ABSTRACT

Objective: to qualitatively validate the nursing diagnosis Delayed surgical recovery based on patients’ perceptions. Method: a qualitative study was conducted with 20 patients from a reference hospital six days or more after surgery. A semi-structured interview was conducted as the data collection technique, and the thematic content analysis method was used for data analysis. Results: three categories were obtained: Description of the defining characteristics and related factors based on the patients’ statements, Perception of surgical recovery, and Repercussions of delayed surgical recovery on the patients’ lives, health, and well-being. Final considerations: the patients’ perceptions were closely linked to the postoperative period and length of stay, which corroborates the definition of Delayed surgical recovery. Qualitative investigations help to understand the patient’s experience regarding the diagnosis phenomenon and situate person-centered care. It can also help design assertive nursing interventions to achieve full recovery.

Keywords: Nursing diagnosis. Perioperative nursing. Qualitative research. Nursing process. Post-operative care.

INTRODUCTION

Nursing diagnoses represent an essential step for the development of the nursing process, as they guide the design of interventions and, consequently, the achievement of positive results\(^1\),\(^2\).

In the context of perioperative nursing care, the nursing diagnosis Delayed surgical recovery (DSR) stands out, inserted in the safety/protection domain, and in the physical injury class of the Nanda International (NANDA-I) taxonomy, defined as the “extension of the number of postoperative days required to initiate and perform activities that maintain life, health, and well-being”\(^-1\).

This diagnosis adds biological, physical, and psychological factors that contribute to the delay in recovery, reflecting the individual's responses to surgical complications, as well as the increase in the length of hospital stay\(^(3,4)\). Qualitative research is extremely valid to elucidate the subjective aspects that affect surgical recovery and confirm diagnostic inferences, as it values the patient's experience during hospitalization and establishes person-centered care.

A qualitative study with post-myocardial revascularization patients with heart disease identified meanings attributed to the immediate postoperative period, such as estrangement with the own body and dependence on others to satisfy basic needs\(^5\). These feelings can be aggravated by the perception that there is a delay in surgical recovery, which reinforces the importance of the present study.

Qualitative investigations contribute to a better
understanding of the diagnostic phenomena, directing interventions to meet the patient's real needs and reducing the gaps between theory and practice\textsuperscript{(6)}. In this sense, although studies have demonstrated the prevalence and accuracy of clinical indicators of delayed surgical recovery\textsuperscript{(7,8)}, no studies were identified that dealt with the diagnosis from the patient's perspective or, in other words, how this experience, etiological factors, and clinical indicators make up a human response in which nurses must intervene.

The evidence is useful for clinical practice, as it demonstrates the importance of care centered on the person, on the patient's experience, and, above all, on the application of the nursing process based on clinical reasoning, making the articulation between signs evidenced in the clinical examination and symptoms reported by the patient.

Given the above, the research question is: Which subjective variables, based on patients' perceptions, validate the diagnosis of Delayed surgical recovery? The objective was to qualitatively validate the nursing diagnosis Delayed surgical recovery based on patients' perceptions.

**METHOD**

A descriptive study with a qualitative approach was carried out in a university hospital in Rio de Janeiro, Brazil, in the surgical wards, which consisted of 10 beds for men, 10 beds for women, and 20 beds in a mixed surgical ward where patients were hospitalized in the pre-and postoperative period. The surgical specialties included in these wards are general, urological, gynecological, mastology, neurosurgery, orthopedic, thoracic, and cardiac surgeries. Data collection took place from December 2017 to June 2018. The study was conducted and reported following the Consolidated Criteria for Reporting Qualitative Research (COREQ) guidelines\textsuperscript{(9)}.

Patients with the following characteristics were included in the study: adult and elderly patients hospitalized in a surgical ward six days or more after surgery, patients with hospital readmission caused by surgical complications, and patients who underwent a new surgical approach having the diagnosis Delayed surgical recovery. The following exclusion criteria were adopted: patients with neurological or cognitive impairment reported in the medical records, patients with hemodynamic instability, patients with speech difficulties, and those hospitalized for end-of-life care.

