

## Acute Lower Abdominal Pain in an Adult Male Defined using Taxonomy NANDA, Nursing Outcomes Classification, and Nursing Interventions Classifications

Nayide Barahona-Guzmán<sup>1</sup>, Lastre-Amell Gloria<sup>2</sup>, Eliana Quintero Barahona<sup>3</sup>, Carmen Carrero González<sup>4</sup>, María Alejandra Orostegui<sup>5</sup>, Mariela Suarez Villa<sup>6</sup>, Indiana Rojas Torres<sup>7</sup>, Carelys Montenegro Rivera<sup>8</sup>

### Abstract

*Introduction: Abdominal pain is a subjective unpleasant experience in the abdomen, often associated with tissue injury and related to physiological and psychosocial factors of the individual. In the United States, the number of computed tomography scans indicated for patients with acute abdominal pain increased by 141% from 1996 to 2005. Lower gastrointestinal bleeding is clinically defined as the outflow of blood through the anus, regardless of its association with defecation, originating at a site distal to the duodenum and the jejunal or Treitz angle.*

*Objective: We aimed to define lower abdominal pain in an adult male patient using Taxonomy NANDA, Nursing Outcomes Classification (NOC), and Nursing Interventions Classifications (NIC). Methods: We used the case study method, also known as analysis of a real situation, which describes the state of a problem. In addition, studies using quantitative and qualitative methods in English and Spanish as well as peer-reviewed articles with other publication dates were searched to define some of the concepts and processes. Results: Improvement in the patient's health status was achieved through the implementation of care plans, with the patient's health status changing from level 2 (frequently demonstrated) to level 4 (slightly compromised). Conclusions:*

*Consideration of the scientific concepts of NANDA, NOC, and NIC helped us to define a diagnosis that allows the appropriate selection of strategies to achieve treatment goals. The assessments were relevant and effective in the purpose of achieving recovery among patients with acute abdominal pain.*

**Keywords:** *nursing care; abdominal pain; acute pain uncertainty; standardized nursing terminology; nursing theory.*

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<sup>1</sup> Enfermera, Mg en Administración de Empresas e Innovación, Especialista en Gerencia Social. Universidad Simón Bolívar, Facultad de Ciencias de la Salud, Barranquilla, Colombia. Email: nayide.barahona@unisimon.edu.co <https://orcid.org/0000-0003-3559-6900>

<sup>2</sup> Enfermera, Mg en salud Publica, Especialista en Auditoria en los Servicios de Salud. Universidad Simón Bolívar, Facultad de Ciencias de la Salud, Barranquilla, Universidad Metropolitana de Barranquilla Colombia. Email: gloria.lastre@unisimon.edu.co <https://orcid.org/0000-0002-8855-3931>.

<sup>3</sup> Fisioterapeuta. Mg en Actividad Física en Salud. Universidad Simón Bolívar, Facultad de Ciencias de la Salud, Barranquilla, Colombia. Email: equintero11@unisimonbolivar.edu.co

<sup>4</sup> Nutricionista. Doctora en Ciencias de la Salud. Universidad Simón Bolívar, Facultad de Ciencias de la Salud, Barranquilla, Colombia. Email: carmen.carrero@unisimon.edu.co <https://orcid.org/0000-0002-4097-2694>

<sup>5</sup> Enfermera. Doctora en Educación y Mg en Educación. Universidad Simón Bolívar, Facultad de Ciencias de la Salud, Barranquilla, Colombia. Email: maria.orostegui@unisimon.edu.co <https://orcid.org/0000-0003-2218-6734>

<sup>6</sup> Enfermera Mg en Administración de Empresas e Innovación. Universidad Simón Bolívar, Facultad de Ciencias de la Salud, Barranquilla, Colombia. Email: Indiana.rojas@unisimon.edu.co <https://orcid.org/0000-0002-2601-2363>

<sup>7</sup> Enfermera. Mg en Educación. Universidad Simón Bolívar, Facultad de Ciencias de la Salud, Barranquilla, Colombia. Email: mariela.suarez@unisimon.edu.co <https://orcid.org/0000-0002-3489-5450>

