



THE IMPACT OF LAVENDER AROMATHERAPY ON DECREASED ANXIETY IN CKD PATIENTS UNDERGOING HEMODIALYSIS AT ROYAL PRIMA MEDAN GENERAL HOSPITAL IN 2024

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Abstract

Patients often complain of anxiety caused by feelings of loss because hemodialysis interferes with their normal life. This study was conducted to see the impact of lavender aromatherapy on decreased anxiety in patients with CKD undergoing hemodialysis at Royal Prima Medan General Hospital in 2024. Quantitative with a quasi-experimental design is methods of this study through a one group pre-test post-test design. The population to be studied was all chronic kidney disease patients undergoing hemodialysis in November 2024 as many as 127 people at Royal Prima Medan General Hospital in 2024 and the sample studied was 56 respondents. The information collection strategy in this inquire about was to utilize essential information and auxiliary information. The information that has been prepared and displayed at that point analyzed univariately and displayed within the frame of recurrence tables and bivariate investigation utilizing the pairing T test. The results of the research conducted on 56 respondents showed a Sig. (2-tailed) 0.000. This study concluded that there was a significant influence between pre and post giving lavender inhalation aromatherapy on decreased anxiety in clients with chronic kidney failure undergoing hemodialysis at Royal Prima Medan General Hospital in 2024.

Keywords: chronic renal disease, hemodialysis, anxiety, lavender aromatherapy.

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INTRODUCTION

The organ that is useful for filtering waste substances from the body's metabolism is called the kidney (Nababan, 2021). Chronic kidney disease is a condition of failure to the structure or function of the kidneys with a minimum period of 3 months and is related to health conditions (KDIGO, 2024). Hemodialysis as a medical procedure that can be given to patients with CKD depends on the patient's complaints with comorbid conditions and parameters, except for the presence of a living donor (Manalu, 2019). Hemodialysis is a form of chronic renal replacement therapy that uses dialysis techniques (blood dialysis) to remove protein metabolism waste through a semipermeable membrane and restore kidney function that is no longer able to work optimally (Pardede et al., 2021).

The World Health Organization (WHO) released an article entitled "Top 10 Causes of Death" where the incidence of kidney disease in 2021 was ranked 9th as a reason of death in the world (WHO, 2024). Globally, in 2017, a deliberate examination of the Worldwide Burden of Illness ventures for all ages found 697,5 million cases of CKD of all stages, with a worldwide predominance of 9.1% (8.5%–9.8%). In 2021, a joint pronouncement from the ASN, the ERA, and the ISN shown that more than 850 million people had some form of kidney failure, approximately twice the prevalence of people with diabetes (422 million) and 20 times greater than the worldwide frequency of cancer (42 million) or frequency of people with HIV/AIDS (36.7 million) (KDIGO, 2024).

Build upon the outcome of the Basic Health Research (RISKESDAS) in 2018, the frequency of CKD in Indonesia is 0.38%, or 3.8 people per 1.000 population, and 60% of kidney failure sufferers require dialysis (Kementerian Kesehatan, 2023). Meanwhile, the number of patients build upon the main diagnosis in Indonesia in 2020 was the highest with CKD stage 5 with a total of 61,786 cases (Indonesian Renal Registry, 2020). The prevalence of CKD patients in North Sumatra in 2019 was 45,792 people (Syahputra et al., 2022). Then the number of CKD patients with hemodialysis therapy at Royal Prima General Hospital in October 2024 was 127 patients.

CKD patients who enter the terminal stage must undergo hemodialysis therapy. However, this therapy can affect the psychological condition of CKD patients because it must be done throughout their lives. Patients often complain of fear caused by feelings of loss because hemodialysis disrupts their

normal lives (Saadah & Hartanti, 2021). based on research conducted by Aini et al in 2024 that the anxiety of CKD patients undergoing hemodialysis is related to the patient's coping mechanism (Aini et al., 2024). In addition, anxiety in CKD patients can be caused by the length of hemodialysis therapy (Agustin et al., 2020). The length of hemodialysis therapy can have an impact on the psychological aspects of patients such as anxiety, causing disturbances in the process of thinking, concentration, and interaction (Telaumbanua et al., 2024). Anxiety can be interpreted as a continuous emotion in the form of fear, discomfort, worry or unclear feelings, accompanied by physical side effects such as sweating, headaches, restlessness, palpitations, and is a reaction to unexpected threats, including physiological, affective, and cognitive (Sari & Aji, 2021).