In the participant recruitment stage, the coordinators of the wards were informed of the study to allow access to the patients' medical records and set a reserved place for the interviews. After reading the medical records of postoperative patients, the researcher initially performed data analysis to identify whether the patient had inferences that could indicate the presence of the diagnosis. After identifying the patients who had the diagnosis and applying the eligibility criteria, they were personally approached and invited to participate in the study upon clarification of the purpose of the study, benefits, and risks. The signing of the informed consent form was requested, and the interview was carried out after the agreement to participate. There were no refusals or withdrawals from participating in the study.

A pilot test was carried out to adapt the instrument and train the researcher. A nursing student who was also an academic scholarship holder conducted the interviews, and data analysis was carried out jointly with a professor with a PhD in nursing and a professor with a master's degree in nursing.

Data were collected through semi-structured interviews, recorded in audio, and transcribed in full, with a duration of approximately 40 minutes. The number of participants was not previously established. Thus, data collection occurred until data saturation, evidenced by similar responses and meeting the study's objective.

An instrument was created with socioeconomic data such as gender, age group, occupation/activity, and education, in addition to data from the surgery and surgical specialty and the following guiding questions: How is your surgical recovery? How do you perceive the extension of the postoperative days? What were the consequences/percussions of this extension on your life? What do you expect from your hospitalization today?

Bardin's thematic analysis method\textsuperscript{(10)} was used for the data analysis. The following steps were followed: initially, the material was read, making
the first impressions of the statements emerge. Subsequently, segments of the interviews were extracted and separated into clippings according to the nature of the reports, originating the thematic categories. Then, a re-reading was conducted to verify the themes originated from the speeches for insertion into the research objectives. The theoretical framework adopted for data analysis was the nursing diagnosis set out in the NANDA-I taxonomy and Marjorie Gordon’s framework of Functional Patterns that underlies the theoretical organization of this taxonomy.

Participants were identified as P1, P2, P3, and by age on the interview day. The study complied with national and international standards of ethics in research involving human beings and followed the recommendations of Resolutions 466/2012 and 512/2016, being approved by a research ethics committee, according to opinion nº 826.075.

RESULTS

Twenty participants were interviewed, 12 female and eight male, of which 40% (8) were between 41 and 50 years old, 25% (5) between 61 and 70 years old, 15% (3) between 51 and 60 years old, 15% (3) between 71 and 80 years old, and 5% (1) between 31 and 40 years old. As for education, 35% (7) had incomplete primary education, 20% (4) had complete secondary education, 20% (4) had higher education, 10% (2) had elementary education, 10% (2) were illiterate, and 5% (1) did not finish high school. Regarding occupation, 30% (6) had a formal job, 25% (5) were self-employed, 25% (5) described themselves as housewives, and 20% (4) were retired.

After analyzing the interviews, three categories emerged: (I) Description of the defining characteristics and related factors based on the patients’ statements, (II) Perception of surgical recovery, and (III) Repercussions of delayed surgical recovery on the patients’ lives, health, and well-being.

**Description of the defining characteristics and related factors based on the patients’ statements**

In Chart 1, the following components of the diagnosis of DSR evidenced in the patients’ statements are described: defining characteristics (DC) and related factors (RF).

<table>
<thead>
<tr>
<th>Defining characteristics</th>
<th>Related factors</th>
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<tbody>
<tr>
<td>Postpones resumption of work</td>
<td>Pain</td>
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<tr>
<td>Discomfort</td>
<td>Postoperative emotional response</td>
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<tr>
<td>Evidence of interrupted healing of surgical area</td>
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<tr>
<td>Impaired Mobility</td>
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<tr>
<td>Requires assistance for self-care</td>
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<tr>
<td>Excessive time required for recuperation</td>
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The defining characteristic postpones resumption of work has repercussions on the patient’s life and socioeconomic implications.