<sup>8</sup> Enfermera. Mg en Educación. Universidad Simón Bolívar, Facultad ciencias de la salud, Barranquilla, Colombia. Email: carelys.montenegro@unisimon.edu.co <https://orcid.org/0000-0003-4083-8329>

## Introduction

Globally, acute abdominal pain (AAP) is recognized as one of the most prevalent symptoms in emergency medicine.<sup>1</sup> A previous study reported that AAP poses a challenge to medical judgment. Further, the list of conditions that induce persistent abdominal pain is extensive, and some of these can be highly dangerous and impair the patient's life.<sup>2</sup>

Hence, a study by an internist from Universidad de Antioquia stated that approximately 5%–10% of patients admitted to the emergency department present with abdominal pain. This can be originated from multiple sites and is not restricted to the intra-abdominal organic site, indicating that an exhaustive systematic intervention based on a complete anamnesis and physical examination is needed to immediately specify the correct diagnostic aids. For example, in a study, in 79% of cases, a clinical history and physical examination helped determine the origin of the abdominal pain based on both the organic and nonorganic origins.<sup>3</sup>

The present case was admitted to the emergency room with abdominal pain and dark stools, which indicate the diagnosis of lower gastrointestinal tract hemorrhage, confirmed by endoscopy and colonoscopy performed to determine the origin of the hemorrhage. A complete hemogram test was conducted to establish the current hemodynamic status of the patient. The test results revealed the hemoglobin value of 2 g/dl; thus, 54 transfusions of red blood cells and platelet were performed. The patient was referred to the intensive care unit (ICU) wherein he presented with biological alterations (immobility, dietary alterations, increased frequency of passing stools, and red rectal bleeding) and anxiety (affecting the family relationship, self-image, and self-esteem).

Notably, a study in Bogota, Colombia explains that gastrointestinal bleeding causes 2% of hospitalizations. It is called as upper bleed (80%) when it occurs above the ligament of Treitz and lower bleed (20%) when it occurs below the ligament. Upper gastrointestinal bleeding has an annual incidence of 14–50 cases per 100,000 inhabitants and an associated mortality rate of 2.5%–10%, whereas lower gastrointestinal bleeding has an annual incidence of 20–27 cases per 100,000 inhabitants and an associated mortality rate of 4%–10%.<sup>4</sup>

In this regards, Merle Mishel, in her middle-range nursing theory, defined uncertainty as the inability to establish the meaning of disease-related events. Furthermore, uncertainty is present in disease conditions that are ambiguous, complex, and unpredictable or when the information given to patients is insufficient or unavailable to the users.<sup>5</sup>

The aforementioned theory allows researchers to address the question, “What is the reason behind the lower abdominal pain in an adult male?” based on taxonomy NANDA, Nursing Outcomes Classification (NOC), and Nursing Interventions Classifications (NIC).

Healthcare is an interdisciplinary field where each discipline contributes to the knowledge in order to fulfill the purpose of patient recovery through the common language of each discipline or profession. In the present case, nursing department responded to patients' problems using the NANDA, NOC, and NIC taxonomy of nursing diagnoses.<sup>6</sup>

Therefore, in the United States, a working group developed the NOC to respond in a timely manner to the requests of the evaluation of nursing interventions unified under the NIC, thereby allowing for the delineation and unification of the common terms used by nursing professionals; this NOC was applied in the present case. Regarding the role of NOC, it acts as an instrument that helps to make the effect of care visible.<sup>7</sup>

The aforementioned strategy clarifies that the patient's outcome (which is essential for nursing practice) is a condition, behavior, or perception of a person, family, or community in response to nursing intervention or interventions based on extensive follow-up. Outcomes are inconsistent ideas obtained through the use of measurement

ranges and are reported to reflect the condition, behavior, or perception of a user, caregiver, family, or community.<sup>8</sup>

In particular, the nursing care plan is an organized, flexible, dynamic, and methodical tool. In addition, it represents a scientific rule for the nursing profession through which professional nurses and students apply knowledge, skills, observation, and critical analysis to examine patients' attitudes and abilities with the aim of assisting them in the implementation of a healthy lifestyle in the framework to maintain and promote health.<sup>6,9</sup>

Hence, this clinical case report aimed to specify the lower abdominal pain and demonstrate the relationship between each diagnosis and obtained results, thereby allowing for the assessment of the effectiveness and efficiency of the scheduled procedures while providing solutions to each of the diagnostic labels and increasing the expected patient outcomes.

