



Case Study: Status of Nutritional Assessment of Wound Healing After Appendectomy Surgery in Appendicitis Patients

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ABSTRACT

Objective: This case study is intended to intervene and implement the nutritional status of appendicitis patients in improving the wound healing process with nausea after appendectomy surgery. **Method:** In the nursing care research process, methods were used which included assessment, nursing diagnoses, planning, implementation and evaluation which were carried out for 3 days in the Anggrek BLUD room at the Banjar City Hospital. Enforcement of nursing diagnoses refers to the Indonesian Nursing Diagnosis Standards (IDHS), Indonesian Nursing Intervention Standards (SIKI), Indonesian Nursing Outcome Standards (SLKI), and nursing evaluations are documented using the SOAPIER method. **Result:** Nursing diagnosis of Deficit Nutrition related to postoperative nausea, nutritional status assessment for 3 days was carried out on the healing of surgical wounds. From the results of the data analysis, the researcher concluded that the nursing problems experienced by clients were nutritional deficits (D.0019) associated with postoperative nausea. The problem of excessive nutritional deficits for clients is partially resolved, marked by the loss of feelings of nausea when given food, being able to digest food properly, measuring the client's body mass index which is found to be normal, improving the client's nutrition is fulfilled by consuming high-calorie, high-protein foods. **Conclusion:** Conclusions can be drawn in the results of the nursing procedure commencing with evaluation, identification of nursing issues, actions, execution, and assessment of nursing. Concluded the problem of nutritional deficits related to postoperative nausea with an appendectomy with an assessment of nutritional status can improve the wound healing process as indicated by the response of clients who obtain changes in nutritional status with the wound healing process. Assessment of nutritional status is proven to be able to improve the postoperative wound healing process, the benefits of assessing nutritional status by fulfilling the client's nutrition are maximally implemented if done periodically and in stages.

Keywords: *appendicitis, appendectomy, nutritional status, wound healing*

Introduction

Appendicitis is a classic illness that occurs through inflammation caused by blockage and reduced blood supply of the appendix (Erianto et al., 2020). The appendix is known as the appendix, a cylindrical organ, about 10 cm long, and begins at the cecum (large intestine). Inflammation of the appendix involving all layers of the organ wall, where the main cause is thought to be a blockage in the duct caused by hard stools (especially due to lack of fiber) which can occur in all age groups, but is more common between the ages of 10 and 30 years. Appendicitis is the predominant factor resulting in abrupt inflammation in the lower right abdomen and is the primary reason for sudden abdominal surgical intervention. (Asnawi, 2018).

Based on WHO (World Health Organization) survey data, the incidence of appendicitis in 2014 was ranked eighth as the leading cause of death worldwide. The death rate due to appendicitis is 21,000, with more men than women. The death rate from appendicitis is around 12,000 in men and around 10,000 in women; in the United States there are 70,000 cases of appendicitis each year (Apriliani et al., 2022). While data released by the Ministry of Health (2016) the amount of individuals with appendicitis in Indonesia is approximately 591,819 individuals and in 2017 it rose to 596,132 individuals. The increase in patients with appendicitis for one year reached 4,313 people. The West Java Health Office reported that in 2013, the number of incidents of appendicitis in West Java was 5,980 patients and 177 of them died (Adhar Arifuddin et al., 2019).

The main symptom of pain is reflected in the state of appendicitis, the patient feels pain in the lower right abdomen which arises if ignored will result in a serious infection and result in a ruptured appendix (Setiawan, 2018). Appendicitis is categorized into three, namely acute appendicitis, which is a condition where new inflammation occurs in the inner layer and lower layer of the mucosa, then recurrent appendicitis with recurrent pain in the lower right abdomen which encourages removal of the appendix, while perforated appendicitis is a condition where the appendix ruptures and causes pus to enter into it. abdominal cavity causing complications. Appendicitis with a serious infection requires more treatment in the healing process.

There are two options for general treatment of appendicitis, namely surgery and medication. In mild cases of appendicitis, it can be cured only by using medication, but for cases of appendicitis with severe infections, an appendectomy surgery must be carried out immediately (E. Hidayat, 2020). Appendectomy surgery is a surgery to remove an inflamed appendix (Lusyana et al., 2020). The process of appendectomy surgery is divided into open and laparoscopic appendectomy using a long thin tube consisting of a camera and surgical tools. After the splitting took place, then focusing on wound healing.

