

The Effect of Effleurage Back Massage to Anxiety Levels in Patient with Kidney Transplant Surgery Preparation in Siloam Asri Surgical Hospital 2024

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ABSTRACT

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Background: Kidney transplantation is a major surgical procedure which sometimes has an impact on preoperative anxiety in patients, where preoperative anxiety is usually caused by fear of anesthesia, surgery, and pain after surgery. One of the non-pharmacological techniques that can be done is the effleurage back massage (EBM) relaxation technique. **Purpose of the study:** This is to determine the effect of effleurage back massage on anxiety levels in patients planning kidney transplant surgery at Siloam Asri Surgical Hospital. **Research method:** used is pre-experimental with a one group pretest-posttest design approach, with a research sample of 15 and the research instrument used is APAIS. **Research results:** showed that the majority of anxiety levels in respondents before the EBM intervention were moderate anxiety, namely $n = 7$ (46.7%) and after the EBM intervention was mild anxiety $n = 7$ (46.7%). The results of statistical tests using the Wilcoxon Signed Ranks Test showed that there was an effect of effleurage back massages on the level of anxiety in preoperative kidney transplant patients with a p value of 0.001 or <0.05 . **Conclusion:** There is an effect of EBM on the level of anxiety in patients with planned Kidney Transplant Surgery at Siloam Asri Surgical Hospital

Keywords: Effleurage back massage; Anxiety; Kidney transplantation

INTRODUCTION

Prevalence of Chronic Kidney Disease (CKD) According to World Health Organization (WHO) shown that 697,5 million patient with CKD in 2017, globally $>10\%$ people in the entire world with average 843,6 million people had CKD (Kovesdy, 2022). In Indonesia according to Riset Kesehatan Dasar (RISKESDAS) had shown prevalence of CKD about 1.885 with patients in 2007, 11.689 patients in 2023, and 713.783 patients in 2018. CKD could give a serious effects for patient if not well threatened, like the decreasing quality of life, quality of sleep, easily to get brawl in body such as, pain in the extremity, dyspnea, and fatigue (Siti Fatimah et al., 2024). Based on this situation, it is necessary to get substitute of kidney function, whether haemodialysis, CAPD

(Continuous Ambulatory Peritoneal Dialysis) and kidney transplantation (Saragih n.d., 2024). Report from Indonesia Renal Registry (IRR) 2018 named that the most therapy for kidney malfunction was haemodialysis (*HD*) (97%), *CAPD* (2%), and kidney transplantation (1%). Every kind of surgery like kidney transplantation most likely begin with an emotional reaction which is shown or not with normally or not, like preoperative anxiety (Gita Ayuningtyas, 2024). According to WHO every single year in the world, more than 4 million patients had surgery procedure and about 50% to 75% they had preoperative anxiety with differential level during preoperative, and it also mentioned that 23,99% patient had severe preoperative anxiety (Wang et al., 2022). A huge rate of anxiety level during preoperative procedure significantly impact to biological aspect like dizziness, heart pounding, loss of appetite, dyspnea, sweating, and fatigue. On psychological aspect there was a few like anxiety, fear, nervous, confuse, day dream, insomnia, difficulty concentrating, and flustered (Rasini, 2023). This condition could give a massive impact to result of the surgical procedure such as unstable vital sign, for example increasing of blood pressure that causing the procedure can be hold or abort (Arif S.H, 2022). Therefore preoperative anxiety needed some treatment to reduce the anxiety level and impact caused by it (Musyaffa, 2024).

