



## Profile diagnosis in patients submitted to organ removal based on assessment scales

Perfil diagnóstico de pacientes submetidos à retirada de órgão fundamentado em escalas de avaliação

Perfil diagnóstico de pacientes sometidos a retirada de órgano fundamentado en escalas de evaluación

Thaís Martins Gomes de Oliveira<sup>1</sup>

Cristine Alves Costa de Jesus<sup>2</sup>

Ana Lúcia da Silva<sup>3</sup>

Diana Lúcia Moura Pinho<sup>2</sup>

<sup>1</sup> MSc in Nursing. Doctorate's Student of the Nursing Postgraduate Program of the University of Brasília (UnB). Brazil. [thaismmgomes@gmail.com](mailto:thaismmgomes@gmail.com)

<sup>2</sup> PhD in Nursing. Professor of the Nursing Postgraduate Program of the University of Brasília (UnB). Brazil.

<sup>3</sup> PhD in Nursing. Professor of the Nursing Postgraduate Program of the University of Brasília (UnB). Brazil.

<sup>2</sup> PhD in Nursing. Professor of the Nursing Postgraduate Program of the University of Brasília (UnB). Brazil.

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### ABSTRACT:

**Main goal:** Perform the survey of NANDA-I nursing diagnoses profile of surgical patients submitted to organ removal based on the use of the evaluation scales and to trace the socio-demographic clinical profile of this population.

**Methods:** Cross-sectional study. The population comprised of 60 surgical patients hospitalized in postoperative of organ removal surgery, after sample calculation. The analysis was performed by means of central, middle and median trend measures, and dispersion, absolute and simple frequency of quantitative variables. Excel ® 2016 software was used. The results were expressed by means of tables.

**Results:** Five scales of evaluation were applied. There were 1022 nursing diagnoses based on NANDA-I, with 93 different diagnostic titles, with an average of 16.39 per patient. Being 67 focused on the problem, 23 risk and 3 health promotion. The diagnoses with frequency greater than 50% totaled eleven, which were discussed. The domains that concentrated the majority of the nursing diagnoses were: Activity/Rest and Safety/Protection.

**Conclusion:** A high concentration of diagnoses in this population was identified. The number of diagnoses raised and their diversity identifies the different areas of care that the nurse must be able to provide care, and the collection of this information places the nurse greater power of care on the patient. The study demonstrated the importance of the use of evaluation scales that subsidize nursing diagnoses. The research also points out the importance of using nursing diagnosis as a form of effective care.

**Key words:** Nursing; Nursing Diagnosis; Surgery; Nursing Assessment; Nursing Process.

## RESUMO:

**Objetivo:** Realizar o levantamento do perfil dos diagnósticos de enfermagem da NANDA-I de pacientes cirúrgicos submetidos à retirada de órgão fundamentado pelo uso das escalas de avaliação e traçar o perfil sócio clínico demográfico dessa população.

**Método:** Estudo transversal. População composta por 60 pacientes cirúrgicos hospitalizados em pós-operatório de cirurgia de retirada de órgão, após cálculo amostral. A análise foi realizada por meio de medidas de tendência central, média e mediana, e de dispersão, frequência absoluta e simples das variáveis quantitativas. Utilizou-se o software Excel ® 2016. Os resultados foram expressos por meio de tabelas.

**Resultados:** Foram aplicadas cinco escalas de avaliação. Obtiveram-se 1022 diagnósticos de enfermagem baseados na NANDA-I, 93 títulos diagnósticos distintos, com média de 16,39 por paciente. Sendo 67 com foco no problema, 23 de risco e 3 de promoção da saúde. Os diagnósticos com frequência superior a 50% totalizaram onze, os quais foram discutidos. Os domínios que concentraram a maior parte dos diagnósticos de enfermagem foram: Atividade/Repouso e Segurança/Proteção.

**Conclusão:** Foi identificada uma alta concentração de diagnósticos nessa população. A quantidade de diagnósticos levantadas e sua diversidade identificam as diferentes áreas do cuidado que o enfermeiro deve estar apto para prestar seus cuidados, além de que o levantamento dessas informações deposita no enfermeiro maior poder de cuidado sobre o paciente. O estudo demonstrou a importância do uso de escalas de avaliação que subsidiem os diagnósticos de enfermagem. A pesquisa ainda aponta a importância do uso do diagnóstico de enfermagem como forma de cuidado efetivo.

**Palavras-chave:** Enfermagem; Diagnóstico de Enfermagem; Cirurgia; Avaliação em Enfermagem; Processo de Enfermagem.

## RESUMEN:

**Objetivo:** Identificar el perfil de los diagnósticos de enfermería de la NANDA-I de pacientes quirúrgicos sometidos a la retirada de órgano fundamentado por el uso de las escalas de evaluación y trazar el perfil socio clínico demográfico de esa población.

