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EDITORIAL

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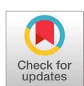

"Speaking of sexuality": Enhancing comfort and confidence among nurses caring for older patients

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ABSTRACT

Human sexuality, a fundamental aspect of overall health and well-being, persists throughout all stages of the human lifecycle, including advanced age. Research demonstrates that a significant number of older adults maintain interest in sexual activity and continue to be sexually active during their later years. Nurses and healthcare providers must learn to understand the intricate interplay of psychological and physical influences leading to sexual difficulties among older individuals. Such knowledge is critical when providing effective assistance to older adults grappling with sexuality-related concerns. Given that the over 65 population accesses healthcare services frequently, healthcare professionals serve as pivotal intermediaries in addressing sexual issues. Nevertheless, medical personnel often feel uncomfortable and unsure about initiating conversations about sexuality among this population. This paper explores the reasons underlying the common tendency among healthcare professionals to avoid such discussions and suggests strategies to ameliorate this situation.

Keywords: sexuality; nurses; aging; older adults; older patients

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Sexuality is a critical element of overall health and emotional wellness that persists across all stages of the human lifecycle, including advanced age (Ayalon et al., 2019, 2021). Nevertheless, despite the importance of sexuality and the observable shifts in sexual function during this stage of life, nursing professionals have a deficit of knowledge with respect to the dialogue and strategies they should adopt when addressing sexuality in older adults (Fennell, & Grant, 2019; Levkovich et al, 2018, 2021). While factors such as depression and anxiety can affect sexual performance at all ages, the prevalence of these factors tends to increase as individuals age. Moreover, various life events, physical and emotional states and disease prevalence may also affect sexual function in older adults (Ayalon et al., 2019).

Research shows that older adults expect healthcare providers and physicians to address their sexual health concerns

(Levkovich et al., 2018, 2019). Yet consultations about sexual issues often elicit responses that are derisive or dismissive (Ayalon et al., 2019, 2021), and this trend escalates as patients age. Among nurses, barriers to such discussions include time constraints, inadequate communication skills, lack of confidence, and a preference for avoiding such topics (Fennell, & Grant, 2019; Levkovich et al, 2018). Further, healthcare professionals tend to believe that issues pertaining to sexuality in old age are beyond their professional competence (Gewirtz-Meydan et al., 2019; Levkovich et al., 2018) or that they lack the requisite knowledge to handle such matters (Fennell, & Grant, 2019; Gewirtz-Meydan et al., 2022). In instances when healthcare professionals do converse about sexuality with older adults, the discussions typically revolve around symptoms, prevalence, medication, and other health conditions potentially related to the sexual issues (Levkovich et al., 2018, 2019).

Numerous studies have accentuated the advantages patients would gain if nursing staff members were provided comprehensive training on matters related to sexual healthcare (Fennell, & Grant, 2019; Yingling et al., 2017). Nurses who have received formal instruction on effective communication of sexual health information are more proactive in addressing patients' sexual health concerns. as opposed to merely reacting to them (Aguilar, 2017; Sung et al., 2016; Thys et al., 2019). Consequently, initiating dialogues on sexuality with patients can also translate into cost effectiveness derived from treating associated infections and diseases (Fennell, & Grant, 2019; Sung et al., 2016; Yingling et al., 2017). Patients have expressed a desire for trustworthy and unbiased care as well as for education about sexual health (Ayalon et al., 2019, 2021).

Training programs for nurses are needed. These programs should address knowledge, attitudes, beliefs, and comfort levels and include modules that provide opportunities for role-playing of sexual health conversations (Aguilar, 2017). Offering nurses professional development and continuing education programs on sexual healthcare education is imperative. Despite the call for standardized curricula in sexual healthcare, uncertainties persist regarding content and mode of delivery. Incorporating sexual health education into nursing practice has the potential to bolster comprehensive nursing care. Indeed, incorporating human sexuality into nursing curricula would underline the significance of sexual issues and equip nurses with the skills and knowledge to do their jobs efficiently in this domain.

Declaration of Interest

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None

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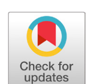

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Family support and anxiety: A correlational study among women with stage III breast cancer

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ABSTRACT

Background: Breast cancer exerts a broad impact on psychological well-being, notably leading to heightened anxiety levels. Uncontrolled anxiety can interfere with planned therapy, making it crucial to understand its underlying factors.
Objective: This study aims to investigate the relationship between family support and anxiety in patients with stage III breast cancer.
Methods: The study employed a cross-sectional design and selected 41 respondents through purposive sampling. Family support was assessed using the Sarason Social Support Questionnaire, while anxiety levels were measured with The State-Trait Anxiety Inventory (STAI). Statistical analysis utilized the Spearman-Rho correlation.
Results: The majority of breast cancer patients in the sample exhibited low levels of family support (n=22, 53.7%). On average, respondents reported an anxiety score of 80.78. The analysis demonstrated a significant relationship between family support and anxiety in breast cancer patients (p = 0.04), with a correlation coefficient of -0.316.
Conclusions: These findings emphasize the importance of enhancing the quality of service in the treatment room and initiating early detection of patients experiencing psychosocial issues. Additionally, involving families in the therapy implementation process may prove beneficial. Nurses play a crucial role in addressing these aspects to better support patients throughout their breast cancer journey.

Keywords: family support; breast cancer; anxiety; cancer

INTRODUCTION

Breast cancer is a disease characterized by abnormal changes in breast cell structure and function, leading to uncontrolled cell division. These changes are triggered by various factors that alter gene expression, resulting in proliferation disorders (Kurniasari et al., 2017). Uncontrolled breast cancer can have significant impacts, including physiological consequences like pain and even death, as well as psychological effects, not only experienced by the patient but also affecting their family. The incidence of new breast cancer cases has risen by 57% globally, particularly in developing countries.

Nursing and Healthcare Practices

- *Family support is significantly related to anxiety levels among stage III breast cancer patients.*
- *Patient families can enhance and maintain family support by actively seeking information and meeting the patients' needs.*
- *Nurses play a crucial role in the early detection of anxiety in breast cancer patients by conducting interviews and gathering periodic medical history during each visit.*

Breast cancer affects patients in both early and advanced stages, causing physical and psychological challenges (Blackman et al., 2021). Pain is a common physical consequence experienced by breast cancer patients, and its persistent presence interferes with daily activities, diminishing their quality of life (Smith et al., 2015). Moreover, psychological impacts, such as depression and anxiety, are prevalent among cancer patients. Current research suggests that 20% of cancer patients suffer from depression, while 30% experience anxiety (Pitman et al., 2018). Neglecting these psychological conditions can significantly reduce the quality of life and survival rates of cancer patients. In the case of breast cancer patients undergoing chemotherapy, severe anxiety is observed in 52.3% of cases (Nurhidayati & Rahayu, 2018).

Anxiety reactions in breast cancer patients can emerge not only upon diagnosis but also after undergoing surgery. Patients diagnosed with stage III breast cancer, particularly those diagnosed 3-5 years ago, tend to exhibit higher levels of anxiety and depression compared to early-stage patients (Akel et al., 2017). Stage III patients often fear death and the possibility of unsuccessful therapy. Anxiety may also be linked to financial concerns and fears of social rejection within their family or community. The emotional burden can be evident in breast cancer patients undergoing mastectomy, as they show signs of anxiety, depression, and a negative attitude, leading to a shift in prognosis from positive to negative outcomes (Ningsih, 2015). The fear of death is reported by 51% of cancer patients, and this fear correlates with a reduced quality of life (Soleimani et al., 2017).

Family support plays a crucial role in cancer patients' lives, and the support of loved ones can significantly impact their well-being. Family members provide essential life support, and their involvement is highly meaningful. Proper family support can improve the quality of life of cancer patients significantly. Agustin & Supratman (2020) found that 60% of cancer patients received good family support. During a preliminary study, interviews with stage III breast cancer patients revealed anxiety about the upcoming treatment's side effects. Some patients expressed fear of being a burden to their families and the possibility of being abandoned. Additionally, some families were observed to be preoccupied with their own work and less attentive to the patient's needs. Based on the aforementioned, this study aims to investigate the relationship between family support and anxiety among women with stage III breast cancer.

METHODS

Design

This study adopts a descriptive-analytic method with a cross-sectional design approach.

Participants and Setting

The study population consists of breast cancer patients who are currently hospitalized at general hospital of dr. Saiful Anwar Malang, Malang, Indonesia. A total sampling technique is used to select 41 respondents who meet the inclusion criteria: (1) They belong to a nuclear family or live in the same household, (2) They possess good communication skills, and (3) They willingly agree to participate as respondents. Exclusion criteria encompass families with severe psychological issues that may hinder cooperation.

Instruments

The independent variable in this study is family support for patients suffering from stage III breast cancer. The Sarason Social Support Questionnaire (SSQ) is employed as the primary questionnaire for this variable. The validity test reveals no discarded items, with a coefficient value of p = 0.43, indicating that SSQ is a suitable tool. The reliability of the SSQ is assessed using Cronbach's alpha coefficient

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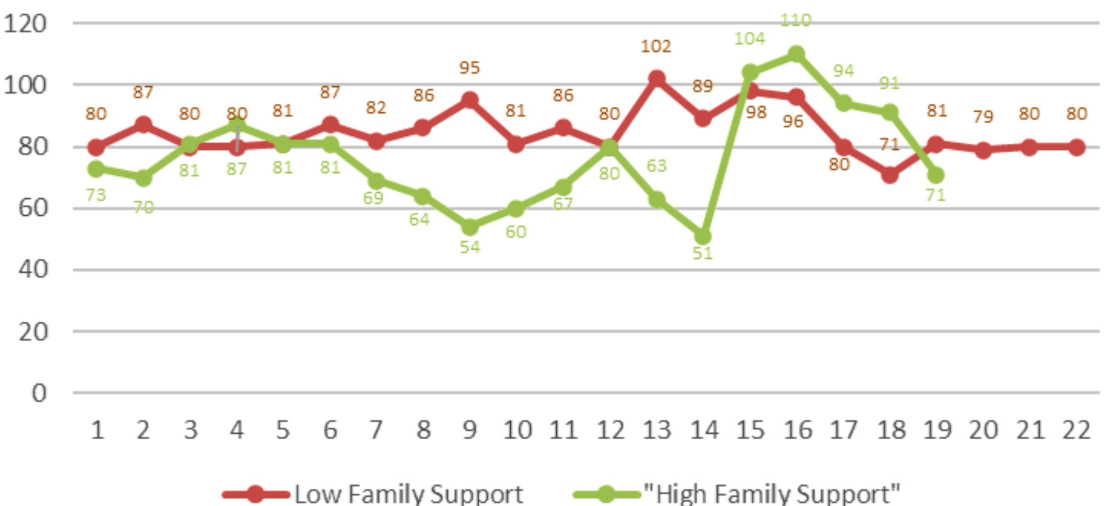

Figure 1. Graph of Family Support and Anxiety in Stage III Breast Cancer Patients

(α), yielding a result of 0.922, indicating high internal consistency. On the other hand, the dependent variable in this study is patient anxiety, assessed using The State-Trait Anxiety Inventory (STAI). This instrument has been validated and proven reliable in evaluating anxiety levels in adults, with a reliability range from 0.86 to 0.94 and a validity score of 0.69.

Data Analysis

Statistical tests were selected based on testing the normality of the data distribution. The Shapiro-Wilk test results showed a p-value of 0.002 for family support ($p < 0.05$) and a p-value of 0.288 for anxiety ($p > 0.05$). Given the outcome of the data normality test, the statistical analysis method chosen was the Spearman-Rho correlation.

Ethical Consideration

This research has received approval from the Ethics Committee of Dr. Saiful Anwar Hospital, Malang, with approval number 400/252/K3/302/2021. In this study, the researcher adhered to ethical principles, such as ensuring anonymity by providing a code on the questionnaire sheet. Additionally, informed consent was obtained in writing from all respondents. There was no element of coercion present, which allowed the respondents to withdraw from participating in this research at any time. Moreover, this research did not result in any physical or psychological effects on the respondents.

RESULTS

A majority of respondents fall within the age range of 41-50 years. Furthermore, most patients have completed their education up to junior high school, accounting for 16 respondents (39%). Regarding the duration of the breast cancer diagnosis, almost half of the research participants were diagnosed within the timeframe of 6 months to 1 year. Additionally, an overwhelming majority of the respondents are married, amounting to 38 respondents (92.7%). From the family support, more than 50% of respondents have low support from their family (Table 1 & Figure 1). The average anxiety score is 80.78, with the lowest recorded value being 51 and the highest reaching 110 (Table 2).

Based on Table 3, the analysis of the relationship between family support and anxiety in stage III breast cancer patients using Spearman's rho resulted in a p-value of 0.04 ($p < 0.05$). Therefore, it can be concluded that there is a significant relationship between family support and patient anxiety. The relationship is indicated by a correlation coefficient (r) of -0.316. This negative value suggests a weak relationship, meaning that family support is inversely proportional to the respondent's anxiety. In other words, as family support decreases, the anxiety levels of stage III breast cancer patients tend to increase.

DISCUSSION

The results of the study indicate that the majority of breast cancer patients have low

Table 1. Participants Characteristics (n=41)

Characteristics	n	%
Age		
20 – 40 years	9	22.0
41 – 50 years	31	75.6
>60 year	1	2.4
Education		
No school	1	2.4
Elementary School	11	26.8
Junior High School	16	39.0
Senior High School	12	29.3
College	1	2.4
Long Diagnosed with Cancer		
6 month – 1 year	24	58.5
1 – 5 year	16	39.0
>5 year	1	2.4
Marital Status		
Single	2	4.9
Married	38	92.7
Divorced	1	2.5
Family support		
Low	22	53.7
High	19	46.3

Table 2. Anxiety Score

Variable	n	Mean	SD	Min – Max
Anxiety	41	80.78	12.680	51 – 110

Table 3. Statistical Analysis between Family support and Anxiety

Family support	n	Anxiety Score	p-value	r
Low	22	70-100	0.04	-0.31
High	19	50-110		

family support. These findings align with a similar study, where reported that 75% of cancer patients had poor family support, resulting in 53.1% of patients experiencing anxiety and a diminished quality of life (Husni et al. 2015). Similarly, Setiyani & Ayu (2019) found that 24 patients had low family support, emphasizing the need to address this issue as a considerable number of patients are affected by insufficient family support. Low family support can heighten the risk of psychological disorders, reduce individual functioning and activity in the community.

Support from family plays a pivotal role in a patient's healing process, especially for those undergoing post-mastectomy treatment. Yusuf (2017) highlights that support from family, being readily available, holds significant psychological value in the healing journey. Low family support may be attributed to the family's level of knowledge, as Table 1 indicates that most respondents have completed junior high school education. Sari et al. (2020) have stated that knowledge significantly influences the level of family support, as families with limited knowledge may struggle to provide adequate support to their ill family members. Enhancing family support can prove immensely beneficial

Narsiti, N., Handian, I. F., & Firdaus, A. D. (2023). Family support and anxiety: A correlational study among women with stage III breast cancer. *The Journal of Palembang Nuring Studies. 2*(3), 144-150. http://dx.doi.org/10.55048/jpns68

in the management of chronic diseases. Wati & Yanti (2018) assert that positive direction in family support can lead to positive changes in the self-concept of patients undergoing treatment for chronic illnesses. The role of family support is crucial in the patient's healing process, aiding in problem-solving and enhancing individual coping mechanisms.

