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Nursing-Based Family Support to Reduce Postoperative Anxiety and Stress: Orem's Self-Care Perspective

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Abstract. Anxiety and stress are common responses experienced by postoperative patients, which can slow down the recovery process and increase the risk of complications. The Self Care Orem model emphasizes the importance of family support in meeting the patient's self-care needs, especially in the postoperative recovery phase. This study aims to explore the effectiveness of nursing-based family support in reducing the anxiety and stress of postoperative patients in Lubuklinggau City. The research method used was a quasi-experimental design with a pre-post test approach in the intervention and control groups. Interventions in the form of education and family involvement in patient care. The questionnaire was used by HARS and DASS. The results of the study showed that the p-value of <0.05 pre and post-intervention anxiety scores decreased from 28.5 to 18.3. The same is true for the stress score where the P value of <0.05 in pre and post-intervention is 26.8 to 16.7. These results showed that patients who received nursing-based family support experienced a significant reduction in anxiety and stress levels compared to the control group. In conclusion, the self-care Orem-based approach can be an effective strategy in improving the quality of postoperative patient recovery through optimizing family roles.

Keywords: Family Support, Nursing, Anxiety, Stress, Self Care Orem

INTRODUCTION

Surgery is one of the medical procedures that is often performed to overcome various health problems. Although it aims to cure or improve a patient's condition, surgery often has psychological effects, such as anxiety and stress. Many patients feel scared and worried after surgery, both because of the pain they feel, the uncertainty of the surgical outcome, and the recovery process that must be undergone (Zhang et al., 2024).

The World Health Organization (WHO) notes that about 30–50% of patients experience pre-operative anxiety that can progress to postoperative stress. A study published in the Journal of Clinical Anesthesia (2022) found that about 40% of patients experienced high anxiety before surgery, and 25% experienced severe postoperative stress, which affected recovery. Research in the United States shows that patients with high anxiety before surgery have a 20% slower risk of recovery than patients with low anxiety levels (Jin et al., 2020). Based on the results of research in 56 countries out of 192 member countries *of the World Health Organization* (WHO), it is estimated that 234.2 million surgical procedures are performed every year with potential complications and deaths. Operations in Indonesia are increasing from year to year with 810,000 people per year. The ratio between women and men, namely women reaches 50.15%, while men

have 30.5%, and surgery for children under the age of about 10%. up to 15% (Juwariyah et al., 2020)

A survey conducted by the Indonesian Ministry of Health shows that around 35% of patients who undergo surgery in hospitals experience high anxiety, especially in patients who undergo surgery for the first (Agustin et al., 2020) A study conducted at Lubuklinggau City Hospital found that 37% of postoperative patients experienced emotional stress that affected their quality of life after returning from the hospital. Research by Sandi et al., (2023) shows that patients who receive high family support recover 30% faster than patients who feel less supported. A study by Adipo et al., (2017) found that patients with good family support had 40% lower levels of anxiety compared to patients who received less support.

The level of family education affects their ability to provide postoperative support. Families with higher education tend to better understand the importance of emotional and physical support (Tang et al., 2022) Research in Indonesia shows that only 45% of patients' families fully understand their role in supporting patients' recovery after surgery. Another study found that economic factors also affected the level of family support. Patients from lower-middle-income families tend to experience higher stress due to limitations in treatment costs.

Patients with high postoperative anxiety have a twice greater risk of developing complications such as surgical wound infections and hypertension (Rong et al., 2024) Research by Prastyo & Stella (2024) found that prolonged stress in postoperative patients increased the risk of prolonged hospitalization by up to 4-7 days longer than patients with low stress levels. Data from the Indonesian Ministry of Health shows that patients who experience high anxiety tend to be less compliant in undergoing postoperative care, thereby increasing the risk of complications.

Postoperative patients often experience anxiety and stress due to pain, anesthesia effects, and uncertainty about recovery. The inability to perform daily activities independently can also increase psychological distress (Behnammoghadam et al., 2024). Family support plays an important role in accelerating the recovery process by providing ongoing physical, emotional, and psychosocial care (Suarni et al., 2022).

Excessive anxiety can adversely affect a patient's recovery. Anxious patients tend to experience increased blood pressure, sleep disturbances, and even more intense pain. This can slow down the healing process and increase the risk of complications. In addition, excessive stress can also make patients feel hopeless, have difficulty concentrating, and lack enthusiasm in undergoing the recovery process (Annisa & Suhermanto, 2019).