### **Case presentation**

A 54-year-old male patient was admitted to a tertiary center in Barranquilla for pain in the lower abdominal area and heavy rectal bleeding. He was diagnosed with lower gastrointestinal tract hemorrhage and specified that he experienced bleeding when defecating.

His physical examination revealed no hair loss, isochoric pupils responsive to light, poor nasal permeability, dry mucous membranes, dry mouth, facial pallor, pain in facial expression, anxiety, feeling of fatigue with postural changes, mobile neck in the presence of central catheterization while administering parenteral nutrition, presence of a peripheral venous catheter in the right upper extremity with administration of 250 mg/2 ml dipyrone and 100 mg/2 ml tramadol, symmetrical chest distension, tender abdomen on palpation, presence of bladder catheter with an output of 400 cc of apparently normal (yellow) urine, symmetrical and mobile lower limbs, and excessive dark red rectal bleeding. Vital signs were as follows: heart rate, 115 beats per minute; respiratory rate, 25 breaths per minute; blood pressure, 125/90 mmHg; and temperature, 37°C.

Hemogram test results revealed a hemoglobin level of 2g/dl, indicating the need for the administration of 54 transfusions of red blood cells and platelets. Furthermore, endoscopy and colonoscopy were performed to identify the origin of the hemorrhage; in addition, a complete hemogram test was performed to identify the current hemodynamic status of the patient.

The patient denied any previous personal, family, surgical, or pathologic history.

### **Evaluation**

The patient was assessed based on the contributions by Merle H. Mishel.<sup>5</sup> In addition, the diagnostic labels (actual, risk, and health promotion) were identified for each area of nursing problems by conducting the assessment or evaluation of nursing triage and designating those considered for nursing diagnoses under NANDA-international, NIC, and NOC Nursing Diagnosis.<sup>6</sup>

NIC helps measure the abilities of nurses to comply with General Scheme Health Care Social Security regulations and to provide care in order to contribute to the wellbeing of the users. It also helps educators to perform actions that significantly contribute to their clinical skills, thereby allowing them to communicate the nature of care to the public using the Likert scale to assess the indicators for better describing the considered diagnoses.<sup>10</sup>

DOMAIN 12: Comfort. CLASS 1: Physical comfort. Acute pain (00132) related to the disease, evidenced by a series of cramps along the digestive tract.

DOMAIN 4: Activity/rest. CLASS 4: Cardiovascular and pulmonary responses. Decreased cardiac output (00029) related to altered heart rate, evidenced by a feeling of fatigue when changing positions.

DOMAIN 3: Elimination. CLASS 2: Gastrointestinal function. Fecal incontinence (00014) related to an increase in the number of bowel movements, evidenced by constant dark-colored stools.

DOMAIN 4: Activity/rest. CLASS 4: Cardiovascular and pulmonary responses. Risk of ineffective gastrointestinal perfusion (00202) related to acute gastrointestinal bleeding and hemodynamic instability, evidenced by bleeding in stool.

DOMAIN 2: Nutrition. CLASS 5: Hydration. Risk of fluid volume deficit (00028) related to increased stool, evidenced by increased stool and other body fluids.

DOMAIN 9: Coping/stress tolerance. CLASS 2: Coping responses. Anxiety (00146) related to situational crisis, evidenced by patient's distress and irritability.

DOMAIN 1: Comfort. CLASS 1: Physical comfort. Willingness to improve comfort (00183) related to the desire to improve one's own health status, evidenced by disease-related alterations.

DOMAIN 4: Activity/rest. CLASS 2: Activity/exercise. Impaired bed mobility (00091) related to pain as well as the use of central and peripheral invasive devices, evidenced by immobility.

DOMAIN 3: Elimination CLASS 1: Urinary system's function. Impaired urinary elimination (00016) related to fluid and electrolyte loss.