Furthermore, the duration since cancer diagnosis may impact family support. Most patients in the study were diagnosed within 6 months to 1 year. According to the loss theory mentioned by Kulber Ross in Yusuf (2017), stages of sequential loss include rejection, anger, bargaining, depression, and acceptance. Researchers argue that families might still be in the denial stage, making it difficult for them to cope, make decisions, and provide adequate support. The surgical procedures, especially those involving the removal of body organs, may be particularly challenging for families to accept, leading to a lack of expected resilience.

Family support plays a crucial role in a woman's life, especially during difficult times, providing value and adding a sense of peace. It encompasses emotional support, reward support, instrumental support, and informative support. The benefits of family support include making a woman feel more comfortable in dealing with problems (Cumayunaro, 2018).

The research findings indicate that the average anxiety level among patients is 80.78. Anxiety is an emotional condition characterized by fear without a clear source, involving worries about various aspects of life and deep, ongoing feelings of fear and worry (Hawari, 2016). Tania et al. (2019) reported that the prevalence of anxiety levels among breast cancer patients was 92.5%, with 34.2% experiencing mild anxiety and 58.3% experiencing moderate to severe anxiety. This finding is supported by Di Giacomo et al. (2016), who observed that a breast cancer diagnosis negatively impacts affective relationships, life expectancy, long-term plans, productivity, and social life. Furthermore, it leads to psychological effects such as depression, anxiety, anger, mood disturbances, social withdrawal, isolation, and aggressiveness (Di Giacomo et al., 2016).

The study's results revealed a significant relationship between family support and anxiety in stage III breast cancer patients. This relationship is weak and negatively directed, indicating that higher family support is associated with lower anxiety levels experienced by the patients. This aligns with Rinata & Andayani's (2018) research, which states that high family support can reduce anxiety, especially in women. Similarly, Mezy (2016) highlights that greater family support received by stage III breast cancer patients results in lower anxiety levels, while lower family support is associated with higher anxiety levels. Good family support contributes to a positive self-concept.

CONCLUSIONS

This study indicates that there is a significant relationship between family support and anxiety among stage III breast cancer patients. Patient families can play a crucial role in enhancing family support and maintaining it by actively seeking information and meeting the patients' needs. For stage III breast cancer patients, active participation in their treatment and attention to their psychological well-being are vital to prevent the development of psychosocial problems. Being active in this context means openly expressing feelings of sadness, worry, and other emotions to their closest family members or support system. Furthermore, nurses also play a crucial role in the early detection of anxiety in patients. During each visit, nurses should conduct interviews and gather periodic medical history using available instruments in the healthcare facility. This proactive approach will enable nurses to identify anxiety issues promptly and provide appropriate interventions to address them. To further advance our understanding of effective nursing interventions to reduce anxiety in breast cancer patients, more comprehensive and focused research is needed. Such research can explore various strategies and techniques that nurses can implement to effectively support patients' emotional well-being throughout their cancer journey. By continuously investigating and implementing evidence-based interventions, healthcare providers can improve the overall quality of care and support provided to breast cancer patients.

Declaration of Interest

No conflict of interest

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Data Availability

The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

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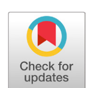

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Body image perception among breast cancer patients after mastectomy: A phenomenology study

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ABSTRACT

Background: Breast cancer is the most common type of cancer among all cancers. Most breast cancer treatments involve surgery, which leads to changes in body shape. These changes can have an impact on body image after mastectomy, affecting the patients' quality of life.
Objective: This study aimed to explore the perception of body image of breast cancer patient after mastectomy.
Methods: A qualitative phenomenological approach was employed in this study. A total of 15 post-mastectomy clients were recruited through purposive sampling technique. Data collection involved semi-structured interviews, which were recorded. The data were analyzed using the Van Mannen approach with the assistance of NVivo 12 Plus software.
Results: The majority of the participants were in the elderly phase, with an average education level of junior high school. Most had a history of stage IIB breast cancer and, on average, had undergone mastectomy three years ago. This study identified the theme of body image, which consisted of four categories and eleven sub-categories.
Conclusions: The description of body image in post-mastectomy clients includes beliefs, thoughts, feelings, and behaviors. This response is influenced by the belief in the importance of breasts, optimism regarding achieving one's ideal self, thoughts about changes in the body, acceptance of oneself and those around us, enthusiasm for healing and comfort, and social roles.

Keywords: body image; mastectomy; breast cancer; cancer survivor; self-acceptance

INTRODUCTION

According to the World Health Organization (WHO), cancer is a large group of diseases characterized by the uncontrolled growth of abnormal cells in various organs or tissues of the body. These cells have the ability to invade neighbouring parts of the body and spread to other organs (Wulandari et al., 2020). Breast cancer specifically refers to the abnormal growth of cells in the breast, which can originate from the ductal epithelium or lobules (Kemenkes, 2019). Breast cancer is a significant global

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- *Body shape changes experienced by breast cancer patients after a mastectomy have an impact on their body image.*
- *Healthcare providers must be attentive to the psychological impact of mastectomy on body image, as it involves multiple categories such as beliefs about the importance of breasts and thoughts about bodily changes.*
- *Implementing interventions that foster acceptance, optimism, healing, and comfort, while considering the clients' social roles, can contribute to a more positive body image and overall well-being in post-mastectomy individuals.*

health issue, ranking as the leading cause of cancer-related deaths in women (WHO, 2019). Clinical practice guidelines for breast cancer typically involve surgical therapies or invasive procedures (Sun et al., 2018), which may include the removal of one or both breasts. These interventions can have both negative and positive impacts, affecting aspects such as sexual function, quality of sexual life, and body image (Kowalczyk et al., 2018).

According to the American Cancer Society (ACS), the incidence of breast cancer has been on the rise, with approximately 287,850 new cases diagnosed in women and 2,710 cases in men, along with an additional 51,400 cases of ductal carcinoma in situ (DCIS) in the United States. The lifetime risk for women has increased to 12.9%. It is estimated that in 2022, 43,250 women and 530 men will die from breast cancer (National Breast Cancer Coalition, 2022). In Indonesia, breast cancer has the highest incidence rate, with 58,256 cases (16.7%), and the second-highest mortality rate, with 22,692 deaths (11.0%) in 2018 (Globocan, 2019). A preliminary study investigated by researcher in 2019, reported 779 client visits with a breast cancer diagnosis in the outpatient clinic and 78 inpatient visits in the hospital.

In the majority of cancer patients, approximately 67% have been diagnosed for 5 years or longer, and 18% have been diagnosed for 20 years or more (American Cancer Society, 2019a). The treatment of early breast cancer typically involves a combination of local treatment modalities such as surgery and radiotherapy, systemic anticancer treatment, and supportive measures, which are administered in various sequences. The increasing number of breast cancer survivors each year can be attributed to advancements in early detection and treatment methods (Cardoso et al., 2019).

One of the treatment options for breast cancer is surgery, specifically mastectomy, which involves the removal of one or both breasts (American Cancer Society, 2019b). Breast reconstruction can be performed at the time of mastectomy (immediate reconstruction) or as a separate procedure (delayed reconstruction), although it often requires multiple surgeries (American Cancer Society, 2019a). Post-mastectomy scars are typically visible from the chest to the sternum and under the arms (Stoker & Clarke, 2018).

In addition to efforts to preserve as much of the original breast as possible through surgical advancements, it is undeniable that a woman's body undergoes changes due to alterations in breast shape, presence of scars, and other physical marks, which can impact her quality of life. Some of the impacts experienced by post-mastectomy patients include changes in self-identity (Sun et al., 2018), awareness, psychological expression, spirituality, misconceptions, economic burden, isolation, shame (Dsouza et al., 2018), as well as functional and emotional disturbances, poor body image, lower quality of life, and various emotional struggles (Ahn et al., 2022). Body image is a multidimensional concept that encompasses both positive and negative self-perceptions and attitudes, including thoughts, feelings, and behaviors, towards one's own body. In general, women tend to experience higher levels of dissatisfaction with their body image compared to men (Gruszka et al., 2022).

This research is based on the theory of grief and loss by Kubler-Ross (1969), which states that there are five phases of the loss response: denial, anger, bargaining, depression, and acceptance. The grieving response in post-mastectomy clients arises as a result of the loss felt either before or after the mastectomy. Grief is a normal response to any loss. Generally, the emotional response expressed to loss is manifested by feelings of sadness, anxiety, and others (Kurniawan et al., 2019). The

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Table 1. Participants' Characteristics.

Characteristics	n
Age mean (range)	48 (20-65)
Civil status	
Married	10
Widow	4
Single	1
Educational level	
Elementary school	4
Junior high school	5
Senior high school	2
Diploma	1
Bachelor	3
Job status	
Government employees	2
Private sector employee	2
Self-employed	3
Housewife	7
Student	1
Diagnose	
Breast cancer	14
Ductal Carcinoma in Situ	1
Stage of cancer	
Stage II	6
Stage III	9
Stage IV	1
Treatment besides astectomy	
Chemotherapy	15
Radiotherapy	1
Hormone therapy	6
Breast reconstruction	
Yes	1
No	14

nursing care approach using the Kubler-Ross grieving and loss theory is considered ideal to be applied in providing professional nursing care services, especially for post-mastectomy clients who require a process of accepting changes in their health status. It is necessary to understand the experiences of women who have undergone a mastectomy to help identify important aspects of treatment (Olasehinde et al., 2019). Based on the description above, it is necessary to conduct research to find and understand the meaning of body image, the impact, and the acceptance process of the conditions experienced. This research will help determine the anticipation program and improve the rehabilitation outcomes of breast cancer patients who have undergone mastectomy therapy.

METHODS

Design

In this study, a qualitative phenomenological

approach was employed to explore the information conveyed through the perspectives of each participant, relying on real-life descriptions of a phenomenon. The utilization of the qualitative method allows for the acquisition of rich information that can help understand the unique meaning of every human experience (Lundberg & Phoosuwan, 2022).

Ethical Consideration

This research has undergone an ethical review by the Ethical Committee for Health Research at RSU Haji Surabaya with ethical approval letter number: 073/42/KOM.ETIK/2019, dated November 28th, 2019. The ethical principles followed in this study included: respect for human participants, beneficence and non-maleficence, autonomy and freedom, veracity and fidelity, anonymity and confidentiality, and justice.

Participants and Settings

The participants for this study were selected using purposive sampling from the population between December 2019 and January 2020. The inclusion criteria for participants were as follows: (1) diagnosed with breast cancer and had undergone mastectomy therapy for at least 6 months in stage IIA to IV, (2) in the acceptance stage based on the results of sample screening using the Action and Acceptance Questionnaire for Cancer (AAQC) instrument by Arch and Mitchell (2016), (3) not experiencing moderate to severe pain based on the results of sample screening using the Numeric Pain Rating Scale instrument by McCaffery, M., Beebe, A., et al. (1989), (4) in a conscious (composmentis) and cooperative condition, and (5) able to communicate effectively in Indonesian and Javanese languages. The exclusion criteria included participants who (1) experienced post-mastectomy complications such as lymphedema, infection, seroma, hematoma, cellulitis, inflammation along the incision line, increased drainage, foul odor, or open sutures at the incision site, and (2) had hearing and speech impairments. Participants who did not follow the interview and validation phases in the complete study were considered drop-outs.

The determination of the sample size in this study was considered adequate when data saturation was reached, meaning that further participants did not provide any additional significant new information. The 8th and 11th respondents did not pass the assessment of the Action and Acceptance Questionnaire for Cancer (AAQC) and were excluded. Data saturation was achieved with the 17th respondent, resulting in a total of 15 participants used in this study.

Instruments

The sample screening process involved the use of two instruments: the Action and Acceptance Questionnaire for Cancer (AAQC) by Arch and Mitchell (2016), and the Numeric Pain Rating Scale (NPRS) (McCaffery & Beebe, 1989). The NPRS instrument was administered by the researcher and did not require testing for validity and reliability, as it is a commonly used instrument in both clinical and research settings in Indonesia. On the other hand, the AAQC instrument underwent validity and reliability testing conducted by the researcher. The validity of the AAQC instrument was tested using the SPSS program, with the criterion of r count > r table (0.878 for N-5, significance level 0.05). The testing was performed on a sample of five breast cancer patients at RSU Haji Surabaya, and the results indicated significant correlations between the instrument's question items and the total score, thus confirming its validity. For reliability testing, Cronbach's alpha was calculated for the AAQC instrument, resulting in a value of 0.994. As the obtained value of Cronbach's alpha exceeds the threshold of 0.6, the instrument can be considered reliable and consistent.

Data Collection

Prior to conducting in-depth interviews, a sample screening process was carried out to identify participants who met the inclusion criteria, which included being in the acceptance stage based on the AAQC questionnaire and not experiencing moderate to severe pain according to the Numeric Pain Rating Scale. For the in-depth interviews, the researcher utilized interview guidelines to explore the participants' descriptions of body image. In qualitative research, the researcher serves as an instrument, and other data collection tools used include in-depth interview guidelines, field notes, and recorders.

The interview guidelines were prepared based on the research objectives and adapted to the concepts of Kubler Ross's Loss and Grieving Theory (Kubler-Ross, 1969). The questions were designed to delve deeply and extensively into the participants' experiences. During the interviews, participants were encouraged to reflect on their experiences,

uncovering the meaning behind those experiences. Each participant had a unique perspective and understanding of the collected phenomena, contributing to the overall understanding of the phenomenon.

Field notes were taken to record nonverbal responses, gestures, expressions, and other relevant events during the data collection process. A tape recorder was used to capture all the information obtained during the interview. The interviews were conducted face-to-face, with a distance of approximately one meter between the researcher and the participant. This positioning allowed for easy observation and note-taking of the participants' nonverbal responses. The voice recorder was placed approximately 50 cm from the participant, with the microphone directed towards the participant. Additionally, a video recorder was positioned about 1 meter away from the participant.

After conducting the in-depth interviews, data triangulation was performed by cross-referencing the findings with patient medical records at RSU Haji Surabaya. The interview results and field notes were collected and the data was then described. The researcher reviewed all the descriptions of the phenomena provided by the participants. Following the description of the data, the researcher validated the interview results by contacting the participants again. Once the participants confirmed the validity and appropriateness of the interview results, conclusions were drawn and the data was presented.

Data Analysis

Qualitative data analysis in this phenomenological study uses Van Manen's (1997) method which consists of 6 steps, namely: (1) turning to the nature of the lived experience (2) exploring the experience as we live it, (3) reflecting on essential themes, (4) describing the phenomenon through the art of writing and rewriting, (5) maintaining a strong relationship to the phenomenon, (6) balancing the research context by considering parts and whole (Polit and Beck, 2013). To aid in the data analysis process, NVIVO version 12 Plus software developed by QSR International was used. NVIVO software provides tools and features that assist in organizing, coding, and analyzing qualitative data effectively.

RESULTS

The participating women (n = 15) were aged 20-65 years. Most of them are married, as housewives and suffer from stage two breast cancer. Caregivers of all participants came from families, both husbands, children, and parents (mothers) of participants. one-third of the participants had junior high and high school education. All had received chemotherapy, 1 had received radiotherapy, and 6 had received hormonal therapy. Only one underwent breast reconstruction, and the other did not have reconstruction (Table 1).

This study identified 4 categories and 11 subcategories. In the category of beliefs, there are two subcategories; the presence of breasts and the ideal self. In the category of thoughts, there are 3 subcategories; form, size, and function. In the category feelings, there are 3 subcategories; when diagnosed with cancer, mastectomy decision, and body shape changes. In the category of behaviors, there are 3 subcategories; attitude, action, and social roles (Figure 1).