Before operating, I drove my truck. I moved, I had a moving truck. Today, I can’t because there’s a lot of secretion here. (P6 - 62 years old)

I'm self-employed and now I have no work at all. No money is coming in, I have to pay my bills, so it's getting bad. (P16 - 62 years old)

Impaired mobility was mentioned in the statements as an associated condition and a defining characteristic. When impaired mobility acted as a contributing agent to the delay in recovery, it was allocated as a defining characteristic. However, it was considered an associated condition when associated with other causes such as pain, insecurity, and fear. This distinction is complex and requires experience.

I'm feeling uncomfortable, because I've been lying on my back for four days without moving, without doing anything, so I'm feeling a lot of pain in my back, in my lungs. I don't know [...] Staying in bed for four days without getting up for anything at all
is maddening, a lot of pain also in the buttocks, precisely because of the position of lying down. (P8 - 55 years old)

The biggest discomfort are these probes and drains, which hurt and prevent you from having a comfortable position in bed. (P2 - 50 years old)

One of the defining characteristics presented by the patients was requires assistance for self-care, which is related to impaired mobility.

I go to the bathroom walking with the walker, I have a little difficulty, of course, but I'm trying hard. To take a shower, the girls help me because I can't do everything, like drying myself, for example. (P18 - 42 years old)

The DC evidence of interrupted healing of surgical area is caused by dehiscence, surgical site infection, evisceration, and presence of exudative drainage. In the statements, the patients addressed reports of “open stitches” and other manifestations of compromised healing/recovery. In some cases, the participants stated that it was difficult to understand the healing process in the surgical area.

A lot of pus was coming out of my foot, with a bad smell (...) think of a bad smell, that's how it was (...) I was working, I got home, took my shower and did my dressing calmly, when I saw that pus started coming out and it smelled bad. (P15 - 66 years old)

I wanted to go home today, but they couldn't discharge me today, as I'm still taking antibiotics to kill the virus.[bacteria] that he said is in my operation, I'm still staying for two more weeks. (P16 - 62 years old)

Pain contributes to the prolonged postoperative period, is related to surgical trauma, surgical wound infection, and the presence of drains and probes, causing discomfort and impaired mobility and ambulation, generating a vicious cycle of related factors and defining characteristics.

I'm feeling a little uncomfortable, because I've never had an operation, I can't turn around, because I have one side cut and the other, the back [...] the nurse said today that I have to stay on my side because otherwise it will open a wound, because I'm just like that, she said I have to sleep on my side, but I don't know how to do it because there are operations on each side and two probes, when I turn around, that's when it hurts. (P7 - 66 years old)

It was a very, very strong pain. It felt like needles were poking me from the inside out, and I couldn't even sit up. And I was resting because of the operation, but since I got home, I've been feeling this pain [...] it only got worse, I didn't do anything at home. (P19 - 53 years old)

The postoperative emotional reaction evidenced by the self-report of fear generated insecurity regarding the movement in the postoperative period, delaying recovery.

I think it's been difficult for me to recover from the surgery, because I'm soft and scared, I'm afraid to move around, you know, sometimes I think about moving, but I'm afraid to move around the surgery site. (P9 - 71 years old)

Perception of surgical recovery

The patients' perceptions about their recovery were synthesized in this category. According to the statements, the delay in recovery was associated with the postoperative period.

[...] everything takes time because you have to recover inside first and then recover outside. This is little by little. I'm still feeling a lot of pain, shortness of breath [...]. (P11 - 59 years old)

Since January I’m in this rush, I thought that after ninety days I would be fully recovered, “easy”, but the sutures came loose and I was like ‘go here, go there’, I hope everything will be resolved.(P20 - 51 years old)

Delayed surgical recovery diagnosis was reported through the perception of the extension of postoperative days, in which the feeling of longer than expected time for recovery comes into play.

