

Analysis of perioperative records based on the systematization of perioperative nursing care: a cross-sectional study

Análise dos registros perioperatórios baseados na sistematização da assistência de enfermagem perioperatória: estudo transversal

Análisis de registros perioperatorios a partir de la sistematización de la atención de enfermería perioperatoria: estudio transversal

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ABSTRACT

Objective: analyzing perioperative records based on the phases of systematization of perioperative nursing care in a public regional hospital in Pernambuco's harsh region. **Method:** a cross-sectional, descriptive study with a quantitative approach, using secondary data, conducted in a public hospital. The sample consisted of 276 medical records of individuals who underwent anesthetic-surgical procedures between January and May 2023. Descriptive and inferential analysis was used. **Results:** the recording of the systematization of perioperative nursing care was predominant in the majority of the perioperative period, with significance mainly in the preoperative period. **Conclusion:** the satisfactory activities corresponded to the preoperative nursing visit, history, diagnosis, and nursing prescription. The weaknesses identified were the lack of blood reserves, checking for allergies and placing the electrocautery plate, inserting a urinary catheter, controlling blood loss, physiological loss, and gastric secretion.

Descriptors: Perioperative Nursing; Quality of Health Care; Nursing Records.

RESUMO

Objetivo: analisar os registros perioperatórios baseados nas etapas de sistematização da assistência de enfermagem perioperatória em um hospital regional público do agreste de Pernambuco. **Método:** estudo transversal, descritivo, com abordagem quantitativa, obtido com dados secundários, conduzido em um hospital público. A amostra foi composta por 276 prontuários de indivíduos que se submeteram a procedimentos anestésico-cirúrgicos, durante os meses de janeiro a maio de 2023. Utilizou-se a análise descritiva e inferencial. **Resultados:** a efetuação dos registros da sistematização da assistência de enfermagem perioperatória foi predominante na maioria do período perioperatório, com respectiva significância principalmente no pré-operatório. **Conclusão:** as atividades satisfatórias corresponderam à visita pré-operatória de enfermagem, histórico, diagnóstico e prescrição de enfermagem. Já as fragilidades identificadas destacaram-se a ausência de reservas sanguíneas, a verificação de alergia e a colocação de placa de eletrocautério, inserção de sonda vesical, a efetuação do controle de perdas sanguíneas, fisiológicas e secreção gástrica.

Descritores: Enfermagem Perioperatória; Qualidade da Assistência à Saúde; Registros de Enfermagem.

RESUMEN

Objetivo: analizar los registros perioperatorios a partir de las etapas de sistematización de la atención de enfermería perioperatoria en un hospital público regional de la zona rural de Pernambuco. **Método:** estudio descriptivo transversal, con enfoque cuantitativo, a partir de datos secundarios, realizado en un hospital público. La muestra estuvo compuesta por 276 historias clínicas de personas sometidas a procedimientos anestésico-quirúrgicos, de enero a mayo de 2023. Se utilizó análisis descriptivo e inferencial. **Resultados:** el registro de la sistematización de la atención de enfermería perioperatoria predominó en la mayor parte del periodo perioperatorio, con significación principalmente en el periodo preoperatorio. **Conclusión:** las actividades satisfactorias correspondieron a la visita de enfermería preoperatoria, registro, diagnóstico y prescripción de enfermería. Las debilidades identificadas incluyeron falta de reservas de sangre, comprobación de alergias y colocación de placa de electrocauterio, inserción de sonda vesical, control de la pérdida de sangre, fisiológica y secreción gástrica.

Descriptores: Enfermería Perioperatoria; Calidad de la Atención de Salud; Registros de Enfermería.

INTRODUCTION

When providing care to surgical clients, nurses follow a methodological tool called the Nursing Process (NP). This systematic and humanized method guides clinical reasoning for implementing nursing care and the documentation of professional practice in all environments, public or private, where nursing care is provided^{1,2}.

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The NP is operationalized in five phases, including assessment, diagnosis, planning, implementation, and nursing evolution, to provide better performance in the work process and greater autonomy in the nurse's care actions. In the perioperative period, which involves the entire provision of surgical care to the client, the NP is called the Systematization of Perioperative Nursing Care (SPNC)^{2,3}.