Body Image

Body image is an individual's perception of his body related to physical appearance. This theme is identified through the categories of beliefs, thoughts, feelings, and behaviors which are the responses of the post-mastectomy client to the situation that is being experienced.

Theme 1: Beliefs

The presence of the breast is considered important which is the integrity of a woman's body. Losing part or all of the breasts will have a psychological impact on post-mastectomy clients.

> *"Yes, it's important, I used to have one and it was taken, thank God, after being reconstructed, now I have it again." (P8)*
> *"it's important, I was given one from birth, but if it's sick, how else do you want it or not, you have to take it" (P1)*

Self-ideal. Body shape changes experienced by women after mastectomy will affect the individual's ideal self. Positive self-ideals such as an attitude of optimism and being able to achieve the desired ideal for himself will increase individual self-esteem.

> *"No human is perfect because perfection belongs to God, the most important thing is to be a good person who can humanize people and help each other" (P2)*

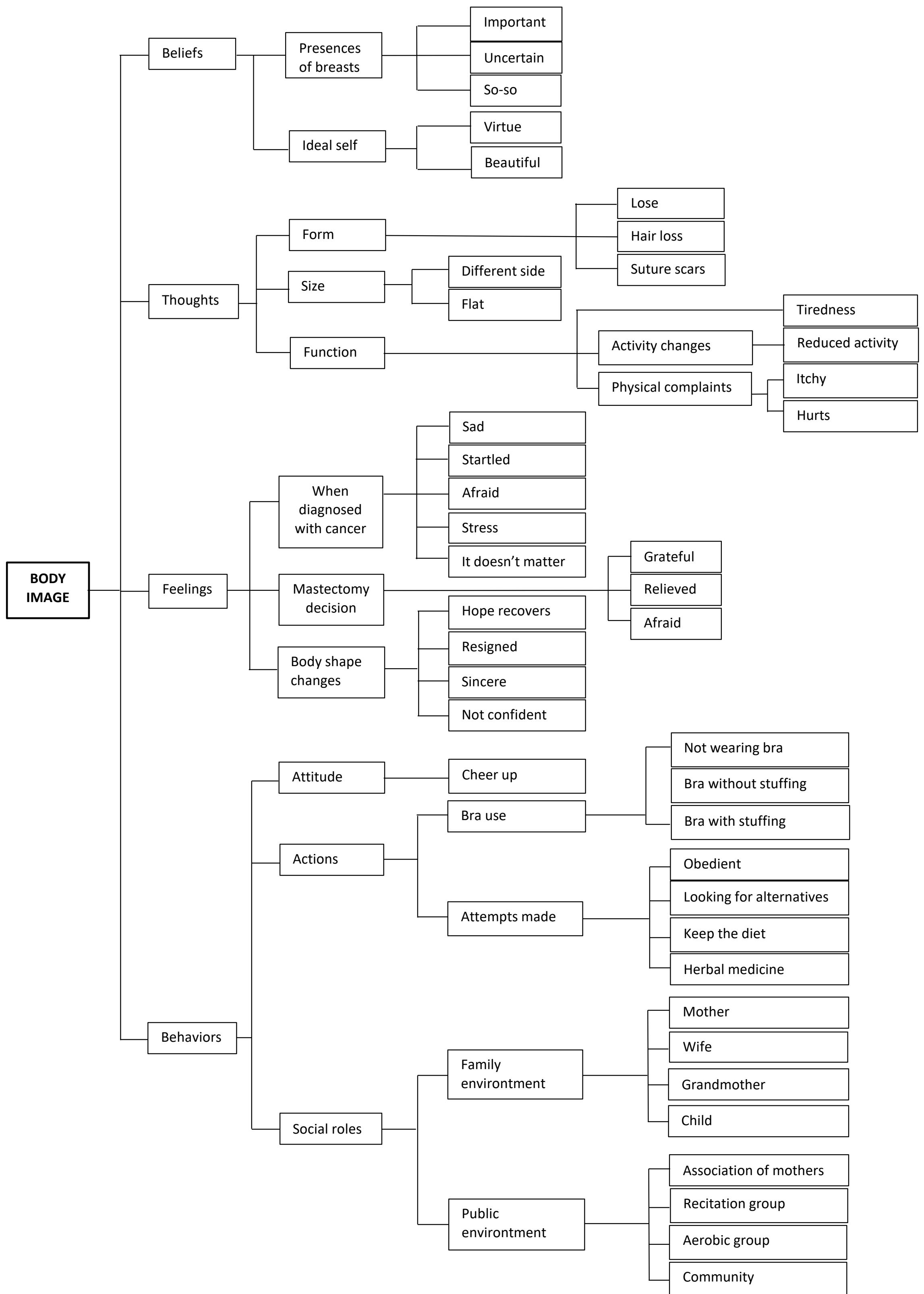

Figure 1. Body Image Categorization

Wulandari, S. M., Yunitasari, E., Kusumaningrum, T., Myint, N. M. M., & Subu, M. A. (2023). Body image perception among breast cancer patients after mastectomy: A phenomenology study. *The Journal of Palembang Nursing Studies.* 2(3), 151-164. http://dx.doi.org/10.55048/jpns87

"The important thing is good nature, being beautiful is relative." (P3)

Theme 2: Thoughts

Form. Perceptions of body shape changes experienced include feeling that something is missing, there are stitch marks, and hair loss. Feeling that something is missing in the body. This is because a person feels that he owns the body as a whole and when certain parts of his body are missing or not as before, it will cause loss.

"After the operation, now it's gone, what was usually there, held, and now it's gone, I thought, OK, this is what I've done. I must feel lost." (P3)

Hair loss occurs due to side effects of chemotherapy or radiotherapy.

"When I was bald, I cried, I cry every day" (P11)

Post-mastectomy clients also experience stitch marks due to the effects of surgery which reduce the aesthetics of the body.

"Just a scar due to incision, other than that there's nothing, I don't feel anything right now" (P15)

Size. The effect of a mastectomy apart from changing the body shape, some individuals also feel a change in the size of their breasts. Participants feel that their breasts are one sided and flat.

"I have never used a bra, I found out that this is big and small (while holding the breast alternately)" (P1)

"But even though mine is now gone, it's not like before, it's flat, it's okay, it doesn't look like I'm wearing a bra" (P5)

Function. Someone who undergoes removal of one or both breasts also experience changes in bodily functions such as fatigue, changes in activity and other physical complaints.

"If i'am too tired, it feels a bit thick. And I get tired more quickly than before the illness" (P9)

Activity decreased after experiencing pain and undergoing a mastectomy.

"Even though the activities are not as tight as before, sis, I'm still enthusiastic" (P12)

Physical complaints such as itching and pain were also experienced by most of the respondents.

"The skin looks like it's being pulled and the pain is a bit itchy." (P3)

"At night there is often pain like being pricked by a thousand needles and I apply medicine to warm the nerves. (P12).

Theme 3: Feelings

When diagnosed with cancer, of course, it was a blow to the participants so the participants felt sad, shocked, scared, and stressed and that's okay. This suggests that the participants in the early phase lost.

"...sad..." (P2, P3, P4, P5, P6, P8, P15)
"...shocked..." (P2, P4, P6, P8, P11, P14)

Mastectomy decision. Decision-making is influenced by several factors, one of which is the feeling of the individual making the decision. Positive feelings influence the outcome of decision-making. Most of the participants had positive feelings when deciding to undergo a mastectomy, namely, they were grateful and relieved and some felt afraid of undergoing surgery.

"...grateful..." (P2, P4, P6, P7, P10, P11, P14)
"...relieved..." (P3, P5, P12, P13, P14, P15)
"…scared…" (P3, P07)

Body shape changes that are experienced have an impact on changes in feelings that occur such as hope for recovery, surrender, and sincerity in facing breast cancer and the treatment being undertaken.

"I'm not ashamed because I want to get well." (P1).
"...resigned..." (P1, P3, P06, P08, P09, P12)
"...sicerely..." (P1, P6, P8, P13)
"Sometimes I don't have confidence" (P3)

Theme 4: Behaviors

Attitudes. Most of the participants expressed enthusiasm and struggled to fight against breast cancer.

"The important thing is that I have to keep my spirits up, I want to get well, and I have to get up." (P09)

Action. Lifting one or all of the breasts has a major influence on individual behavior or actions such as the use of a breast holder and the effort made.

"Because I still have one breast, I wear a bra that has foam." (P05)
"I wear a bra in which I stuff something in it with a handkerchief or cloth" (P03)

Most of the participants expressed the efforts

and endeavors they had made to fight cancer in their bodies, including by 1) following the advice of health workers, 2) seeking alternatives, 3) maintaining a diet, and 4) herbal treatment.

> *"I followed all the doctor's suggestions such as surgery, chemo, zometa, whatever I will do, all of this is my form of endeavor, hopefully it can relieve my pain." (P04)*
>
> *"Every month I join my uncle for bekam, he said it can get rid of dirty blood" (P13)*
>
> *"Maintain my diet, have fruit at home, don't eat what the doctor has forbidden." (P14)*
>
> *"I drink herbal drinks made from white turmeric, propolis, and collagen milk" (P12)*

Social roles. Fulfilment of roles in living daily life is also one of the categories that are of concern to the participants. Although experiencing changes in body condition, this does not change the role played by participants in everyday life. In domestic life, women play the role of mother, wife, grandmother, and child.

> *"Yes, if you're at home, you can be a wife and mother, be a housewife." (P08)*

Changes in the physical condition experienced do not have an impact on reducing the ability to fulfill roles in society or the community.

> *"I am still actively working, when there are recitation activities, PKK dharmawanita I bring merchandise, ..., even though the activities are not as busy as before I am still enthusiastic" (P12)*
>
> *"I join the cancer-survivor community" (P08)*

DISCUSSION

Losing a breast through mastectomy can elicit various responses from individuals, both positive and negative. However, the majority of participants in this study were able to accept the changes in body shape resulting from post-mastectomy with sincerity and resignation. As a result, they exhibited high enthusiasm and hope for a more comfortable recovery. Lundberg & Phoosuwan (2022) stated that body image is an important aspect associated with the quality of life after breast cancer treatment. Body image is a complex construct that encompasses thoughts, feelings, evaluations, and behaviors related to one's body (Hosseini & Padhy, 2023). In this study, body image is categorized into four components: beliefs, thoughts, feelings, and behaviors. Body image is a subjective self-assessment.

Beliefs refer to a person's convictions regarding the importance of body image in comparison to other aspects of their life (Rohmawati, 2017). In this study, post-mastectomy clients expressed the belief that the existence of their breast was significant, but if it harbored disease, its removal was inevitable. Furthermore, beliefs encompass the assessment of one's ideal self, which represents an individual's desired appearance and personality (Kiling & Kiling, 2015). The post-mastectomy clients in this study described the perfect woman as someone possessing positive characteristics and behavior. Positive self-ideals, such as an optimistic attitude and the ability to attain personal goals, can boost self-esteem. Higher self-esteem is associated with increased levels of happiness (Paz et al., 2022).

The ideal self-perception of participants in this study, particularly among the elderly, tended to focus on character and behavior, whereas younger and adult participants emphasized physical beauty. This aligns with previous studies indicating that older women in Korea and Lebanon displayed better functioning compared to younger individuals, while women under forty in Germany placed more emphasis on their body image than those over forty (Maharjan et al., 2018).

In this study, post-mastectomy clients believed that the removal of their breasts, despite resulting in changes in body shape, size, and function, would also eliminate their disease, fostering hope for recovery. Positive thinking plays a crucial role in improving body image. Individuals who think positively about their bodies exhibit a positive body image, leading to more positive feelings about their appearance and overall well-being (Stevens & Griffiths, 2020). Positive thinking can transform stressful situations, reduce negative emotions, alleviate stress, enhance problem-solving skills, and decrease anxiety levels (Rastogi et al., 2018).

Many participants in the study reported experiencing fatigue, leading them to reduce their activities. They also mentioned hair loss and physical complaints such as itching and pain in the surgical scars. These findings align with previous research on the quality of life of Croatian women after mastectomy, where hair loss and fatigue were identified as the most influential symptoms one month and one year after the procedure (Pačarić et

al., 2018). Upon receiving a cancer diagnosis, participants expressed feelings of sadness, shock, fear, and stress. Anxiety and depression can also manifest due to the loss of one or both breasts (The State of Queensland, 2018). These emotional responses align with Kubler Ross's theory of loss and grief, where the initial stages involve denial, anger, and depression before acceptance of the situation occurs. Participants not only verbalized their sadness upon receiving a breast cancer diagnosis but also displayed nonverbal expressions such as crying and sorrowful facial expressions. Crying serves as an expression of recalling past sad experiences. Previous research on Kubler Ross's psychological responses in cancer patients also found similar stages of denial, including responses such as fear, surprise, normalcy, sadness, crying, resignation, and readiness (Afuiakani et al., 2018).

Interestingly, some participants who shared their experience of receiving a cancer diagnosis went from tears to gradually appearing calm and even smiling happily when discussing their current situation and the acceptance of cancer and the mastectomy they underwent. Most participants demonstrated self-acceptance with an optimistic attitude, believing in their recovery. These findings align with previous research on Kubler Ross's psychological response in cancer patients, which shows an initial stage of denial followed by acceptance characterized by readiness, optimism about treatment, and confidence in recovery (Afuiakani et al., 2018). Post-mastectomy self-acceptance is influenced by various factors that impact the lives of women who have undergone the procedure (Irfan W & Masykur, 2022). The acceptance of participants with partners or husbands was found to be better and faster compared to those without partners, as they have someone to rely on and share their experiences with.

In this study, post-mastectomy clients expressed their patience by surrendering to God Almighty, accepting their fate, remaining grateful, seeking healing, and feeling relieved after their illness was addressed. These findings align with the research by Mufidah et al. (2022), which emphasizes the importance of patience in dealing with breast cancer. The benefits of patience include better emotional control, a calm and stable mind, and subjective well-being. Patience becomes a form of coping for individuals who have undergone mastectomy, allowing them to manage negative emotions and maintain a positive outlook, considering their life journey as a destiny from God Almighty.

Despite the feeling of losing one or both breasts, post-mastectomy clients in the study followed the doctor's advice to undergo mastectomy. This decision was driven by their strong enthusiasm for recovery, prioritizing healing over appearance. These findings align with the research by Chuang, Hsu, Yin, & Shu (2018), which suggests that cancer patients feel more at ease after mastectomy, as they believe the removal of their breasts eliminates cancer and their focus is primarily on healing rather than appearance. In this study, some participants who did not undergo breast reconstruction opted to use a bra as a way to justify their post-mastectomy appearance. These findings align with the research by Chuang, Hsu, Yin, & Shu (2018), which indicates that mastectomy alters women's perception of their bodies. Many women seek to restore their changed bodies by addressing their appearance through the use of external prostheses and resuming their regular lives, aiming to regain a sense of control over their bodies and self-identities.

Around 53% of participants in this study chose to use a bra, either with or without padding, as a breast prosthesis. In Western countries, up to 90% of women utilize external breast prostheses, while in China, 60% of patients wear breast prostheses after mastectomy. It has been reported that women who use breast prostheses experience improved global health status, better body image perception, and increased feelings of femininity, attractiveness, and overall quality of life (Maharjan et al., 2018).