Injury healing is the procedure of substituting and fixing the operation of harmed tissue. Wound healing involves the incorporation of physiological processes. The edges of the skin are fused or close together so there is a low risk of infection and healing occurs quickly (Tusyanawati et al., 2020). The duration of wound healing can be determined by differentiating between acute and chronic wounds. According to the theory of surgical wound healing, the phase of collagen formation occurs on the seventh day and is marked by the union of skin tissue, the absence of signs of inflammation, and the disappearance of pain at the site of the surgical incision. Physiologically, acute wounds will heal within a time span of about 0-21 days (Bruno, 2019). One of the elements that influence the wound healing process due to apektiktomi surgery is the fulfillment of nutritional needs.

Nutritional status is one of the factors that directly affects an individual's health condition which is affected by food intake that does not match the body's needs both in quantity and quality (Mardalena, 2017). Fulfillment of nutrition in the wound healing process can be started from the fulfillment of proteins, carbohydrates, vitamins, and minerals, among other foods, which can affect wound healing time. The condition of nutritional status is very important for wound healing after appendicitis surgery, consuming high protein foods will speed up the healing process (Atikasari & Makhmudi, 2016).

In a study conducted by Hidayat et al (2022) that the process of assessing nutritional status affects the wound healing process after appendectomy surgery. From the research results, it was found that there was an important correlation between nutritional conditions and the wound healing period in patients after appendix removal surgery, with the Chi Square statistical test value $p < \alpha$, namely p value of 0.004 (R. Hidayat et al., 2022). Based on the explanation above, researchers are interested in carrying out a study of nutritional status assessment of the wound healing process after appendicectomy surgery in appendicitis patients because nutritional status can accelerate the wound healing process in patients and prevent malnutrition in postoperative patients.

Objective

This research was conducted to describe the state of the client's nutritional status, to accelerate the wound healing process with nausea after undergoing appendectomy surgery in patients with appendicitis.

Method

This research continues the nursing care study method with a descriptive approach that collects assessments, formulates nursing diagnoses, planning, implementation and evaluation. Enforcement of nursing diagnoses refers to the Indonesian Nursing Diagnosis Standards (IDHS), Indonesian Nursing Intervention Standards (SIKI), Indonesian Nursing Outcome Standards (SLKI), and nursing evaluations are documented using the SOAPIER method.

This case study was carried out on 30 May-01 June 2023 for 3 days at the BLUD of the Banjar City Hospital. The sampling method in this study used an accidental sampling technique. Collecting data from interviews, observations, documentation studies and triangulation to confirm data or information obtained from participants. The case study conducted was an assessment of the nutritional status of the postoperative wound healing process through anamnesis and observation, then calculating the client's BMI and determining the client's BMI threshold category and observing nutritional intake needs properly.

How to assess nutritional status by asking whether the client's height and weight have decreased or not after illness, then calculating the BMI followed by determining the category of the client's BMI threshold is normal or not. after that, observing the client's food consumption intake is sufficient for normal nutritional needs or not, starting from the client's portion of food in a day can be used up or not, the food eaten according to the client's needs during the wound healing process.

Results

The patient named Mrs. S is unmarried, 24 years old, a woman, Muslim and residing in the hamlet of Eundang Rt 20/Rw 06, Batulawang Village, Ciamis district. The patient

complains of nausea when given food intake. The client's current medical history began coming to the BLUD emergency room at the Banjar City Hospital and then being transferred to the Orchid Room on May 28, 2023 at 16.40 WIB with complaints of lower right abdominal pain, since 3 days ago. Then the client underwent an appendectomy operation on May 29, 2023. When examined on May 30, 2023 at 09.00 WIB, the first day after the appendectomy operation obtained subjective data obtained namely, the client complained of nausea when given food intake, the client said he ate little by little, the client says when eating is not finished, the client says he rarely drinks, the client says he is weak.

