

TRAINING HEALTH CADRES IN OVERCOMING NAUSEA, VOMITING, AND SLEEP DISORDERS

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ABSTRACT

Nausea, vomiting, and sleep disorders are common complaints often experienced by the community, especially among vulnerable groups such as the elderly and patients with chronic diseases. If not treated properly, these conditions can reduce quality of life and increase the risk of complications. Health cadres, as the spearhead of health services in the community, have a strategic role in the early detection and initial treatment of these complaints. This training activity aims to improve the knowledge and skills of health cadres in recognizing, preventing, and managing nausea, vomiting, and sleep disorders appropriately and in a community-based manner. The training methods include interactive lectures, simulations, and case discussions. Evaluation results show a significant improvement in cadres' understanding of the training material and their practical ability to provide education and initial intervention to the community. It is hoped that this activity will strengthen the capacity of cadres in supporting public health programs, particularly in promotive and preventive efforts related to nausea, vomiting, and sleep disorders.

Keywords: Health Cadres, Nausea And Vomiting, Sleep Disturbances, Promotive-Preventive

1. INTRODUCTION

Hemodialysis is one of the main therapies for patients with chronic kidney disease, performed routinely and long-term. Although it can prolong life expectancy, this therapy often causes various side effects that interfere with patient comfort, including nausea, vomiting, and sleep disturbances. These two complaints not only interfere with the patient's physical condition but also have a negative impact on their psychological well-being and overall quality of life (Arsa & Rahmawati, 2023; Elsherbiny et al., 2024). Patients undergoing hemodialysis often face various problems that affect many aspects of their lives. Several studies have revealed that the quality of life of hemodialysis patients tends to be lower compared to healthy individuals in the general population (Yonata et al., 2022).

Several studies have reported that patients undergoing hemodialysis therapy have a greater risk of poor sleep quality (Duana et al., 2022; Safinatunnajah et al., 2024; Wijayanti et al., 2024). The results showed that 40.2% of respondents had fair sleep quality, while 33.3% had good sleep

quality, and the remaining 21.6% had poor sleep quality (Duana et al., 2022). Nausea and vomiting are complications often experienced by patients during hemodialysis. Research in Peru shows that there is a significant correlation between complications in hemodialysis patients and their physical health ($p = 0.000$; $Rho = -0.479$), as well as their mental health ($p = 0.000$; $Rho = -0.366$). (Inga-Romero et al., 2025).

Nausea and vomiting are complications often experienced by hemodialysis patients due to electrolyte changes, medication effects, and unstable psychological conditions. Sleep disorders are also a significant problem that can worsen the physical and mental condition of patients. Therefore, nausea, vomiting, and sleep disorders need to be treated holistically and continuously. Based on initial observations in RW 01, Kebonsari Village, five patients were found to undergo regular hemodialysis. From interviews conducted, two patients reported frequently experiencing nausea and vomiting, which they usually manage by taking medications such as Promag. Additionally, they also complained of difficulty sleeping at night and frequent awakenings, indicating the presence of sleep disturbances that have not been optimally addressed.

Efforts to address complaints of nausea, vomiting, and sleep disturbances in hemodialysis patients do not always have to be done with a pharmacological approach. Non-pharmacological interventions such as deep breathing relaxation and aromatherapy using lemongrass (citronella) have been proven to be effective, safe, and easy to apply. Deep breathing relaxation techniques help reduce stress, improve oxygen circulation, and increase comfort, while the aroma of lemongrass has a calming effect and can relieve nausea through stimulation of the central nervous system. (Hotimah & Rahmadhena, 2024; Maybodi & Herandi, 2025; Vora et al., 2024).

However, implementation of this method at the community level is still limited. Health cadres, who are at the forefront of community-based health services, do not yet fully possess the knowledge and skills to properly apply this technique to hemodialysis patients. Therefore, a systematic training program is needed to equip cadres with knowledge and hands-on practice in the use of deep breathing relaxation and lemongrass chemotherapy as methods for treating nausea, vomiting, and sleep disorders. With this training, it is hoped that health cadres can become effective agents of education and assistance for hemodialysis patients, thereby improving patients' quality of life and reducing the burden on health services through a more preventive and holistic approach.