Other participants in this study chose not to wear a bra as an external prosthesis. They prioritized comfort, as the surgical scars from post-mastectomy sometimes caused rubbing, pressure, and pain. Older participants tended to opt out of wearing bras, instead choosing loose-fitting clothes and headscarves that covered their breasts to conceal any perceived deficiencies. The United Kingdom National Health Service (NHS) advises post-mastectomy clients to wear a binder (an elastic material worn around the chest area with a Velcro fastener at the front to help reduce swelling and bruising), a post-operative bra, and a wireless sports bra (Senior Breast Clinical Nurse Specialist, 2019). Guidelines regarding breast prostheses, bras, and clothing after breast surgery recommend choosing bras with soft seams, a wide underband, deep front and side panels, full cups, cup separation, fully

adjustable straps, a simple design, and no underwires. These features help support the breast during the recovery phase, as well as accommodate nerve repair and skin changes resulting from radiotherapy (Breast Cancer Now The Research & Support Charity, 2022).

Some participants in this study had undergone or planned for breast reconstruction. They reported having a better body image compared to other post-mastectomy clients who did not undergo reconstruction, as they felt more satisfied with their current bodies. These findings align with previous studies showing that patients who underwent autologous reconstruction experienced higher satisfaction with their breasts, as well as greater psychosocial and sexual well-being compared to those who underwent implant reconstruction (Santosa et al., 2018). Post-mastectomy clients of younger age, particularly those who are still in their productive years, tend to opt for breast reconstruction. This corresponds with the research by Olasehinde et al. (2019), which suggests that young women are more inclined to undergo breast reconstruction as opposed to conservative mastectomy, as it is associated with significantly higher psychosocial well-being in terms of body image and sexual desire.

Participants in this study displayed less concern about their appearance compared to before, as they now place greater value on their bodies and take responsibility for their health. Their enthusiasm for achieving healing was demonstrated through their pursuit of alternative and herbal treatments and their commitment to maintaining a healthy diet. Alternative and herbal medicine serve as forms of complementary therapy, which is consistent with previous research exploring the experiences of breast cancer patients utilizing complementary therapies such as acupuncture/acupressure, tai chi/qi gong, hypnosis, meditation, music therapy, yoga, massage, reflexology, Reiki, and aromatherapy (Behzadmehr et al., 2020).

Optimism about recovery is a significant factor influencing the adaptation of individuals with breast cancer who undergo mastectomy. Breast cancer patients need to cultivate positive expectations regarding their recovery to prevent their condition from worsening. Optimism about recovery plays a role in the adaptation to chronic conditions such as breast cancer. The participants in this study displayed a sense of optimism through their efforts to seek medical treatment, explore alternative therapies, maintain a healthy diet, and utilize herbal medicines. Their efforts were accompanied by prayer and worship to God Almighty for healing. The participants expressed their hope to recover from breast cancer and resume their daily activities. Hope has been found to be associated with the quality of life of breast cancer survivors (Shen et al., 2020). Returning to pre-illness activities is a shared aspiration for individuals experiencing limitations, whether due to illness or other circumstances. However, post-surgery, it is necessary to exercise activity control by engaging in basic and light tasks. The majority of participants in this study reported reducing their activities with family support to minimize fatigue and concerns about recurrence.

Despite undergoing various post-mastectomy medical procedures such as chemotherapy, radiation, or hormonal therapy, the participants in this study were able to continue fulfilling their roles within their families. They were able to carry out light household tasks. These findings align with the research by Chuang et al. (2018), which suggests that maintaining daily activities can serve as a means to restore self-identity. By demonstrating their ability to carry out their family responsibilities as before, women assert that they remain unchanged following mastectomy.

Aside from fatigue, many participants reported experiencing itching sensations on their suture scars. Itching occurs when a stitched wound enters the proliferative stage, during which cells migrate from the body to the wound bed to aid in wound closure. As these various cells come together, the skin experiences tension, resulting in itching sensations. To alleviate itchiness from stitches, various measures can be taken, such as applying warm compresses, staying hydrated, using oils like olive oil, using fragrance-free and dye-free detergents for washing clothes, and utilizing natural ingredients like cocoa butter and silicone that are known to promote scar healing (IDN media, 2020). Unmarried participants tended to have a positive body image as they exhibited better physical performance and expressed hope for future breast reconstruction. This finding is consistent with research conducted in Nepal, India, Spain, Lebanon, and the United States, which suggests that unmarried women demonstrate better physical performance and experience better quality of life compared to married women (Maharjan et al., 2018).

The development of a positive body image

in breast cancer patients is closely tied to the support provided by their families, especially their children, spouses, grandchildren, and parents, with regards to their appearance. Despite undergoing mastectomy and the loss of one or both breasts, the participants did not feel regret or embarrassment about their current appearance because their families consistently offered positive support and accepted their perceived imperfections. This finding corresponds to the research conducted by Doori et al. (2022), which highlights the direct relationship between perceived social support and body image in women with breast cancer.

In stressful situations arising from changes in body shape, individuals often experience emotional distress, which can lead to depression, anxiety, and low self-esteem. Support from friends and family can help individuals feel valued and loved by others. Acceptance from close relationships aids in the process of reintegrating into society and enables individuals to accept the physical changes they have undergone (Puspita et al., 2017). The findings of this study indicate that body image encompasses an individual's beliefs, thoughts, feelings, and behaviors related to accepting their physical condition, understanding their abilities realistically, and being satisfied with themselves. Individuals in this state are consciously aware of their weaknesses, refrain from complaining, and remain resilient, indicating good self-acceptance. This aligns with Kubler-Ross (1969), which defines acceptance as the ability to face reality rather than giving up hope.

Self-acceptance for individuals who have undergone mastectomy is not an easy process. It involves being kind to oneself and finding happiness even when faced with the challenges of the disease. Self-acceptance acts as an internal source that influences a woman's coping process with compassion (Setiawan et al., 2021). Effective coping strategies also contribute to breast cancer survivors' ability to accept themselves and the changes that occur after mastectomy.

The body image experienced by the participants in this study is consistent with Kubler-Ross' theory of grieving and loss. According to Kubler-Ross (1969) the grieving response is characterized by behavior and encompasses five stages: denial, anger, bargaining, depression, and acceptance. The grieving response observed in cancer patients stems from the loss they experience either before or during therapy. It is well-known that grief is a normal response to any loss. Emotionally, the response to loss is often manifested through feelings of sadness, anxiety, restlessness, difficulty sleeping, and crying Herdman & Kamitsuru, (2019). In the phase of acceptance of body image observed in post-mastectomy clients in this study, participants accept the changes in their body shape, size, and function. They exhibit patience by surrendering and willingly accepting their situation, maintain optimism for recovery, make efforts to enhance their body image by using prostheses to increase self-confidence, and actively engage in their family and community roles.

Limitations

The validation of the interview results with participants was conducted online via WhatsApp due to the conditions of the COVID-19 pandemic and the Community Activity Restrictions program. This program is one of the policies implemented by the Government of the Republic of Indonesia to encourage people to stay at home and prohibit public gatherings, making it impossible to meet with the participants in person.

CONCLUSION

The description of body image in post-mastectomy clients encompasses their beliefs, thoughts, feelings, and behaviors. This response is influenced by several factors, including the belief in the importance of breasts, optimism about achieving one's ideal self, thoughts regarding changes in the body, self-acceptance, acceptance by others, enthusiasm for healing and comfort, and the role played in society.

Declaration of Interest

None

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Data Availability

The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

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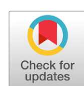

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Exploring the relationship between self-management and blood glucose level in patient with type 2 diabetes mellitus

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ABSTRACT

Background: Diabetes mellitus (DM) is a condition characterized by high blood sugar levels resulting from unstable blood sugar levels in diabetics. DM can not only be treated with pharmacological therapy but also requires non-pharmacological therapy, one of which is self-management.
Objective: to determine the relationship between the level of self-management and blood glucose in type 2 diabetes mellitus.
Methods: This research employed a cross-sectional design with 35 respondents selected through an accidental sampling technique. Data collection involved using the Summary of Diabetes Self-Care Activities (SDSCA) questionnaire and a Glucometer. The data were then analyzed using the Spearman Rank Test.
Results: The data analysis revealed that 62.9% of patients with Type 2 DM experienced self-management in the medium category, and 88.6% had blood sugar levels in the high category. Based on the analysis results, a p-value of 0.180 was obtained, indicating that there is no relationship between self-management and blood glucose levels in patients with type 2 diabetes mellitus. The correlation coefficient of -0.232 indicated a low correlation strength, and as the correlation coefficient is negative, the relationship between the two variables is not in the same direction.
Conclusions: It is evident that need more investigation of self-management practices to achieve stable or normal blood sugar levels. Improving self-management is crucial as it can help prevent complications associated with diabetes mellitus.

Keywords: self-management; blood sugar levels; type 2 diabetes mellitus

INTRODUCTION

Diabetes mellitus (DM) is one of the non-communicable diseases that continue to be a problem in Indonesia. DM is a condition characterized by high blood sugar levels resulting from unstable blood sugar levels in people with diabetes (International Diabetes Federation, 2017). Being a chronic disease, DM can have negative impacts on various aspects of life, and individuals with the condition must be able to independently manage all

Nursing and Healthcare Practices

- *Nursing and healthcare practices for patients with T2DM should prioritize improving self-management techniques to achieve stable or normal blood sugar levels.*
- *Healthcare providers should focus on educating patients about effective self-management strategies, as the data analysis shows that a significant percentage of patients had blood sugar levels in the high category.*
- *Given the low correlation strength between self-management and blood glucose levels, healthcare professionals must explore other factors and interventions that could contribute to better diabetes mellitus management and prevent complications.*

of these components throughout their lives (Ansari et al., 2022). The treatment of DM not only involves pharmacological therapy but also requires non-pharmacological therapy, such as self-management (M. Hidayah, 2019). Self-management is an integral part of DM control and involves individual behaviors carried out consciously, universally, and limited to oneself (Handriana & Hijriani, 2020). Effective self-management can help stabilize blood glucose levels.

According to the International Diabetes Federation (IDF) in 2017, the worldwide prevalence of DM among people aged 20-79 years was 425 million, and it is estimated to increase to 629 million by 2045. In Indonesia, the prevalence of people with diabetes mellitus increased by 1.6% from 6.9% in 2013 to 8.5% in 2018. Specifically in East Java, the prevalence of diabetes mellitus rose from 2.1% in 2013 to 2.6% in 2018 (Rikesdas, 2018). In Banyuwangi, there were 41,965 people with diabetes mellitus in 2019, with the Klatak Health Center having the highest number of diabetes mellitus patients, reaching 1,737 individuals. As of 2021, the Klatak Health Center had 346 DM patients receiving regular treatment, with blood sugar levels exceeding 200 mg/dL.

Type 2 diabetes mellitus (T2DM) can occur due to several risk factors, including lifestyle, medical conditions, genetics, psychosocial factors, and demographic factors. These factors include hyperuricemia, sleep quality/ quantity, smoking, depression, cardiovascular disease, dyslipidemia, aging, ethnicity, family history of diabetes mellitus, hypertension, physical activity, and obesity (Ismail et al., 2021). Diabetes mellitus causes short-term and long-term health complications. Blood sugar control is essential to reduce the morbidity and mortality of DM sufferers by preventing and/or delaying the emergence of complications. Optimal glucose level control can only be achieved when the patient adheres to self-management practices, such as maintaining a healthy diet, engaging in physical activity, monitoring blood sugar levels, taking medication regularly, and reducing risk factors (Mikhael et al., 2019). Proper self-management can effectively stabilize the blood sugar levels of people with diabetes.

Self-management refers to an individual's ability to manage daily life, control, and reduce the impact of the illness he or she suffers from. In the context of diabetes, self-management serves as the foundation of diabetes treatment and plays a critical role in preventing complications. Self-management strategies for diabetes patients include focusing on glucose control through diet, physical exercise, and medication/insulin management (Galuh & Prabawati, 2021). Efforts to control risk factors for type 2 diabetes mellitus are known as "CERDIK" actions, which involve: 1) Regular health checks to control weight, check blood pressure, blood sugar, and cholesterol regularly, 2) Avoiding cigarette smoke and refraining from smoking, 3) Engaging in regular physical activity for at least 30 minutes a day, 4) Maintaining a balanced diet with healthy food and balanced nutrition, 5) Ensuring adequate rest, and 6) Properly managing stress (Kemenkes RI, 2017).

In the literature review of self-management of Diabetes Mellitus, particularly focusing on Type 2 DM patients at the Tarogong Health Center, self-management is defined as the actions taken by DM patients to manage and control their condition, which include activities like diet, exercise, blood sugar monitoring, medication management, and foot care. The goal of self-management is to optimize the control of metabolism in the body, prevent acute and chronic complications, improve the patient's quality of life, and reduce the

cost of treating DM. In the study, nearly all respondents with T2DM (97.1%) demonstrated moderate self-management. These results differ from previous research where the self-management behavior of T2DM patients was categorized as good. The aim of this study is to evaluate the correlation between the level of self-management and blood glucose in type 2 diabetes mellitus.

METHODS

Design

A cross-sectional design was used in this study.

Sample and Setting

The study was based on the total population of 346 people with DM at the Klatak Health Center. The sample size was calculated using 10% of the population, resulting in 35 DM patients. The inclusion criteria for the sample were as follows: T2DM patients recorded at the Klatak Health Center, T2DM patients seeking treatment at the Klatak Health Center, T2DM patients willing to participate as respondents, and patients capable of performing activities independently. On the other hand, the exclusion criteria included: T2DM patients with complications that may interfere with the study (e.g., chronic kidney failure, heart failure, visual impairment), elderly individuals with T2DM who have hearing and memory impairments, and T2DM with physical, mental, or cognitive limitations that may interfere with research (e.g., visual impairment, hearing impairment, and mental impairment).

Data Collection

The independent variable in this study is self-management, while the dependent variable is the blood sugar levels in T2DM patients. The instruments used in this study to assess self-management were the Summary of Diabetes Self-Care Activity Questionnaire (SDSCA) and a glucometer to measure blood sugar levels in T2DM patients. The research was conducted at the Klatak Health Center in Banyuwangi, East Java, Indonesia, from May 11th to May 23rd, 2022. Data collection involved providing direct questionnaires to respondents who met the inclusion criteria. Researchers also checked the blood sugar levels of the respondents and administered the SDSCA questionnaire. Subsequently, the researchers summarized and processed the research results.

Data Analysis

The results of the data analysis in this study utilized the Spearman Rank statistical test using SPSS 25 for Windows. If the value obtained in the statistical test shows a p-value < 0.05, then there is a significant relationship between the level of self-management and blood sugar levels in T2DM patients. In other words, Ho is rejected. Conversely, if $p \geq 0.05$, it means Ho is accepted, indicating that there is no significant relationship between the level of self-management and blood sugar levels in patients with T2DM.

Ethical Consideration

The researcher followed an ethical process by submitting an ethical test to the Klatak Health Center. Research ethics in this study involved health workers as research subjects, necessitating adherence to research ethical standards. The researcher obtained informed consent from the respondents after providing a detailed explanation of the research process. Respondents signed the informed consent, and the researcher ensured the confidentiality of the data. The study received ethical approval from the Health Research Ethics Committee Institute of Health Science Banyuwangi, with the ethical approval number: 100/01/KEPK-STIKESBWI/IV/2022.

RESULTS

Table 1 presents the demographic characteristics of the respondents. It indicates that the majority of respondents were aged between 46 and 55 years old, with 18 respondents (51.4%). Among the participants, 26 respondents (74.3%) were female, and 20 respondents (57.1%) had an elementary school education level. Additionally, 22 respondents (62.9%) identified as housewives. The study also found that most of the participants had been suffering from diabetes mellitus for more than 5 years, with 24 people (68.6%).