The Surgical Center (SC) is considered an isolated and highly complex sector within the hospital environment. It is designed to carry out anesthetic-surgical and therapeutic procedures and even diagnoses, depending on the individual's clinical condition, which can be of an elective or emergency nature. It is made up of trained professionals, designed to welcome and care for the individual throughout the perioperative period^{4,5}.

According to the perspective of the Brazilian Society of Nurses in Surgical Center, Anesthetic Recovery and Material and Sterilization Center (SOBECC), the perioperative period can be conceptualized as the time interval corresponding to the actions carried out in each surgical period, consisting of three periods, preoperative, intraoperative and postoperative. The preoperative period is divided into mediate and immediate, with the mediate preoperative period beginning at the time of the decision and scheduling of a surgical procedure and lasting up to one day before the surgical act takes place; while the immediate preoperative period follows the last 24 hours before the surgical intervention takes place and covers up to the moment when the surgical client is admitted to the SC^{6,7}.

Another period to be addressed is the intraoperative period, which includes when the client enters the SC until they leave the operating room². In turn, the post-operative period includes all the time after the anesthetic-surgical procedure, subdivided into two periods: the immediate postoperative period, which begins after the anesthetic-surgical procedure has been completed until 24 hours later; and the mediate postoperative period, which includes the first 24 hours after the surgical procedure until the patient is discharged from hospital⁷.

It should be emphasized that the care practices that cover these three surgical periods are essential and of great importance for the qualification of nursing care. In all of them there is a need to complete the phases of the NP, contextualized within the scope of perioperative care; applicability of the safe surgery checklist, in line with the recommendations of the World Health Organization; and with qualified records that are consistent with the care provided.

In addition, the implementation of the SPNC in the NP supports the practice of care, making it possible to improve clinical reasoning for decision-making, through the individualized planning of nursing conduct, and increasing the visibility and recognition of the team⁸.

In this context, the SPNC instrument aims to contribute to the prevention of possible surgical complications that may arise in the anesthetic-surgical act, enabling the interaction of the nurse's care practices with the multidisciplinary nursing team, with the companion and client, contributing to safe, integral, continuous, holistic, humanized and registered care in each phase that encompasses this perioperative period, to refine the quality of nursing care and cooperate in the process of safe surgeries that save lives⁹.

This systematization consists of five phases, namely: the preoperative nursing visit, planning perioperative care, implementing care, assessing care, and reformulating the care to be planned⁹⁻¹¹.

Studies indicate that the majority of nursing professionals consider SPNC to be indispensable for safe, quality care for surgical clients; however, they face difficulties in implementing it as a working tool in their daily care practice in the SC^{2,9,10}.

Such adversities for the absence of SPNC records in care practice include the lack of knowledge of the methodological instrument on the part of the nursing professionals themselves, the deficiency in the sizing of the nursing team, the work overload, the lack of time to make notes and nursing evolutions continuously during the working day. In addition, there is a shortage of protocols, training and even a lack of appreciation from the administrative team, who sometimes don't see the fundamental role played by nurses in assisting clients during the perioperative phases, distancing them from their role as assistants to managers^{2,12}.

Therefore, the deficit of the SPNC, the scarcity of nursing records, or the inappropriate filling in of them generates numerous consequences for the service, such as the discontinuity of the care provided, delegitimizing the identification, autonomy, and care provided by the professional⁹. Furthermore, it does not provide legal backing for nursing professionals in cases of legal action and hospital rebates¹³.

Given the above, this study is considered essential for analyzing and understanding how nurses are implementing the SPNC and filling in nursing records in medical records at a public regional hospital in the state of Pernambuco. It is hoped that these findings can directly refine care practices, as well as the quality and validation of these records.

Based on the guiding question “how are nurses systematizing perioperative nursing care?”, the objective was to analyze perioperative records based on the phases of perioperative nursing systematization in a public regional hospital in Pernambuco's harsh region.

METHOD

This is a cross-sectional, descriptive study with a quantitative approach, using secondary data, carried out in a public regional hospital in the interior of Pernambuco. This hospital is a reference for the 21 municipalities of the V Regional Health Management (*V Gerência Regional de Saúde, V Geres*) in the Unified Health System (*Sistema Único de Saúde, SUS*), and has an emergency care profile in the medical, surgical, obstetric, pediatric and orthopedic specialties.