I was supposed to stay less than three weeks and I've been here for almost a month and I'm already anxious to leave.(P7 - 66 years old)

After I had the operation two weeks ago and it's progressing well, it's closing, you know?[...] it's going well, but it's slow. (P12 - 49 years old)

It is important to highlight in this category the central concept of the diagnosis regarding the extension of time, in which the concern with the postponement of hospital discharge motivates the patient to perceive the defining characteristics of the diagnosis and the consequent delay in the recovery process.
I think it's taking a long time to recover, it's been a while since I had the operation and I'm still not able to walk. I stay in bed, I had to take a bath in bed, because when I tried to get up to go to the chair, I felt a lot of pain and I couldn't support my body. (P3 - 41 years old)

Repercussions of delayed surgical recovery on the patients' lives, health, and well-being

As for the repercussions of DSR, the statements evidenced feelings experienced by patients associated with compromised well-being and physical and psychological health.

I miss my home, I miss my daughter, my sister, I don't see my mother, because they can't be here with me, because they work and their work is kind of complicated, so they can't afford to stop working to be able to be with me, that is, I end up feeling very alone, it's horrible [...] I'm struggling to find the right word. It's not 'alone'. But to be honest, it's like 'abandoned', you know? I know I'm not, but like it or not, we end up thinking this way. (P8 - 55 years old)

My life is stuck, I feel very sad (crying), being here is affecting me too much, even my relationships, my job, my home (...) we are never prepared for things to go wrong and when they do, that's hard (P1 - 42 years old)

They also elucidated the consequences of the delay in surgical recovery in their lives, which must be considered during nursing care:

I'm self-employed, I'm here and I can't work. I don't know how it's going to be. I can't even walk. Before the surgery I could walk, I felt a lot of pain, but I used to walk, and now I'm here all the time and my work is stopped, I don't know how it's going to be. (P4 - 41 years / D-13 postoperative day)

DISCUSSION

This study validated the nursing diagnosis Delayed surgical recovery qualitatively from the perspective of hospitalized patients. The participants evidenced defining characteristics, related factors, and associated conditions for the diagnosis. This subjective evidence points to the need for nurses to direct perioperative interventions toward early discharge and full recovery.

The results showed that time was expressive in the diagnostic determination, given that the patients presented a perception of delay in surgical recovery, mentioning the prolonged period of postoperative days associated with the inability to perform activities independently, corroborating the definition of Delayed surgical recovery(7,4).

In the present study, the participants expressed a desire to resume work activities and dissatisfaction with being unable to work due to prolonged hospitalization or delayed healing of the surgical area. The postponement of work was also an important complaint identified in another study with elderly people who presented the nursing diagnosis of Delayed surgical recovery(11).

Therefore, the presence of Delayed surgical recovery should be a source of the investigation by nurses during data collection in the initial stage of the nursing process. If this variable is not evaluated qualitatively, it can be neglected, to the detriment of the biophysiological clinical characteristics, since the repercussions collaborate in the recovery, benefiting the adoption of an expanded therapy centered on the person.

Postoperative pain, a relevant finding in the present study, has a strong impact on recovery and is associated with postponed hospital discharge, reduced patient satisfaction, and increased hospital costs(13,14). Postoperative pain has been described as a complex response to tissue trauma during surgery and is a subjective emotional and sensory experience(13,14).

A study estimated that patients who report postoperative pain are almost four times more likely to present Delayed surgical recovery than those without this symptom(16). Postoperative pain assessment and management are essential for assertive interventions. Studies point out that postoperative pain management by nurses is still considered unsatisfactory(14-15), which indicates that a greater approach to pain assessment and control methods by nurses is needed.

Impaired mobility, a defining characteristic and associated condition of Delayed surgical recovery, was an important finding in the study, as it entails surgical recovery impairment, especially in elderly patients, due to musculoskeletal alterations of senescence or morbidities prior to the preoperative period(7, 12).