The data analysis results revealed that 63% of patients with T2DM experienced self-management in the medium category, while 88% had blood sugar levels in the high category. The data was then subjected to the Spearman rank test using SPSS version 25 with a significance level of 0.05. The obtained p-value was 0.180, which indicates that the p-value is greater than 0.05 ($p > 0.05$). Since the p-value is greater than 0.05, the alternative hypothesis is rejected, and the null hypothesis is accepted. This means

Table 1. Respondents Characteristics (n=35).

Characteristics	Category	n	%
Age	46-55 years	18	51.4
	56-65 years	13	37.1
	>65 years	4	11.4
Gender	Male	9	25.7
	Female	26	74.3
Level of Education	Elementary school	20	57.1
	Junior high school	3	8.6
	Senior high school	11	31.4
Occupation	Bachelor	1	2.9
	Entrepreneur	6	17.1
	Housewife	22	62.9
	Civil servant	1	2.9
	Trader	6	17.1
Length of Disease	>5 year	24	68.6
	5-10 year	5	14.3
	>10 year	6	17.1

Table 2. The Correlation between Self-Management level and Blood glucose.

Self-management	Blood Glucose		Total	p	r
	80-144	>144			
Low	0 (0%)	12 (34%)	12 (34%)	0.180	-0.232
Medium	4 (12%)	18 (51%)	22 (63%)		
High	0 (0%)	1 (3%)	1 (3%)		

that there is no significant relationship between self-management and blood glucose levels in patients with T2DM. Additionally, the correlation coefficient was calculated to be -0.232, indicating a low correlation strength between the two variables. The negative correlation coefficient suggests that the relationship between self-management and blood glucose levels is not in the same direction; in other words, as self-management increases, blood glucose levels do not necessarily decrease or vice versa (Table 2).

DISCUSSION

Diabetes self-management is defined as the independent self-care carried out by individuals with DM, involving knowledge, attitudes, and behaviors to maintain personal health and prevent long-term complications (Nguyen et al., 2022). There are 5 pillars of self-management for type 2 diabetes mellitus, namely education, nutritional therapy (diet), physical activity (exercise), blood sugar monitoring, pharmacological interventions, and wound care (PERKENI, 2015). Good or bad self-management is influenced by several factors that can affect patients in managing their diabetes, namely age, gender, level of education, and duration of suffering from DM (Ningrum et al., 2019).

One of the factors that can affect self-management is age. Based on the study results, 22 respondents (62.9%) had self-management in the medium category, and almost half of them were 14 respondents (40.0%) aged between 46 and 55 years. The self-management questionnaires were filled out by respondents who have experienced an aging process, resulting in changes to their physique and anatomy. As a result, respondents with increasing age are better able to understand and monitor their self-management. This is in line with the research by Azissah (2017),

which states that the aging process occurring after the age of 30 years results in anatomical, physiological, and biochemical changes.

Another factor that can affect self-management is gender. According to the study results, 22 respondents (62.9%) had self-management in the medium category, and the majority of them (19 respondents, 54.3%) were female. The researcher mentioned that there were more female respondents than male because female respondents were better at managing their self-management health and paying more attention to it compared to men. This is in line with the previous study which suggests that females tend to exhibit better self-management compared to male clients (Fatimah, 2016).

The level of education is another factor that can affect self-management. Based on the study results, 22 respondents (62.9%) had self-management in the medium category, and almost half of them were 14 respondents (40.0%) with an elementary school education level. The researcher stated that respondents with elementary school education had less knowledge related to health sciences. On the other hand, higher education allows individuals to gain more knowledge, specifically about self-management information, leading to more positive behavior. This is in line with the theory proposed by Notoatmodjo (2014), which suggests that good education results in more open and objective behavior when receiving information.

Self-management can be influenced by the duration of suffering from DM. Based on the study results, it was found that 22 respondents (62.9%) had self-management in the medium category, and most of the long-time DM sufferers were 24 respondents (68.6%) with a duration of less than 5 years. From the self-management interviews, the researchers stated that respondents who had experienced DM for less than 5 years were more likely to neglect their self-management due to frustration from continuous treatment, leading to potential complications. These complications can worsen physical and psychological conditions, and coupled with a lack of knowledge about self-management, patients may face difficulties in improving their self-management and achieving therapeutic targets. This finding is in line with the research of (Windani & Rosidin (2019), which suggests that patients diagnosed with DM for less than 5 years exhibit better medical behavior compared to those with longer treatment duration who may feel frustrated.

Blood sugar levels fluctuate, increasing after eating and decreasing in the morning after waking up. Hyperglycemia occurs when blood sugar levels rise above normal, while hypoglycemia refers to blood sugar values falling below normal (PERKENI, 2015). Patients with T2DM may not be aware that their blood glucose levels are already high due to several factors. Factors that can be changed include the level of education, which can influence the patient's knowledge (Nababan et al., 2019), while factors that cannot be changed include age and gender (Akhsyari, 2016).

Age is a factor that can affect blood sugar levels. Based on the study results, 31 respondents (88.6%) had blood sugar levels in the high category (above 144 mg/dL), and almost half of them were 17 respondents (48.6%) aged 46-55 years. The aging process leads to reduced function of pancreatic cells in producing insulin. Additionally, there may be a decrease in mitochondrial activity in muscle cells, up to 35%, which results in increased fat levels in muscles, about 30%, leading to insulin resistance. Therefore, the risk of diabetes increases with age, particularly after the age of 45-60 years, as intolerance to blood sugar levels starts to rise.

Gender is another factor that can influence blood sugar levels. Based on the study results, 31 respondents (88.6%) had blood sugar levels in the high category (above 144 mg/dL), and the majority of them, 22 respondents (62.9%), were female. The number of women with high blood sugar levels is higher compared to men. This difference is attributed to increased sensitivity to insulin action in the liver and muscles among women, influenced by the hormone estrogen. Changes in estrogen levels can affect blood sugar levels, and an increase in estrogen can lead to insulin resistance.

Education level is another factor that can also affect blood sugar levels. According to the study results, 31 respondents (88.6%) had blood sugar levels in the high category (more than 144 mg/dL), and almost half of them were 16 respondents (45.7%) with an elementary school education level. Education plays a crucial role in increasing knowledge. Individuals with lower education may find it difficult to receive information due to limited knowledge, leading to inappropriate food choices and uncontrolled eating patterns, which in turn increases blood sugar levels.

Another factor influencing blood sugar levels

is the duration of suffering from DM. Based on the study results, 31 respondents (88.6%) had blood sugar levels in the high category (more than 144 mg/dL), and the majority of long-time DM sufferers were 24 respondents (68.6%) with a duration of less than 5 years. Prolonged periods of DM can cause continuous blood sugar level accumulation, leading to potential complications. Proper blood sugar control can be achieved if the patient follows appropriate therapy. This aligns with the research of Herrera-Rangel et al. (2014), which indicates that the longer a person experiences diabetes mellitus, the higher the incidence of complications they may encounter.

Based on the results of the Spearman rank test analysis using SPSS version 25 with a significance level of 0.05 (5%), a p-value of 0.180 was obtained, indicating that the p-value is greater than 0.05 ($p > 0.05$). Therefore, the alternative hypothesis was rejected, and H0 was accepted, implying that there is no relationship between self-management and blood glucose levels in patients with type 2 diabetes mellitus. The correlation coefficient of 0.232 suggests a low correlation strength. Furthermore, the negative correlation coefficient indicates that the relationship between the two variables is not in the same direction; a higher level of self-management does not necessarily lead to lower blood sugar levels.

In conclusion, the results of the research show that most of the self-management in individuals with T2DM (from 35 respondents) is at a moderate level, and their blood glucose levels are high, with more than 144 mg/dL, as observed in 18 respondents (51.4%). Self-management is an integral part of diabetes control. For instance, patients are often advised to maintain a healthy diet and exercise regularly to keep their glucose levels under control. Self-management involves conscious and individual actions for controlling diabetes, including treatment and prevention of complications. Various aspects are encompassed in diabetes self-management, such as dietary regulation (diet), physical activity/exercise, blood sugar monitoring, drug compliance, and self/foot care (Handriana & Hijriani, 2020).

Blood sugar levels increase after eating and decrease in the morning after waking up. Hyperglycemia occurs when blood sugar levels rise above normal, while hypoglycemia is when there is a decrease in blood sugar values below normal (PERKENI, 2015). Typically, the highest level one hour after eating should not exceed 180 mg per 100 cc of blood (180 mg/dL). If it goes beyond this level, the kidneys cannot retain the excess sugar, and it will be excreted in the urine. This can be toxic and may lead to weakness, complications, and other metabolic disorders. When the body doesn't receive enough energy from sugar, it processes other substances, such as fat and protein (Desita, 2019).

Self-management comprises five aspects: dietary management, physical activity, blood sugar level monitoring, regular medication intake, and foot care. The self-management questionnaire consisted of 14 questions. From the results of the self-management questionnaire, most of the 20 respondents (57%) were classified as having poor dietary management, 24 respondents (69%) had poor physical activity, and almost all, 33 respondents (94%), had poor foot care.

Based on the researchers' assumptions and study results, most respondents had poor dietary management, with 20 respondents (57%) falling into this category. This is likely because the respondents did not meet several aspects of proper dietary arrangements, such as avoiding sweet foods and high-carbohydrate foods, which is particularly important for people with T2DM. Therefore, diabetic patients need to be disciplined in their diet settings. The dietary regulation aims to control metabolism and maintain blood sugar levels within the normal range.

Furthermore, most respondents had poor physical activity, with 24 respondents (69%) falling into this category. This is attributed to a lack of physical activity, particularly among female patients, most of whom are housewives. The lack of regular physical activity can have a negative impact on insulin sensitivity, which is crucial for stabilizing blood sugar levels. This finding is consistent with research by Ariyani & Badaruddin (2022), which indicates that low-intensity physical activity affects glucose utilization, leading to persistently high blood glucose levels in the circulation.

From the research results, it was found that almost all respondents (94%) were categorized as having poor foot care practices. This was attributed to the respondents' lack of knowledge and information about proper foot care for individuals with DM. Foot care is essential to prevent the occurrence of diabetic foot or foot ulcers. It is a crucial activity for people with DM as it aims to reduce the risk of foot ulcers. Key aspects to consider when performing foot

care include daily foot examination, thorough washing of the feet, proper drying with a soft cloth, choosing comfortable footwear, and checking the condition of the shoes used. This aligns with research by Sonsona (2014), which emphasizes the significance of foot care for people with DM, as foot disorders are the most common problem leading to the need for treatment, amputations, or lifelong disabilities.

In summary, the research indicates that self-management is still in the moderate category, leading to continuous increases in blood sugar levels among individuals with diabetes mellitus, despite some efforts in certain self-management aspects. Therefore, patients can improve their self-management, especially in the aspects of diet food management, exercise, and foot care, by receiving education and following the recommendations provided to them. Proper education and adherence to the recommended self-management practices can contribute to better diabetes control and overall health outcomes for patients.

CONCLUSION

This study established a relationship between self-management and blood sugar levels in patients with T2DM at Klatak Community Health Center. The findings indicate that need more investigation about self-management in controlling blood sugar levels among patients with T2DM. It is hoped that the results of this study will encourage respondents to actively engage in every activity conducted by the health center related to diabetes mellitus self-control. By practicing good self-management, patients can effectively prevent complications and maintain stable blood sugar levels. This, in turn, can lead to improved overall health outcomes for individuals with diabetes mellitus.

Declaration of Interest

None

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Data Availability

The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

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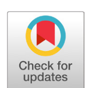

Test anxiety and academic performance: A correlational study among nursing college students

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ABSTRACT

Background: Test anxiety is defined as an individual's response to stimuli associated with their experiences in testing or evaluative situations.
Objective: This study aims to investigate the relationship between test anxiety and the academic performance of nursing college students.
Methods: We conducted a descriptive correlational study, selecting a sample of 98 nursing students through convenient sampling at a selected nursing college in Kerala, India. Data were collected using various tools, including a background variable proforma, a proforma for evaluating the academic achievement of nursing students, and the Westside Test Anxiety Scale.
Results: Our findings revealed a statistically significant negative correlation (r=-0.4) between test anxiety and academic performance (p<0.05). This suggests that reducing test anxiety can lead to an improvement in academic performance.
Conclusions: There is a need to plan psychological interventions aimed at reducing test anxiety and enhancing the academic performance of students. These interventions should be integrated at the policy level of academic performance management.

Keywords: test anxiety; academic performance; nursing students; nurse

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INTRODUCTION

Anxiety is a widespread problem that contributes to poor academic performance among students worldwide (Dawood et al., 2016). In recent years, the study of test anxiety and its various manifestations has grown significantly. Despite achieving good results throughout the year, the majority of nursing students, when compared to other students, exhibit high levels of test anxiety during the final exam (Dawood et al., 2016; Kaur Khaira et al., 2023; Shapiro, 2014).

Students frequently experience test anxiety, which negatively affects their performance on exams. Previous study by Kavakci et al. (2014) with 436 randomly selected students (220 female, 216 male) from four schools used various scales to assess test anxiety. Findings revealed that 48.0% of students exhibited test

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- *Teachers in healthcare education should be aware of the impact of psychological factors, such as test anxiety, on students' academic progress.*
- *Educating teachers about the psychological aspects of anxiety can help them better support their students in healthcare programs.*
- *Implementing strategies to reduce test anxiety among college students, as suggested for nurse educators, can improve academic performance and future success in healthcare careers.*

anxiety, with significant gender differences. Test anxiety correlated with several factors, including attention deficit hyperactivity disorder (ADHD) symptoms, depression, and social anxiety, and was linked to higher suicide attempt rates and internet use.

In situations involving tests, test anxiety is characterized by physiological over-arousal, tension, and physical symptoms, as well as feelings of concern, dread, fear of failure, and catastrophizing (Drachev et al., 2018). Individuals who experience significant worry, anxiety, and discomfort when taking a test or just before it are said to have this physiological condition (Sun et al., 2020). This fear poses significant obstacles to learning and performance. This study suggests that teachers can assist their students in managing their anxiety levels by avoiding excessive pressure (Hsu & Goldsmith, 2021). Parents and society should also work towards reducing tension and anxiety among students to improve their academic performance (Wu et al., 2022). It implies that teachers should employ friendly gestures during classes, but in a measured and controlled manner.

Teachers have the power to improve or transform the classroom environment, moving from standard note-taking and traditional classroom activities to a vibrant, anxiety-free, and action-oriented setting. Utilizing strategies like group discussions, role play, and engaging activities can create a stress-free atmosphere that enhances academic performance (Cheung & Ng, 2021; Jääskä & Aaltonen, 2022). Teachers can diversify their lesson plans and classroom activities by incorporating various teaching methods and catering to different learning styles (Yin et al., 2020). Additionally, conducting periodic tests can be beneficial in aiding teachers in their lesson planning and preparation. Through supporting students' actions and behavior, teachers can further stimulate cognitive development during test preparation (Vandenbroucke et al., 2018). This study suggests that teachers can assist their students in managing their anxiety levels by avoiding excessive pressure. Parents and society should also work towards reducing tension and lowering anxiety among students to enhance their academic performance. Furthermore, it implies that teachers should employ friendly gestures during classes but exercise moderation and control in their approach. This study aims to investigate the relationship between test anxiety and the academic performance of nursing college students.