**Método:** Estudio transversal. Población compuesta por 60 pacientes quirúrgicos hospitalizados en postoperatorio de cirugía de retirada de órgano, después del cálculo muestral. El análisis fue realizado por medio de medidas de tendencia central, media y mediana, y de dispersión, frecuencia absoluta y simple de las variables cuantitativas. Se utilizó el software Excel ® 2016. Los resultados fueron expresados por medio de tablas.

**Resultados:** Se aplicaron cinco escalas de evaluación. Se obtuvieron 1022 diagnósticos de enfermería basados en la NANDA-I, 93 diagnósticos diferentes, con media de 16,39 por paciente. Siendo 67 con foco en el problema, 23 de riesgo y 3 de promoción de la salud. Los diagnósticos con frecuencia superiores al 50% totalizaron 11, los cuales fueron discutidos. Los dominios sobresalientes fueron: Actividad/Hogar y Seguridad/Protección.

**Conclusión:** Se identificó una alta concentración de diagnósticos en esa población. La cantidad de diagnósticos planteados y su diversidad identifican las diferentes áreas del cuidado que el enfermero debe estar apto para prestar sus cuidados, además identificar esas informaciones deposita en el enfermero mayor poder de cuidado sobre el paciente. El estudio demostró la importancia del uso de escalas de evaluación que subsidien los diagnósticos de enfermería. La investigación aún apunta la importancia del uso del diagnóstico de enfermería como forma de cuidado efectivo.

**Palabras clave:** Enfermería; Diagnóstico de Enfermería; Cirugía; Evaluación en Enfermería; Proceso de Enfermería.

## INTRODUCTION

Nurses are able to diagnose on real problems, conditions of vulnerability and/or provision for health promotion. The act of diagnosing consists of conducting clinical trials in relation to human responses, associated with health-disease processes. The nurse is an acting diagnostician, and may intervene in care basis, where he/she develops his/her intellectual, critical and clinical skills. This drafting process will culminate in the diagnostic reasoning <sup>(1)</sup>.

The nurses from the surgical scenario deal with nursing diagnoses related to alterations in skin integrity, vulnerability to infection, pain control, the possibility of bleeding, changes in body image, nausea, changes in breathing pattern, anxiety, unstable emotional control, ineffective coping, fatigue, among other diagnoses that represent both psychological as physiological aspects of patients <sup>(2)</sup>.

The surgery can be considered an aggression, by both anatomical and physiological aspects involved related to the incision that breaks the skin integrity, bleeding, the removal of an organ, as psychological phenomena, such as fear, anguish, doubt, uncertainty and expectations <sup>(3)</sup>. Therefore, the surgical experience of removing an organ is an important scenario for the systematization of nursing assistance.

The literature indicates that nurses find major difficulties carrying out the diagnostic survey of patients. There is often no deepening of the theme, updates on the subject are scarce, there are difficulties in data collection, or barriers to relate the data found in the Nursing Diagnoses to previous knowledge, in addition to the lack of interpretation in clinical practice and exercise of clinical judgment <sup>(4)</sup>.

Diagnosing represents a challenge for the professional, because it requires updated technical-scientific knowledge, analytical capacity of data and accurate interpretation through anamnesis and physical examination. In this way, covering care integrality and promoting accuracy in nursing prescription are extremely necessary. Studies conducting the survey of ND in surgical patients gain special emphasis, by the need presented in the literature to deepen the theme <sup>(5)</sup>. Addressing the issue reflects on the need for professional growth in the area, benefits to the patient and the strengthening of health institutions that stand out for the quality of nursing care provided.

The use of assessment scales subsidizes the construction of nursing diagnoses, being reliable and standardized instruments, which may reflect the accuracy of the results identified. In addition to working as important instruments for assessing signs and symptoms, these scales can measure required parameters in nursing assessments regarding the status of the patient, as well as assisting in the planning of nursing actions <sup>(6)</sup>.

Thus, the objective of this study is to perform a survey of the profile of nursing diagnoses of surgical patients undergoing removal of an organ based on the use of assessment scales and to trace the socio demographic clinical profile of this population.

## **MATERIAL AND METHOD**

### **Ethical aspects**

The Research Ethics Committee of the College of Health Sciences of the University of Brasília - CEPFS/UnB approved the study, under CAAE 55134615.7.0000.0030, opinion number 2.177.498, providing the informed consent form where for the participant. The sample population had the guarantee to withdraw from the study at any stage of the research safeguarded. Each study participant received a copy of the informed consent form.

### **Design, study site and period**

Exploratory and descriptive, correlational and cross-sectional study, with a quantitative approach, conducted at a university hospital in the capital of Brazil, in the period from September to December 2017.

## Population, inclusion and exclusion criteria

The participants were hospitalized patients in the surgical clinic of the hospital in the post-operative period. Non-random sample, composed of 60 patients, defined after sample size calculation. The inclusion criteria were adults aged over 18 years, of both sexes, in the post-operative period exceeding 24 hours, from surgical procedure for removal of one or multiple organs, in full intellectual and mental conditions to answer the questions, criterion assessed by the Mini Mental State Examination, who voluntarily agreed to sign the Informed Consent Form. Patients that did not meet the concept of organ used by the research were excluded.