#### Care plan

##### Intervention planning

Of the nine diagnoses identified, five were prioritized, with primarily acute pain (00132) related to the disease evidenced by pain in the lower abdomen. The medications administered to relieve the pain, their mechanism of action, and the monitoring of side effects were explained in detail to the patient. He was also educated about breathing techniques and the importance of meditation and talking therapy with guided imagery to boost his confidence and ability to cope with the diagnosis.

Similar action was taken for the diagnosis decreased cardiac output (00029) and risk control related to the disease evidenced by tachycardia and anxiety. Further, a general inspection of the skin and mucous membrane tone, physical complexion, and mucocutaneous variations in addition to the inspection of the venous pulse, cardiac fatigue, weakness, neurological alterations, dyspnea on exertion, blood pressure, and measurement of oxygen saturation was conducted continually. To detect decompensation and prevent complications in a timely manner, family support was essential; thus, vital signs were maintained within moderately normal ranges and symptoms were maintained within moderate parameters.

Risk for ineffective gastrointestinal perfusion (00202) with physiological health related to the disease acute gastrointestinal bleeding and hemodynamic instability was assessed. Patient and family were taught that the human body comprises water, fat, proteins, and minerals, which are fundamental to maintain the balance of the organism; hence, a thorough monitoring of the ingestion and elimination of fluids as well as vital signs is needed.

Anxiety (00146) related to the disease situational crisis was evidenced by anguish and irritability. The patient was informed about his diagnosis, the care provided, and the procedures performed. This helped reduce the emotional responses related to the uncertainty of the diagnosis as it posed a threat to his life.

Finally, the readiness (00183) for enhanced comfort and emotional health was addressed. The importance of early detection and diagnosis as well as comprehensive care and effective administration of treatment was emphasized with the aim of changing the patient's lifestyle through interventions, such as emotional support, active listening, and relaxation therapy activities, that allowed for the assessment of the treatment progress.

Tables 1–5 show the NOC expected outcomes proposed for each nursing diagnosis with associated indicators and NIC nursing interventions in association with the activities undertaken.

Table 1. Acute pain

Domain 12. Comfort. CLASS 1: Physical comfort. Acute pain (00132) related to the disease evidenced by a series of cramps along the gastrointestinal tract.

NOC outcomes	NIC nurse interventions
<p>(1605) Pain control</p> <p>Scale of measurement:</p> <ol style="list-style-type: none"> <li>1. Never demonstrated</li> <li>2. Rarely demonstrated</li> <li>3.</li> <li>4. Frequently demonstrated</li> <li>5. Always demonstrated</li> </ol>	<p>(2210) Analgesic administration</p> <p>Activities</p>
<p>Indicators: Recognizes pain onset 160502</p>	<p>Check the site, type, efficacy, and danger of the patient's premedication pain</p> <p>Verify physician's orders for medication, dosage, and schedule of analgesic prescribed.</p> <p>Evidence of history of drug allergies</p> <p>Selection of the appropriate analgesic or combination of analgesics when more than one analgesics were prescribed</p> <p>Establish the choice of analgesics according to the type and severity of pain</p> <p>Monitor vital signs before and after the administration of analgesics</p> <p>Maintain vigilance for basic comfort needs and other actions aimed at promoting relief that contribute to the analgesic response.</p> <p>Document the reaction to the analgesics as well as the adverse effects presented/manifested.</p>

Table 2. Decreased cardiac output

Domain 4: Activity/rest. CLASS 4: Cardiovascular and Pulmonary Responses. Decreased cardiac output (00029) related to altered heart rate or rhythm, evidenced by a feeling of fatigue when changing positions.

NOC outcomes	NIC nurse interventions
(1914) Risk management: cardiovascular health	(006680) Vital signs monitoring
Scale of Measurement: 1. Severely compromised Substantially compromised 3. Moderately committed 4. Slightly compromised 5. Nothing compromised	Activities
Indicators: (191401) Recognize risk factors for cardiovascular disease.	Perform exhaustive assessment of peripheral circulation
	Establish accompaniment to support the patient and his family
	Monitor heart rate and rhythm
	Monitor neurological status
	Intravenous therapy
	Shock management
	Hemodynamic regulation
	Educate on and promote healthy lifestyle habits
	(4040) Cardiac care
	Activity
	Blood pressure measurement
	Measure Oxygen saturation

Table 3. Risk of ineffective gastrointestinal perfusion

DOMAIN 4: Activity/rest. CLASS 4: Cardiovascular and Pulmonary Responses. Risk for ineffective gastrointestinal perfusion (00202) related to acute gastrointestinal bleeding and hemodynamic instability evidenced by bleeding in stool.

