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THE EFFECT OF EDUCATION ABOUT NUTRITIOUS FOOD ON COMPLIANCE IN FOOD CONSUMPTION AND THE PROCESS OF POST-OPERATIVE WOUND RECOVERY

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ABSTRACT

Background: Post-operative patients require adequate nutrition to aid wound healing and prevent complications. Lack of patient knowledge about nutritious foods leads to poor dietary compliance during recovery. Health education is one way to improve patient compliance with post-operative nutritional needs.

Objective: This study aims to determine the effect of education about nutritious food on compliance in food consumption and the post-operative wound recovery process at Bhaladika Husada Hospital.

Method: This study used a quantitative method with a pre-experimental design using a one-group pretest-posttest design. The study was conducted in May–June 2026 at Bhaladika Husada Hospital. The study sample consisted of 30 respondents selected using a purposive sampling technique. The research instruments used a food consumption compliance questionnaire and a wound healing observation sheet. The intervention was provided in the form of education about nutritious food using lectures and leaflets. Data analysis used the Wilcoxon Signed Rank Test with a significance level of $\alpha = 0.05$.

Results: The results of the study showed that before being given education, most respondents had a level of compliance with food consumption in the sufficient category (12 respondents (40%) and a moderate wound healing process (14 respondents (46.7%). After being given education, most respondents experienced an increase in compliance with food consumption to the good category (24 respondents (80%) and a good wound healing process (25 respondents (83.3%). The results of the Wilcoxon Signed Rank Test obtained a p-value of 0.000 (<0.05), which indicates that there is an effect of education about nutritious food on compliance with food consumption and the post-operative wound healing process.

Conclusion : Nutritional education significantly improved dietary compliance and accelerated post-operative wound healing at Bhaladika Husada Hospital. Health education is expected to be routinely implemented as part of nursing services to improve the quality of post-operative patient recovery.

Keywords : Health education, nutritious food, dietary compliance, wound healing, post-surgery.

INTRODUCTION

Surgery is a medical procedure aimed at repairing, removing, or treating disorders of a patient's organs. After surgery, patients enter a recovery phase that requires optimal care to ensure proper wound healing and prevent complications. Adequate nutrition is a crucial factor influencing successful post-operative wound healing. Nutrition plays a crucial role in new tissue formation, collagen synthesis, immune system enhancement, and accelerated regeneration of surgically damaged cells.

According to Potter and Perry (2021), adequate nutritional support for post-operative patients is essential to support the body's metabolic processes and accelerate wound healing. Adequate nutrition, particularly protein, vitamins A, C, E, zinc, and adequate fluids, helps form

granulation tissue and increases the body's resistance to infection. Furthermore, Smeltzer and Bare (2020) explain that nutritional deficiencies can delay wound healing, increase the risk of surgical site infections, and prolong hospitalization.

Data from the World Health Organization (WHO) in 2023 indicates that malnutrition in hospitalized patients remains a factor contributing to delayed post-operative recovery. The WHO also emphasized that patients with inadequate nutritional intake have a higher risk of post-operative complications than those with good nutritional status. Meanwhile, the Indonesian Ministry of Health (MOH) in 2024 stated that a high-energy and protein diet for post-operative patients is highly recommended to promote new tissue formation and accelerate wound healing.

Research conducted by Handayani and Hamidah (2024) showed that proper nutrition contributes to accelerated wound healing after a cesarean section. The study found that patients with adequate nutrition experienced faster wound healing than those with poor nutrition. Furthermore, Sirait's (2023) study on nutritional management in postoperative patients explains that optimal nutrition is key to all phases of wound healing and can reduce infectious complications in postoperative patients.

Another study by Suling, Situmorang, and Taha (2023) found that many post-operative patients still have limited knowledge about nutrition during recovery. Some patients believe that foods like eggs, meat, and fish can cause wounds to itch and slow healing, leading them to avoid consuming high-protein foods, which the body actually needs to speed wound healing. This suggests that patients' lack of knowledge about nutritious foods can impact their dietary compliance during post-operative recovery.

Health education is one way healthcare professionals can improve patients' knowledge, attitudes, and behaviors regarding maintaining their health. According to Nursalam (2020), health education aims to help individuals gain information and skills to make informed health decisions. Providing education about nutritious food to post-operative patients is expected to improve patient compliance with recommended dietary guidelines, thus optimizing wound healing.

Based on preliminary observations conducted by researchers in May 2026 at Bhaladika Husada Hospital, several post-operative patients were found to lack understanding of the importance of nutritious food during recovery. Interviews with 10 patients revealed that six were afraid to consume high-protein foods such as eggs, fish, and meat, believing they could cause itching or festering wounds. Furthermore, some patients admitted to not having received specific education regarding recommended dietary guidelines during post-operative recovery. This resulted in some patients experiencing slower wound healing than others.