The solution to the problem of anxiety experienced by CKD patients is the provision of pharmacological and non-pharmacological therapy (complementary therapy). Pharmacological therapy is by providing anti-anxiety drugs such as diazepam, bromazepam, clobazam, meprobamate, buspirone HCL, and alprazolam (Rahmanti & Haksara, 2023). Then one type of non-pharmacological therapy that can be given is CAM (Complementary and Alternative Medicine) therapy in the form of aromatherapy. Aromatherapy is a type of complementary therapy that uses volatile liquids made from plants called essential oils and other aromatic compounds that affect a person's soul, emotions, cognitive function, and health (Rahmanti & Haksara, 2023).

According to research at Royal Prima Medan, there were 32 respondents who underwent hemodialysis who were studied with the results that 2 people (6.3%) did not experience anxiety, 12 people (37.5%) experienced light anxiety, 12 people (37.5%) experienced moderate anxiety, and 6 people (18.8%) experienced severe (heavy) anxiety. This shows that CKD patients undergoing hemodialysis at Royal Prima General Hospital experience anxiety (Gea et al., 2023).

Then the research conducted at Grandmed Lubuk Pakam Hospital, there were 30 respondents who had been studied with the results of 24 respondents (80%) experiencing no anxiety, 6 respondents (20%) experiencing light anxiety after being given lavender inhalation therapy. This shows that there is an impact of giving lavender inhalation aromatherapy on reducing anxiety levels in CKD patients receiving hemodialysis therapy (Simarmata et al., 2023).

In addition, research conducted at M. Natsir Hospital where there were 20 respondents who had

been studied, namely 10 intervention group respondents and 10 control group respondents with the results in the intervention group after being given lavender inhalation therapy showed that the minimum anxiety score was 38 (normal anxiety) and the maximum anxiety score was 55 (light anxiety). So that means there is an impact of giving lavender aromatherapy on the fear level of CKD patients with hemodialysis (Harmawati et al., 2021).

Build upon a survey conducted by researchers in one day on November 1 at Royal Prima Medan, ten patients with CKD who will undergo hemodialysis were obtained, where eight patients said they felt anxiety before hemodialysis because these patients were new patients who had never been given hemodialysis therapy before. Build upon this background, the analyst is curious about analyzing the impact of lavender fragrance based treatment on decreased anxiety in CKD patients with hemodialysis at Royal Prima Medan General Hospital in 2024. Aims of this investigation to decide the impact of lavender inhalation aromatherapy on decreased anxiety in chronic kidney disease patients undergoing hemodialysis at Royal Prima Medan General Hospital in 2024.

METHODS

Quantitative strategy is utilized in this inquire about with a quasi-experimental plan through a one gather pre-test and post-test plan approach. Researchers gave pre-test to respondents before intervention and post-test after intervention. This design to see the impact of giving lavender inhalation aromatherapy on decreased anxiety in CKD clients who carry out hemodialysis. Based on study, observations were made before giving lavender inhalation aromatherapy and after giving lavender inhalation aromatherapy. Lavender inhalation aromatherapy was given as much as 5 drops using lavender essential oil and given for 30 minutes using a diffuser. According to Sugiyono (2019), population may be a generalized field comprising of objects or subjects with certain numbers and properties and considered by analysts to draw conclusions (Sugiyono, 2019). The population to be studied is all chronic renal disease patients undergoing hemodialysis in November 2024 as many as 127 people at Royal Prima Medan Hospital in 2024. According to Roflin & Pariyana (2022), the sample is part of the population. This can mean that all population units have the opportunity to be taken as sample units, and the sample is seen as a population in a small form

(Roflin & Pariyana, 2022). The researcher chose to use the Slovin formula. This study uses primary and secondary data as data collection samples. Data collected through direct observation of patients is called primary data. Secondary data is data collected through questionnaires and interviews with patients. Univariate analysis was performed on each variable to produce an overview of the distribution and percentage of each variable. The data was presented in the form of a frequency table. Bivariate investigation was conducted to decide the relationship between the independent and dependent factors utilizing the paired T test at a importance level (α) of 0.05 ($p < \alpha$) implies H_a is acknowledged and H_o is rejected, this shows an impact between the independent and dependent factors. If $p > (\alpha)$ means H_a is rejected and H_o is accepted, this indicates there is no influence between the independent and dependent variables. The results are continued in tabular form and discussed build upon existing theory and literature.