NOC outcomes	NIC nurse interventions
(0205) Health Physiological	(4150) Hemodynamic monitoring and assessment
Scale of Measurement: 1. Severely compromised Substantially compromised 3. Moderately committed 4. Slightly compromised	Activities

5. Nothing compromised	
Indicators: (4150) Hemodynamic Regulation	Control and monitor the patient's hemodynamic status
	Transfusion of red blood cells and platelets, if indicated
	(4140) Liquid replenishment
	Activity
	Monitor admissions and discharges: Strict control of liquids ingested and eliminated by the patient
	(4160) Hemorrhage control
	Activity
	Carefully monitor hematocrit and hemoglobin levels, given the patient's diagnosis
	Monitor fluid loss (bleeding, vomiting, diarrhea, sweating, and tachypnea)
	Administer hypotonic or isotonic solutions for intracellular or extracellular rehydration, as per the case, in order to achieve replenishment
	Monitor hemodynamic status, including CVP, MAP, PAP, and PCPE, if available.
	IV administration of fluids at room temperature
Maintain constant blood perfusion flow	
(6680) Periodic monitoring of vital signs	
Activity	
Monitor the patient's vital signs. Vital signs are taken every 15 minutes, followed by every hour and every 4–6 hours, always depending on the hemodynamic status of the patient	

CVP: Central Venous Pressure, MAP: Mean Arterial Pressure, PAP: Pulmonary Artery Pressure, PCPE: Procollagen C terminal proteinase enhancer protein.

Table 4. Anxiety

DOMAIN 9: Coping/Stress Tolerance. CLASS 2: Anxiety Coping Responses (00146) related to situational crisis, evidenced by patient distress and irritability.

NOC outcomes	NIC nurse interventions
(1211) Anxiety level	(5620) Decrease in anxiety
Scale of Measurement: 1. Severely compromised Substantially compromised 3. Moderately committed 4. Slightly compromised 5. Nothing compromised	Activities
Indicators: (121116) Verbalized apprehension	Provide effective education related to the diagnosis, treatment, and prognosis. Inform about the procedures to be performed Empathize with the patient in order to help identify the events that generate distress Teach the patient proper relaxation techniques

Table 5. Arrangements to improve comfort

Domain 1: Comfort. CLASS 1: Physical comfort. Readiness for enhanced comfort (00183) related to the willingness to improve health, evidenced by health alterations caused by illness.

NOC outcomes	NIC nurse interventions
(2506) Emotional health	(5270) Emotional support
Scale of Measurement: 1. Severely compromised Substantially compromised 3. Moderately committed 4. Slightly compromised 5. Nothing compromised	Activities
Indicators: (2002) Wellbeing.	Explain the purpose of emotional self-control, its importance, and types of relaxation techniques (such as breathing technique, reading a book they like, sitting in a favorite chair according to habits, music therapy according to the genre they like).



	<p>Therefore, it is important for patients to identify their preferences, what brings them the most satisfaction, and in response to this, they shall choose the relaxation technique that generates the most personal satisfaction</p>
	<p>(4920) Active listening</p>
	<p>Activity</p>
	<p>Provide protection, support, and encouragement during stressful phases</p> <p>Express emotional states to the patient</p> <p>Guide the patient to learn to recognize negative emotions, such as fear/anxiety, anger, and sadness/depression</p> <p>Cooperate with the patient to help manifest negative feelings of fear/anxiety, anger, and sadness.</p> <p>Pay attention to the negative emotions shown and acknowledge them</p>
	<p>(6040) Simple relaxation therapy</p>
	<p>Activity</p>
	<p>Emphasize the actions to be taken to achieve the patient's own health process</p> <p>Emphasize concentration during relaxation tasks</p> <p>Increase the patient's perception of competence and personal mastery</p> <p>Externalize patient satisfaction</p> <p>Encourage the expression of feelings.</p> <p>Visualize the physical, mental, and psychological status of the patient.</p> <p>Help reduce physical or mental tensions by leaving aside prejudices, personal worries, etc.</p> <p>Pay attention to the patient's reactions without judgment.</p> <p>Show awareness and sensitivity to emotions</p>