The study population consisted of the medical records of individuals who underwent emergency and elective anesthetic-surgical procedures at the hospital between January and May 2023. According to the information collected at the institution, 976 surgical procedures were carried out in the aforementioned period, including 157 in January, 156 in February, 229 in March, 189 in April and 245 in May. The sample was calculated using formulas based on a known population (N) and an unknown proportion. A 95% confidence interval and 5% margin of error were established. The estimated sample was 276 medical records which, when divided by the months of the chosen period, led to an average of 56 medical records for each month to be collected to reach the sample more equitably. However, the final sample consisted of 288 medical records, given that the team of collectors managed to extract more records during the planned period.

This study included individuals of both genders, aged 18 to 59, who underwent anesthetic-surgical procedures in orthopedics, general surgery, gynecology, traumatology, and emergency, between January and May 2023, and who had SPNC nursing records. In turn, medical records of outpatient procedures, cesarean sections, and individuals who died were excluded. It should be noted that the exclusion of children was due to the lack of pediatric surgeons at the hospital and, consequently, the referral of more serious cases to other regional units or the state capital. Elderly people were excluded because the study was focused on adults.

The researchers used an instrument based on the recommendations of the SOBECC and similar studies, with some modifications^{2,12}. The instrument contains five attributes, divided into the perioperative periods and an analysis of the quality of the SPNC records.

The first attribute of the instrument comprises 22 objective and subjective questions, which include the client's sociodemographic identification. The second attribute, called the preoperative period, has 13 questions, ranging from the name of the surgical procedure to be performed to the nursing prescriptions to be carried out in the preoperative and transoperative periods.

The third attribute called the transoperative period, is made up of 25 questions and includes everything from the start of the client's anesthetic induction to the client leaving the operating room. The fourth attribute, called the postoperative period, contains 10 questions and goes from assessing the nursing care to be provided to reformulating the care to be planned. The fifth attribute helps to analyze the quality of the SPNC records. It has five questions, which include checking that the records have been filled in and that the SPNC steps have been followed.

For each question, four assessment items were classified: fully performed (FP), partially performed (PP), not performed (NP), and not applicable (NA). The NA attribute was only applied to cases in which it was not necessary to carry out the respective procedure. However, for association analysis, the variables were dichotomized into “performed” and “not performed”. As this was a documentary study, data from admission forms and progress reports that were stored in the client's medical records were taken into account. The data was collected between July and September 2023 by three collectors in the hospital's medical archive. It should be noted that the sample collected consisted of 288 medical records.

The data was entered into *Google® Forms*, exported to *Microsoft Excel®* and tabulated in *SPSS®* statistical software, version 26.0, using descriptive data analysis (absolute and relative frequency, and measures of central tendency and dispersion) and inferential analysis (Pearson's chi-square test and Fisher's exact test). Fisher's exact test was weighted for situations in which the frequency of cells below 5 was greater than 20%.

In the study presented, the ethical aspects relating to research with human beings were observed, by Resolution 466 of December 12, 2012, of the National Health Council. This research was submitted to and approved by the Human Research Ethics Committees of the proponent institution. As this was a documentary study, no Free and Informed Consent Form (FICF) was required.

RESULTS

Among the 288 individuals who made up the sample, 68.8% were male (n=198), 55.9% were single (n=161), 91.0% were brown (n=262), and 99.3% had a monthly income of between one and two minimum wages (n=286). Regarding the specialization of the procedures, 70.1% of the surgeries took place in orthopedics and traumatology (n=202).

Table 1 shows the results of the analysis of the association between checking SPNC records and the care provided in the preoperative period.

Table 1: Analysis of the association between checking SPNC records and the care provided in the preoperative period. Garanhuns, PE, Brazil, 2023.