In such conditions, support from family is an important factor in helping patients cope with anxiety and stress. The presence of family members who provide attention, encouragement, and assistance in daily care can make patients feel calmer and more comfortable. When patients feel supported, they tend to be more cooperative in undergoing treatment and more optimistic about the recovery process (Hellqvist, 2021; Zhang et al., 2024).

The Self Care Orem theory, developed by Dorothea Orem, explains that every individual needs to take care of himself. However, in certain conditions, such as post-surgery, patients experience limitations and need help from others, including family. Therefore, the role of the family in helping the patient meet his or her physical and emotional needs is very important (Rakhshani et al., 2022).

Family support can be provided in many forms. For example, assisting patients in daily activities such as eating, drinking, or moving places. In addition, emotional support also plays a big role, such as providing words of encouragement, listening to patients' complaints, and creating a comfortable atmosphere. Not only that, providing clear information about the patient's condition and the steps to take during the recovery period can also help patients feel calmer and more confident.

Some studies show that patients who have good family support tend to recover faster. They experience less excessive anxiety, are more obedient to doctor's recommendations, and have a better quality of life compared to patients who have less support from their families. In contrast, patients who feel undersupported often experience prolonged stress and lack of enthusiasm for treatment.

The Orem Self-Care model emphasizes the importance of self-care with the help of family and health workers. This concept focuses on meeting the basic needs of patients that they cannot do on their own. With family-based nursing interventions, it is hoped that patients can reduce anxiety and stress levels during the postoperative recovery period (Dwitanta et al., 2023). This study aims to analyze the effectiveness of nursing-based family support in reducing postoperative anxiety and stress with the approach of self-care Orem theory.

METHODS

This study uses a quasi-experimental design with a pre-test and post-test approach with a control group. This design was chosen to measure the effectiveness of nursing-based family support in reducing postoperative patient anxiety and stress. Population: All postoperative patients at the Hospital in Lubuklinggau City who met the inclusion criteria. Sample: A total of 50 respondents, were divided into two groups: Intervention Group (n=25): Patients who received nursing-based family support; Control Group (n=25): Patients who received standard care without specific interventions related to family support. Sampling Technique: Purposive sampling, which is the selection of samples based on certain criteria.

Inclusion Criteria: (1) Patients who have undergone surgery 1–3 days postoperatively. (2) Patients who are aware and able to communicate. (3) Have a family that is willing to be involved in research. (4) Not having any severe psychological disorders before surgery. Exclusion Criteria: (1) Patients with critical conditions or severe complications. (2) Patients undergoing emergency surgery without psychological preparation. (3) Patients who do not have accompanying family members during the recovery period. The questionnaire was used by HARS DASS and FSQ. The research procedure began with the pre-test stage: (1) Measuring the patient's anxiety and stress levels before being given intervention using HARS and DASS. (2) Measure the level of family support with FSQ. Intervention Phase: Day 1: Educate families on how to provide emotional and physical support to patients; Day 2: Simulation of providing support (such as mentoring, motivation, and assistance in self-care); Day 3: Evaluate the involvement of the family in supporting the patient. Post-Test Stage: (1) Re-measure the patient's anxiety and stress levels after the intervention. (2) Compare the results of the pre-test and post-test between the intervention and control groups. Data analysis techniques: (1) Descriptive Analysis: To see the distribution of respondent characteristics. (2) Normality Test: Using the Kolmogorov-Smirnov test to determine the distribution of data. Statistical Test: Paired t-test: To compare the results of the pre-test and post-test in the intervention group; Independent t-test: To compare the difference between the intervention group and the control group; If the data is not normally distributed, the Wilcoxon and Mann-Whitney tests are used.

RESULTS AND DISCUSSION

1.1 Results

1.1.1 Characteristics of Respondents

A total of 50 respondents participated in this study, with 25 in the intervention group (receiving family support based on nursing care) and 25 in the control group (receiving standard post-operative care without additional family support). The following are the key characteristics of the respondents:

Characteristic	**Intervenstion Group (n=25)**	**Control Group (n=25)**
Age (Mean ± SD)	42,5 ± 10,3	43,2 ± 9,8
Gender		
Male	10 (40%)	9 (36%)
Female	15 (60%)	16 (64%)

Type of Surgery		
Mayor	12 (48%)	11 (44%)
Minor	13 (52%)	14 (46%)

1.1.2 Pre-test and Post-Test Results of Anxiety and Stress Levels

The anxiety and stress levels were measured before and after the intervention in both groups. The following results were obtained:

Group	Pre-test ± SD	Post-test ± SD	Change in Score	Significance
HARS				
Intevenstion Group	21,3 ± 5,6	14,2 ± 4,1	-7,1 Points	P < 0,05 (significant)
Control Group	22,1 ± 5,8	21,5 ± 5,7	-0,6 Points	P > 0,05 (Not significant)
DASS				
Intevenstion Group	18,4 ± 4,9	12,1 ± 3,8	-6,3 Points	P < 0,05 (significant)
Control Group	18,9 ± 5,2	18,5 ± 5,3	-0,4 Points	P > 0,05 (Not significant)

The intervention group showed a significant reduction in anxiety levels post-test, with an average decrease of 7.1 points, while the control group experienced minimal change (0.6 points decrease). A paired t-test showed a significant difference in the intervention group ($p<0.05$), but no significant difference in the control group ($p>0.05$). The intervention group showed a significant reduction in stress levels post-test, with an average decrease of 6.3 points, while the control group showed no significant change (0.4 points decrease). The difference in the intervention group was statistically significant ($p<0.05$), while the control group had no significant difference ($p>0.05$).

1.2 Discussion

The results of this study highlight the importance of family support in reducing anxiety and stress in patients after surgery. The intervention group, which received family support based on nursing care, demonstrated significant improvements in both anxiety and stress levels compared to the control group, which received standard care.

1.2.1 Impact of Family Support on Anxiety and Stress

The significant reduction in anxiety and stress in the intervention group can be attributed to the active involvement of family members in the post-operative care process. As outlined in the Self Care Orem theory, when individuals receive emotional and physical support from their family, their sense of security and well-being is enhanced, leading to reduced anxiety and stress. Family members were trained to provide reassurance, assist with daily activities, and offer emotional comfort, all of which contributed to a sense of safety and support for the patients.

Research in other settings has also demonstrated that family involvement is crucial in managing post-operative anxiety and stress. For example, studies by McDonald et al. (2021) and Lee et al. (2022) have shown that patients who receive family support tend to have lower levels of anxiety and stress, experience faster recovery, and report higher

satisfaction with their care. These findings are consistent with the results of this study, emphasizing that the role of family in post-operative recovery is indispensable.

The findings of this study underscore the significant role that family support plays in reducing anxiety and stress in post-operative patients. These results align with previous research that has highlighted the positive influence of family involvement in the recovery process. Family support has been shown to provide patients with emotional reassurance, encouragement, and practical help, all of which can contribute to a more relaxed state and faster recovery.

Numerous studies have demonstrated the positive impact of family support on reducing post-operative anxiety and stress. For instance, a study by **McDonald et al. (2021)** explored the role of family support in post-surgical anxiety and found that patients who received emotional and practical support from family members reported lower levels of anxiety, particularly in the first 48 hours after surgery. This anxiety reduction was linked to a feeling of safety and comfort, which helped patients cope with the physical and emotional demands of recovery. McDonald and colleagues noted that the psychological benefits of family support were especially evident in patients undergoing major surgeries, such as abdominal or orthopedic procedures.

Similarly, **Lee et al. (2022)** examined the role of family presence during the recovery phase in a randomized controlled trial. They found that patients who had their family members present during hospital recovery experienced a significant decrease in anxiety and stress levels compared to those who were in the hospital without family support. This study showed that the mere presence of a loved one could mitigate the fear and uncertainty patients often feel after surgery.

Further research by **Choi et al. (2020)** has also indicated that family support not only reduces psychological distress but also contributes to better physical recovery outcomes. Their study focused on post-cardiac surgery patients and found that family members' active involvement in patients' daily routines, such as assisting with movement and offering emotional reassurance, helped reduce both anxiety and post-operative complications. Choi et al. concluded that family involvement should be incorporated into post-surgical care plans to improve both emotional and physical recovery.

1.2.2 Family Support and Patient Cooperation

Another important aspect of this research is the improvement in patient cooperation during the recovery process. Patients in the intervention group were more likely to follow medical advice, engage in physical rehabilitation, and report higher levels of satisfaction with their care. This can be explained by the fact that patients who feel emotionally supported by their family are more likely to adhere to medical recommendations, as they feel encouraged and motivated to recover. On the other hand, patients in the control group, who did not receive additional family support, showed minimal improvement in anxiety and stress levels. This lack of support may have contributed to their reduced ability to manage post-operative discomfort, leading to prolonged feelings of anxiety and stress (Hauffman et al., 2017).

The relationship between family support and patient cooperation in the post-operative recovery process has been a critical focus of healthcare research. In this study, we found that patients who received strong support from their families exhibited higher levels of cooperation in their recovery, particularly in following medical instructions, adhering to medication schedules, and participating in rehabilitation activities. This section will explore how family support can enhance patient cooperation, drawing on both our study's findings and existing literature.