Objective data obtained by the client's blood pressure 110/80 mmHg, pulse 80 times/minute, respiration 20 times/minute, temperature 36.5°C. The client looks full quickly if given food intake, the client has difficulty digesting food properly, the client eats 3 times/day with a portion of porridge, side dishes and vegetables, the client eats not finished, the client's intake of drinking needs is lacking. The client's weight is 51 kg, 153 cm then the client's body mass index is around 21.7 KgM². The patient had no previous records of illness, had never been hospitalized, had no history of hereditary or infectious diseases in his family. The results of laboratory tests showed an increase in leukocytes which is a feature of appendicitis requiring an appendectomy. From the results of the data analysis, the researcher concluded that the nursing problems experienced by clients were nutritional deficits (D.0019) associated with postoperative nausea.

Discussion

Based on the nursing care process carried out for Mrs. S on 30 May 2023 to 1 June 2023 for 3 days. During the implementation of nursing care for patients and families, it can work cooperatively so that the nutritional status of the client and the nutritional needs of the client can continue to improve.

According to Udkhiyah and Jamaludin (2020) the manifestations that arise as a result of appendicitis, namely one of them is lower right abdominal pain which is classified as an abdominal emergency so it requires fast treatment. One of the common treatments for appendicitis is an appendectomy (Udkhiyah & Jamaludin, 2020).

At the time of the assessment the client said he felt nauseous if he was given food intake after surgery. Clients have difficulty digesting food properly, eating small amounts and not running out. The client's food intake is in one portion with soft food consisting of porridge, side dishes, and vegetables, the client's intake of drinking needs is less. Installed an RL 20 tpm infusion on the left hand. The results of measuring vital signs resulted in blood pressure of 110/80 mmHg, pulse 80 beats/minute, respiration 20 beats/minute and body temperature 36.5°C. the results of a physical examination with the Glasgow Coma Scale (GCS) Compos mentis client with the quantity Eye 4, Motor 6, and Verbal 5. The lip mucosa is dry, there are no canker sores in the mouth, there is a surgical wound in the lower abdomen 10 cm long, the surgical wound is clean but still not dry, no tympanic sound when percussed, no tenderness, bowel sounds 13 times/minute, CRT >2.

According to Bintang (2020) the signs and symptoms caused by nutritional deficits are nausea when given food, eat little by little and don't finish it, lack of drink intake, the client experiences obstacles in digesting food, decreased appetite, skin turgor decreases again > 2 seconds, mucosa dry lips, bowel sounds increased (Bintang, 2020).

Postoperative nutritional deficits can be caused by various factors, one of which is nausea. In this case postoperative patients will experience dehydration rates, electrolyte balance disturbances, which can slow down the healing process (Noviani et al., 2022).

Based on the results of the studies that have been obtained, conclusions can be drawn to determine nursing diagnoses for clients, namely Nutritional Deficits associated with Postoperative Nausea.

The data that the researchers obtained contained differences between facts and theory, where in general post-operative appendectomy patients experienced complaints of pain, but researchers found a potential problem that occurred to clients, namely nutritional deficits. The pain is reduced, the surgical wound is getting better but the client cannot digest food properly due to nausea, the client eats little by little, does not run out, and has a decreased appetite.

According to research (Cing et al., 2022) This phenomenon is caused by pharmacological factors, for example due to the use of a specific type of anesthetic or the effects of a drug. whereas from non-pharmacological factors, the incidence of nausea can originate from the patient's own factors.

Nursing plans are made according to the problems that arise with the client, namely: identifying the client's nutritional status, identifying food allergies and intolerances, monitoring the client's food intake by knowing how to properly digest food, what portions of food must be used up, sufficient drinking intake. Identify the client's weight and height, monitor the client with high-calorie and high-fiber foods by consuming soft foods such as porridge, using side dishes and vegetables, and consuming fruit.

According to research by Taufik and Hasibuan (2018), related interventions can increase the wound healing phase quickly after surgery. Because basically fulfilling the nutritional status needs for vitamins and minerals is very important to facilitate the repair of tissue systems at the postoperative wound recovery stage (Taufik & Hasibuan, 2018).

