



Federal Fluminense University

AURORA DE AFONSO COSTA
NURSING SCHOOL



Original Articles



Nursing Care in the Immediate Postoperative Period: A Cross-sectional Study

Maria Aparecida Alves de Oliveira Serra¹, Francisco Ferreira da Silva Filho²,
Andrea de Oliveira de Albuquerque¹, Carlos Alberto Andrade dos Santos¹,
José Freire de Carvalho Junior¹, Roberta de Araújo e Silva¹

1 Federal University of Ceará

2 Centre for University and Development Education.

ABSTRACT

Problem: Nursing care requires attention and systematized care in the immediate postoperative period in order to prevent complications. **Aim:** To characterize the care provided to patients in the immediate postoperative period; to identify the care offered by nurses to patients and correlate the difficulties of nurses in terms of the use of nursing care systematization. **Method:** This was a cross-sectional study that used a quantitative approach, conducted between May and June 2013 in an Emergency Hospital in Fortaleza, Ceará, Brazil. The sample consisted of 13 nurses working in the post-anaesthetic recovery room. **Result:** There was a predominance of care directed to the respiratory and cardiovascular system. There was an association between the large number of patients and the non-use of nursing care systematization. **Conclusion:** Care is not fully offered and nurses have difficulties in using nursing care systematization.

Descriptors: Nursing Care; Immediate Postoperative; Nursing Care.

INTRODUCTION

The immediate postoperative period (IPO) covers the first 24 hours after surgery and includes the time in which the patient remains in the post-anaesthetic care unit (PACU). This period is characterized by physiological changes that are basically unconsciousness and cardiorespiratory depression in patients who received general anaesthesia and a lack of sensation or poor emotional state in those who received regional anaesthesia, requiring continuous observation and specific care⁽¹⁾.

Nurses who work in patient care in the IPO should be highly qualified and possess knowledge and skills in order to treat patients coming from different surgeries of varied complexity who require specific and individualized care. For this, the professional should plan care in order that the physiological balance of the patient is recovered with minimal complications, and to facilitate the progress of assistance and provide quality in terms of service⁽²⁾. In the IPO, the patient is considered to be critical; therefore, systematic and documented nursing care is required. This assistance will ensure safety and the specific care implemented will be dedicated to interventions for the prevention and/or treatment of postoperative complications⁽³⁾.

Nursing Care Systematization (NCS) governs the methodology of nursing work, since it identifies the situations of health and illness through this instrument by prescribing and implementing concrete actions in the promotion, prevention, recovery and rehabilitation of the health of individuals, families and the community⁽⁴⁾. With the high turnover of patients in the PACU, the NCS is not always fully applied; however, its use in all its stages is fundamental, since it facilitates the nursing care provided, in

a dynamic, organized and systematic way. Thus, nurses need to develop cognitive, interpersonal and technical skills, in order to meet the needs of the individuals under care⁽⁵⁾. It is necessary to review nursing care in the immediate postoperative period, focusing on detection, prevention and treatment of complications that may result from surgical anaesthesia, since the hospitalization period in the PACU may be crucial to prevent possible complications as well as to treat them early. Therefore, the use of NCS in the immediate postoperative period becomes relevant in postoperative patient care, since it allows nurses to care for patients in a comprehensive and individualized way, contributing to the improved clinical and psychosocial prognoses of these clients.

This study aims to characterize the nursing care provided to patients in the immediate postoperative period; to identify the nursing care provided by nurses to patients in the post-anaesthetic care unit (PACU); and correlate the difficulties of nurses with the use of NCS.

METHOD

This is a cross-sectional study that used a quantitative approach. It was held in the post-anaesthesia care unit (PACU) of a public hospital that is a reference in terms of emergency care across the state of Fortaleza, Ceará, Brazil. The research population consisted of all 16 nurses working in the PACU of the institution. The inclusion criteria were: nurses who provided direct care to patients and who agreed to participate in the study during the period of investigation. Professionals who were on work leave during the data collection period (one nurse) and those who refused to participate in the study (two nurses) were excluded, giving a total sample of 13 nurses.

Data collection was conducted during the months of May and June 2013 through the use of a self-administered semi-structured form, made available to participants at their working place and working hours, after the researchers instructed them about the objectives and the importance of the research as well as how to complete the form appropriately. A self-administered form was chosen so that it could be completed in a timely manner by the participant, with no loss in terms of the performance of their work activities, respecting a deadline of 30 days for returning it to the researchers.