Effleurage back massage known as a massage with hand that given to soft tissue without movement or shifting joint (Jama & Azis, 2020). Relaxation effleurage technique was a massage that using a palm of the hand in with circular pattern in a few body parts like a rubbing alongside the back or extremity. Massage effleurage is an application form Gate Control Theory. As a relaxation technique, massage effleurage reduce muscle stiffness and increasing circulation in the pain area and preventing hypoxia (Nafisah, 2021). Preliminary study of six patient with kidney transplantation preparation in Siloam Asri Surgical Hospital, named that four of six patient have heart pounding, feel uncalm when they knew they are going to surgery, six patient asking frequently to nurses and family member about their success rate of the procedure, three patient got insomnia and sometimes woke up in the middle of the night, and two patient had fear to entering the operating theatre. Furthermore these six patient try to filling out anxiety questionnaire, and the result shown that 60% patient have moderate anxiety, 20% patient have severe anxiety, and 20% patient have mild anxiety. This result also show that statement 'I'm afraid to get the procedure' and 'I'm afraid to get anesthesia' with 80%. Besides, the observation found that every patient that entering operating theatre look so nervous with

tense face, increasing of pulse and fear. The formulation of the problem in this study is "is there any influence of effleurage back massage on the level of anxiety in patients planning kidney transplant surgery at Siloam Asri Surgical Hospital"? The purpose of this study is to determine the effect of effleurage back massage on the level of anxiety in patients planning kidney transplant surgery at Siloam Asri Surgical Hospital.

MATERIALS AND METHODS

Method of this research was pre experimental with one group pretest-posttest design approach. Respondent were patients with kidney transplantation procedure preparation in Siloam Asri Surgical Hospital with n=15 and sampling technique with purposive sampling. Instrument that used to measure anxiety level in this research was APAIS (The Amsterdam Preoperative Anxiety and Information Scale). Assessment and measurement of anxiety level for respondent carried out twice, before and after the intervention. The statistical test used Wilcoxon Signed Ranks Test

RESULTS

According to table 1 we can informed that respondent in this research was male with n=9 (60%) dan female with n=6 (40%). And also the range of ages of the respondent dominate by late elderly (56-65 years old) with n=8 (53,3%), followed by early elderly (46-55 years old) with n=4 (26,6%), continuously late adult (36-45 years old) and early adult (26-35 years old) with n=2 (13.3%) dan n=1 (6.6%).

Table 1: respondent characteristics with kidney transplantation preparation in Siloam Asri Surgical Hospital (n=15)

Variable	Sub Variable	<i>f</i>	(%)
Age	Early Adult (26-35 years old)	1	6.6
	Late Adult (36-45 years old)	2	13.3
	Early Elderly (46-55 years old)	4	26.6
	Late Elderly (56-65 years old)	8	53.3
	Total	15	100
Sex	Male	9	60
	Female	6	40
Total		15	100

According to table 2 we can conclude that there was a change and differentiation of anxiety level before and after EBM . intervention. Before intervention most likely moderate anxiety 46,7% and after EBM intervention was mild anxiety with 46,7%.

Table 2: anxiety level before and after EBM intervention (n=15)

Anxiety Level	Before		After	
	<i>f</i>	(%)	<i>f</i>	(%)
Not anxious			2	13.3
Mild anxiety	1	6.7	7	46.7
Moderate anxiety	7	46.7	6	40.0
Severe anxiety	5	33.3		
Panic	2	13.3		
Total	15	100	15	100

According to table 3 shown that negative ranks 14 with mean rank 7,50 which is there was decreasing anxiety level after EBM intervention of patient with kidney transplantation preparation in Siloam Asri Surgical Hospital, and there was ties 1 which mean there was one respondent who did not had experience changes in anxiety level, and also there is not positive rank which mean there is no respondent who increasing anxiety level. And there was p value 0,001 or $< 0,05$ which mean there was an effect of EBM to anxiety level for patient with kidney transplantation preparation in Siloam Asri Surgical Hospital.

Table 3 :EBM effect to anxiety level of patient with kidney transplantation preparation in Siloam Asri Surgical Hospital (n=15)

Anxiety Level (Pre – Post Test)	n	Mean rank	Sum of Ranks	<i>p value</i>
Negative ranks	14	7.50	105.00	0,001
Positive ranks	0	0	0	
Ties	1			
Total	15			

DISCUSSION

Anxiety level before EBM intervention of patient with kidney transplantation preparation in Siloam Asri Surgical Hospital.