## Study protocol

Data were collected by means of a visit to the infirmary of the surgical clinic and implementation of structured interview. The interview steps were followed, with the application of scales and physical examination. When arriving at the site, the nursing team helped assess the patient's medical records in order to identify the research participants.

A data collection instrument based on the theoretical references of NANDA-I <sup>(1)</sup> was applied, evaluated by experts on the topic, and including: sociodemographic epidemiological clinical variables, subjective and objective data. The organization obeyed the domains of NANDA-I, namely: health promotion, nutrition, elimination and exchange, activity and rest, perception, cognition, self-perception, roles and relationships, sexuality, coping, stress tolerance, principles of life, safety, protection and comfort <sup>(1)</sup>. The instrument was structured with the following scales: Morse scale, which measures the risk of falls; the Katz Index to assess the dependence in activities of daily living; the Mini Mental State Examination for screening cognitive impairments; numerical verbal/visual scale for measuring the intensity of pain and, finally, the Braden scale to evaluate the risk of developing injury due to pressure <sup>(7-11)</sup>. In this study, all the scales were used to subsidize the survey of nursing diagnoses.

The data collection lasted two hours, at the patient's bedside, comprising the steps already mentioned. The information was recorded in the data collection instrument and subsequently analyzed; then, the nursing diagnoses were raised. A professional with expertise in nursing diagnoses validated all nursing diagnoses.

## Analysis of results and statistics

The data analysis was performed by means of measures of central tendency, mean and median, of dispersion (standard deviation) and simple and absolute frequencies of quantitative variables, using the software Microsoft Excel® 2016. The results were presented as tables.

## RESULTS

The sample included 60 patients in the post-operative period, as shown in Table 1, being 47 (78.3%) females, mean age 51.9 years. The most prevalent age group was 41 through 50 years, corresponding to 25.0% of the total. Regarding participants' education, only six (10.0%) stated having complete higher education. Regarding ethnicity, 27 (45.0%) self-reported as *pardos* and 19 (31.7%), black. Then, for marital status, 24 patients (40.0%) were married, 15 (25.0%) had a stable union and 15 (25.0%) were unmarried. In relation to the religion, most of the population sample was

composed of 37 Catholics (61.7%). The income of most participants was from 1 to 2 minimum wages, 25 (41.7%).

**Table 1:** Sociodemographic profile of the patients. Brasília, DF, Brazil, 2017.

Characteristic	N	%	Characteristic	N	%
Sex			Age Group		
Female	47	78.3	18-30	5	8.3
Male	13	21.7	31-40	10	16.7
Education			41-50	15	25.0
Incomplete elementary school	25	41.7	51-59	7	11.7
Complete elementary school	4	6.7	60-70	14	23.3
Complete high school	25	41.7	71-80	7	11.7
Complete higher education	6	10.0	>81	2	3.3
Ethnicity			Marital Status		
Black	19	31.7	Unmarried	15	25.0
White	11	18.3	Married	24	40.0
Pardo	27	45.0	Divorced	6	10.0
Yellow	2	3.3	Stable Union	15	25.0
Indigene	1	1.7	Widow(er)	0	0.0
Religion			Family Income		
None	5	8.3	< 1 wage	14	23.3
Catholic	37	61.7	1 a 2 wages	25	41.7
Spiritualist	2	3.3	3 a 5 wages	17	28.3
Protestant	16	26.7	> 5 wages	4	6.7
Occupation			Basic Sanitation		
Active	17	28.3	Treated water	49	81.7
Health Insurance	10	16.7	System of sewer pipes	45	75.0
Retiree	21	35.0	Garbage collection	53	88.3
Unemployed	12	20.0			

Regarding pre-existing clinical epidemiological characteristics represented in Table 2, 49 (81.7%) participants remained hospitalized from 3 to 4 days. Of the participants, 27 (45.0%) presented from 1 to 3 pre-existing pathological conditions, while 17 (28.3%) did not present any, another considerable portion of 10 (16.7%) participants presented from 3 to 5 pre-existing conditions. As past or current life habit, 27 (45.0%) of the participants were smokers, 7 (11.7%) chronic alcoholics and 2 (3.3%), other addictions. Sixteen (26.7%) participants never underwent surgical procedures, and great part of them, 19 (31.7%), underwent a surgical procedure previously.

As shown in Table 2, there were 69 surgical procedures, i.e., some participants have undergone more than one procedure during the data collection. Fifteen participants underwent abdominal hysterectomy, representing the most frequent procedure (21.74%) followed by mastectomy, which corresponded to 11.59% (n = 8).

**Table 2:** Clinical-surgical profile of the patients in the post-operative period of organ removal surgery. Brasília, DF, Brazil, 2017.