The researchers in charge of this clinical case aimed to review the nursing interventions to be performed during the process to ensure that they were feasible with the nursing plan already established before the nursing interventions were initiated. This allowed them to determine that the interventions were adequate for the patients' needs and compatible with the interventions of the other professionals. In addition, wellbeing, safety, and education were taken into account in accordance with health promotion and maintenance standards. Furthermore, the patients' abilities, their daily living tasks (bathing and eating), and the work of the nursing assistants during their different shifts were examined and evaluated. Finally, a review of the documentation to be used was conducted along with a review of the performance of the nursing process.

One of the difficulties encountered while searching for articles for the case discussion was the small number of articles on nursing plan for patients with lower gastrointestinal bleeding.

#### Assessment

Patient assessment was performed regularly using the indicators associated with each NOC outcome; the evolution of each NOC outcome was considered according to the indicator, and the outcomes are shown below (Table 6).

Table 6. Assessment of indicators.

NANDA diagnosis	NOC outcomes	Indicators	Measurement scale	Desirable level
1. (00132) Acute pain R/T Disease	(1605) Pain control	(160502) Recognizes the onset of pain	2	4
2. (00029) Decreased cardiac output R/T Disease Alteration of heart rate or rhythm	(914) Risk management: cardiovascular health	(191401) Recognizes the risk of cardiovascular disease	2	4
3. (00202). Risk of ineffective gastrointestinal perfusion. R/T Disease Acute gastrointestinal bleeding. Hemodynamic instability	(0205) Physiological health	(4150) Hemodynamic Regulation	2	4
4. (493) Anxiety R/T Illness, Situational Crisis	(1211) Anxiety level	(121116) Verbalized apprehension	2	4
5.(00183) Readiness for enhanced comfort	(2506) Emotional health	(2002) Wellbeing.	2	4

Source: Compiled by authors

It is important to highlight that the treatment plan, follow-up, and permanent individualized assessment of the patient during his hospitalization in the emergency department and ICU allowed for an improvement in the changes in diagnoses that led to a positive attitude toward the recovery and preservation of his life. It also demonstrated how the patient used the learned relaxation techniques to improve his quality of life, as reflected in his emotional strength and composure, and thereby his ability to overcome the main diagnoses that contributed to his deteriorating health.

## **Results**

The patient remained in hospital for 1 month; his average systolic and diastolic blood pressures was 120 mmHg and 80 mmHg, heart rate was 100 beats per minute, respiratory rate 20 breaths per minute, and temperature 36.8°C. Regarding the blood test result, his hemoglobin value was 12 g/dl. The patient was cannulated with a peripheral line to administer normal saline solution and soft diet.

Nine major diagnostic labels were identified; of these, four were problem-focused priority diagnoses and one was a health-promotion diagnosis. The NOC outcomes present were pain control and risk control (including cardiovascular, physiological, and emotional health and anxiety level). The indicators evaluated were as follows: recognition of pain onset, recognition of cardiovascular disease risk, hemodynamic regulation, verbalized apprehension, and wellbeing, each achieving a desirable level of 4.

## **Discussion**

AAP is a common reason for patients' admission to the emergency room of any Institución Prestadora de Salud: Health Promotion Entity or hospital. It accounts for approximately 5%–10% of visits and poses a challenge for emergency physicians and specialists because it can progress rapidly and has multiple causes. Therefore, it is important to distinguish between surgical and nonsurgical origins because if it is not correctly and timely diagnosed, it can lead to a fatal outcome.<sup>11</sup>

A previous study reported that in 3%–5% of patients with gastrointestinal bleeding, the origin was the small bowel, which hindered the localization of the bleeding origin. Most patients present iron deficiency and advanced undiagnosed anemia that is frequently not detected in blood in the stool via upper endoscopy and normal colonoscopy.<sup>12</sup>

A study by Basantes Malusin et al. on arterial embolization for lower gastrointestinal bleeding concluded that the current standard of care for massive or severe lower gastrointestinal bleeding is emergency surgery. In contrast, no surgery was required in the present case.