Anxiety level of patient with kidney transplantation preparation in Siloam Asri Surgical Hospital before EBM most likely moderate anxiety with $n=7$ (46.7%), followed by severe anxiety with $n=5$ (33.3%), panic with $n=2$ (13.3%), and mild anxiety with $n=1$ (6.7%). These result strengthened previous research by Febriyanti (2024) who also study that anxiety level of preoperative patient before intervention was in moderate anxiety (50%). Preoperative anxiety defined as a respon to an experience that makes patients feel threatened about theirs appearance, body integrity, and theirs life it self (Ayuningtyas 2024). Anxiety manifestation could be uncomfortable feeling, worry, fear, and nervous. Those thing are physiologist respons form external or internal stimulation that can cause behavioural, emotional, cognitive, physical symptoms. Research found form questionnaire that anxiety level of patient with kidney transplantation preparation

in Siloam Asri Surgical Hospital before EBM most likely moderate anxiety with n=7 (46.7%), followed by severe anxiety with n=5 (33.3%), panic with n=2 (13.3%), and mild anxiety with n=1 (6.7%).

Thus, we can conclude that source of anxiety came from predisposition factor namely psychoanalysis whether caused by thought that arise from it self. Beside, in other research named that precipitation factor arise cause external factor like illness and surgical procedure (Mita, 2022). This research shown that anxiety level of patient with kidney transplantation preparation in Siloam Asri Surgical Hospital most likely moderate anxiety with n=7 (46.7%), followed by severe anxiety with n=5 (33.3%), panic with n=2 (13.3%), and mild anxiety with n=1 (6.7%). This happened because respondents were going to undergo kidney transplant for the very first time, which is include in major surgery category, so respondent feel afraid, worry, and nervous if something undesirable happen during the process. This strengthened previous research form Harahap (2021) who stated that patient's preoperative anxiety level caused by the situations where patient never had a surgery before.

Anxiety level after EBM intervention of patient with kidney transplantation preparation in Siloam Asri Surgical Hospital

Anxiety level of patient with kidney transplantation preparation in Siloam Asri Surgical Hospital after EBM was mild anxiety with n=7 (46.7%), followed by moderate anxiety with n=6 (40.0%), and not anxious with n=2 (13.3%). In the study there were changes that occurred where the result before EBM was mild anxiety (6,7%) and after the intervention was mild anxiety. (46,7%), moderate anxiety before intervention (46.7%) and after intervention (40,0%), severe anxiety before intervention (33,3%) and panic 13,3%) and none of them after intervention. This shown that there were changes in anxiety level in patient which lead to a good result.

Anxiety have two respon which is adaptive and maladaptive, where adaptive strategy often use to control anxiety by talking to others, crying, sleeping, exercising, and using relaxation technique (Rasini, 2023). EBM was a relaxation technique that can reduce anxiety level, and this is in accordance with Pandwi, S.A, (2024) state wheter non pharmacology therapy such as deep breathing, music therapy, aromatherapy and EBM could performed to decrease preoperative anxiety. Massage is a movement that give physiology holistic responses which produce in hipotalamus, and cause increase or decrease nerves stimulation and increasing blood flow to organ that

can relaxed organ and muscles, Beside, can stimulate endorphin production so that a feeling of relaxation appears in the body due to decrease of sympathy nerves, and also create faster stimulation to brain, which causes serotonin and dopamine level higher that can reduce anxiety level (Farmahini Farahani et al., 2020). Other research which also state that massage can decrease preoperative anxiety level were presented by Udani (2023) which mentioned that there were effect from hand massage with olive oil to anxiety level of preoperative laparotomy patient with $p\text{-value} = 0,000 \alpha (<0,05)$, it is happen because there is condition when massages apply that can stimulate heart meridian, that flow through chest and releases endorphine, which increase circulation, make healthy cell, and relaxing nervous system which also make relaxed sensation. According to the result after EBM intervention that shown there were a changes of anxiety level of preoperative kidney transplant patient, which lead to adaptif behavior and based on finding from direct observation wheter patient felt more comfortable and willing to accept information about the operation.