RESULTS AND DISCUSSION

Table 1. Anxiety level of respondents before lavender aromatherapy administration

Categories	Result (n)	Percentage (%)
Not experiencing anxiety	0	0
Light anxiety	6	10,7
Moderate anxiety	18	32,1
Severe anxiety	19	33,9
Very severe anxiety	13	23,2
Total	56	100,0

Build upon table above of 56 respondents before being given lavender aromatherapy, 6 respondents (10.7%) experienced light anxiety, 18 respondents (32.1%) experienced moderate anxiety, 19 respondents (33.9%) experienced severe anxiety, 13 respondents (23.2%) experienced very severe anxiety. The comes about of this study are in line with research at M. Natsir Hospital in 2021 with 20 respondents, it was found that the average respondent before being given lavender aromatherapy had a moderate level of anxiety in the control group and intervention group. Anxiety in patients with CKD undergoing hemodialysis is caused by unfamiliar equipment and machines, blood-fed hoses, and discomfort associated with puncturing the device (Harmawati et al., 2021). According to the researcher's assumption, lavender aromatherapy is one of the effective complementary therapies for reducing anxiety in hemodialysis patients.

Table 2. Anxiety level of respondents after lavender aromatherapy administration

Categories	Result (n)	Percentage (%)
Not experiencing anxiety	9	16,1
Light anxiety	33	58,9
Moderate anxiety	12	21,4
Severe anxiety	2	3,6
Total	56	100,0

Build upon table above of 56 respondents after being given lavender aromatherapy, 9 patients (16.1%) did not experience anxiety, 33 respondents (58.9%) experienced light anxiety, 12 respondents (21.4%) experienced moderate anxiety, 2 respondents (3.6%) experienced severe anxiety. The comes about of this consider are in line with investigate conducted at M. Natsir Hospital in 2021 with a total of 20 respondents, it was found that the average respondent after being given lavender aromatherapy had light anxiety levels in the intervention group and moderate anxiety in the control group (Harmawati et al., 2021). According to the researcher's assumption, the decrease in anxiety felt by respondents is due to the provision of lavender aromatherapy where the content contained in lavender essential oil is able to provide a comfortable effect and a sense of relaxation for patients by reducing tense nerve work so that patient anxiety can decrease.

Table 3. Paired t test results

Pair 1	Mean	Std. Deviation	df	Sig. (2-tailed)
Anxiety before being given Lavender Aromatherapy – Anxiety after being given Lavender Aromatherapy	1,571	,783	55	,000

Build upon the result above the Sig value. (2-tailed) 0.000 is a meaningful effect between pre and post the administration of lavender aromatherapy inhalation on decreased anxiety in clients with chronic renal disease undergoing hemodialysis therapy at Royal Prima Medan General Hospital in 2024. The comes about of this study are in line with research conducted at M. Natsir Hospital in 2021 where the results of the independent t test for reducing anxiety in patients with chronic kidney disease post administration of lavender aromatherapy were gotten p value = 0.000 ($p \leq 0.05$), so it can be concluded that there is an

impact of giving lavender inhalation aromatherapy on the anxiety of chronic kidney disease patients before undergoing hemodialysis therapy (Harmawati et al., 2021). Lavender aromatherapy can be used as a self-soothing tool. The content is believed to be able to provide a relaxing effect and control the sympathetic nervous system which has the responsibility to respond to stress (Harmawati et al., 2021).

CONCLUSION

Build upon the results of research that has been held with the title “The Impact of Lavender Aromatherapy on Decreased Anxiety in Chronic Kidney Disease Patients Undergoing Hemodialysis at Royal Prima Medan General Hospital in 2024”, it can be concluded that: The anxiety (fear) level of respondents before giving lavender inhalation aromatherapy the majority experienced severe anxiety. The anxiety level of respondents after giving lavender inhalation aromatherapy the majority experienced light anxiety. There is an impact of giving lavender aromatherapy on decreased anxiety in patients with CKD undergoing hemodialysis at the Royal Prima General Hospital Medan in 2024.

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