2. PROBLEM STATEMENT AND QUESTIONS

Nausea, vomiting, and sleep disturbances are health problems commonly experienced by various groups of people and can have a negative impact on quality of life, especially for those undergoing hemodialysis. Appropriate and easily implemented treatment at the community level is essential to effectively control these symptoms. One promising alternative approach is deep breathing relaxation techniques and the use of lemongrass aromatherapy, which are believed to naturally alleviate these complaints. However, the understanding and skills of health cadres in applying these methods still need to be improved through structured and systematic

training. How effective is health cadre training in improving the ability of health cadres to address nausea, vomiting, and sleep disturbances?

3. LITERATURE REVIEW

Nausea and vomiting are common symptoms of various diseases, both acute and chronic, as well as the result of various medical procedures. Nausea is the expulsion of stomach contents through the mouth due to abdominal muscle contractions. Meanwhile, vomiting is an uncomfortable sensation in the stomach accompanied by the urge to vomit (Zhong et al., 2021). Nausea and vomiting can significantly impair a person's quality of life and can lead to malnutrition, dehydration, and electrolyte imbalance. During or after hemodialysis sessions, hemodialysis patients may experience symptoms of nausea and vomiting, which can reduce their quality of life and affect their adherence to treatment. (Lenggogeni et al., 2020).

A person's health can be threatened by persistent vomiting and nausea. Patients who frequently experience nausea and vomiting can experience significant weight loss, electrolyte imbalance, and dehydration. One of the main problems for those who experience chronic nausea is malnutrition caused by decreased food intake (Arifin & Juliarti, 2022). This can also worsen the underlying disease, increase the risk of complications, and prolong the length of hospital stay. The patient's nutritional status can be affected by persistent nausea and vomiting. Loss of appetite, which can lead to malnutrition, often occurs in patients with chronic nausea (Umi Faizah & Sulastri, 2021). In the long term, reduced food intake can worsen the patient's general health status, increase the risk of infection, and prolong recovery time from hemodialysis. In addition, these symptoms have an impact on psychological health, such as causing anxiety and depression (Jasmine, 2022).

Sleep is an important and complex matter for every individual. Several studies show that social, environmental, and cultural factors influence sleep (Suhadianto & Ananta, 2021). Sleep quality is a person's satisfaction with the quantity and quality of their sleep so that they can strive to sleep more and wake up feeling refreshed and safe. To maximize physical recovery, sleep quality is defined as the amount of time spent sleeping compared to the time spent lying in bed. This will affect the ability to fulfill daily functional needs, such as meeting basic daily needs, participating in daily activities, and enjoying a good quality of life. Hemodialysis patients often complain about sleep problems, especially insomnia. Poor sleep quality can be detrimental to patients undergoing hemodialysis because it increases the risk of death and cardiovascular damage in patients with chronic kidney disease (Duana et al., 2022) (Veronica Anggreni Damanik, 2020).

Sleep disorders are a group of conditions characterized by inconsistencies in the amount, quality, or timing of a person's sleep. Inadequate sleep quantity refers to insufficient sleep duration based on age-appropriate sleep needs, as well as problems initiating and maintaining sleep (Badr et al., 2025). Inadequate sleep quality also consists of sleep fragmentation caused by frequent and brief awakenings during the night. The restoration theory states that there are at least two compelling reasons why humans need to sleep, including (1) Repair of brain cells; sleep gives the brain a chance to rest and Repairing neurons (brain cells) that are used

and unused. This can usually be compared to a motor. Motors must be warmed up regularly to maintain the condition of the engine and keep it running smoothly. The same thing happens in the brain, as cells that are rarely used require regular warming up, such as during sleep. (2) Memory reorganization: Sleep allows the brain to reorganize memories or data to solve problems. You should sleep if you feel dizzy and don't know what to do when faced with a problem. It is very likely that when you fall asleep, you will find a solution to the problem you are facing (Tao et al., 2024)