METHODS

Design

A quantitative research approach, specifically a descriptive correlational study, was conducted at a selected nursing college in Kerala, India. The objective of the study was to assess the impact of test anxiety on the academic performance of college students.

Sample and Setting

In this study, the sample size was estimated based on the results of a previous study on anxiety among university students, resulting in a sample size of 98 for the study groups. The samples were selected using a convenience sampling technique.

Instruments

The variables in this study include test anxiety and academic performance among college students.

The Westside Test Anxiety Scale is a standardized tool that was developed. The Rosenberg Self-Esteem Scale (RSES) used in the study demonstrated acceptable internal reliability with a Cronbach's alpha of 0.828. This scale consists of 10 items, rated on a 4-point scale (3-Strongly agree, 2-Agree, 1-Disagree,

Table 1. Frequency and Percentage Distribution of Background Characteristics of Nursing Students (n=98)

Category	n	%
Age		
18 years	59	60
19 years	37	38
20 years & above	2	2
Medium of Instruction in School		
English	67	68
Tamil	30	31
Others	1	1
Sector of School Education		
Government School	14	14
Aided School	32	33
Private School	52	53
Percentage of marks obtained in Higher Secondary examination		
< 60%	17	17
61-74%	59	60
>75%	22	23

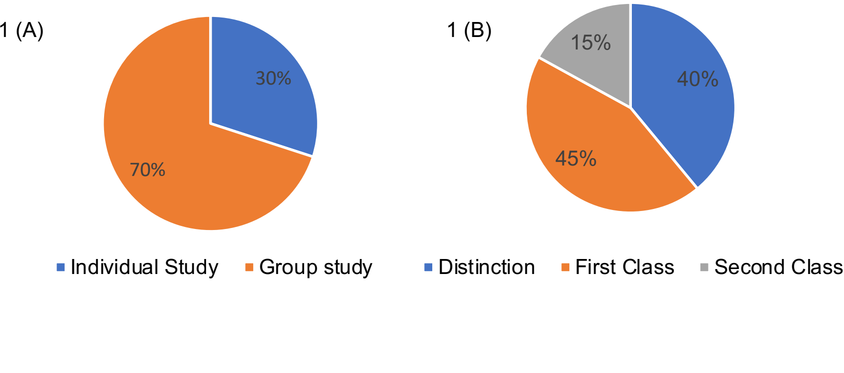
0-Strongly Disagree), comprising both positive and negative statements. Negative items were reverse-scored. To minimize respondent bias, positive and negative items were presented in random order. The total score was calculated by summing the numerical responses for each item after reversing the scores for negative items. Therefore, the total possible score ranged from 0 to 30, with higher scores indicating higher self-esteem.

In this study, the assessment of academic performance relied on the total marks attained by students in the most recent college examination, which was scored out of 75 and subsequently converted into a percentage. This average percentage served as the metric for evaluating academic performance. Additionally, the study encompassed an examination of baseline characteristics, including factors such as age, monthly family income, religion, family type, residential area, medium of instruction in prior education, academic performance in the 10th and 12th standards, and the educational background of the students' parents.

To gauge students' test anxiety, the researchers employed the Westside Test Anxiety Scale, a standardized 10-item rating scale developed by Richard Driscoll in 2007. This scale offered five response options (ranging from 'Always true' to 'Never true') for each item. The 10 items were categorized into two groups: six items assessed memory loss and poor cognitive processing (items 1, 4, 5, 6, 8, and 10), while four items gauged students' concerns and worries related to examinations (items 2, 3, 7, and 9). The scale's total possible score spanned from 10 to 50, with test anxiety scores calculated by dividing the total obtainable score by 10. These scores were then interpreted on a scale from comfortably low test anxiety to extremely high anxiety.

To evaluate academic performance, a proforma was utilized, taking into account the total marks achieved by students in both model theory and model practical examinations. The question papers for these examinations were developed following the guidelines provided by Kerala University, and the overall marks obtained were converted into a percentage. Academic performance was categorized into three groups: Distinction (>75%), First Class (74% - 60%), and Second Class (<60%).

The validity of these assessment tools was ensured through expert evaluation in various relevant fields, including nursing education, nursing research, psychology, and psychiatric nursing. Any suggested modifications or improvements made by these experts were incorporated into the assessment tools before data collection commenced.



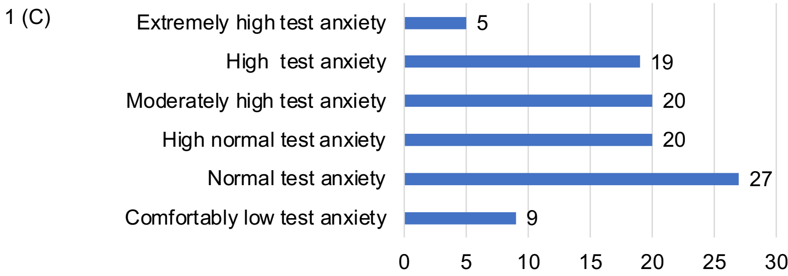


Figure 1. (A) Percentage distribution of preferred study habits during examination preparation among nursing students; (B) Level of academic performance of nursing students; (C) Percentage distribution of level of test anxiety among nursing students

Data Collection

The study was conducted after obtaining clearance from the Ethical Committee. Consent was obtained from all participants before data collection, and confidentiality was maintained throughout the study. The data were collected through a Google questionnaire from nursing students.

Data Analysis

Descriptive and inferential statistics were analyzed. The collected data was entered and analysed using appropriate descriptive (Frequency, %, Mean and SD), and inferential (correlation) statistics using SPSS version 20.

Ethical Consideration

Institutional Ethical Committee approval was obtained for the data collection setting. Informed consent was given and signed by the participants, and the researchers also adhered to ethical principles.

RESULTS

Table 1 illustrates that the majority of students were 19 years old (60%), attended English-medium schools (68%), scored between 61-74% on their current term examinations (60%), and studied in private schools (53%). Figure 1(A) reveals that the majority of students preferred studying in groups (70%), while 30% preferred individual study. Figure 1(B) demonstrates that 45% of nursing students achieved first-class grades, followed by distinction (40%) and second-class (15%) in the examination. Figure 1(C) displays the distribution of test anxiety levels among students: 5% had extremely high test anxiety, 19% had high test anxiety, 9% had high-normal test anxiety, 27% had normal test anxiety, 20% had high-normal test anxiety, and 20% had moderate-high test anxiety. Furthermore, the statistical analysis indicates that the correlation coefficient ‘r’ is 0.40, indicating a negative correlation between academic achievement and test anxiety among nursing students.

DISCUSSION

A previous study that assess testing times and the association of intolerance of uncertainty and metacognitive beliefs with test anxiety among college students (Huntley et al., 2022). Approximately 25% of college students experience high test anxiety, with females reporting more severe test anxiety than males. Highly test-anxious individuals react with excessive worry about the consequences

of failure and experience somatic anxiety symptoms (e.g., muscle tension) during tests (Huntley et al., 2019). Test anxiety directly interferes with the process of taking tests and also influences students' learning style, with test-anxious students more likely to adopt a surface-learning approach. Given the negative effects of test anxiety on learning and test performance, understanding and treating test anxiety is essential so that students can fulfil their academic potential (Ayalp & Özdemir, 2016; Huntley et al., 2022).

The findings indicate a negative correlation between college students' academic success and test anxiety, suggesting that as anxiety levels rise, academic achievement declines, and vice versa. This correlation may be attributed to social factors, including pressure and high expectations from parents, teachers, schools, and society, which can lead to elevated anxiety levels and subsequent tension, ultimately resulting in lower academic achievement (Mofatteh, 2021; Zheng et al., 2023). Additionally, increased competition in various aspects of society may contribute to this phenomenon. Nowadays, academic achievement is often assessed solely based on grades and numbers, without considering the individual potential and capabilities of students (Kool et al., 2018). This trend encourages rote memorization over understanding, which represents a lower level of cognitive development. Consequently, it leads to diminished academic achievement.

Several studies have demonstrated that an individual's psychological well-being is an essential component of health (Kim et al., 2017; Trudel-Fitzgerald et al., 2019). Stress and anxiety both play significant roles in an individual's functioning, and they have been shown to exert a powerful influence on students, affecting their academic achievement and performance in their courses (Zeng et al., 2021).

CONCLUSION

It can be inferred that college administrators, particularly teachers, should be aware of the effect that test anxiety has on students' academic progress. Teachers need to be educated about the psychological aspects of exam anxiety to better meet the needs of their students, and they must closely monitor how they interact with classmates and other individuals. To develop programs that will enable teachers and administrators to work more effectively as a group, as well as individually in the classroom and institutionally, research must be conducted. Nurse educators and other stakeholders should create and implement a variety of strategies to reduce test anxiety among college students. This will also contribute to enhancing academic performance, which is essential for achieving success in life.

Declaration of Interest

The author declares that this manuscript does not have a conflict of interest with the other study or author.

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Data Availability

The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

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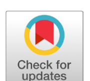
CASE STUDY



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Family-centered care for a patient with multiple organ dysfunction syndrome in the intensive care unit: A case report

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ABSTRACT

Background: Patients with multiple organ dysfunction syndrome (MODS) require complex intensive care, and family involvement plays an essential role in achieving patient recovery. Family-centered care in the intensive care unit (ICU) benefits patients, families, and healthcare workers.
Objective: This case study aimed to evaluate the family-centered care approach for patients with MODS in the ICU.
Case: A 46-year-old male patient with MODS presented various problems, including the risk of respiratory infections, impaired renal perfusion, and pressure sores. An interview with the patient's family revealed that they felt guilty, worried, and lacked sufficient information about the patient's condition. The interventions provided to the family included giving them information about the patient's condition, care plans, and evaluation results after procedures, providing spiritual guidance, offering family support, and involving them in the patient's required procedures.
Conclusion: After the patient had been admitted for two days, there was an improvement in the patient's outcomes. Simultaneously, the patient's family experienced a sense of calmness and increased satisfaction with the provided health services. To facilitate the implementation of family-centered care in the ICU, it is crucial to further develop hospital policies. Moreover, achieving successful family-centered care necessitates the support and cooperation of the medical staff.

Keywords: family-centered care; multiple organ dysfunction syndrome; intensive care unit; case report

INTRODUCTION

Multiple Organ Dysfunction Syndrome (MODS) is a phenomenon where two or more organs or all body systems fail to function after severe trauma or infection (Hu et al., 2018). MODS is a serious and potentially fatal condition (Asim et al., 2020). The mortality rate for patients with MODS ranges from 40% to 72% (Poovazhagi, 2014). The high mortality rate makes this condition dangerous and necessitates complex and intensive treatment. To effectively manage MODS, it is essential to have the cooperation of the patient's family. This is because the

Nursing and Healthcare Practices

- *Nursing and healthcare practice should include providing comprehensive information to patients and their families about the patient's condition, care plans, and evaluation results after procedures.*
- *Implementing family-centered care in the ICU can lead to improved patient outcomes and increased satisfaction with healthcare services for both the patient and their family.*
- *To ensure successful family-centered care, collaboration and cooperation between medical staff and families are essential, emphasizing the need for supportive hospital policies.*

family can provide valuable emotional support and aid in the patient's recovery. Without their involvement, the patient's physiological decline and death may be more likely. It is crucial to work together as a team to ensure the best possible outcome for the patient (Babaei & Abolhasani, 2020). Family-centered care is an approach that involves respecting the rights of the patient and family, sharing information about the patient's condition and treatment, involving the family in decision-making, and collaborating with them during treatment (Davidson et al., 2017).

Family-centered care is crucial for managing patients with MODS and ensuring exceptional healthcare. MODS is a critical condition requiring extensive clinical management and significant healthcare resources (Asim et al., 2020). Family-centered care in the intensive care unit is an approach that has been shown to benefit not only the patient but also the family and healthcare workers. By involving the family in the patient's care, it can help improve outcomes and reduce stress for both the patient and their loved ones. It also allows healthcare workers to better understand the patient's needs and preferences, leading to more effective and personalized care (Schwartz et al., 2022). Hamzah, et al. (2017) state that involving family members in the Intensive Care Unit (ICU) improves respect, collaboration, and support. Other studies also state that family presence in the ICU is associated with increased communication and involvement in decision-making (Naef et al., 2021). Thus, nurses play an essential role in involving the patient's family in the ICU. This case study aims to evaluate the family-centered care approach to patients with multiple organ dysfunction syndrome in the intensive care unit.

CASE PRESENTATION

A 46-year-old male patient with a body weight of 70 kg experienced multiple organ dysfunction syndrome (MODS) due to diabetic ketoacidosis. The patient's past medical history includes a ten-year history of hypertension, and diabetes and high cholesterol were diagnosed two months ago. However, the patient did not adhere to medication or regular health check-ups. There is a family history of hypertension. Before falling ill, the patient was actively smoking, consuming caffeine, and eating processed fried foods. The patient was initially treated at the Emergency Room of government hospital in West Java for two days before being transferred to the ICU on the third day of treatment.

At the time of the study, the patient's level of consciousness under the influence of sedation, as measured using the Ramsay score, was 5 points. The Sequential Organ Failure Assessment (SOFA) score was 11 points, indicating a mortality rate of 45.8%. The Acute Physiology and Chronic Health Evaluation II (APACHE II) score was 25 points, indicating a mortality rate of 55%. Both the SOFA and APACHE II scores suggest that the patient is experiencing dysfunction in multiple organs.

In the respiratory system, the patient was classified as having Acute Respiratory Distress Syndrome (ARDS) at a severe level, with a mortality rate of 45% (pO_2 69 mmHg/FiO_2 90%), respiration rate of 22 breaths per minute, and SpO_2 of 91% with the PC-SIMV ventilator mode. Blood gas analysis revealed primary respiratory acidosis with secondary metabolic acidosis (pH 7.2; pCO_2 49.6 mmHg; pO_2 69 mmHg; HCO_3 19.6 mmHg; BE -7.7). The patient was at risk of developing ventilator-acquired pneumonia (VAP), as evidenced by thick white sputum, intercostal retractions, increased leukocyte count (16,620 /uL), temperature of 37 degrees Celsius, and a Beck Oral Assessment Scale (BOAS) score of 11 points (requiring assessment every shift, brushing of teeth every shift, and lip balm application every 2 hours).

Table 1. Clinical Laboratory Results

Parameter	Reference	On Admission	Day 1	Day 2
Haemoglobin (g/dL)	14-17.4	11.4	11.8	9.7
Haematocrit (%)	41.5-50.4	39.7	40.8	32.5
Leukocytes (/uL)	4.400-11.300	16,620	11,590	10,360
Thrombocyte (/uL)	150,000-450,000	174,000	162,000	145,000
Urea (mg/dL)	19-44	85.6	55.7	137.2
Creatinine (mg/dL)	0.72-1.25	6.00	3.88	7.32
Na (mEq/L)	135-145	140	141	141
K (mEq/L)	3.5-5.1	6.7	4.5	5.7
Cl (mEq/L)	98-109	108	109	107
pH	7.35-7.45	7.2	7.36	7.2
pCO2 (mmHg)	35-45	49.6	29.6	46.6
pO2 (mmHg)	80-100	69	154.4	157.1
HCO3 (mmol/L)	22-26	19.6	17.6	19.3
BE (mmol/L)	-2 up to +2	-7.7	-7.3	-7.6
SaO2 (%)	96-100	89,3	99.3	99.4

Na (natrium), K (kalium), Cl (chloride), pH (potential of hydrogen), pCO2 (partial pressure of carbon dioxide), pO2 (partial pressure of oxygen), HCO3 (bicarbonate), BE (base excess), SaO2 (oxygen saturation).