Hospitalization time	N	%	Number of previous surgeries	N	%
3 - 4 days	49	81.7	None	16	26.7
5 - 10 days	10	16.7	One	19	31.7
>10 days	1	1.7	Two	14	23.3
<b>Pre-existing conditions</b>	<b>N</b>	<b>%</b>	Three	7	11.7
None	17	28.3	Four	3	5.0
1 - 3	27	45.0	Five or more	1	1.7
3 - 5	10	16.7	<b>Surgical procedures</b>	<b>N</b>	<b>%</b>
>5	6	10.0	Abdominal hysterectomy	15	21.74
<b>Pre-existing pathologies</b>	<b>N</b>	<b>%</b>	Mastectomia	8	11.59
Tumor/ Cancer/ Nodule	40	66.7	Retosigmoidectomy	7	10.14
Depression/ Mood Disorders	25	41.7	Cholecystectomy	6	8.70
Hypertension	19	31.7	Gastrectomy	6	8.70
Diabetes <i>Mellitus</i>	12	20.0	Prostatectomy	6	8.70
Heart Disorders	8	13.3	Salpingectomy	6	8.70
Hypothyroidism / Hyperthyroidism	7	11.7	Ophorectomy	3	4.35
Respiratory diseases	6	10.0	Nephrectomy	2	2.90
Chagas disease	4	6.7	Thyroidectomy	2	2.90
<b>History/Current life habits</b>	<b>N</b>	<b>%</b>	Adrenalectomy	1	1.45
Smoking	27	45.0	Appendectomy	1	1.45
Chronic alcoholism	7	11.7	Cystectomy	1	1.45
Other addictions	2	3.3	Enterectomy	1	1.45
			Splenectomy	1	1.45
			Vaginal hysterectomy	1	1.45
			Lymphadenectomy	1	1.45
			Proctolectomy	1	1.45
			<b>Total</b>	<b>69</b>	<b>100.0</b>

The Morse Scale of Falls <sup>(7)</sup> was used to identify the risk of falls, described in table 3, which shows that 24 (40.0%) participants had moderate risk for falls, another important amount of study participants, 20 (33.3%), presented high risk for falls and only 15 (25.0%) presented low risk for falls.



Regarding the evaluation of risk for developing injury by pressure, expressed in Table 3, a large part of participants (83.3%; n=50) presented no risk for pressure injury.

Still according to Table 3, the degree of dependence was evaluated by the Katz Index<sup>(8)</sup>, 41 (68.3%) patients were classified as independent, 15 (25.0%) as moderate dependent and 4 (6.7%) as very dependent.

In relation to the numeric verbal/visual scale to measure pain<sup>(10)</sup>, Table 3 shows that: 51.7% (n = 31) of the participants presented intense pain, 31.7% (n = 19) had moderate pain, 10.0% (n = 6) mild pain and only 6.7% (n = 4) had no pain.

The Mini Mental Folstein Exam<sup>(9)</sup> was used to evaluate cognitive status. As an expected result, 100% of participants showed no cognitive decline, since this represented an established criterion for inclusion in the sample.

**Table 3:** Application of assessment scales in patients in post-operative period of organ removal surgery. Brasília, DF, Brazil, 2017.

Assessment Scales	N	%
<b>Morse Scale</b>		
No risk for falls	1	1.7
Low risk for falls	15	25.0
Moderate risk for falls	24	40.0
High risk for falls	20	33.3
<b>Braden Scale</b>		
Moderate risk for pressure ulcer	10	16.7
No risk for pressure ulcer	50	83.3
<b>Katz Index</b>		
Independent	41	68.3
Moderate dependence	15	25.0
Very dependente	4	6.7
<b>Numerical Visual/Verbal Scale</b>		
No pain	4	6.7
Mild pain	6	10.0
Moderate pain	19	31.7
Intense pain	31	51.7
<b>Folstein Mini Mental Folstein Exam</b>		
No cognitive decline	60	100.0
With cognitive decline	0	0

For all 60 participants in the study, there were 1022 nursing diagnoses listed in the research, from 12 areas of NANDA-I<sup>(1)</sup>, corresponding to diagnoses focused on the problem, risk (vulnerability) diagnoses and health promotion diagnoses. There were 93

different nursing diagnostic titles present in the sample, an average of 16.39 diagnoses/participant and median of 17 diagnoses. Among the 93 diagnoses, 67 focused on the problem, 23 of risk and three of health promotion.

From 93 different diagnoses elaborated, 11 had a frequency higher than 50.0%. Among these, eight diagnoses focused on the problem and three were risk diagnoses. For the other nursing diagnoses with a frequency lower than 50%, 59 of them focused on the problem, 20 were risk diagnoses and 3, health promotion diagnoses. Therefore, the diagnoses with frequency above 50% were depicted in descending order of frequency in Table 4.

**Table 4:** Most prevalent nursing diagnoses in the sample of patients in the post-operative period of organ removal surgery. Brasília, DF, Brazil, 2017.

