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CLINICAL CASE

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Nursing care process in a postoperative gastric bypass patient: a clinical case

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ABSTRACT

A holistic and functional nursing care plan for a postoperative gastric bypass patient is presented. Nursing care was guided by the nursing care process, which includes the stages of assessment, diagnosis, intervention planning, implementation, and evaluation. The assessment was conducted in a focused manner based on Marjory Gordon's functional health patterns, while nursing diagnoses, interventions, and expected outcomes were grounded in the NANDA-I, NIC, and NOC taxonomies, respectively. The study was carried out in the surgical unit of a public hospital in Lima, Peru. Three nursing diagnoses were identified, along with their corresponding indicators and interventions, aimed at wound care and monitoring, management of hyperglycemia, and the integration of techniques to improve sleep. Outcome evaluation, measured using a Likert scale, showed satisfactory progress across all indicators. It is concluded that multidisciplinary and multidimensional care is essential to ensure optimal recovery and prevent the development of complications.

Keywords: gastric bypass; surgical intervention; morbid obesity; nursing care.

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Scientific contribution:

The relevance of this study lies in the application of the nursing scientific method, integrated with the NANDA-I, NIC, and NOC taxonomies. The study addresses the specialized management of a patient in the postoperative period following gastric bypass surgery for morbid obesity, a condition with increasing prevalence in surgical units that requires individualized care planning.

INTRODUCTION

Globally, obesity represents a major public health concern. From 1990 to 2022, prevalence of cases has increased significantly, affecting approximately one in eight individuals. This condition, characterized by excessive body fat accumulation, is diagnosed when body mass index (BMI) is equal to or greater than 30 kg/m^2, and is classified as morbid obesity when BMI is equal to or greater than 40 kg/m^2 (1). Its development is associated with both modifiable and non-modifiable factors, including nutritional imbalance, sedentary lifestyle, and, in some cases, conditions such as hypothyroidism, all of which contribute to weight gain (2, 3). Clinically, it is associated with diseases such as hypertension, type 2 diabetes mellitus, osteoarthritis, respiratory disorders, and hepatic alterations (4). All of these have a negative impact on the individual's physical, emotional, social, and economic health (5).

Treatment requires a multidisciplinary approach that prioritizes lifestyle modification; however, in severe cases, bariatric surgery may be considered. This procedure can be performed via laparotomy, which involves a large abdominal incision to access internal organs, or laparoscopy, a less invasive technique using small incisions guided by a camera (6). Although gastric bypass offers significant benefits, such as weight reduction and remission of obesity-related comorbidities, it also carries risks including infections, nutritional deficiencies, and postoperative complications such as fistula formation (7, 8). Within this context, care encompasses technical, professional, and psychosocial aspects, establishing a meaningful relationship between the patient and the healthcare professional (9).

The objective of this clinical case is to provide holistic care that promotes recovery and the physical-emotional well-being of a patient in the postoperative period following gastric bypass via laparotomy with fistula complications. The ethical principles of the nursing profession were always considered: autonomy, through confidentiality of information and obtaining informed consent; beneficence, guiding interventions toward the greatest benefit for the patient's comprehensive recovery; non-maleficence, prioritizing safety and avoiding unnecessary risks; and justice, ensuring equitable, dignified care without discrimination.

CLINICAL CASE PRESENTATION

A 31-year-old male patient presented with a diagnosis of morbid obesity. His past medical record included controlled arterial hypertension, asthma (since the age of 6), hypothyroidism (since the age of 17), strabismus, congenital spina bifida occulta, sleep apnea–hypopnea syndrome of moderate severity, daytime hypersomnia, chronic idiopathic urticaria, generalized anxiety disorder, and type 2 diabetes mellitus.

The patient reported starting intermittent dieting six years ago without success; therefore, he underwent bariatric surgery via laparotomy. After that, the patient was referred to a public hospital in Lima for the surgical procedure due to limited medical equipment in his city of origin. After the procedure, the patient's postoperative recovery was compromised by the formation of a fistula, which prolonged his hospital stay.

He presented with a degree II dependency level and the following vital signs: blood pressure 120/60 mmHg, heart rate 91 beats per minute, respiratory rate 19 breaths per minute, axillary temperature 36.5 °C, and oxygen saturation 95%. During the physical examination, the neck exhibited cylindrical morphology with preserved mobility. The presence of acanthosis nigricans and a high-flow central venous catheter in the right internal jugular vein was identified. The abdomen was distended and painful on palpation (VAS: 3/10), with a 15-stitch vertical surgical suture extending from the epigastrium to the mesogastrium. The upper portion showed five sutures covered with gauze due to the purulent discharge draining from the fistula, with surrounding skin erythema. A Penrose drain was in place in the left flank (sixth quadrant).