Health cadres are members of the community who are selected by the community and trained to assist health workers in disseminating health information, providing basic education, and conducting early detection of health problems in their neighborhood. Cadres act as liaisons between the community and health care facilities. (puskesmas, posyandu) (Sadewa, 2023). The roles and duties of health cadres include providing education to the community on clean and healthy living, nutrition, maternal and child health, and disease control. Encouraging and motivating the community to utilize health services. Organizing activities at the neighborhood level, such as integrated health service posts, exercise classes for the elderly, or health training. Conducting simple monitoring, such as measuring children's height and weight, or identifying early symptoms of disease. Assisting in data recording, reporting, and implementation of health programs in the field (Sadewa, 2023; Wijayanti et al., 2023).

Comprehensive care is necessary to prevent nausea and vomiting and improve sleep quality, which includes monitoring the patient's condition and changes in hemodialysis therapy. Adjusting fluid intake and slowing the ultrafiltration rate can help reduce the likelihood of hypotension, which can cause nausea. (Wijaya et al., 2022). Therefore, posbindu cadres should be equipped with sufficient knowledge so that in carrying out health promotion, posbindu cadres can educate the community with accurate information. Taking preventive and promotive measures to avoid complications in patients with chronic kidney disease undergoing hemodialysis. Recommended efforts are needed, such as a comprehensive approach to reduce the complications that often occur, as mentioned above, through deep breathing relaxation and lemongrass aromatherapy. This therapy is an inexpensive and popular method among the community. As a non-pharmacological therapy method, aromatherapy has been extensively researched because it is considered safe and comfortable to use (Mutiar Dewi & Masfuri, 2021); Sembiring et al., 2023). Lemongrass aromatherapy is applied through inhalation techniques. This method is effective because the vapor molecules from peppermint oil easily enter the body, directly reaching the nasal cavity and interacting with the olfactory receptors, thereby providing a relaxing and calming effect. Another effect is that it can inhibit serotonin production, which can reduce abdominal muscle contractions and reduce nausea and vomiting. (Tianto & Khayati, 2023).

Deep breathing is a breathing technique that involves slowly and fully inhaling air into the lungs until the abdomen or diaphragm expands, then slowly exhaling (Azzahra, 2020). This technique aims to increase blood oxygenation, reduce stress levels, and calm the nervous system so that it can help reduce physical symptoms such as nausea, vomiting, and sleep disorders (Nipa et al., 2021). Deep breathing is often used in relaxation therapy to reduce muscle tension and relieve anxiety. Deep breathing

relaxation has many benefits, including reducing nausea and vomiting, improving sleep quality, reducing anxiety and stress, improving lung function and respiratory capacity, lowering blood pressure and cardiovascular parameters, and increasing comfort after surgery. Meanwhile, aromatherapy is a type of herbal medicine that has the same basis as modern pharmacology and can produce positive effects on a person's body physiologically or psychologically (Kusuma et al., 2024). Aromatherapy is safe and comfortable to use, and has been used in many studies. Aromatherapy uses fragrant oils made from flowers and plants to treat various diseases. The use of plant essential oils to improve physical, emotional, and mental health is known as aromatherapy. (Wahyudi et al., 2022).

4. METHOD

Community service activities were carried out in several stages. The first stage was a regional survey to identify the problems faced by partners, namely nausea, vomiting, and sleep disorders in patients with chronic kidney disease undergoing hemodialysis. The second stage was to develop a plan to solve the problem by mobilizing the participation of health cadres in addressing the partners' problems. The third stage involved providing education and conducting training on techniques to reduce nausea and vomiting and improve sleep quality to 15 health cadres in RT 06 RW 01, Kebonsari Village, in the form of deep breathing relaxation and the use of lemongrass aromatherapy. The fourth stage involved the application of techniques to reduce nausea and vomiting and improve sleep quality by health cadres to patients undergoing hemodialysis, with each cadre providing intervention to two patients.