EBM effects to anxiety level of patient with kidney transplantation preparation in Siloam Asri Surgical Hospital

This study shown that there was a different of anxiety level before and after EBM, whether before intervention the most anxiety level was moderate anxiety (46,7%) and after intervention was mild anxiety (46,7%). Table 3 shown that $p\text{ value } 0,001 \text{ or } < 0,05$ which mean there was an effect of EBM to anxiety level for patient with kidney transplantation preparation in Siloam Asri Surgical Hospital. This study aligned with Anjani (2022) who mentioned that there was a differentiation of anxiety level before and after endorphin massage intervention, which were berore was 21,85 and after the intervention was 12,85, which mean there was an effect of endorphin massage anxiety preoperative patient with $p\text{ value } < 0,05$. Other study from Udani (2023) shown that average anxiety skor was 56,83 and after the intervention was 51,37. This mean that there was an effect after hand massage to anxiety level for laparotomy preoperative patients.

Anxiety defined as anxious feeling due to feeling of discomfort or fear accompanied by individual's responses as a form to taking action with threats or impending danger (Sutejo, 2019). In preoperative anxiety, it could be a respon to an experience that patient felt as a threat of theirs appearance, body integrity, and theirs life it self (Ayuningtyas, 2024). Physical symptoms that might be appear in preoperative patient such as dizzines, heart pounding, loss of appetite, dyspnea, sweating, fatigue. While psychology symptoms

including confuse, day dreaming, insomnia, hard to concentrate, and nervous. On direct observation we find that the patient mostly had a psychological symptoms like neorvous, insomnia, and stillnes. Those symptoms could affect the patient condition and the result of surgical procedure. Anxiety treatment with EBM had a good effect, which is there was behavioural improvement. Effleurage back massage known as a massage with hand that given to soft tissue without movement or shifting joint (Jama & Azis, 2020). Relaxation effleurage technique was a massage that using a palm of the hand in with circular pattern in a few body parts like a rubbing alongside the back or extremity.

EBM is an application form Gate Control Theory. As a relaxation technique, massage effleurage reduce muscle stiffness and increasing circulation in the pain area and preventing hypoxia (Nafisah, 2021). Effleurage tecnique including push and massage with gentle using palm of hand to improve blood circulation, relaxing muscles abdomen, and also mind and physique. Massage movement increasing blodd flow in veins, reduce swelling in the layers of skin, muscle, and tendons. Massage also increases peripheral circulation, and mechanically move blood vessel and lymph, reorganizing neuronal system, and cell to reduce anxiety (Pangesti, T. A e t al, 2024). Massage also has function to relax and reduce impuls form neural to hipotalamus then sympathetic nervous system, medulla adrenal, ACTH hormone decreasing, and others body system also relaxed (Kusmirayanti, 2021). The other function from massage is increasing blood flow, toxic waste, increasing joint movement, pain release, relaxing muscle, and reduce fatigue, anxiety, stress, improve quality of sleep for increasing recover time, and joy (Iffada et al., 2024) Based on description above and study findings we can conclude that there was an effect of EBM to anxiety level of preoperative kidney transplantation patients in Siloam Asri Surgical Hospital with p value $<0,05$. So, this can be used as non pharmacological therapy for treating anxiety in preoperative patients.

CONCLUSIONS

Majority patient with kidney transplantation preparation procedure in Siloam Asri Surgical Hospital was late elderly (56-65 years old) wtih 53,3%, and male patient eith 60%. Anxiety level of patient with preoprative kidney tranplantation in Siloam Asri Surgical Hospital before intervention was moderate anxiety (46,7%). Anxiety level of patient with preoprative kidney tranplantation in Siloam Asri Surgical Hospital after intervention was mild anxiety (46,7%) There was an effect of EBM to anxiety level for patient with kidney transplantation preparation in Siloam Asri Surgical Hospital with p

value 0,001 or < 0,05.

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