Preoperative	The SPNC records report care provided and continuity of care?		p-value
	Performed n (%)	Not performed n (%)	
Did the nurse carry out the preoperative nursing visit?			<0.001*
Performed	256 (92.8)	3 (25.0)	
Not performed	20 (7.2)	9 (75.0)	
Did the nurse take a nursing history?			<0.001*
Performed	246 (89.1)	1 (8.3)	
Not performed	30 (10.9)	11 (91.7)	
Did the nurse calm, reassure, and explain the anesthetic-surgical procedure to the client and companion?			<0.001*
Performed	254 (92.0)	3 (25.0)	
Not performed	22 (8.0)	9 (75.0)	
Did the nurse give the client and companion guidance on perioperative care: medication intake, puncture site, fasting, body, and oral hygiene, nail polish removal, trichotomy, removal of ornaments, prostheses, and clothing?			<0.001*
Performed	251 (91.3)	3 (25.0)	
Not performed	24 (8.7)	9 (75.0)	
Have vital signs been checked?			<0.001*
Performed	272 (98.6)	7 (58.3)	
Not performed	4 (1.4)	5 (41.7)	
Did the nurse perform the physical examination?			<0.001*
Performed	270 (97.8)	5 (41.7)	
Not performed	6 (2.2)	7 (58.3)	
Have all the steps encompassing the physical examination been carried out?			<0.001*
Performed	252 (91.3)	1 (8.3)	
Not performed	24 (8.7)	11 (91.7)	
Have blood reserves been made?			1.000*
Performed	18 (6.5)	0 (0.0)	
Not performed	257 (93.5)	12 (100.0)	
Are there any nursing diagnoses?			<0.001*
Performed	182 (65.9)	0 (0.0)	
Not performed	94 (34.1)	12 (100.0)	
Do the client's medical records include the results of laboratory tests, reports, imaging tests, and the signature of the consent form for the surgical procedure?			<0.001*
Performed	256 (93.1)	5 (41.7)	
Not performed	19 (6.9)	7 (58.3)	
Nursing prescriptions were drawn up for the preoperative and transoperative periods?			<0.001**
Performed	166 (60.1)	0 (0.0)	
Not performed	110 (39.9)	12 (100.0)	

Note: * Fisher's Exact Test; ** Pearson's chi-square test.

It was found that SPNC records were predominantly kept during the preoperative nursing visit (n=256; 92.8%), nursing history (n=246; 89.1%), explanation of the anesthetic-surgical procedure to the client and companion (n=254; 92.0%), guidance to the client and companion on preoperative care (n=251; 91.3%), checking vital signs (n=272; 98.6%), physical examination (n=270; 97.8%) and all its phases (n=252; 91.3%), nursing diagnoses (n=182; 65.9%), attachments of test results and consent form for surgery (n=256; 93.1%), and nursing prescriptions in the pre and transoperative periods (n=166; 60.1%). On the other hand, blood reserves were not taken (n=257; 93.5%). Of these associations, there was statistical significance for the preoperative visit, nursing history; explanation of the procedure, preoperative guidelines, vital signs, physical examination and all related phases, nursing diagnoses, exam attachments and consent form, and nursing prescription ($p < 0.001$).

Table 2 shows the results of the analysis of the association between checking SPNC records and the care provided in the transoperative period.

Table 2: Analysis of the association between checking SPNC records and the care provided in the transoperative period. Garanhuns, PE, Brazil, 2023.

Transoperative	Do the SPNC records report care provided and continuity of care?		p-value*
	Performed n (%)	Not performed n (%)	
Has the nurse implemented nursing care?			<0.001
Performed	242 (88.0)	1 (8.3)	
Not performed	33 (12.0)	11 (91.7)	
Was the client welcomed at the SC?			0.194
Performed	271 (98.5)	11 (91.7)	
Not performed	4 (1.5)	1 (8.3)	
Have they confirmed the identification of the client, the surgical site, the procedure, the date, time, and consent of the anesthetic-surgical procedure to be performed?			1.000
Performed	239 (86.9)	11 (91.7)	
Not performed	36 (13.1)	1 (8.3)	
Has the site been cleared?			0.096
Performed	265 (96.0)	10 (83.3)	
Not performed	11 (4.0)	2 (16.7)	
Have vital signs been checked?			0.005
Performed	274 (99.6)	10 (83.3)	
Not performed	1 (0.4)	2 (16.7)	
Does the client have any allergies?			0.368
Performed	31 (13.9)	0 (0.0)	
Not performed	192 (86.1)	11 (100.0)	
Have a physical examination been carried out?			<0.001
Performed	247 (89.5)	3 (25.0)	
Not performed	29 (10.5)	9 (75.0)	
Has the electrocautery plate been placed in the right place?			0.223
Performed	46 (18.9)	0 (0.0)	
Not performed	198 (81.1)	11 (100.0)	
Has the urinary catheter been introduced?			0.693
Performed	35 (18.8)	1 (9.1)	
Not performed	151 (81.2)	10 (90.9)	
Was blood loss, diuresis, and gastric secretion controlled when necessary?			0.260
Performed	60 (38.2)	1 (12.5)	
Not performed	97 (61.8)	7 (87.5)	

Subtitle: * Fisher's Exact Test.