Based on the respiratory system assessment, the patient was at risk of respiratory infection.

In the urinary system, the patient had a bright yellow urine output of 70 cc/hour, a fluid balance of -293/24 hours, grade II edema in both legs, increased blood pressure (146/84 mmHg, MAP 90 mmHg), pulse rate of 108 beats per minute, increased potassium (6.7 mEq/L), urea (85.6 mg/dL), and creatinine levels (6.00 mg/dL). The urinary system assessment indicated that the patient had impaired renal perfusion problems (Table 1).

In the integumentary system, the patient was at risk of developing pressure sores. This was evidenced by dry and scaly skin on the heels and a 1 cm x 1 cm laceration on the back with a red wound base. The depth of the wound was less than 1 cm on the first day of admission. The patient had a total dependence level, and the Braden scale score was 13, indicating moderate risk.

During the family interview, it was found that the patient's family members felt guilty, worried, and frequently asked about the patient's condition while expressing their emotions through crying. They mentioned that they were not provided with sufficient information about the patient's condition. According to their explanation, the family felt involved only when health workers needed necessary documents, without receiving explanations about the patient's condition after procedures such as intubation, central venous catheter installation, and double lumen catheter installation. The patient's family expressed their hope to receive daily information about the patient's condition and to be actively involved in the ICU team.

The care plan was created based on the patient's problems. According to the Institute for Healthcare Improvement (IHI) and Permenkes RI number 27 of 2017, the patient requires oral care every shift with a soft toothbrush and lip balm application every 2 hours. This is aimed at preventing the occurrence of Ventilator-Associated Pneumonia (VAP), which can worsen the patient's MODS condition. The role of the patient's family is to participate in and carry out the procedure, if possible, accompanied by a nurse. Additionally, the patient's impaired renal perfusion indicates a need for a haemodialysis procedure, so the doctor must obtain informed consent from the patient's family. Furthermore, studies have shown that repositioning and administering olive oil are effective in preventing pressure sores (Ippolito et al., 2022). The family will be taught how to apply olive oil and perform massages with the assistance of a nurse. The care plan will be carried out during the designated visit time, as there is a policy limiting visit times. During the visit, the family will also be provided with information about the patient's condition, care

plans, and patient trajectory. Additionally, they will receive spiritual guidance to reduce family anxiety (Klimasiński, 2021) and be provided with family support (Schwartz et al., 2022).

After two days of admission, an evaluation was conducted for both the patient and the family. The results of the patient evaluation showed an improvement in the outcomes, as measured by a SOFA score of 9 points, indicating a mortality rate of 26.3%. The APACHE II score was 19 points, indicating a 25% mortality rate. The evaluation of the respiratory system revealed no intercostal retractions, and the ARDS classification was at a moderate level with a mortality rate of 32% (pO2 157.1 mmHg/FiO2 90%), respiration rate of 16 breaths per minute, and SpO2 of 98% with ventilator mode on PC AC. The leukocyte count was within the normal range (10,360 / uL), temperature was 37 degrees Celsius, and the sputum was thin and white. The BOAS score obtained 6 points (requiring review twice a day, tooth brushing twice a day, and lip moisturization every 4 hours). These results indicate that oral care interventions effectively reduced the risk of VAP in patients with MODS.

The evaluation of the urinary system showed decreased urine output with bright yellow 18-23 cc/hour, fluid balance of +800 cc/24 hours, grade II edema in both legs, increased blood pressure (153/82 mmHg, MAP 100 mmHg), pulse rate of 103 beats per minute, increased potassium (5.7 mEq/L), increased urea (137.2 mg/dL), and increased creatinine (7.32 mg/dL) (Table 1). It is important to note that the haemodialysis intervention does have an effect; however, in this case, the patient underwent haemodialysis for the first time. According to De Nicola et al. (2012), patients who have recently undergone haemodialysis may experience increased creatinine levels because the effective removal of metabolic wastes from the body is not yet fully functional, leading to the accumulation of metabolic waste substances in the blood.

The evaluation of the integumentary system showed that the skin on the heel is no longer scaly, the laceration on the back has improved, the patient is in a state of total dependence, and the Braden scale score is 15 points, indicating a low risk of pressure sores. The evaluation of the patient's family revealed a decrease in anxiety, which was evident from both non-verbal and verbal responses. The patient's family mentioned that their anxiety was reduced, and they appeared less tense and more open when communicating with the nurse about the patient's needs.

DISCUSSION

Family-centered care is based on core concepts, namely dignity and respect for the rights of patients and families, sharing information about patient conditions, including family participation in making decisions, and collaborating with families regarding care planning (Davidson et al., 2017). The implementation of family-centered care in the ICU is the strongest predictor of increasing respect, collaboration, support, and involvement in decision-making (Naef et al., 2021).

Patient Visit Policy

In this case, the hospital's policy for visitation time in the ICU allows 30 minutes for one patient's family member per day. However, the timing of patient visits should be carefully considered, as it must be flexible and aligned with the family's rhythm, rather than solely following institutional guidelines (Davidson et al., 2017). Research has shown that flexible family visits can reduce delirium or cardiovascular complications (Beesley & Brown, 2020). Limiting patient-family visits is not unique to this case, as the literature also highlights similar occurrences in ICU settings (Jacob et al., 2016; Liu et al., 2013). Due to the limited time, the family's involvement is restricted to providing information and participating in some procedures.

Family Participation During Rounds

In this case, nurses and doctors invited the family to discuss future treatment plans and make decisions regarding haemodialysis procedures. The doctor initially explained the procedure to the patient's family and sought their approval. Subsequently, the nurse supported the family in the decision-making process. Once the family agreed, the doctors prepared the patient for haemodialysis. After completing the procedure, the doctor and nurse evaluated its success and conveyed the results to the family.

Good therapeutic communication skills are essential when conveying patient information to the patient's family in the ICU. Nurses play a vital role as intermediaries between patients, families, and healthcare workers (Ghiyasvandian et al., 2014). However, in this case, providing information to the family was not consistently carried out during visits

or outside visit times due to high workload, resulting in a lack of understanding about the patient's condition. Miscommunication can lead to family misunderstanding of the patient's condition. Emaliyawati et al. (2020) reported communication barriers in the ICU between patient families and healthcare workers related to high workload, educational background of the family, cultural differences, and age-related cognitive decline. Therefore, nurses need to possess therapeutic communication skills and adapt their approach to the family's circumstances.

In this case, the implementation of rounds has not been carried out due to the high workload of each profession. Consequently, the interprofessional team faces challenges in communication, collaboration, and decision-making, as the family may have differing opinions and beliefs about patient care. Research indicates that the presence of the family can pose ethical dilemmas for healthcare providers (Ervin et al., 2018). Conducting nursing rounds can provide an efficient forum for discussion with families without allocating specific time outside the rounds. It enables joint decision-making and provides insight into the patient's condition and progress (Cody et al., 2018). Engaging in rounds allows the family to be aware of the treatment plan, empowering them to act as safety checks if actions deviate from the planned course (Davidson et al., 2017).

Family Involvement Besides the Patient

In this case, the family was involved in providing olive oil and repositioning, accompanied by a nurse, providing spiritual guidance during visits, and offering overall support. Involving the family in oral care interventions was not feasible due to inadequate visitation time, and the investment of time required to teach the family about the procedures. Nonetheless, family involvement can alleviate the nurse's burden by assisting with tasks such as oral care, repositioning, ambulation, bathing, and feeding (Wyskiel et al., 2015). Moreover, family members witnessing procedures firsthand can enhance their understanding and encourage professional practice (Sevransky et al., 2017).

Further hospital policy development is necessary to support the implementation of family-centered care in the ICU, along with the need for support from medical staff to realize family-centered care. This approach ensures that care aligns with patients' and families' preferences, needs, rights, and obligations, while acknowledging the practical and emotional demands placed on them by healthcare professionals. Collaboration among all parties empowers them to work as partners in the patient's healthcare journey.

Conclusions

Patients with MODS require intensive care. However, the presence of family members being treated in the intensive care unit also affects the family system. In fact, the family plays an essential role in the patient's recovery. Family-centered care is defined as a partnership that positively impacts not only the patient but also their family members, addressing their needs as well. In this case study, the family was provided with information about the patient's condition, care plans, and evaluation results after procedures. They also received spiritual guidance, family support, and were involved in the procedures needed for the patient's care. The implementation of family-centered care comes with challenges and obstacles for both health workers and institutions, requiring further development that involves the input of medical personnel and hospital management.

Declaration of Interest

No conflict of interest

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Data Availability

The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

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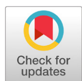
CASE STUDY



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Implementation of hallucination strategies - A case study on adolescent with hearing hallucinations

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ABSTRACT

Background: Schizophrenia stands out as a prominent type of psychosis among various mental disorders. Auditory hallucinations, a prevailing symptom, particularly affect patients with primary psychotic disorders, showcasing a lifetime prevalence rate of 60-80% within the spectrum of schizophrenia disorders.
Objective: This case study presents data and insights concerning the management of nursing challenges linked to auditory hallucinations.
Case: A 17-year-old male was admitted to the psychiatric hospital after being involved in a violent incident with his family. He contended that he was compelled by an external entity to carry out this act. When in his room, the patient exhibits pronounced hallucinatory behavior, including tangential thinking, inability to concentrate during conversations, physically covering his ears in fear, and restless pacing, occasionally attempting to conceal himself under the bed. The nurse employs intervention strategies to address the client's hallucinations, incorporating methods to gain control over them. These strategies involve encouraging breaks, fostering engagement in positive activities, closely monitoring the patient, and providing education on consistent medication adherence.
Conclusions: After a nine-day period of effectively managing the hallucinations, the patient gains substantial control over them, thereby leading to the resolution of his hallucinatory issues. This research holds potential as a valuable resource for psychiatric nurses in devising interventions within psychiatric hospital settings. Furthermore, it can serve as a foundational component for the evaluation of psychiatric facilities in their provision of effective interventions for patients with psychiatric conditions.
Keywords: hallucinations; implementation strategy; schizophrenia; case study; nurse

INTRODUCTION

Schizophrenia is a complex mental disorder marked by hallucinations, delusions, and impaired cognitive functions (Zhuo et al., 2021). For over 60 years, researchers have striven to develop biological tests to diagnose schizophrenia, aiming

Nursing and Healthcare Practices

- *This research can be used as a reference for interventions by psychiatric nurses in psychiatric hospitals.*
- *Nurses can further examine the patient's mental health problems from the parenting style provided, then determine the appropriate intervention.*
- *It is recommended that this research be given to the Psychiatric Hospital in order to be able to apply an implementation strategy in an orderly and structured manner.*

to enhance diagnostic rates and optimize treatment strategies. As a result, the diagnosis of schizophrenia is primarily based on the criteria outlined in the most recent version of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV). The DSM encompasses symptoms such as delusions, hallucinations, disorganized speech, catatonic behavior, and negative symptoms. Additionally, the DSM mandates criteria such as social or occupational dysfunction, persistent signs, and symptoms that endure for a minimum of six months. Notably, the DSM excludes certain criteria like medical conditions, mood disorders, developmental disorders (such as autism), and substance use (Kapur, 2011).

Schizophrenia stands out as a significant form of psychosis among mental disorders (Gupta et al., 2015), with an incidence rate of 1 per 1,000 and an average relapse rate of approximately 80% across cases. Initial investigations led by Siddiqui et al. examined 127 patients diagnosed with hebephrenic schizophrenia, comprising 60 existing cases and 67 new cases. Among these, 35 (52%) were male and 32 (48%) were female (Siddiqui & Khalid, 2019). Both internal and external factors contribute to these cases, where internal factors encompass variables such as age, gender, education, occupation, economic status, onset, and schizophrenia subtype (Dassa et al., 2010; Siddiqui & Khalid, 2019). Concurrently, external factors encompass family awareness, the family's and healthcare workers' roles, environmental factors, medication adherence, and treatment modality (Dassa et al., 2010; Ferliana et al., 2020). Furthermore, substantial life stress is often implicated as a prominent trigger for schizophrenia (Kemenkes et al., 2019). Individuals affected by mental disorders frequently undergo prolonged stress, leading to persistent anxiety and eventual failure in various life domains. These conditions arise when individuals fail to employ their inner coping mechanisms to alleviate the internal stressors (Mahmuda et al., 2018).

Based on data from the World Health Organization (WHO) in 2016, approximately 21 million individuals are affected by schizophrenia (Maulana et al., 2019). According to the National Alliance on Mental Illness (NAMI), utilizing the 2013 United States population census data, it is estimated that over 61.5 million individuals aged 18 and above grapple with mental disorders, with approximately 13.6 million of them experiencing severe conditions like schizophrenia (Duckworth & Halpern, 2014). Meanwhile, as per the 2018 Riskesdas data, the prevalence of schizophrenia in Indonesia has reached approximately 400,000 individuals, which equates to around 1.7 cases per 1,000 in the population (Depkes. RI, 2018). These interventions targeting hallucination control aim to facilitate the efforts of psychiatric nurses, particularly in Indonesia, to provide effective care. These interventions encompass distinct strategies, including aiding patients in recognizing their hallucinations, practicing control over auditory experiences through reprimanding, engaging in conversations with others, participating in positive activities, and emphasizing the significance of medication adherence. The patient's secondary and tertiary diagnoses stemming from auditory hallucinations involve the risks of suicide and violent behavior.

Auditory hallucinations entail perceiving sounds without any external source, wherein individuals believe the voices they hear emanate from within themselves (Del Barrio, 2016). Hallucinations are present in nearly 10% of the general population throughout their lifetimes (Lim et al., 2016), affecting even those without clinical conditions. Individuals with various clinical conditions, such as mood disorders, dissociative disorders, neurological disorders, and hearing impairments, may also experience hallucinatory phenomena (Larøi et al., 2012). Among patients with primary psychotic disorders, auditory hallucinations

are most prevalent, with a lifetime occurrence rate of 60-80% within the spectrum of schizophrenia-related disorders (Lim et al., 2016). Moreover, the prevalence rate over the past year indicates that men are predominantly affected, accounting for approximately 50-70% of schizophrenia cases. Auditory hallucinations stand as a chief positive symptom of schizophrenia (Del Barrio, 2016), and they can significantly impact mental well-being, leading to increased depressive symptoms (Chiang et al., 2018) and even fostering suicidal thoughts or attempts (Smith et al., 2021). Thus, this case study aimed to present data and insights concerning the management of nursing challenges linked to auditory hallucinations.

CASE PRESENTATION

A 17-year-old male diagnosed with hebephrenic schizophrenia was interviewed as part of the study. During the initial interview on the first day, the patient expressed persistent feelings of profound sadness that seemed unshakeable. The patient shared a story about a sheep that had died due to a sheep fighting competition, leading to feelings of frustration as the sheep had an estimated value of 20 million rupiahs. This was the first time the patient had experienced failure, as they had previously consistently won competitions involving sheep races, a washing machine, and cash prizes. Subsequent to the incident with the deceased sheep, the patient faced reprimands from both their father and grandfather. In response to this scolding, the patient reacted with physical aggression towards their grandfather, beating him. The patient clarified that this violent act was not arbitrary; they explained that it felt as if they were prompted by an auditory hallucination to assault their grandfather. Additionally, the patient reported hearing ambulance sirens for approximately 1 minute, 2-3 times a day.