Nursing Diagnoses	N	%
Impaired tissue integrity	60	100.0
Risk of infection	60	100.0
Risk of bleeding	59	98.3
Acute pain	54	90.0
Poor knowledge	52	86.7
Risk of falls	45	75.0
Anxiety	42	70.0
Impaired dentition	42	70.0
Sedentary lifestyle	40	66.7
Insomnia	36	60.0
Body image disorder	33	55.0

According to the diagnoses of Table 4, the diagnoses focused on the problem were as follows: Impaired tissue integrity (100.0%; n = 60), Acute pain (90.0%; n = 54), Poor knowledge (86.7%; n = 52), Anxiety (70.0%; n = 42), Impaired dentition (70.0%; n = 42), Sedentary lifestyle (66.7%; n = 40), Insomnia (60.0%; n = 36) and Body Image Disorder (55.0%; n = 33). The risk diagnoses were: Risk of infection (100.0%; n = 60), Risk of bleeding (98.3%; n = 59) and Risk of falls (75.0%; n = 45).

## DISCUSSIONS

The stage of the nursing diagnosis is of particular importance, because it identifies the best interventions necessary for each patient in the health context identified. It also reflects the nurse's responsibility, as suggested by the literature, providing a form of authentic communication in the profession, while facilitating the interaction with the patient, communication and adherence to treatment <sup>(5)</sup>.

There was a large concentration of nursing diagnoses in the sample, participating in 12 areas of NANDA-I <sup>(1)</sup>, which reflects a wide variety in diagnostic titles, representing averages higher than studies in the literature. A research performed at a Surgical Clinic with sample number equal to the present sample showed 337 total diagnoses, and the mean of these diagnoses was 5.6/patients <sup>(12)</sup>, which differs from the current study, whose the average number of diagnoses/patient was highly superior.



The areas of activity/rest and safety/protection received the largest number of diagnoses. In the case of post-surgical patients, this datum only corroborates the conditions expected for these patients, since the diagnoses present in these two areas relate to limitations in “production, conservation, expense or balance of energy resources”<sup>(1)</sup> and the dangers related to physical injury or damage to the immune and cutaneous systems<sup>(13)</sup>. Despite the wide variety of nursing diagnoses found, this study will discuss only those whose frequency was above 50%.

The diagnoses included in the domain safety/protection were: Impaired tissue integrity, Risk for infection, Risk of bleeding, Risk of falls and Impaired dentition. The first four closely relate to the care of surgical patients<sup>(13)</sup>. These diagnoses were present in a large percentage of the sample precisely because they are associated with the surgical procedure performed.

There have important variations in the impaired tissue integrity dimension. Some surgeries demanded extensive damage to the injured tissue, resulting in an important surgical wound. Others, however, exhibited only small incisions. Nevertheless, in this study, the removal of one or multiple organ accompanied the procedures, either through open or cholecystectomy route. According to a study, the tissue integrity was also impaired due to other invasive procedures, such as: intravenous or subcutaneous drug administration, in addition to collection of laboratory tests<sup>(14)</sup>.

The nursing diagnoses impaired tissue integrity and risk of bleeding draw the attention of nurses for the care with the surgical wound. This professional must be aware at all stages of the healing process, observing the good evolution and if the wound is free of signs of infection. The risk of bleeding also stands out as a condition that may interfere with the good evolution of wound healing.

The present study showed that most participants presented no risk for developing pressure ulcer, corroborating another study, in which the mean score of Braden scale did not confer risk. The development of the pressure ulcer resulting from surgical positioning depends on the type of surgery performed, the surgical positioning, time spent in surgery and the patient's physiological state<sup>(15)</sup>.

Regarding the risk of infection, this finding is associated to the following risk factors observed in the studied sample: invasive procedure, change in skin integrity, smoking and obesity. A research performed at a surgical clinic showed that smoking showed a strong association with the risk of developing infections, as well as obesity<sup>(16)</sup>. Previous clinical conditions, such as smoking, obesity and other chronic diseases, have been identified as responsible for a greater predisposition to infections. Smokers are susceptible to reduced defense mechanisms of the respiratory tract. In this way, procedures, such as intubation, with the purpose of mechanical ventilation required in many surgical procedures, lead to the risk of airway exposure to pathogenic microorganisms by increasing the chances of developing infectious diseases<sup>(16)</sup>.

The risk of falls prevailed in the sample and related to the following risk factors: post-operative recovery, impaired mobility, neoplasm, incontinence, lack of sleep, difficulties to walk, among others. Although NANDA-I<sup>(1)</sup> does not refer to the Morse scale<sup>(7)</sup> as an indicating component to elaborate the diagnosis risk of falls, many of the risk factors associated with the diagnosis are present in the scale, which justifies its use to subsidize the diagnosis.

The search for care quality and the care free of iatrogenesis is one nursing's major goals. The patient safety program recommend this search. The fall is an adverse event that requires prevention from health institutions. It can lead to tissue injuries, traumas and unscheduled withdrawals of drains, probes and catheters, fractures, clinical

worsening, mental suffering, increased hospitalization time, elevation of the expenses of the institution and social support of the patient, in addition to the main one, which is the patient's mistrust in relation to the care provided by nursing <sup>(17)</sup>.