Medical treatment included SmofKabiven VT (1900 mL IV every 20 h.), vitamin C (7.5 g in 0.9% NaCl 150 g every 48 h.), levothyroxine (50 mcg PO every 24 h.), losartan (50 mg PO every 12 h.), mirtazapine (30 mg PO every 24 h.), vitamin B12 (tube administration every 24 h.), protein module (30 cc every 8 h.), and regular insulin (3 IU) administered according to a sliding-scale correction protocol based on blood glucose levels (2 IU for 180–249 mg/dL, 3 IU for 250–299 mg/dL, and 4 IU for values ≥300 mg/dL).

ASSESSMENT

The nursing assessment was conducted according to Marjory Gordon's Functional Health Patterns framework. Data were collected through a personal interview with the patient and his family, complemented by a review of the medical record (10).

1. **Health perception:** The patient was aware of his health condition and attempted to cope with it unsuccessfully, which ultimately led him to undergo surgery. After that, he developed a fistula as a postoperative complication.

2. **Nutritional-metabolic:** The patient was unable to consume anything orally; therefore, he was receiving parenteral nutrition with SmofKabiven. In the morning, his capillary blood glucose level

was 116 mg/dL. Before the surgical procedure, the patient weighed 153 kg, with a height of 1.80 m and a body mass index (BMI) of 47.22 kg/m².

3. **Removal:** The patient presented drainage of secretions through the fistula, with erythema of the surrounding skin. In addition, he had a Penrose drain, through which the rest of the administered substance (methylene blue) was removed.

4. **Activity-exercise:** The patient did not perform outdoor physical activity due to the reddish eruptions caused by chronic idiopathic urticaria. He used an inhaler due to his asthmatic condition. He had weakness in his lower limbs, so he moved around with the help of a cane.

5. **Sleep-rest:** The patient appeared drowsy and had difficulty to sleep due to restlessness, anxiety, and his condition of daytime hypersomnia.

6. **Cognition-perception:** The patient had suspended higher education studies and presented a Glasgow Coma Scale score of 15/15.

7. **Self-perception-self-concept:** The patient was cooperative during the interview: initially calm but later became restless and anxious. He reported feeling good about himself and expressed his desire to improve. His mother said that, as a child, the patient was bullied due to his physical appearance, and although he reports being better, she still often sees him as sad and depressed.

8. **Role-relationships:** The patient received daily visits from his mother and had support from his father, friends, and relatives.

9. **Sexuality-reproduction:** The patient was single and lived with his mother.

10. **Stress tolerance:** The patient reported feeling uncomfortable due to bed quality and catheter discomfort.

11. **Values-beliefs:** The patient was Catholic.

PRIORITIZED NURSING DIAGNOSES

Nursing diagnoses were determined according to the NANDA-I taxonomy (11):

1. [00100] Delayed Surgical Recovery R/T surgical wound infection EB impaired surgical wound healing (purulent discharge, fistula, and surrounding erythematous skin). This diagnosis was prioritized due to its high potential for complications, as the presence of purulent drainage from the fistula indicated an active infection that could trigger a septic condition.

2. [00179] Risk for Unstable Blood Glucose Level RF failure of regulatory mechanisms. This required immediate attention to prevent severe complications such as diabetic ketoacidosis or hyperosmolar coma.

3. [00096] Sleep Deprivation R/T nonrestorative sleep cycle EB anxiety and irritable mood. This affected recovery and overall well-being; therefore, it was important to address it to improve quality of life and facilitate the recovery process.

4. [00119] Chronic Low Self-Esteem R/T body image disturbance EB maternal verbal report indicating that, as a child, he was bullied due to his physical appearance, and he is frequently sad and depressed. This condition affects motivation, self-perception, and the ability to cope with his current situation, reflecting a continuous emotional impact that requires early intervention.

Based on the identified diagnostic labels, a care plan was developed aligned with the stages of the Nursing Process (NP). Table 1 presents the planning, including the formulation of expected outcomes, identification of NOC indicators, and their respective measurement using a Likert scale.

Based on the identification of the NOC for each nursing diagnosis, nursing interventions were proposed with the support of the NIC (Table 2).