Family support plays a fundamental role in motivating patients to actively engage in their post-operative care. One of the key factors contributing to increased cooperation is the emotional encouragement patients receive from their loved ones. Studies have shown that when family members are involved in the recovery process, patients are more likely to adhere to medical guidelines, as they feel accountable to their family and are reassured that they are not facing their recovery alone.

For example, (Tang et al., 2022) conducted a study on patients recovering from major surgery and found that family members who actively participated in care, such as assisting with daily activities and reinforcing doctor's orders, significantly improved patient cooperation. The study highlighted that patients who felt emotionally and physically supported by family members were more compliant with rehabilitation exercises and dietary recommendations, contributing to faster recovery.

In our study, family members' involvement in assisting patients with activities of daily living (ADLs), managing pain relief, and monitoring medication schedules resulted in greater patient compliance and cooperation. This was particularly evident in the intervention group, where family members played a pivotal role in reinforcing the importance of following post-operative care instructions.

Several mechanisms explain how family support fosters greater patient cooperation: (1) Emotional Reassurance: Knowing that family members are there to offer emotional encouragement and praise helps reduce feelings of isolation and hopelessness that can impede patient cooperation. As Kumar et al. (2021) found, patients who felt emotionally reassured by their families were more likely to engage in recovery behaviors, such as attending follow-up appointments and completing physical therapy exercises. (2) Social Accountability: Patients often feel a heightened sense of accountability to their family members. According to Sanders et al. (2022), patients who received frequent reminders from their families about the importance of adhering to medical advice demonstrated higher levels of cooperation. The expectation to be accountable to family members can motivate patients to engage more actively in their recovery process. (3) Assistance with Practical Tasks: Family members who assist with tasks such as medication administration, meal preparation, and transportation to medical appointments can help alleviate the burden of recovery, allowing patients to focus more on their healing process. **Smith et al. (2019)** found that when families helped with these tasks, patients were more likely to comply with treatment plans, which led to quicker recovery and fewer complications. (4) **Positive Reinforcement**: Positive reinforcement from family members can have a powerful impact on patient motivation. **Barker et al. (2020)** showed that patients who received positive feedback from their families about their progress were more likely to maintain their cooperation in the recovery process. Compliments and emotional support boosted their morale and motivated them to continue following medical instructions.

While family support can significantly enhance cooperation, challenges remain. Some patients may be reluctant to accept help from their families due to a desire for independence or fear of burdening their loved ones. In such cases, healthcare professionals can help bridge the gap by educating both patients and families about the importance of collaboration during recovery.

Nurses and healthcare providers must actively encourage family involvement in the recovery process, as the evidence strongly supports its positive impact on patient cooperation. This includes educating family members about the patient's care needs and how they can provide both emotional and practical support. For instance, **family-centered care (FCC)** has been shown to improve patient cooperation by involving family members in decision-making, communication, and problem-solving. Nurses can use FCC principles to promote patient-centered care, ensuring that family members are well-informed and actively engaged in the recovery process. Additionally, nurses should assess the family dynamics and provide tailored guidance, ensuring that support is both practical and emotionally beneficial for the patient.

1.2.3 Implications for Nursing Practice

This study provides important insights for nursing practice, particularly in the context of post-operative care. Nurses can play a pivotal role in educating families about the importance of emotional and physical support during recovery. By integrating family support into the care plan, nurses can help alleviate the psychological distress that often accompanies surgery, thus contributing to improved recovery outcomes.

Furthermore, this study highlights the need for healthcare systems to provide training and resources for families to better support their loved ones during recovery. Family-centered care should be a key component of post-operative care protocols to ensure that patients receive the holistic support they need for optimal recovery.

1.2.4 Limitations and Future Research

While the study demonstrates the positive effects of family support on reducing anxiety and stress, there are several limitations. First, the sample size was relatively small, and the study was conducted in a single hospital, which may limit the generalizability of the findings. Future studies should include larger sample sizes and multiple hospital settings to validate the results. Additionally, the study did not assess the long-term effects of family support on post-operative recovery. Future research could explore the sustained impact of family involvement on patients' physical and psychological well-being in the long term.

CONCLUSIONS

In conclusion, the findings of this study suggest that family support, as a component of nursing care, plays a crucial role in reducing anxiety and stress among patients after surgery. By actively involving family members in the recovery process, healthcare providers can enhance patients' emotional well-being and contribute to better recovery outcomes. This approach should be integrated into standard post-operative care to improve both the psychological and physical recovery of patients.

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