The risk of falls can relate to the information regarding activities of daily living, measured by the Katz Index <sup>(8)</sup>, in which the largest part of the sample proved to be independent in activities of daily living. A similar study demonstrates that most patients hospitalized at the medical clinic presented impaired physical mobility. This fact can be explained by the profile of patients treated at a Medical Clinic at the expense of a Surgical Clinic, where the degree of dependence of patients tends to be varied<sup>(17)</sup>. During hospitalization and surgical recovery, a limb is often affected, restricting the patient's mobility temporarily or permanently. This explains the percentage of almost one third of the sample presenting moderate dependence, which suggests a greater propensity to falls.

Acute pain was strongly identified in post-surgical patients. According to the literature, treating post-operative pain is essential, because it is a highly present phenomenon, representing approximately 80% of patients who undergo any surgery<sup>(18)</sup>. Furthermore, according to the defining characteristic present in NANDA-I<sup>(1)</sup>, self-reported pain intensity and the use of standardized scale of pain provided basis for the survey of this diagnosis, as well as other characteristics, such as: focus on oneself and facial expressions of pain. The scale chosen for this assessment was the numerical verbal/visual scale to measure pain intensity, which has easy understanding and use, allowing the measurement of pain in scores from zero to ten<sup>(10)</sup>.

The poorly controlled pain relates to the participation of the sympathetic nervous system and consequent increase of hormonal response to stress. This condition can generate countless unwanted events in the post-operative period, such as: myocardial ischemia, cardiac arrhythmias, hypercoagulability, pulmonary complications, elevation of rates of delirium and infection of surgical wound<sup>(19)</sup>. Moreover, intense pain affects patients' satisfaction, delaying the early walking and relates to the occurrence of post-operative chronic pain.

Despite the variety of surgical procedures identified in the sample, acute pain was widely present. The number of previous surgeries influence subsequent experiences. A study reported that patients without previous surgical experience complained more pain than those who had already undergone this experience <sup>(20)</sup>. In this sample, most participants had previously undergone a surgery, which may explain the prevalence of this diagnosis.

Poor knowledge was one of the important diagnoses identified in the sample. Researches in the literature show a prevalence of 25% of this diagnosis in the studied sample <sup>(21)</sup>. Comparing to the current study, there was a higher prevalence of this diagnosis, which may explain the increased costs for the treatment when the patient does not understand his/her treatment, resulting in inappropriate or even exaggerated behavior.

Although the study participants did not present cognitive decline represented by the mini mental state examination <sup>(9)</sup>, the condition of poor knowledge is mainly related to the little information provided or poor information. Inadequate information was one of the major causes for the establishment of this diagnosis. Many patients have reported not understanding the reason for undergoing certain surgical procedure, due to unknown or partially known condition. Despite these reports, they usually claimed to be satisfied with the service provided by the Unified Health System.

Another factor that may influence the incidence of the diagnosis Poor knowledge is the patients' low educational attainment, which can hinder both the understanding of information as the identification of resources for the management of symptoms. Educational levels may adversely affect the communication between patient and health professional, with barriers to understand the options of treatment and management of symptoms. One of the possible reasons is that, when patients do not understand words and explanations of the professionals, they feel ashamed and often uncomfortable to ask for clarification <sup>(22)</sup>.

The diagnosis Anxiety was also intensely identified in this study, being present in 70% of the participants. The context of the surgical patient is involved in an atmosphere full of feelings, such as anxiety and uncertainty, which permeate the thoughts and expectations for the surgical procedure. Despite all existing apparatus, with high technologies, which increasingly provide new advances in treatments, the surgery still constitutes a difficult event for the human being <sup>(23)</sup>. In this context, the Anxiety can also relate to the number of surgical history, because the amount of previous surgeries can increase or decrease the anxious condition of the individual.

A surgery often implies temporary or permanent loss of some limb, restricted mobility, restricted time required for the patient's recovery and high degree of physical and psychological stress. Furthermore, the lack of communication can generate significant levels of anxiety. The anxiety is present especially in the preoperative phase, but remains in the post-operative period, while the patient is recovering. The nursing team plays a decisive role in the expectation to minimize anxiety. After all, it can offer quality information to minimize this anxiety, in addition to receiving the patient with all his/her feelings and demands, both in the preoperative as post-operative period <sup>(24)</sup>.

Insomnia is a disorder that also relates to the diagnosis of anxiety. The main factors related were: anxiety, physical discomfort, pharmacological agent and average daily physical activity lower than recommendations for age and sex. This finding was present in more than 50% of participants and represented the poor quality of sleep. Sleep is essential for human health, once its restoring characteristic, energy conservation and protection are essential. In a cross-sectional study with more than 600 patients, almost half of the participants suffered from insomnia, a diagnosis directly related to the increased falls in elderly individuals participating in the study<sup>(25)</sup>.

One of the most raised factors related to insomnia was the anxiety and the use of drugs that induce sleep. As already exposed on anxiety, it can directly influence the quality of life of patients. Furthermore, the need for using these drugs demonstrates an unsolved disorder, which requires seeking more intervening measures.

