/aromatherapy[8]. One of the interventions that is easy, cheap but effective for nursing is the hand massage intervention.

Based on a preliminary study conducted by researchers among 15 patients who were scheduled for a surgery in the Surgical Preparation Room of the Tangerang Regional General Hospital revealed that all patients (100%) expressed worry and anxiety regarding surgery. Various reasons were stated starting from misunderstanding, fear of equipment to be used, fear of inappropriate results and fear of death. It is expected that hand massage can increase knowledge which further lead to a decrease in the level of anxiety among pre-operative patients[9].

Surgery is widely performed to diagnose or treat a disease, disability, or injury, as well as treat conditions that cannot be cured with simple actions or medications[3]. Surgery for patients is considered as a scary situation. It is very important to involve the patient in every preoperative process. Surgery is an invasive procedure/action performed to treat, prevent complications, or save the patient's life, so that preoperative management requires the involvement of patients as well as healthcare workers.

Hand massage is a non-pharmacological method for reducing anxiety by improving circulation, relaxing muscles, and relaxing perioperative patients[10]. Hand massage is known as the act of massaging the hands with a five-step massage technique using oil. Massage action can stimulate an increase in the levels of oxytocin hormone and reduce the adrenocorticotrophin (ACTH) hormone[11]. Efforts made in dealing with anxiety problems by anaesthesiologists in the pre-operative phase usually include medical therapy. Meanwhile, interventions performed by nurses do are related to health education/counselling by providing information on operating procedures to be performed. There had been no efforts to deal with anxiety problems by applying massage therapy to the hands or so-called hand massage by nurses[11]. Hand massage can calm the patient through contact/touch which will be integrated through sensory influences that affect the activity of the autonomic nervous system, and the touch will be perceived as a relaxed stimulus. Besides that, hand massage can have a positive impact on vital signs (blood pressure, pulse, respiratory rate)[12]. In addition, hand massage can increase blood flow, parasympathetic system activity, release neurotransmitters and reduce cortisol levels[10]. This study aims to determine the effect of hand massage on the decrease in the level of anxiety among pre-operative patients at Tangerang Regional General Hospital.

METHOD

This was a quantitative study with a quasi-experimental approach which provided

treatment (intervention) and assessed the effects of treatment. A one group pre-test and post-test approach technique was applied by the researchers. The calculation obtained a sample size of 16, plus an estimated dropout of 10% to become 16+2 = 18 respondents. Such dropout is estimated as the possibility of respondent dropping out during the course of study for various reasons.

The study samples were selected using simple random sampling technique. Such sampling method takes samples from members of the population randomly without regard to the strata/levels in the population[13]. The study was carried out in November 2022. The study site was at the Surgical Ward of the Tangerang Regional General Hospital which is located on Al-Hidayah Mosque Street, RT. 005/RW. 003, Kelapa Indah, Tangerang District, Tangerang City, Banten Province. Such study site was chosen was due to the limited number of study topic regarding the effect of hand massage on the anxiety level of ore-operative patients.

The assessment tool applied in this study was a questionnaire about anxiety according to the Zhang Self-rating Anxiety Scale (ZSAS)[14]. ZSAS is a questionnaire that can be used for anxiety screening and assessment of anxiety-related symptoms. The demographic data section aims to identify the characteristics of the respondents which consisted of 4 questions including age, gender, level of education, and employment status. Meanwhile, the anxiety section adopted the anxiety questionnaire from the Zhang Self-Rating Anxiety Scale (ZSAS) which had been translated into Indonesian. The anxiety questionnaire consisted of 20 statements (15 positive statements and 5 negative statements). Scores for positive (favorable) statements can be described as follows: where 1 = never; 2 = sometimes; 3 = part of the time; 4 = almost all the time. On the other hand, scores for negative (unfavorable) statements can be described as follows: 4 = never; 3 = sometimes; 2 = part of the time; 1 = almost all the time.

Univariate analysis is presented in the form of a frequency distribution table along with the percentage of each variable. The calculation was conducted based on the formula explained by (Arikunto, 2016)[15] as follows:

$$P = \frac{F}{N} \times 100\%$$

Information:
P = Percentage
F = Number of observation frequency
N = Number of the entire observation

Bivariate analysis was performed by using a statistical approach of difference test of 2 paired means (paired t test). The paired t-test is a method of testing the hypothesis which involves non-independent/paired data [13]. Even though using the same group of samples, the researchers still obtained 2 types of sample data, namely data derived from the first intervention/treatment and data derived from the second intervention/treatment.

RESULTS

Table 1. Frequency Distribution of Respondents by Age, Gender, Level of Education, and Employment Status.