In the transoperative period, the records show that the nurses provided nursing care (n=242; 88.0%), welcomed the client to the operating room (n=271; 98.5%), confirmed the client's identification and other confirmatory information for the procedure (n=239; 86.9%), cleared the site (n=265; 96.0%), checked vital signs (n=274; 99.6%), and performed a physical examination (n=247; 89.5%). On the other hand, there was no checking for allergies in the client (n=192; 86.1%), placing electrocautery plate (n=198; 81.1%), inserting a urinary catheter (n=151; 81.2%), and controlling blood loss, diuresis and gastric secretion (n=97; 38.2%). Statistical significance

was seen in the implementation of nursing care ($p<0.001$), checking vital signs ($p=0.005$), and physical examination ($p<0.001$).

Table 3 shows the results of the analysis of the association between checking SPNC records and the care provided in the post-operative period.

Table 3: Analysis of the association between checking SPNC records and postoperative care. Garanhuns, PE, Brazil, 2023.

Postoperative	The SPNC records report care provided and continuity of care?		p-value
	Performed n (%)	Not performed n (%)	
Was nursing care assessed?			0.013
Performed	265 (96.4)	9 (75.0)	
Not performed	10 (3.6)	3 (25.0)	
Has the client's medical condition been checked?			0.001
Performed	273 (99.3)	9 (75.0)	
Not performed	2 (0.7)	3 (25.0)	
Have vital signs been checked?			<0.001
Performed	274 (99.6)	9 (75.0)	
Not performed	1 (0.4)	3 (25.0)	
Has a physical examination been carried out?			<0.001
Performed	267 (97.1)	6 (50.0)	
Not performed	8 (2.9)	6 (50.0)	
Has the dressing been assessed?			0.064
Performed	241 (87.3)	8 (66.7)	
Not performed	35 (12.7)	4 (33.3)	
Analysis of the conditions of venous access, probes and catheters?			0.009
Performed	230 (92.7)	7 (63.6)	
Not performed	18 (7.3)	4 (36.4)	
Was water and food intake controlled?			1.000
Performed	132 (72.9)	8 (72.7)	
Not performed	49 (27.1)	3 (27.3)	
Has the Aldrete and Kroulik scale been applied?			0.353
Performed	87 (31.6)	2 (16.7)	
Not performed	188 (68.4)	10 (83.3)	
The state of bladder and bowel elimination was observed?			0.387
Performed	115 (55.3)	5 (41.7)	
Not performed	93 (44.7)	7 (58.3)	
Have the assistance to be provided been reformulated?			0.075
Performed	66 (24.6)	0 (0.0)	
Not performed	202 (75.4)	12 (100.0)	

Note: * Fisher's Exact Test.

In the postoperative period, the SPNC records reported that the following were performed: assessment of nursing care ($n=265$; 96.4%), checking the client's clinical conditions ($n=273$; 99.3%), checking vital signs ($n=274$; 99.6%), performing the physical examination ($n=267$; 97.1%), assessment of dressing aspects ($n=87.3\%$), analysis of venous access conditions, probes, and catheters ($n=230$; 92.7%), control of water and food intake ($n=132$; 72.9%), assessment of bladder and bowel elimination ($n=115$; 55.3%). The Aldrete and Kroulik scale was not applied ($n=188$; 68.4%) and the care to be provided was not reformulated ($n=202$; 75.4%). Significance was observed in the associations of assessment of nursing care ($p=0.013$), verification of the client's clinical conditions ($p=0.001$), checking vital signs ($p<0.001$), assessment of the physical examination ($p<0.001$), and analysis of the conditions of venous access, probes and catheters ($p=0.009$).

DISCUSSION

A preoperative nursing visit is a private act of the nurse and of great importance, which aims to achieve comprehensive, individualized, empathetic, and welcoming care, providing the satisfaction of the physical and emotional needs of the client and family member, through consultation and collection of the nursing history,

perioperative guidance, verification and interpretation of laboratory test results, contributing to coping with surgery, prevention of possible postoperative complications, rehabilitation and the client's well-being^{2,14}.