As for the diagnosis Impaired Dentition, the oral health conditions of the patient relate to the occurrence of other diseases. Poor oral hygiene provides a suitable environment for bacterial growth and, the higher the biofilm formation, the greater the possibility of interactions between resident bacteria and other pathogens, which may lead to complications, such as pneumonia and even systemic infections. A good dental assessment can help prevent adverse events in the future, and may determine clinical outcomes, reducing what may affect the systemic treatment<sup>(12, 26)</sup>. These conditions are even more worrying in surgical patients, who are exposed to invasive procedures and require a good general condition, especially the good oral health.

The sedentary lifestyle corroborates large numbers of patients who were overweight, obese, in addition to other pre-existing conditions, identifying behaviors of non-adherence to physical activity in the participants' routine. This is a worrying datum, because, according to a study, physical activity is associated with positive impacts on

health, such as: weight control, improvement of chronic diseases such as diabetes, decreased surgical recovery time, general well-being and prevention of diseases related to the cardiovascular system<sup>(27)</sup>.

The Body Image Disorder stands out by involving the population of patients undergoing the removal of one or multiple organs. Removing such organs generated uncertainty and suffering in a large part of participants, in addition to the changes suffered by the disease itself. The external appearance proved to be relevant in the surveyed women, especially because they represent the largest percentage of participants. Many showed concerns about the external appearance of the surgery, fear of scars and other marks on the body. The literature shows that, after the surgical procedure, the patient will likely feel pain, momentary loss of function of the organ and some level of care dependency that influences his/her daily life activities; adding to this, the fear of relapse of the disease is common, as well as the fear of post-surgical limitations and emotional suffering<sup>(28)</sup>.

The removal of organs involves risks inherent to the surgical procedure, such as post-operative complications, including formation of thrombi and emboli, wound dehiscence and infection, as well as feelings of anxiety, sadness, depression and psychological stress<sup>(28)</sup>.

In this sample, many female participants underwent total mastectomy, resulting in a drastic change in their body image, which influenced the way they see themselves. The absence of a part of the body that has social and cultural meanings can affect their relationship with sexuality and self-image. A study conducted with mastectomized women evidenced the diagnosis Body image disorder in its sample, and pointed out that, to manage this condition, the following measures are important: modification of the self-perception, promotion of hope, copying, presence of family and friends, positive reinforcement of self-esteem, balance of family process, greater socialization, emotional balance, religiosity and spirituality and improvement of self body image <sup>(29)</sup>.

Finally, the importance of the nursing process stands out, especially the survey of diagnoses based on assessment scales, since they confer greater reliability, as evidenced in the study.

## CONCLUSIONS

The research addressed the data collection and the survey of nursing diagnoses for patients, identifying a high concentration of diagnosis in this population. The number of diagnoses raised and their diversity identify the different care areas in which the nurse must be able to provide care, and the collection of this information provides the nurse greater power of care for the patient.

The study allowed tracing the profile of nursing diagnosis of patients hospitalized in the Surgical Clinic in the post-operative period who underwent removal of an organ and identified the importance of using assessment scales to subsidize and provide greater reliability to the identified diagnoses.

## REFERENCES

1. North American Nursing Diagnosis Association. Diagnóstico de enfermagem da NANDA-I: definições e classificação 2018-2020. Porto Alegre: Artmed; 2018.
2. Santos APA, Laus AM, Camelo SHH. O trabalho da enfermagem no pós-operatório de cirurgia cardíaca: uma revisão integrativa. ABCS Health Sci 2015; 40(1):45-52.