Variable	Frequency (n)	Percentage (%)
Age		
19-25 years	3	16,7
26-35 years	10	55,5
36-45 years	5	27,8
Gender		
Male	10	55,5
Female	8	44,5
Level of Education		
JHS	4	22,2
SHS	11	61,1
Higher Education	3	16,7
Employment Status		
Government Employee	1	5,5
Private Employee	8	44,5
Self-Employed	4	22,2
Unemployed	5	27,8
Total	18	100

Based on table 1, it was revealed that most of respondents were involved in the age range of more than 26-35 years, as many as 10 respondents (55.5%), were male as many as 10 respondents (55.5%), had the education level of Senior High School, as many as 11 respondents (61.1%), and worked as private employees, as many as 8 respondents (44.5%) of a total of 18 respondents.

Table 2. Frequency Distribution of Respondents by the Level of Anxiety before Intervention.

Level of Anxiety	Frequency (n)	Percentage (%)
Pre-Test		
Mild	5	27.8
Moderate	11	61.1
Severe	2	11.1
Panic	0	0
Total	18	100

Based on table 2, it was found that before hand massage intervention, most of respondents had moderate anxiety, as many as 11 respondents (61.1%), followed 5 respondents with mild anxiety (27.8%) and 2 respondents with severe anxiety (11.1%).

Table 3. Frequency Distribution of Respondents by the Level of Anxiety after Intervention.

Level of Anxiety	Frequency (n)	Percentage (%)
Post-Test		
Mild	8	44.t
Moderate	10	55,5
Severe	0	0
Panic	0	0
Total	18	100

Based on Table 3, it was found that after hand massage intervention, most of respondents had moderate anxiety, as many as 10 respondents (55.5%), and 8 respondents had mild anxiety (55.5%).

Table 4. Effect of Hand Massage on the Decrease in the Level of Anxiety among Pre-Operative Patients at Tangerang Regional General Hospital.

Variable	Mean	Standard Deviation	p-value
Pre-test	58.3	7.2	0.001*
Post-test	50.1	6.9	

*****Significant at $\alpha<0.05$

Based on table 4, it was revealed that hand massage intervention could decrease anxiety levels by 8.2, from 58.3 before intervention to 50.1 after intervention. In addition, the result of the t-test obtained a p-value of 0.001, which indicated that there was a significant difference between the level of anxiety before and after hand massage intervention.

DISCUSSION

Based on the results of the study, it was found that most of respondents were involved in the age range of more than 26-35 years (55.5%). Such finding is in line with a study conducted by Yanti et al., (2021), which found that the majority of respondents who would have surgery were aged 21-30 years by 87.6%[16]. Another study which involved 8 international journals using the literature review method showed that the majority of respondents who would have surgery were aged 20-35 years[17].

Based on the results of the study, it was found that most of respondents were male as many as 10 respondents (55.5%). Another study contrastly found that the majority of respondents were female[17]. However, the result of other study proved that there was no effect

of gender on anxiety among patients[14]. Such finding indicated that gender could not be associated with the level of anxiety among patients.

Further study results revealed that most of respondents had the education level of Senior High School, as many as 11 respondents (61.1%). Such finding is supported by a study conducted by Yanti et al., (2021) which found that most of respondents had the education level of Senior High School[16]. Furthermore, another study similarly showed that the majority of respondents who would have surgery had the education level of Senior High School [17]. Educational level is the variable most frequently observed in a study, even if for descriptive objective only. Researchers argue that a person's level of education can affect knowledge in general. However, it is not specific to health material and efforts to overcome pre-operative anxiety. Curiosity, concern and openness to seek information about surgical treatment, are considered to contribute more significantly than the level of education.

The study findings showed that most of respondents worked as private employee, as many as 8 respondents (44.5%). Different finding was revealed by a study conducted by Yanti et al., (2021) which found that most of respondents were housewives[16]. Various types of work can potentially increase the morbidity and mortality of a disease[18]. A person's employment status can be associated with socio-economic conditions and psychological aspects[19]. Researchers argue that there was no relationship between work when it was associated with pre-operative anxiety specifically[16].

The current study concluded the benefits of hand massage on the decrease in the level of anxiety among pre-operative patients[20]. A study conducted by Li et al., (2020) regarding the benefits of hand massage on the anxiety level among pre-operative patients showed that after hand massage therapy, the average patient thought that it had a pretty good effect[10]. Furthermore, Li et al., (2020) presented the study finding that after hand massage, 78 patients (83.9%) felt more relaxed, 71 patients (76.3%) felt calmer, 23 patients (24.7 %) felt happy, 13 patients (14%) felt sleepy, 9 patients (9.7%) felt a relief in pain and 4 patients (4.3%) felt more energetic[10]. Based on the results of the analysis, it was found that there was a decrease in the anxiety score in the group given massage therapy from the initial score of 4.1 to 2.0. Relaxation can reduce the feeling of tension experienced by individuals so that counter conditioning arises which is able to reduce anxiety[16].

CONCLUSION

It can be concluded that hand massage intervention could decrease anxiety levels by 8.2, from 58.3 before intervention to 50.1 after intervention. In addition, the result of the t-test obtained a p-value of 0.001, which indicated that there was a significant difference between the level of anxiety before and after hand massage intervention. Further study is recommended to apply a different approach.

CONFLICTS OF INTEREST

The authors declare no conflict of interest.

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