The phenomenon at Bhaladika Husada Hospital indicates that post-operative patients still face challenges regarding adherence to nutritious food. Most previous studies have focused on the relationship between nutritional status and wound healing or the impact of nutrition on post-operative patient outcomes. However, research specifically examining the impact of nutritional education on adherence and post-operative wound healing remains limited, particularly in Jember Regency and at Bhaladika Husada Hospital.

The research gap in this study lies in the focus of educational interventions on nutritious food, which not only assess changes in patient knowledge but also measure dietary adherence and its impact on post-operative wound healing. Furthermore, research on nutritional education for post-operative patients at Bhaladika Husada Hospital is still limited. Therefore, this study is expected to provide information and develop health education interventions in the hospital.

Based on this description, the researcher is interested in conducting a study entitled "The Effect of Education about Nutritious Food on Compliance in Food Consumption and the Post-Operative Wound Recovery Process at Bhaladika Husada Hospital."

METHOD

This study used a quantitative method with a pre-experimental design using a one-group pretest-posttest design to determine the effect of nutritional education on dietary compliance and post-operative wound healing. The study measured the respondents' condition before and after the educational intervention.

The study was conducted at Bhaladika Husada Hospital in May–June 2026. The population was all post-operative patients undergoing treatment in the inpatient ward. A sample of 30 respondents was selected using purposive sampling techniques according to the study's inclusion and exclusion criteria.

Inclusion criteria included patients on postoperative day 1 to day 3, aged ≥18 years, conscious, able to communicate well, and willing to participate. Exclusion criteria included patients with severe complications, communication disorders, and patients who did not complete the study.

The independent variable in this study was education about nutritious food, while the dependent variables included dietary compliance and the post-operative wound healing process. Education was provided using lectures and leaflets regarding the importance of nutrition, recommended food types, and the benefits of nutritious food for wound healing.

The research instruments used a dietary compliance questionnaire and a wound healing observation sheet. Data collection was conducted through pretests, educational sessions, and posttests. The data obtained were then processed through editing, coding, scoring, and tabulation.

Data analysis was carried out univariately to determine the frequency distribution of respondent characteristics and bivariately using the Wilcoxon Signed Rank Test with a significance level of $\alpha = 0.05$ to determine the effect of education on compliance with food consumption and the post-operative wound recovery process.

This research has paid attention to the principles of research ethics including informed consent, anonymity, confidentiality, and beneficence to protect the rights and confidentiality of research respondents.

RESULTS

1. Respondent Characteristics

Table 4.1 Distribution of Respondents by Age

Age	Frequency (f)	Percentage (%)
18–30 years	9	30%
31–45 years	14	46.7%
46–60 years	7	23.3%
Total	**30**	**100%**

Source: Processed data, 2026.

Based on table 4.1, it is known that almost half of the respondents were aged 31–45 years, namely 14 respondents (46.7%), while a small number of respondents were aged 46–60 years, namely 7 respondents (23.3%).

2. Compliance with Food Consumption Before and After Education

Table 4.2 Level of Compliance with Food Consumption Before and After Education

Food Consumption Compliance	Pretest f (%)	Posttest f (%)
Good	8 (26.7%)	24 (80%)
Enough	12 (40%)	5 (16.7%)
Not enough	10 (33.3%)	1 (3.3%)
Total	**30 (100%)**	**30 (100%)**

Source: Processed data, 2026.

Based on Table 4.2, it is known that before receiving education, the majority of respondents had a level of food consumption compliance in the sufficient category, namely 12 respondents (40%), while after receiving education, the majority of respondents experienced an increase to the good category, namely 24 respondents (80%). This indicates an increase in food consumption compliance after being given education about nutritious food.

3. Post-operative Wound Healing Process

Table 4.3 Wound Healing Process Before and After Education

Wound Healing Process	Before Education f (%)	After Education f (%)
Good	9 (30%)	25 (83.3%)
Currently	14 (46.7%)	4 (13.3%)
Slow	7 (23.3%)	1 (3.3%)
Total	30 (100%)	30 (100%)

Source: Processed data, 2026.

Based on Table 4.3, it is known that before receiving education, the majority of respondents experienced a moderate wound healing process, namely 14 respondents (46.7%). After receiving education, the majority of respondents experienced an improvement in their wound healing process, including a good category, namely 25 respondents (83.3%). These results indicate that education about nutritious food helps accelerate the post-operative wound healing process.

4. Analysis of the Influence of Education on Nutritious Food

Table 4.4 Results of the Wilcoxon Signed Rank Test for Food Consumption Compliance

Variables	Mean Rank	p-value	Note
Compliance with food consumption before and after education	15.50	0,000	H_1 accepted

Source: Processed data, 2026.

Based on Table 4.4, the p-value is 0.000 (<0.05), so H_1 is accepted. This indicates that there is an effect of education about nutritious food on dietary compliance in post-operative patients at Bhaladika Husada Hospital.

Table 4.5 Results of the Wilcoxon Signed Rank Test for the Wound Healing Process

Variables	Mean Rank	p-value	Information
Wound healing before and after education	16.20	0,000	H_1 accepted

Source: Processed data, 2026.