3. Amthaur C, Nora TTD, Souza TP, Fernandes CR, Nogueira QDS, Martins LB. Atividades de educação em saúde com pacientes cirúrgicos em um hospital universitário: relato de experiência. Rev. Contexto Saúde (Online) [Internet] 2011 Jan-jun [cited 2018 Dec 13]; 10(20):705-710. Available from: <https://revistas.unijui.edu.br/index.php/contextoesaude/article/view/1628>
4. Lopes MVO, Silva VM, Araújo TL. Validação de diagnósticos de enfermagem: desafios e alternativas. Rev Bras Enferm 2013 Set-out; 66(5):649-55.
5. Novaes ES, Torres MM, Oliva APV. Nursing diagnoses in surgical clinic. Acta Paul Enferm 2015; 28(1):26-31.
6. Feitosa MC, Soares LS, Beleza CMF, Silvia GRF, Leite IRL. Uso de escalas/testes como instrumentos de coleta de dados em pesquisas quantitativas em enfermagem. S A N A R E 2014 Jun-dez; 13(2):92-97.
7. Morse JM, Morse RM, Tylko SJ. Development of a Scale to Identify the Fall-Prone Patient. Can J Aging 1989; 8(4):366-377.
8. Katz S, Ford AB, Moskowitz RW, Jackson BA, Jaffe mw. Studies of illness in the aged. The index of adl: a standardized measure of biological and psychosocial function. JAMA 1963 Sep 21;185:914-9.
9. Folstein MF, Folstein SE, Mchugh PR. Mini-Mental State: a practical method for grading the cognitive state of patients for clinician. J Psychiatr Res 1975 Nov;12(3):189-98.
10. Fortunato JGS, Furtado MS, Hirabae LFA, Oliveira JA. Scales of pain in the critically ill patient: an integrative review. Rev HUPE 2013; 12(3):110-117.
11. Braden B, Bergstrom N. A conceptual schema for the study of the etiology of pressure sores. Rehabil Nurs1987 Jan-Feb; 12(1):8-12.
12. Volpato MP, Cruz DALM. Nursing diagnoses in patients admitted to a medical-surgical unit. Acta Paul Enferm 2007 Apr-Jun; 20(2):119-124.
13. Brunner LS, Suddarth DS. Tratado de Enfermagem Médico-Cirúrgica. Rio de Janeiro: Guanabara Koogan, 2012.
14. Bertoncetto KCG, Cavalcant CDK, Ilha P. Real diagnoses and nursing intervention proposals for multiple trauma victims. Rev. Eletr. Enf. 2013 Out-Dez;15(4):905-14.
15. Lopes CMM, Haas VJ, Dantas RAS, Oliveira CG, Galvão CM. Escala de avaliação de risco para lesões decorrentes do posicionamento cirúrgico. Rev. Latino-Am. Enfermagem 2016; 24:2704.
16. Ledur P, Almeida L, Pellanda LC, Schaan BD. Predictors of infection in post-coronary artery bypass graft surgery. Rev Bras Cir Cardiovasc 2011;26(2):190-6.
17. França MJDM, Mangueira SO, Perrelli JGA, Cruz SL, Lopes MVO. Diagnósticos de enfermagem de pacientes com necessidade de locomoção afetada internados em uma unidade hospitalar. Rev. Eletr. Enf. 2013 Out-Dez;15(4):878-85.
18. Apfelbaum JL, Chen C, Mehta SS, Gan TJ. Postoperative pain experience: results from a national survey suggest postoperative pain continues to be undermanaged. Anesth Analg 2003 Aug;97(2):534-40.
19. Huang APS, Sakata RK. Dor após esternotomia - revisão. Rev Bras Anesthesiol 2016; 66(4):395-401.
20. Alberti LR, Daian MR, Petroianu AA. Does a previous surgical experience interfere on psychic stress in patients submitted to major surgery? Rev. Col. Bras. Cir. 2014; 41(1):043-048.
21. Pereira JC, Stuchi RAG, Sena CA. Nursing assistance systematization proposal by the nanda/nic/noc taxonomies for the diagnosis of defficient knowledge. Cogitare Enferm 2010 Jan-Mar; 15(1):74-81.
22. Davis TC, Williams MV, Marin E, Parker RM, Glass, J. Health Literacy and Cancer Communication. CA Cancer J Clin 2002; 52:134-149.



23. Nigussie S, Belachew T, Wolancho W. Predictors of preoperative anxiety among surgical patients in Jimma University Specialized Teaching Hospital, South Western Ethiopia. *BMC Surg* 2014; 14(1):1.
24. Gonçalves KKN, Silva JI, Gomes ET, Pinheiro LLS, Figueiredo TR, Bezerra SMMS. Anxiety in the preoperative period of heart surgery. *Rev Bras Enferm* 2016; 69(2):374-80.
25. Pereira AA, Ceolim MF, Neri AL. Associação entre sintomas de insônia, cochilo diurno e quedas em idosos da comunidade. *Cad. Saude Pub* 2013 Mar; 29(3):535-546.
26. Nogueira JWS. Atuação da equipe de enfermagem na higiene bucal preventiva de pacientes dependentes de cuidados [dissertation]. Brasília: Mestrado em Enfermagem—Universidade de Brasília; 2016. XIV, 147 p.
27. Lee I-M, Shiroma EJ, Lobelo F, Puska P, Blair SN, Katzmarzk PT: Effect of physical inactivity on major non-communicable diseases worldwide: an analysis of burden of disease and life expectancy. *Lancet* 2012, 380:219-229.
28. Kim SH, Lee R, Lee KS. Symptoms and uncertainty in breast cancer survivors in Korea: differences by treatment trajectory. *J Clin Nurs* 2012;21(7-8):1014–1023.
29. Ribeiro J, Cardoso L, Pereira C, Silva B, Bubolz B, Castro C. Assistência de enfermagem ao paciente oncológico hospitalizado: diagnósticos e intervenções relacionadas às necessidades psicossociais e psicoespirituais Nursing care in oncology hospitalized patients: diagnosis and interventions related to psychosocial and psychospiritual needs. *R. de Pesq: Cuidado é Fundamental Online* [Internet] 2016 Oct 4 [cited 2018 Dec 13]; 8(4): 5136-5142. Available from: <http://www.seer.unirio.br/index.php/cuidadofundamental/article/view/4016>

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