Table 1. Stage of the Nursing Process: Planning

NOC	Indicators	Likert Scale					Target	
		1	2	3	4	5	Departure	Arrival
Diagnosis: [00100] Delayed Surgical Recovery								
[1103] Wound Healing: Second Intention	[110303] Purulent discharge		X			X	2	5
	[110307] Surrounding skin erythema		X			X	2	5
	[110314] Fistula formation		X			X	2	5

NOC: Nursing Outcomes Classification.

Table 1. *(Continuation).*

NOC	Indicators	Likert Scale					Target	
		1	2	3	4	5	Departure	Arrival
Diagnosis: [00100] Delayed Surgical Recovery								
[1103] Wound Healing: Second Intention	[110303] Purulent discharge		X			X	2	5
	[110307] Surrounding skin erythema		X			X	2	5
	[110314] Fistula formation		X			X	2	5
Diagnosis: [00179] Risk for Unstable Blood Glucose Level								
[2300] Blood Glucose Level	[230001] Blood glucose concentration		X		X		2	4
	[161911] Glycemic control		X		X		2	4
Diagnosis: [00096] Sleep Deprivation								
[0004] Sleep	[000401] Hours of sleep		X		X		2	4
	[000404] Sleep quality		X		X		2	4
	[000405] Sleep efficiency		X		X		2	4
Diagnosis: [00119] Chronic Low Self-Esteem								
[1200] Body Image	[120001] Internal self-image	X			X		1	4
	[120002] Congruence between reality, body ideal, and body image		X		X		2	4
	[120005] Satisfaction with body appearance	X			X		1	4
	[120014] Adaptation to body changes resulting from the surgery		X		X		2	4

NOC: Nursing Outcomes Classification.

Table 2. Stage of the Nursing Process: Implementation of Activities According to the Diagnosis

NIC	Activities
Diagnosis: [00100] Delayed Surgical Recovery	
[3660] Wound Care	1. The wound characteristics were monitored: color, fistula size, odor, and changes in drainage. 2. The wound was cleansed with distilled water at least twice a day. 3. Gauze and surgical tape were changed after cleansing. 4. A protein module and vitamins B12 and C were administered as prescribed. 5. The patient was instructed to perform physical movements as tolerated. 6. The patient and family were taught to recognize signs and symptoms of infection. 7. Wound characteristics and skin condition were recorded.

NIC: Nursing Interventions Classification.

Table 2. *(Continuation).*

NIC	Activities
Diagnosis: [00179] Risk for Unstable Blood Glucose Level	
[2120] Management of Hyperglycemia	1. Signs and symptoms of hyperglycemia were observed. 2. Capillary blood glucose levels were monitored every 8 hours. 3. Insulin R was administered according to the glucose correction scale. 4. Treatment was recorded in the nursing kardex. 5. Strict water balance (intake and output) was monitored.
Diagnosis: [00096] Sleep Deprivation	
[1850] Sleep Enhancement	1. The patient was told about the importance of adequate sleep. 2. The environment was adjusted by minimizing nighttime noise. 3. The patient was taught relaxation and meditation techniques before bedtime. 4. Integration of usual routines (reading and drawing) was facilitated.
Diagnosis: [00119] Chronic Low Self-Esteem	
[5220] Body Image Enhancement	1. The perceptions of the patient and family regarding the alteration of body image compared to reality were determined. 2. The patient was assisted in identifying actions to improve his personal appearance. 3. Realistic information about positive aspects of his appearance and abilities was provided. 4. The patient was assisted in identifying actions that would improve his appearance. 5. Strategies were taught to cope with negative comments or thoughts about his appearance. 6. The patient and family were made aware that the proposed goals or outcomes depend on his lifestyle. 7. The importance of continuing his psychological therapy was emphasized.
[5270] Emotional Support	1. A positive attitude was encouraged through empathetic and understanding communication. 2. Feelings of anger, sadness, guilt, or shame were expressed.

NIC: Nursing Interventions Classification.

EVALUATION OF OUTCOMES AND FOLLOW-UP

The nursing evaluation process allowed for continuous monitoring of the expected outcomes. To achieve this, a total of 10 visits were conducted over the course of one month, which facilitated the measurement of indicators and the achievement of positive results for the established diagnoses.

For the first diagnosis, satisfactory recovery was achieved through constant monitoring of skin integrity, wound cleansing, and dressing changes. In addition, during his hospital stay, which lasted more than a month, the protein module was administered as an essential part of strengthening his nutrition. Before discharge, a new weight assessment was performed, recording 143 kg, which represented a reduction of 10 kg.