Based on Table 4.5, the p-value is 0.000 (<0.05), so H_1 is accepted. These results indicate that there is an effect of education about nutritious food on the post-operative wound healing process at Bhaladika Husada Hospital.

DISCUSSION

The study results showed that before receiving nutritional education, most post-operative patients had adequate and inadequate dietary compliance. This indicates that many patients still lack an understanding of the importance of adequate nutrition during post-operative recovery. Some patients still have misconceptions about certain foods, such as avoiding eggs, fish, and meat because they are thought to cause itching or pus in the wound. However, foods high in protein are essential for the body to help form new tissue and accelerate wound healing. Furthermore, post-operative physical conditions, such as pain, nausea, and decreased appetite, also influence poor adherence to dietary recommendations from healthcare professionals.

According to Potter and Perry (2021), knowledge is one of the factors influencing a person's adherence to treatment and dietary recommendations from healthcare professionals. A lack of patient knowledge about the benefits of nutritious food leads to a lack of attention to nutritional needs during recovery. This study aligns with research by Suling, Situmorang, and Taha (2023), which found that most post-operative patients still have limited nutritional knowledge, resulting in suboptimal dietary compliance.

After receiving education about nutritious food, the study results showed an increase in dietary compliance among the majority of respondents, moving to a good category. Patients began to understand the importance of nutritious food in aiding post-operative wound healing, leading to greater adherence to dietary recommendations from healthcare professionals. Education provided through lectures and leaflets helped patients understand recommended foods, the benefits of protein, vitamins, and minerals for wound healing, and the impact of not

meeting nutritional needs.

According to Nursalam (2020), health education is a learning process aimed at improving an individual's knowledge, attitudes, and behaviors so they can maintain their health independently. Increased patient knowledge after receiving education leads to more positive behavioral changes in meeting nutritional needs. Most respondents began consuming high-protein foods such as eggs, fish, tofu, tempeh, and meat after learning about their benefits for wound healing. This study's findings are supported by research by Handayani and Hamidah (2024), which found that nutrition education effectively increases patient adherence to a healthy diet during post-operative recovery.

In addition to improving dietary compliance, nutritional education also impacts post-operative wound healing. Prior to education, most respondents experienced moderate wound healing, characterized by redness and fluid retention, and suboptimal wound healing. After education, most respondents experienced improvement in wound condition, with the wound appearing drier, less weepy, and less than optimal tissue healing. Following education, most respondents experienced improvement in wound condition, with the wound appearing drier, signs of infection decreasing, and tissue healing progressing more quickly.

The accelerated wound healing process is influenced by increased patient compliance with nutritious food after receiving education. Adequate nutrition helps boost the immune system, accelerate collagen formation, repair damaged tissue, and support post-surgery cell regeneration. Protein plays a crucial role in new tissue formation, while vitamin C aids collagen synthesis, and zinc helps boost the body's resistance to infection.

According to Smeltzer and Bare (2020), good nutritional status significantly influences the rate of post-operative wound healing. Patients with adequate nutritional intake tend to experience faster wound healing than those with malnutrition. Research by Sirait (2023) also explains that good nutritional management in post-operative patients can accelerate the wound healing process and reduce the risk of complications.

Based on the results of the Wilcoxon Signed Rank Test, a p-value of 0.000 (<0.05) was obtained, indicating that there is an effect of education about nutritious food on dietary compliance and the post-operative wound healing process at Bhaladika Husada Hospital. The results of this study indicate that health education is an effective intervention to increase patient knowledge and awareness regarding the importance of nutrition during post-operative recovery.

The increased knowledge gained by patients through education leads to behavioral changes in meeting nutritional needs. Patients become more aware of the benefits of nutritious food for wound healing, making them more motivated to adhere to dietary recommendations from healthcare providers. This positively impacts post-operative wound healing and helps improve the quality of healthcare services in hospitals.

The results of this study align with the Health Belief Model, which states that a person will engage in healthy behaviors if they have the knowledge and belief that the behavior will benefit their health. Therefore, healthcare professionals should routinely provide nutritional education as part of post-operative patient care to improve dietary compliance and accelerate wound healing.

CONCLUSION

Based on research conducted at Bhaladika Husada Hospital, it was found that before receiving nutritional education, most post-operative patients had adequate dietary compliance and moderate wound healing. After receiving education, patient compliance with nutritional recommendations improved. Furthermore, post-operative wound health improved, with drier wounds, reduced signs of infection, and faster tissue healing.

The results of statistical analysis using the Wilcoxon Signed Rank Test showed a p-value of 0.000 (<0.05), so it can be concluded that there is an effect of education about nutritious food on compliance in food consumption and the process of post-operative wound healing at Bhaladika Husada Hospital. Health education has been proven effective in increasing patient knowledge and awareness about the importance of nutrition during the recovery period so that it can help accelerate the process of post-operative wound healing.

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