Vital signs and a physical examination are essential indicators for assessing the health-disease aspect of the individual who is to undergo an anesthetic-surgical procedure. In this way, the present study showed that nursing professionals carry out these procedures in a systematic, continuous, safe, documented, and recorded way during all perioperative periods, supporting the validation of nursing care. In contrast to these findings, a study showed a divergence in this result, which identified weaknesses in checking vital signs in the intra and postoperative periods and showed potential in carrying out the physical examination in both surgical phases filled out in the nursing records¹⁵.

Regarding the preoperative phase, the nursing records showed that nursing professionals did not take blood reserves, despite this being a fundamental strategic therapeutic procedure for achieving a preventive intraoperative surgical period concerning the significant blood losses occurring in individuals undergoing surgical procedures. This impasse has a direct impact on client safety and care¹⁶.

A study that analyzed surgical safety checklist strategies with nursing terminology pointed out that the risk of blood loss also needs to be investigated before induction of anesthesia to avoid intraoperative hypovolemia. Thus, in the present study, this variable was not checked in the transoperative period, which indicates its importance, especially when used with nursing diagnoses for preventive care. In this study, the authors listed the NANDA-I diagnosis Risk of shock to implement nursing interventions, which included checking vital signs¹⁷.

Nursing diagnosis within the scope of the SC is based on the interpretation and analysis of the data collected during the preoperative consultation, carried out by the nurse, to proceed and subsidize the clinical judgment regarding human response to the individual's health-disease conditions, providing support for the formation of interventions and cooperating to achieve the expected results^{1,18}. In this study, the majority of professionals recorded this phase of the NP, but this investigation was only carried out in the preoperative period, which indicates the need to investigate the other phases. In contrast to these findings, a study carried out in Porto Alegre, which analyzed medical records during the perioperative period, found that 100.0% of the records did not contain nursing diagnoses¹².

Furthermore, the nursing prescription is a grouping of these nursing actions or interventions that will be stipulated by the nurse, to achieve the expected results for the surgical client, to prevent, preserve, promote, recover, and maintain the individual's well-being^{1,2}. It was found that both activities were carried out by the professionals, which highlights the adherence to the preoperative nursing process.

The results of the transoperative period showed that the nursing records were deficient regarding the following attributes: checking for allergies, placing electrocautery plate, inserting a urinary catheter, controlling blood loss, diuresis and gastric secretion. Thus, this result reinforces a reflection on the adequacy of the nursing care provided, since failure to carry out these procedures has a direct impact on client safety, such as the risk of anaphylactic and hypovolemic shock, burns, and the risk of infection; and on the continuity of nursing care, especially when it comes to checking the recommended checklists and nursing prescriptions^{2,19}.

Assessment of nursing care includes procedures such as analyzing the conditions of venous access, probes, and catheters, controlling water and food intake, and checking the state of physiological and gastric eliminations in the postoperative period. Concerning the conditions of venous access, probes, and catheters, it is important to emphasize the need for the operating room nurse to be attentive to asepsis and quality control in the insertion and maintenance of this equipment, to avoid the incidence of hospital infections in hospitalized individuals and to mitigate postoperative complications.

This study showed a satisfactory potential for filling in nursing records. The assessment, observation, and writing down of these procedures are essential for the client's comfort, recovery, well-being, and discharge, and help prevent and detect the risk of infections, contribute to effective care between the professional/client binomial, and cooperate in the validation of care^{12,15}.

The Aldrete and Kroulik scale is a fundamental tool for assessing surgical clients in the Post-Anesthetic Care Unit (PACU). It consists of parameters that measure the level of consciousness, motor activity, respiration, and circulation, helping to aid clinical judgment for discharge from the PACU. However, the absence of this scale in the nurses' post-anesthetic assessment was identified in the medical records.

This limitation makes it impossible to measure vital, physiological and motor data and, consequently, to promote the client's discharge from hospital¹². Furthermore, it is possible to infer that this lack of records may be associated with a certain limitation on the part of some nurses when it comes to using health care scales in any hospital sector, however, these scales contribute as preventive indicators of the quality of care provided, such as the Braden and Glasgow scales.

Still, on this scale, it is worth noting the parameters of the surgical assessment for post-operative injury and assessment of consciousness that, although these indicators were not thoroughly investigated in the data process, they are inherent to NP in the postoperative period, especially the assessment of consciousness in possible brain injuries during this phase. According to a national study, 72.7% of the records did not assess the neurological status of users during this period¹², which raises an alert for assistance due to the complexity of the care required for the client's complete recovery.