Before being admitted to the Mental Hospital, the patient revealed that the auditory hallucinations continuously urged them to engage in fights with others and even instructed them to take their own life. Consequently, the patient frequently attempted to choke themselves and harm themselves physically. Upon admission to the Mental Hospital, the patient exhibited a tantrum and suddenly exhibited a lack of recognition towards their parents. They expressed not knowing who their parents were. This response stemmed from the patient's lack of familiarity with receiving affection and care from both parents. The diagnosis for the patient was formulated based on the aforementioned case study, indicating hebephrenic hallucinations.

Following a comprehensive assessment, the patient exhibited symptoms consistent with perceptual disorders. These symptoms encompassed auditory hallucinations, often associated with mental illnesses, a susceptibility to suicide linked to social factors, and instances of violent behavior stemming from difficulty managing intense anger impulses. Employing a standardized nursing care plan, this study aimed to address the identified challenges, with a primary focus on managing auditory hallucinations.

The interventions employed aimed to guide the patient in recognizing their hallucinations, acquiring coping mechanisms to manage auditory challenges, enhancing communication with others, participating in positive activities, and understanding the critical importance of consistent medication usage. Ensuring the safety of a patient at risk of suicide involved identifying potential harm, implementing appropriate precautions, maintaining vigilant supervision, conducting periodic checks at intervals of 15 minutes and 1 hour, empathetically assessing the patient's emotions to gauge suicidal tendencies, promoting effective coping strategies, and inspiring the patient to strive for future achievements.

Regarding violent behavior, the patient received instruction on recognizing indicators of anger and its triggers. Coping strategies such as deep breathing, singing, chanting, and engaging in social interactions were encouraged to effectively manage anger. The patient was also advised to employ the three communication approaches—asking, refusing, and expressing—in verbal interactions. Additionally, spiritual practices such as prayer and meditation were integrated, emphasizing the importance of adhering to prescribed medication.

After implementing nursing interventions over a span of nine days, positive outcomes were achieved. The auditory hallucinations were successfully resolved, and effective measures were taken to address and alleviate the risk of suicide. However, it's important to acknowledge that the issue of violent behavior wasn't entirely resolved, as the patient persisted in engaging in physical altercations with friends.

The patient and their parents willingly signed and approved the informed consent

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form provided by the researcher, signifying the patient's voluntary agreement to participate in the study. The results of the interventions implemented over the 9-day study period are detailed in Table 1.

DISCUSSION

In the study mentioned above, patients exhibited a range of symptoms that culminated in the diagnosis of perceptual disorders, specifically auditory hallucinations associated with psychotic disorders. The medical record specified the patient's diagnosis as hebephrenic schizophrenia. Nursing diagnoses were identified as auditory hallucinations, the risk of suicide, and violent behavior. Notably, the progression from suicidal and violent tendencies traces back to the patient's auditory hallucinations. This classification aligns with the 2017 Indonesian Nursing Diagnosis Standards, Edition 1, where primary indicators in individuals experiencing hallucinations involve perceiving whispers or voices as if they are audible sounds. In this particular case study, the patient conveyed feelings of persistent irritation, daydreaming, social withdrawal, restlessness, and disorientation to time, place, person, and situation.

Auditory hallucinations constitute a principal symptom of schizophrenia and hold significant clinical relevance as a distinctive hallmark of psychosis, severely affecting patients' lives. Individuals undergoing auditory hallucinations might engage in repetitive conversations with the voices they hear, contributing to cognitive disarray and a distorted perception of reality. The nature of the content within auditory hallucinations can greatly vary among patients. Another crucial clinical aspect of auditory hallucinations involves their capacity to capture the individual's attention, diverting focus inward towards the inner voice rather than the external environment.

The patient's violent behavior is a manifestation closely intertwined with the auditory hallucinations experienced by the client. These hallucinations often manifest as distinct voices, which can be either loud or buzzing, but frequently appear in the form of coherent, well-structured sentences. These sentences usually pertain to the patient's own condition. Consequently, patients may respond to these hallucinatory voices through actions like fighting or verbal engagement (Rabba et al., 2014). Furthermore, patients might exhibit behaviors such as appearing as though they are hearing something, speaking aloud as if responding to an inquiry, or moving their lips. At times, patients may attribute these hallucinations to external sources, perceiving them as originating from others or outside their own body. These auditory experiences can range from being pleasant to unsettling (Rabba et al., 2014).

Interventions are implemented to aid patients in several ways. This includes helping them recognize their hallucinatory experiences, imparting skills for managing auditory challenges, enhancing communication with others, promoting engagement in positive activities, and emphasizing the importance of adhering to prescribed medications (Larøi et al., 2012). When addressing hallucinations that may incite suicidal tendencies, interventions encompass efforts to minimize potential harm. These interventions involve preemptive steps to ensure the patient's safety through constant supervision, regular checks at intervals of 15 minutes and 1 hour, validating the patient's feelings to assess for recurring suicidal thoughts, promoting the adoption of effective coping strategies, and motivating the patient to strive for accomplishments in the future (Koyanagi et al., 2015).

Hallucinations directing patients towards violent actions are countered with interventions like deep breathing exercises and an exploration of the origins, signs, and symptoms of violent behavior. Practicing activities during moments of anger, such as taking breaks, sitting, standing, singing, and engaging in verbal interactions using the approaches of asking, refusing, and expressing, are recommended strategies. Spiritual practices like prayer and meditation are also integrated, underscoring the importance of consistent medication adherence (Ferliana et al., 2020; Stępnicki et al., 2018). In this case study, the root factors influencing the patient's condition stem from familial circumstances. The patient has primarily lived with their grandfather since a young age, receiving care solely from this family member. Notably, despite having a complete family, the patient lacks the emotional nurturing typically provided by parents.

During an interview with the patient's parents in December 2022, they acknowledged their lack of knowledge in effective parenting practices, leading to a lack of supervision over their child's social interactions. This absence of monitoring from both parents and grandparents

Table 1. Description of Assessment, Intervention and Outcomes

Day/Date	Assessment	Intervention	Outcome
Tuesday / November 29, 2022	During the first assessment day, the patient looked unfocused and alone, pacing back and forth and suffocating. When examined, the patient felt the most profound sadness because the patient felt guilty for his grandfather.	• Provide an implementation strategy (SP 1 Hallucinations) related to rebuking employing istighfar. • Provide an implementation strategy (SP1) for the risk of suicide related to monitoring the patient for 15 minutes and 1 hour periodically to avoid unwanted things	• Can be used to manage hallucinatios. This intervention is offered to patients with the hope that patients can control their hallucination. • The patient is not at risk for suicide.
Wednesday / November 30, 2022	On the second day, the patient was seen crying suddenly and trying to strangle himself again. When questioned, the patient felt sad and sorry for his actions, which often beat his grandfather. When asked why the patient was choking himself, he replied that someone ordered him to do so.	• Continuing the second implementation strategy regarding hallucinations by way of conversation. • The strategy for implementing suicide risk is carried out by SP 1, monitoring the patient regularly, and SP 2, validating the client's feelings.	• Patients can rebuke hallucinations by validating sounds heard with other friends, whether the sounds they hear are heard with other friends or not. • Continue monitoring patients by keeping sharp objects away, telling roommates to care for each other, and monitoring on Closed Circuit Television (CCTV). Then validate the patient's feelings, whether there is a desire or hear voices that are heard, to order him to commit acts of self-harm.
Thursday / December 1, 2022	Patients often fall asleep, and patients feel tired throughout the day.	Provide SP 3 regarding carrying out positive activities that can be carried out in a mental hospital.	During lunch, patients can do positive things by watching YouTube and playing with friends.
Friday / December 2, 2022	The patient appears cooperative and can be spoken to generally so that the patient can participate in group activity therapy together.	• Providing interventions related to group activity therapy, continuing SP 1 and SP 3 • Give SP 4 related to taking medicine.	• The patient can do group activity therapy by telling the things he likes and discussing the problems felt by his friends. • Patients receive information about treatment that must be undertaken after discharge and while in a mental hospital.

Table 1. Description of Assessment, Intervention and Outcomes *(Continued...)*

Day/Date	Assessment	Intervention	Outcome
Saturday / December 3, 2022	The patient suddenly beat his roommate; after being asked, the patient felt annoyed because he heard someone say that the patient was crazy.	• Provide an implementation strategy (SP Give SP 1 regarding hallucinations to rebuke the voices heard by making istighfar. • Provide SP 1, namely identifying the patient's violent behavior and performing deep breathing techniques.	When seen and observed, it turns out that the voices heard by the patient are from their hallucinations, so the patient is given an implementation strategy related to rebuking the hallucinations and can perform deep breathing techniques to reduce the patient's anger.
Sunday / December 4, 2022	The patient is still annoyed because the sound he heard yesterday is still ringing in his ears, so the intervention is continued to reduce the patient's violent behavior.	• Give SP 1 regarding hallucinations to rebuke by doing istighfar. • Give SP 2 related to the patient's violent behavior by intervening when the patient is angry; the patient can stand, sit, sing, and pray.	The patient can make istighfar when a sound comes, and the patient can fight his anger by diverting it, such as sitting, standing, singing, and making istighfar.
Monday / December 5, 2022	• The patient suddenly spoke chaotically, could not focus when asked to communicate, covered his ears and felt scared, and paced back and forth to hide under the bed. • The patient was seen beating other patients and kicking chairs and tables upside down when in a state of anger, the patient covered his ears and said, "Stop." Patients must be restrained in order to prevent other unwanted things.	• Gives SP 1 hallucinations, related to responding to hallucinations by doing istighfar. • Provide SP 3 regarding violent behavior by expressing what the patient feels and restraining the patient.	DThe patient can istighfar and can express what he feels, so he knows why the patient is angry; the patient is restrained because he has exceeded the limits of violence.
Tuesday / December 6, 2022	The patient looks silent, and his eyes look empty. After being asked what he was doing yesterday, the patient answered, "Forget." Then the patient is explained how to reduce anger.	Give SP 4 related to violent behavior through worship and SP 5 related to taking medicine.	Validating how the patient feels and how he felt yesterday and continuing the intervention when the patient is angry can carry out worship activities too.

Table 1. Description of Assessment, Intervention and Outcomes (*Continued...*)

Day/Date	Assessment	Intervention	Outcome
Wednesday / December 7, 2022	The patient could speak and talk with other friends, so the researchers asked about his feelings, whether he was still sad, and whether he heard voices telling the patient to commit violence against himself.	Gives SP 2 the risk of suicide-related to the patient's feelings.	Validating the patient's feelings, whether the patient still wants to hurt himself or not, and directing the patient not to do dangerous things or injure himself.
Thursday / 08 December 2022	The patient looks more cheerful, plays with other patients, sings in the game room, and participates in rehabilitation in the arts section.	Provide SP 3 regarding the patient's goals and expectations.	Warm conversations make the patient more able to express what he aspires to and make the patient hope for a better life; the patient reveals that he wants to become a lecturer in Sundanese arts, and the patient is also sorry for what happened to him and says he will not hurt himself return.

allowed the patient to freely engage with the external environment, which, unfortunately, resulted in harmful consequences for the patient. The patient began experimenting with alcohol in the sixth grade of elementary school, engaged in fights since junior high school, and was never reprimanded by either their parents or grandfather. This permissive parenting approach granted the patient autonomy to shape their own life choices.

However, this style of parenting hindered the development of effective coping mechanisms that could help the patient effectively navigate failures in life. Adding to this, the individual the patient holds dear, their grandfather, criticized them for their failures. Such failures induced stress and depression in the patient. Various contributing factors, including the absence of parental affection, intensified the patient's sense of being unloved. This corresponds with the theory that family and community support can mitigate stress and depression (Linggi, 2018; Rabba et al., 2014).

The plans crafted for the patient from November 29 to December 2, 2022, were designed to manage auditory hallucinations. These interventions aimed to empower the patient to gain control over their hallucinatory experiences. These interventions were aligned with the patient's preferences during hallucinations, as they mentioned engaging in prayer and other activities when they encountered these experiences. Group activity therapy was implemented to assist patients in controlling their hallucinations. This form of therapy involves training patients to engage in conversation. A similar study conducted by Fresa et al. (2017) demonstrated that 27 patients with auditory hallucinations managed to control their hallucinatory experiences through spoken communication.

Group Conversation Activities (GCA) are designed to mitigate patient illusions by engaging them in group discussions, diverting their focus from interacting with their hallucinations. GCA involves six patients gathered in one room. Eligible participants for GCA include those experiencing impaired perception due to auditory or visual hallucinations (SP 1) and those capable of open communication with others (SP 3). Discussion topics are chosen based on patient preferences or related to their nightmares, such as hobbies, favorite movies, exciting experiences, overcoming nightmares, and more. A discussion table containing these topics serves as the tool for

this activity. Discussions are conducted freely during designated times, usually in the morning (10:00-12:00 WIB) and afternoon (15:00-17:00 WIB), lasting for about 20-30 minutes.

The GCA process comprises several stages: (1) Nurse selection of participating patients based on their characteristics. (2) Preparation of selected topics in alignment with the chosen theme. (3) Welcoming patients and inquiring about their current feelings. (4) Explanation of the purpose of group activity therapy. (5) Patients selecting a topic for discussion in writing. (6) Patients initiating conversations about their chosen topics. (7) Positive responses from participating patients. (8) Nurse assessment of patients' feelings and concerns.

Addressing auditory hallucinations associated with the risk of suicide was implemented over two days, December 7-8, 2022, utilizing existing interventions. These include hazard identification, supervised observation, periodic checks (every 15 minutes and 1 hour), validating the patient's feelings regarding self-harm, and encouraging positive distractions and coping mechanisms. The focus is on fostering positive coping strategies that extend into activities related to achieving a realistic future, encompassing goals and plans. Following the intervention, the patient reported a reduction in self-harm tendencies.

The patient's violent behavior, which stemmed from hallucinations, involved physically assaulting others and damaging furniture. To address this, a three-day intervention (December 3, 5, and 6, 2022) was conducted. The approach included identifying the underlying problem, practicing deep breathing, engaging in activities during moments of anger, employing social and verbal approaches such as asking, refusing, and expressing, incorporating spiritual practices, and emphasizing medication adherence. After this intervention, the patient displayed a calmer demeanor, albeit responding minimally when questioned about their behavior. It's important to note that these interventions showcase a multifaceted approach tailored to each patient's unique circumstances and challenges.

CONCLUSION

Based on the detailed account provided, the nursing care implemented through a nine-day intervention successfully yielded positive outcomes. The patient achieved control over their auditory hallucinations and gained understanding that self-harm was ultimately unproductive. However, while progress was observed in managing the patient's violent behavior during the intervention process, it is apparent that complete control over their anger was not achieved. This outcome underscores the need for continued and focused intervention to effectively address and reduce the patient's violent tendencies. Given the complexity of violent behavior and its underlying triggers, it's prudent to design and implement further interventions tailored specifically to managing and mitigating the patient's anger-related behaviors. These interventions should be systematically designed, possibly incorporating additional therapeutic techniques, coping strategies, and counseling sessions that are specifically aimed at addressing and minimizing the patient's violent outbursts. By acknowledging the partial success in managing violent behavior and recognizing the necessity for additional interventions, the patient's overall well-being and progress can be further advanced. This approach aligns with the ongoing nature of patient care and the dynamic nature of behavioral interventions.

Declaration of Interest

The authors declare that no conflicts of interest exist.

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Data Availability

The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

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