The instrument for data collection consisted of open questions related to the characterization of subjects according to gender, age, education and professional experience, as well as the care provided to patients in the immediate postoperative period according to nurses' reports and the difficulties and skills of professional practice. The data collected was analyzed using software such as Statistical Package for Social Sciences (SPSS Inc., Chicago, IL) version 16.0 and Microsoft Office Excel 2003 for generating tables. The exploratory data analysis was done through descriptive statistical tests and absolute and relative frequencies. To check the normality/symmetry of the numerical data we used the Shapiro-Wilks test. We analyzed the proportion within the categories of utilization of Nursing Care Systematization (NCS), according to the variables of difficulties of nurses working in terms of nursing care in the IPO by means of the Fisher exact test. The maximum level of significance for statistical analysis was 5%.

The project was approved by the Ethics Committee for Research with Human Beings of the Dr. José Frota Institute, and it was approved under Opinion number 284 986. All subjects signed the free informed consent

form after they were properly informed about the study objectives and procedures and of the voluntary nature of their participation.

RESULT

The nurses studied are characterized by being predominantly female (100%), aged between 20 and 39 years (61.5%), from private universities (77%) and having a period of education ranging between 04 and 10 years (61.5%). As for the length of service of nurses in the institution, there is a duration predominance of 4 to 10 years (61.5%), followed by 38.5% with over 10 years of service. It was observed that 92.3% had *lato sensu* post-graduation and 1 nurse had a *strictu sensu* postgraduate doctorate (Table 1).

Tabela 1. Caracterização dos enfermeiros assistenciais do pós-operatório imediato em um hospital de urgência e emergência. Fortaleza, 2013.

CARACTERISTICAS	Nº	%
Gênero		
Feminino	13	100
Idade		
20-39 anos	8	61,5
40-60 anos	5	38,5
Instituição de formação		
Privada	10	77
Pública	3	23
Tempo de formação		
4-10 anos	8	61,5
>10anos	5	38,5
Tempo de Serviço na Instituição		
4 - 10 anos	8	61,5
> 10 anos	5	38,5
Pós- graduação		
Especialização	12	92,3
Doutorado	1	7,7

Fonte: autoria própria.

According to the analysis of the nurses' reports, it became clear that the care aimed at different systems is not performed simultaneously. This care primarily evaluates the respiratory system (92.3%) and the cardiovascular system (77%). The care provided to the neurological system through the assessment of the level of consciousness was reported by 61.5% and only 38.5% assessed the muscle activity of the patients in the IPO (table 2).

Table 2. Nursing care provided by nurses in the immediate postoperative period in an emergency care hospital. Fortaleza, 2013.

CARE	No.	%
Assess consciousness level	8	61,5
Assess respiratory function	12	92,3
Assess cardiovascular function	10	77
Assess muscle activity	5	38,5

Source: authors

The difficulties reported by nurses working in patient care in the immediate postoperative period were: large number of patients (85.8%), lack of materials and resources (57.2%), difficulties in implementing the NCS in service (35.8%) and lack of training courses for the nursing staff (14.3%).

It was observed that a large number of patients was associated with the non-utilization of NCS ($p=0.01$) and that the implementation difficulty reported by nurses was associated with its non-utilization ($p=0.05$). The lack of materials ($p=0.71$) and lack of training courses ($p=0.51$) were not associated with the use of the NCS (table 3).

Table 3. Association of the difficulties faced by the PACU nurses by using the NCS in an emergency care hospital. Fortaleza, 2013.

DIFFICULTY	NCS USAGE				p
	Yes		No		
	No.	%	No.	%	
High demand	1	7,6	11	84,6	0,01
Material shortage	1	7,6	7	53,6	0,71
Implementation of NCS in service	2	15,3	3	23	0,05
Lack of training courses	-	-	2	15,3	0,51

Source: authors

DISCUSSION

Nursing assistance during the IPO is intended to prevent and/or treat patients' complications and it aims to assess them in a systematic and comprehensive way. In the present study, it was observed that nursing care is not fully offered in the different physiological systems. The nursing care directed to patients in the IPO begins with the assessment of the consciousness level, that is, the response to verbal stimuli. Vital signs should be assessed by comparing the values obtained in the preoperative period. Breathing pattern is assessed by considering the expansion of the rib cage, respiration symmetry and depth, and oxygen saturation. Heart rate, amplitude and pulse rate, blood pressure, axillary temperature, pain and patients' emotional state should also be evaluated⁽⁶⁾. The presence or absence of urinary elimination and the mobility of the lower limbs are key parameters to be assessed, especially in patients undergoing spinal or epidural block⁽⁷⁾.