a. Preparation Stage

- 1) Arrange permits at the Kebonsari Community Health Center and RW 01 Kebonsari urban village
- 2) Conduct an initial survey regarding the most common problems faced by patients undergoing hemodialysis

b. Planning Stage related to

- 1) Determining solutions to partner problems in the form of training for health cadres
- 2) Preparing an activity budget
- 3) Preparing training instruments/tools in the form of LCDs, leaflets, diffusers, and lemongrass aromatherapy oils.
- 4) Coordinating with village officials and cadres.
- 5) Determining the location and time of the activity, namely at the RT 06 Community Hall on June 19, 2025

c. Implementation & Evaluation Stage

- 1) Presenting material related to nausea, vomiting, and sleep disorders in patients undergoing hemodialysis and how to overcome them
- 2) Demonstrating deep breathing relaxation techniques while inhaling lemongrass aromatherapy
- 3) Practicing all skills by health cadres
- 4) Conduct an evaluation
- 5) Re-practice and evaluate

d. Follow-up Stage

- 1) Health cadres disseminate the information (skills and knowledge) they have acquired to the community (especially patients undergoing hemodialysis).
- 2) The community (especially patients undergoing hemodialysis) is able to independently perform the techniques they have been taught

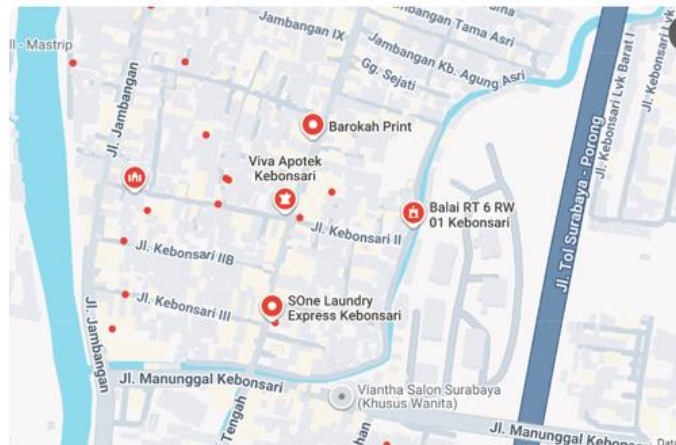


Figure 1. PKM Location

5. RESULTS AND DISCUSSION

a. Results

Table 1. Respondent Characteristics

No	Characteristic	Frequency (f)	Percentage (%)
1.	Age (years)		
	17-25	2	13,3
	26-35	8	53,4
	36-45	5	33,3
3.	Education		
	Basic	1	6,7
	Intermediate	9	60
	Advanced	5	33,3
4.	Occupation		
	Not working	10	66,7
	works	5	33,3
	Total	15	100

Based on Table 1, it can be seen that most participants (53.4%) who took part in community service activities were aged 26-35 years, which is considered reproductive age. Most (60%) had a secondary education, and most (66.7%) were unemployed. Based on the interview results, on average, patients undergoing hemodialysis often experience nausea and vomiting and have trouble sleeping, especially at night.

Table 2. Cadres' Knowledge Levels Before and After PKM

No	Knowledge	Pre		Post	
		n	%	n	%
1	Good	0	0	14	93,3
2	Fair	5	33,3	1	6,7
3	Poor	10	66,7	0	0
	Total	15	100	15	100

Based on the community service activities that have been carried out, it was found that participants' understanding varied. Participants' knowledge about nausea, vomiting, and sleep disorders, as well as how to deal with them in order to improve quality of life, before being given education, was mostly (66.7%) lacking, a small portion (33.3%) had sufficient knowledge, but after being given education, almost all (93.3%) had good knowledge.

Table 3. Mastery of Lemongrass Aromatherapy Skills

No	Mastery of skills	Pre		Post	
		n	%	n	%
1	Good	0	0	13	86,7
2	Fair	3	20	2	13,3
3	Poor	12	80	0	0
	Total	15	100	15	100

Mastery of material and skills in providing lemongrass aromatherapy. Before training, most (80%) cadres still lacked skills, while a small number (20%) had sufficient skills. However, after receiving education, most (86.7%) had good mastery of the material and skills.