Regarding the recognized diagnoses, it was decided to address four actual diagnoses in the order of priority: acute pain, reduced cardiac output, risk of ineffective gastrointestinal perfusion, and anxiety in addition to one health-promotion and prevention diagnosis—readiness to enhance comfort.

Regarding acute pain, the present case, despite its subjectivity, endured unpleasant experiences for which care-specific activities were carried out until the desired level was reached, demonstrating that a combination of pharmacological and nonpharmacological therapies gave excellent results. For example, a review article on basic management of acute and chronic pain published in Mexico concluded that chronic pain is a primary healthcare problem with severe health and socioeconomic consequences. The information regarding the pathophysiology of chronic pain due to deficient treatments is incorrect. Various pharmacological and nonpharmacological treatment options and approaches are

available; these should be used together for each patient to achieve better pain relief and, most importantly, considering the benefit–risk balance of each intervention.<sup>13</sup>

Furthermore, it is important to mention that nursing interventions combined with medical management significantly contributed to the diagnosis of decreased cardiac output according to the Likert scale, which led to a desirable state of level 4 (slightly compromised). This is confirmed by the initial approach and management described by Concha–Mejía on lower gastrointestinal bleeding.<sup>14</sup> Notably, in the present case, education and promotion of healthy lifestyle practices was essential for stress reduction.

Regarding fear or uncertainty, a study conducted in Cartagena reports that Cypress refers to critically ill patients' perceptions of uncertainty as a result of admission to the ICU and the sudden, unexpected, complex, and potentially life-threatening nature of the serious illnesses, whatever these may be, and that the critically ill patient's self-assessment of insecurity is influenced by factors, such as information about previous illness experience, familiarity with a healthcare professional, and cultural and social factors.<sup>15</sup>

The above postulates are closely related to the present case, in which the nurse was the protagonist of the care provided to the patient during his hospitalization, until the desired level of result (slightly compromised) was achieved.

## Conclusions and recommendations

The scientific concepts by NANDA, NOC, and NIC were considered; this helped us define the diagnosis and select strategies aimed at achieving the desired outcomes. Thus, the assessments were found to be relevant and effective for achieving the patient's recovery.

Furthermore, the location, characteristics, quality, and severity of pain were determined in a timely manner before the patient was provided medications; thus, the appropriate analgesic was chosen at the time of prescription. Furthermore, assessment was prioritized in order to control the oxygen supply to the tissues.

Heart rate and rhythm and neurological status were monitored to prevent risk factors that could lead to serious complications. Control and monitoring of the patient's hemodynamic status was conducted to obtain accurate information about the patient's cardiovascular functionality. Blood transfusion was also monitored to allow for the increase in capacity of oxygen transport.

Vital signs were monitored before and after analgesic administration. A timely diagnosis was made to avoid major complications. The patient was fully informed about the diagnosis, treatment, and interventions to be carried out by the interdisciplinary team to reduce his burden. Education and promotion of healthy lifestyles in both prevention and rehabilitation were provided to control risk factors through the promotion of healthy lifestyles aimed at reducing morbidity and mortality and improving one's quality of life.

Based on the abovementioned approaches, the researchers found that the diagnostic label of anxiety associated with a situational crisis stemming from the patient's health status was significantly compromised. Therefore, nursing activities were carried out with their scientific justification to reduce patients' anxiety as shown in Table 6.

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Ethics:

In order to guarantee the ethical and scientific rigor of the research, the endorsement of the ethics committee of the National University of Colombia was obtained, as well as the approval of the authors of the instrument to use it, and institutional authorization for the collection of information. The parameters established in Resolution 008430 of 1993 and the standards of the Council of International Organizations of Medical Sciences (CIOMS) were taken into account.

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