In turn, considering that the most frequent surgeries in this study were orthopedic and emergency, the assessment of post-operative injuries in clients is also necessary to monitor the recovery of clients at risk of neurological injury, especially in spinal or cranial surgeries.

The reformulation of the care to be planned is the phase that completes the SPNC. This is a propitious and important moment to assess the shortcomings and successes of the performed care previously prescribed in the pre and transoperative periods, to improve the quality of the care provided, and to draw up a new care plan that resolves the shortcomings identified. However, the study detected a deficit in the fulfillment of this perioperative phase in the medical records, similarly, a study carried out in a hospital in the interior of Rio Grande do Sul, of the 50 records that were analyzed, 100% did not present assessment and reformulation of the care to be planned. Thus, these findings have a possible impact on the quality of nursing care and the application of SPNC².

This can be explained by the turnover in the operating room and the transfer of responsibility between nurses in the perioperative sectors. The applicability of nursing assessment enables care planning to be critically analyzed, in line with clinical reasoning, to raise the level of care offered and comply with the NP with excellence.

In addition, in general, the national literature reveals challenges to be overcome in the implementation of SPNC due to work overload, misuse of nurses' functions and lack of theoretical and scientific knowledge by the professionals, especially about the relevance of NP as a scientific and methodological activity for nurses². In this context, the research highlights the importance of raising awareness among nursing professionals and students regarding the filling in of nursing records and the application of SPNC, with an emphasis on qualified, continuous, safe, documented and validated care.

During the perioperative phase, the presence of institutional instruments such as standardized protocols, checklist systems and electronic recording technologies can play a crucial role in promoting the quality of records. These instruments offer an organizational structure that guides healthcare professionals to fully and accurately document all relevant information related to the surgical procedure. In addition, they help ensure compliance with clinical and regulatory guidelines, reducing the risk of errors and improving communication between team members.

Study limitations

A limitation of this study is the absence of information on procedures and care in some records, which restricted interpretation as to whether the procedure had been carried out or just had not been filled out in the record. However, it cannot be generalized that this absence represents the institution's annual procedures.

Additionally, the fragility of the subjective data, which should be analyzed qualitatively in subsequent studies; the need to include some elements that could have been recorded in the trans/intraoperative phase as part of the SPNC, such as glycemic and thermal control, and recording the risk of perioperative injury; and the fragility of some variables in the data production instrument.

CONCLUSION

The present study observed positive aspects and weaknesses in nursing records regarding the performance of SPNC, considering the high technology available to the professional and the hospital institution.

The perioperative records with satisfactory indicators were the preoperative nursing visit, history, diagnosis and nursing prescription; analysis of venous access conditions, catheters, control of water and food intake and assessment of the state of physiological and gastric eliminations.

Weaknesses were the perioperative nursing records corresponding to the lack of blood reserves, checking for allergies and placing electrocautery plate, inserting a urinary catheter, controlling blood loss, physiological loss, and gastric secretion, the application of the Aldrete and Kroulik scale and the reformulation of nursing care.

The contributions of this study emphasize the need to raise awareness among professionals about improving nursing care practices and refining records by using instruments and systems organized according to the SPNC. The effectiveness of this instrument in care requires nurses to be able to implement it in an interactive, systematic, continuous, and documented way, to consolidate nursing as a science, qualify perioperative nursing care, and validate the care provided. It also helps to fill the gap in the synthesis of scientific production on the subject in question.

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Conceptualization, R.P.G. and B.M.L.S.B.; methodology, R.P.G. and B.M.L.S.B.; software, B.M.L.S.B.; validation, R.P.G., L.M.L.S. and M.E.W.P.; formal analysis, B.M.L.S.B.; investigation, R.P.G., L.M.L.S. and M.E.W.P.; resources, B.M.L.S.B.; data curation, B.M.L.S.B.; manuscript writing, R.P.G. and B.M.L.S.B.; writing – review and editing, R.P.G., L.M.L.S., M.E.W.P. and B.M.L.S.B.; visualization, R.P.G., L.M.L.S., M.E.W.P. and B.M.L.S.B.; supervision, B.M.L.S.B.; project administration, B.M.L.S.B. All authors read and agreed with the published version of the manuscript.