Mastery of skills includes:

- 1) Prepare the tools: Lemongrass aromatherapy oil and tissue
- 2) Greet and explain the purpose.
- 3) Encourage the respondent to sit quietly.
- 4) Drip lemongrass aromatherapy oil (2-3 drops) onto the tissue provided and given 2 hours before bedtime.
- 5) Direct the tissue with the essential oil toward the nose and inhale slowly.
- 6) Advise the respondent to relax and calm their mind.
- 7) Advise the respondent to inhale the aromatherapy for approximately 30 minutes.

Table 4. Mastery of Deep Breathing Relaxation Skills

No	Mastery of skills	Pre		Post	
		n	%	n	%
1	Good	0	0	14	93,3
2	Fair	5	33,3	1	6,7
3	Poor	10	66,7	0	0
	Total	15	100	15	100

Mastery of deep breathing relaxation skills: before training, most (66.7%) cadres had insufficient skills, while a small number (33.3%) had adequate skills. However, after receiving education, almost all (93.3%) had good mastery of the material and skills.

Mastery of skills includes:

- 1) Create a calm environment.
- 2) Try to remain relaxed and calm.
- 3) Take a deep breath in through your nose and fill your lungs with air through your mouth.
- 4) Slowly exhale through your mouth while feeling your upper and lower extremities relax.
- 5) Breathe in again through the nose and exhale slowly through the mouth.
- 6) Allow the palms of the hands and feet to relax.
- 7) Try to stay focused.
- 8) Encourage the person to repeat the procedure until they are completely relaxed.
- 9) Repeat for 15 minutes, taking a short break after every 5 breaths.



Figure 2. PKM activities

b. Discussion

The training results showed an increase in participants' knowledge regarding the causes, risk factors, and non-pharmacological treatment of nausea, vomiting, and sleep disorders, particularly through deep breathing relaxation techniques and lemongrass aromatherapy. Before the training, most cadres did not understand the factors that cause nausea, vomiting, and sleep disorders and did not know that these complaints could be treated with simple and natural approaches that could be done independently by the community, especially patients undergoing hemodialysis. However, after participating in the training sessions, the health cadres' knowledge increased and they were able to explain the basic mechanisms of these disorders and the implementation techniques that could be done at home.

A person's level of knowledge plays an important role in determining the decisions and actions they will take, both for themselves and for others. Understanding the hemodialysis process is very important for patients with chronic kidney disease, because this knowledge is directly related to the patient's attitude and behavior in undergoing treatment. Individuals with adequate knowledge tend to have a strong foundation for choosing appropriate actions (Xu et al., 2023; Wijayanti et al., 2023).

Training health cadres in managing nausea, vomiting, and sleep disturbances is a strategic effort to improve the quality of community-based health services. Health cadres with adequate knowledge and skills can play a crucial role as the frontline in providing education, support, and effective non-pharmacological interventions to the community.

This increase in knowledge is supported by interactive and applicable training methods, such as lectures, group discussions, practical simulations, and live demonstrations. The adult learning approach used in the training also allows cadres to understand the material more quickly because it is directly related to real situations in the field. This is in line with the opinion of Kanagarajah et al., (2022), who stated that the success of training is greatly influenced by good training management and relevant delivery methods. However, the effectiveness of this education is greatly influenced by various internal factors of each participant, such as their level of education, ability to understand information, and readiness to accept the material.

Overall, this training has successfully strengthened the cadres' capacity in terms of basic knowledge and practical skills. Thus, it is hoped that the cadres will be able to become agents of change who encourage improvements in the quality of life of hemodialysis patients through a promotive and preventive approach in the community. The knowledge gained by cadres not only increases their confidence in providing education to the community, but also strengthens their role as companions and liaisons between patients and health professionals. Cadres are now better prepared to provide simple education to patients on deep breathing relaxation techniques to reduce stress and nausea, as well as introducing the benefits of lemongrass aroma as a complementary therapy to improve sleep quality

6. CONCLUSION

With better knowledge, health cadres are better prepared and more confident in providing appropriate education and support to patients and families at the community level. This increase in the capacity of health cadres is expected to contribute to improving the quality of life of patients through simple and easy-to-apply non-pharmacological approaches. It is recommended that similar training activities be conducted periodically to update cadres' knowledge in line with developments in medical information and community needs.

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