For the second diagnosis, effective control of capillary blood glucose was achieved through continuous monitoring and insulin administration according to the sliding scale, keeping parameters within normal ranges.

For the third diagnosis, modifications were made to the environment to reduce noise, and education was provided on the importance of sleep, implementing relaxation techniques and healthy routines, which resulted in an improvement in the patient's sleep quality and emotional well-being.

For the final diagnosis, the patient showed progressive strengthening of self-esteem, with improved acceptance of body image and commitment to adopting healthy lifestyle behaviors and continuing psychological therapy.

Throughout the care process, patient and family education was essential, promoting their active collaboration with the healthcare team. In this way, the rigorous evaluation made it possible to measure the effectiveness of the interventions carried out and determine whether the established care objectives had been achieved.

DISCUSSION

The presentation of this clinical case highlights the importance of implementing a holistic approach in the management of a patient with multiple diagnoses, demonstrating favorable outcomes in the recovery process. In this regard, the study conducted by Cazorla et al. (12) in 2022 showed that bariatric surgery is effective in significantly reducing weight in patients with class II and III obesity, particularly in those with comorbidities such as type 2 diabetes mellitus. This information is consistent with the results obtained, where the patient achieved a 10-kg weight reduction, which positively contributed to recovery.

Regarding the first diagnosis, during hospitalization the patient developed a fistula, evidenced by the presence of purulent drainage output and erythema of the surrounding skin. Licea et al. (13), in 2023, reported that this condition represents the main early complication of gastric bypass surgery. In the same way, the nursing approach implemented coincides with that outlined by Romero (7) in 2024, who emphasized the importance of constant monitoring of tissue integrity and proper wound healing to promote the healing process. In addition, supplementation with protein modules and SmofKabiven improves the patient's nutritional status, which is consistent with the findings of Guamushig et al. (14) in 2025, who highlighted the importance of meeting nutritional needs to prevent complications related to nutrient absorption and promote adequate wound healing. This underscores the need for timely nutritional support and comprehensive management to ensure safe recovery.

With respect to the second diagnosis, blood glucose levels were maintained within normal ranges, reflecting effective glycemic control. According to the study conducted by Robert et al. (15) in 2019, 30% of patients undergoing gastric bypass achieved positive outcomes in glucose control and insulin regulation after surgery. This confirms the effectiveness of the intervention and aligns with existing evidence, reinforcing the need for continuous monitoring and adherence to treatment for adequate metabolic control.

Regarding the third diagnosis, an improvement in sleep quality was observed. Consistent with these findings, El Arab et al. (16), in 2025, indicated that achieving such improvement requires implementing a holistic approach that integrates environmental modifications and patient-centered care, including education, relaxation techniques, and healthy routines. These findings suggest that maintaining this improvement depends on a comprehensive approach that incorporates healthy habits and an appropriate hospital environment.

In the last diagnosis, improvement in body image self-perception was observed. In this context, the study conducted by Ríos and Pedraza (17), in 2025, emphasized the importance of addressing body image after surgery, recommending ongoing psychological evaluation to facilitate adaptation to a new lifestyle. Similarly, Felske et al. (18), in 2021, noted that strengthening self-esteem is a fundamental—often underestimated—factor whose consolidation may improve surgical prognosis. These findings not only support the proposed interventions but also highlight the need for continuous psychological management to consolidate patient adaptation, optimize surgical outcomes, and improve emotional health condition.

CONCLUSIONS

This clinical case demonstrates that holistic and personalized care in a postoperative patient following gastric bypass surgery with a fistula complication significantly promotes recovery. The implementation of specific interventions—such as appropriate wound management, parenteral nutrition with SmofKabiven, glycemic control, and sleep improvement—allows favorable outcomes to be achieved. These findings reinforce the importance of following a nursing intervention plan that, beyond the clinical approach, significantly contributes to the patient's overall well-being. Each action aimed at preventing complications and providing emotional support strengthens the therapeutic relationship by promoting care that integrates science, empathy, and human dignity.

It is recommended that future research address the long-term follow-up of patients undergoing bariatric surgery and include psychosocial, nutritional, and treatment adherence variables. Similarly, it is proposed to continue deepening the application of nursing theories in the clinical setting to strengthen the autonomous and reflective role of professionals in comprehensive care.

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Authorship contribution:
JEMS: conceptualization, data curation, formal analysis, research, methodology, project administration, software, resources, supervision, validation, writing of the original draft, writing - review & editing.
DJMP: conceptualization, data curation, formal analysis, research, project administration, software, resources, validation, writing of the original draft, writing - review & editing.
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