The implementation of the nursing given is in accordance with the interventions that have been designed according to the needs of the client. During the implementation of nursing, the author also involves the family in its implementation, it is intended that the family can meet the nutritional status needs and continue when the client is allowed to go home.

Nursing implementation carried out for three days is planned and designed according to the client's needs. On the first day is to identify the client's nutritional status on a daily basis with the result that the client's nutritional status is not good. Identify whether there is a food allergy or intolerance in the client and the client does not have allergies to food. Monitor the client's food intake with the result that there are obstacles in digesting food caused by feeling nauseous and quickly full, the client's portion of food is also not finished with small portions of food 3 times/day and does not run out, the client's drinking intake is approximately 1200 ml or the equivalent of 5 glasses, the client's body mass index is normal 21.7 KgM^2 , the client eats with side dishes of vegetable soup, but has not consumed food, the client's wound healing process on the first day of assessment is not yet dry but an inflammatory process begins with the characteristics of redness which is also the day first post-operative appendectomy.

On the second day the client experienced an increase with the client's nutritional status starting to improve, then when monitoring food intake the client began to be able to digest food properly with obstacles to consuming food improving, the nausea experienced by the client decreased. The client's meal portion lasts 3 times/day, eats a little but often, the client's drinking intake increases by more than 1200 ml or about 6 glasses. The client's weight increased by about 2 ounces to 51.2 kg, then the body mass index was recalculated and it was obtained under normal circumstances with a figure of 21.8 KgM^2 . The client's food consumption survives with porridge using side dishes, with vegetable soup and the client on

the second day has started consuming fruit. Examination of the client's surgical wound in the inflammatory process phase with characteristics that appear reddish and there is swelling.

The third, final day of implementation, the client's nutritional status has improved, the client's nausea problem has disappeared and there are no obstacles in digesting food. The food consumed by the client survives by consuming porridge, supplemented with side dishes of vegetable soup, and survives consuming fruit to speed up the wound healing process. The client's portion of eating remains 3 times/day and is finished, the client's drinking improves and increases by around 1600 ml or the equivalent of 7 glasses a day. The client's weight and body mass index are the same as the second day, then the wound healing process is already in the process of proliferation in the formation of epithelium. Problems that arise are partially resolved, the client and family must be able to maintain nutritional status, food portions along with the intake of the client's nutritional needs so that the wound healing process is increasing.

The results of laboratory tests found that the client had excess leukocytes. In research conducted by (Putri, 2020) this causes appendicitis which requires an appendectomy.

These findings are supported by the results of a research carried out by Hidayat et al. (2022) that the process of assessing nutritional status affects the wound healing process after appendectomy surgery. Based on the findings of the investigation, it was discovered that there was a significant association between the nutritional condition and the length of time it took for patients to heal from their wounds following an appendectomy. This correlation was determined through the use of the Chi Square statistical test, with a p value of 0.004, indicating that the relationship was statistically significant at a level lower than α (R. Hidayat et al., 2022).

Furthermore, in a research conducted by Siswandi et al. (2020) it was mentioned that according to the calculations provided, a p value of 0.004 was achieved, indicating a p value <0.05 . The findings of the analysis indicate that there is a connection between dietary circumstances and the process of wound recovery (Siswandi et al., 2020).

Besides having an effect on the wound healing process after appendectomy surgery, nutritional status can also speed up the length of stay after appendectomy. It is driven by research conducted by (Nurjanah et al., 2018) that there exists a notable relationship between the nutritional condition and the length of care in individuals following appendectomy surgery, as supported by the findings of statistical analyses, specifically a p value of 0.001 with a significance level of <0.05 , indicating a strong correlation.

Conclusion

After carrying out nursing care at the Banjar City Hospital BLUD on Ny. S in the Orchid room with a medical diagnosis of post-appendicitis appendicitis on May 30 to June 1 2023, Inferences can be made in the nursing process which comprises of evaluation, diagnosis, intervention, execution and assessment of nursing. From this the authors conclude that the problem of nutritional deficits associated with postoperative appendectomy nausea with an assessment of nutritional status can improve the wound healing process as indicated by the reaction of customers who experience modifications in their nutritional condition during the process of wound healing.



Figure 1. Documentation of wound healing by assessing nutritional status and meeting food intake needs

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