Therefore, it is important to offer individualized
assistance to the elderly in the postoperative period to minimize the damage resulting from surgical stress and hospitalization\(^9\).

Early postoperative ambulation is an extremely relevant nursing intervention. Nurses should pay attention to dependence on others to perform activities of daily living, as the recovery of elderly patients with dependency and reduced mobility tends to be prolonged. Therefore, sensitive listening to the care demands reported by these patients and decisive actions that encourage independence and self-care are extremely relevant for surgical recovery.

The evidence of interrupted healing of the surgical area was also mentioned by some patients, demonstrating that this is a characteristic that signals the delay in surgical recovery to the patient. Studies indicate that this defining characteristic has a high prognostic value for the patient's perception of the Delayed surgical recovery phenomenon\(^12,10\).

The factors observed when there is an interruption in the healing of the surgical wound are hyperemia, edema, secretion, and dehiscence of the surgical wound, which are generally associated with infectious conditions\(^13,15\). According to the participants' statements in this study, surgical site infections (SSI) are the main causes of readmission and constitute a condition associated with DSR. Studies show that SSI has a relevant prevalence among infections related to health care, increasing costs and the length of hospital stay and causing functional impairment and emotional repercussions\(^10,16\).

The postoperative emotional response is a related factor that indicates the presence of stress, anxiety, and fear, which directly interfere with recovery\(^3\). Another study estimated that the postoperative emotional response is associated with five times more chances of delayed surgical recovery\(^12\).

The nursing team must be attentive and ready to mitigate doubts and encourage self-confidence in the patient so that mobilization, walking, and carrying out independent activities are started early, as indicated for each type of surgery\(^17\).

The patient's emotional state must be investigated during the postoperative recovery, reiterating the need for care that promotes an adequate recovery\(^13,18,19\). The resulting feelings experienced by the participants with DSR in this study were sadness, discouragement, insecurity, loneliness, abandonment, and worry. In addition, the extension of the postoperative period generated a feeling of uncertainty and doubts about recovery and the future, which affected the sense of well-being, possibly generating psychological consequences. These feelings experienced in the postoperative period show the occurrence of psychological disorders and anxiety, and depression\(^9\). Studies point out that anxiety and depression in the postoperative period can increase pain, causing a self-care deficit due to an increase in the degree of dependence to perform activities, and prolonged hospitalization, which leads to an increase in recovery time\(^18,20\).

Nurses are the professional category with more hours of assistance and the ones who work closer to the patient during the postoperative period, which increases the possibility of observing signs and symptoms that indicate the presence of depression or anxiety, which in turn interfere with the postoperative recovery and require interventions that meet the patients' needs\(^18\). However, nurses must assess the patients' perceptions of delayed surgical recovery, carefully assess the repercussions of hospital readmissions, prolonged hospitalizations, return to surgery, compromise in restoring roles, work activity, and feelings of abandonment and loneliness, which affect the well-being and interfere with the individual's autonomy.

**FINAL CONSIDERATIONS**

The patients' perspectives on delayed surgical recovery included the feeling that the postoperative period is prolonged, associated with the difficulty in starting and resuming daily activities, which corroborates the definition of this diagnosis. Therefore, this study concludes that validating the diagnosis with the patient reinforces the importance of the nursing process, critical thinking, and person-centered diagnostic decision.

The early identification by the nurse of the factors that lead to delayed surgical recovery reinforces the need for education on self-care with the surgical wound, both for the patient and the caregiver, pain control, early discharge planning, and prevention of other associated factors prolong hospitalization.
As a limitation of the study, it can be highlighted that it was carried out in a highly complex hospital that assists predominantly unstable patients, making some interviews impossible. It is suggested that studies be carried out to clarify the perspective of nurses on surgical recovery, as well as investigations on depressive and anxiety symptoms associated with the nursing diagnosis Delayed surgical recovery.

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