In the 1970s, in order to assist in the clinical monitoring of patients in IPO and provide a

safe and continuous evaluation of the general condition of the patients in the PACU, Aldrete and Kroulik proposed an index in which the variation of pulse and respiratory rate, blood pressure, consciousness state, motor activity and, recently, oxygen saturation scored from 0 to 2 points by considering these clinical parameters as markers of physiological systems compromised by anaesthesia⁽⁸⁾. This scale commonly used in the recovery room allows full evaluation of the main physiological systems, as a way to systematize patients' evaluation, but it is not used in the location of this study.

It is necessary for nurses to know the most common complications and evaluate the physiological systems of patients in full so they can take a precise decision for reversing the clinical condition of these patients in cases of complications. The NCS is an instrument that belongs to the nurse and it allows the full assessment of the conditions of patients in an organized manner, contributing to reduce failures in patient care⁽⁹⁾.

In this study, it was observed that the use of the NCS remains a difficulty on the part of nurses who provide care to patients in IPO, mainly due to the large number of patients and the non-implementation of NCS in the institution.

Backes et al.⁽¹⁰⁾ questioned nurses about the difficulties encountered in implementing the NCS in a philanthropic hospital. Among the interviewees, 88% highlighted problems, especially in relation to the heavy workload associated with function change, and also the insufficient number of professionals to perform the activity. Takahashi et al.⁽¹¹⁾ also noted difficulties in developing NCS, either due to the lack of material and human resources and the high demand of patients in the institution, or lack of time, which is the item often highli-

ghted, with 43%. In the same study, the lack of practical exercise in the stages of diagnosis, planning and nursing prescription emerges as a difficulty. To minimize the limitation caused by overload, another nurse is recommended for the same turn. This would facilitate the implementation of NCS.

A retrospective study conducted in the PACU of a large hospital in São Paulo found a relationship between postoperative complications and pain, nausea, agitation and bleeding in the presence of a nurse responsible for the PACU. This showed the importance of nurses in the IPO care aimed at the patient's recovery, in the reduction and early detection of postoperative complications⁽¹²⁾.

Despite the important contribution of the use of tools that systematize the nursing care to patients in the IPO, the high number of nurses who have difficulties in implementing systematic care are still noticeable. The findings of this study demonstrate that there is a need to assess the nursing care provided to patients in the IPO, since patients are more vulnerable to complications due to the surgical anaesthetic process during this period. A number of studies have found that nursing care in the IPO period is restricted; therefore, more studies on this issue need to be carried out in different regions with different methodological approaches.

During the development of this work, we encountered some limitations such as the small and convenient sample originating from a single service. Thus, the generalization of the results is impaired in the general population. However, even with the above limitations, the result is relevant as it contributes to the quality of the nursing care provided to patients in the PACU of the local community and the improvement of health services targeted to this population.

CONCLUSION

From the results obtained, it was observed that nursing care is not fully offered in the different physiological systems. There is a predominance of care with the respiratory and cardiovascular systems; however, the neurological system is less assessed. There was an association between the difficulties faced by nurses, such as the large number of patients and the difficulty in implementing NCS due to its non-utilization in the immediate postoperative period. Therefore, the difficulties of the nurses who provide care to patients in the IPO period should be reconsidered and valued for the acceleration of the care systematization process in the post-anaesthetic recovery room, since patient care will be amplified by the focus on individuality, completeness and the priorities of the individual under treatment after the effective implementation of NCS.

REFERENCES

1. Saager L, Hesler BD, You J, Turan A, Mascha EJ, Sessler DI, Kurz A. Intraoperative Transitions of Anesthesia Care and Postoperative Adverse Outcomes. *Anesthesiology*. 2014; 121:695-706.
2. Chen T, Crozier JA. Endovascular repair of thoracic aortic pathologies: postoperative nursing implications. *J Vasc Nurs*. 2014; 32(2):63-9. doi: 10.1016/j.jvn.2013.07.001.
3. Park M, Park H. Development of a Nursing Practice Guideline for Pre and Post-Operative Care of Gastric Cancer Patients. *Healthc Inform Res*. 2010;16(4):215-223.
4. Fuly PSC, Freire SM, Almeida RT. The nursing process and its application in intensive care at Rio de Janeiro as a support to the development

- of an electronic patient record. *Online Brazilian Journal of Nursing* [internet]. 2003 [cited Dec 8 2003]; 2(3). Available from: <http://www.nepae.uff.br/siteantigo/objn203fulyfreirealmeida.htm>
5. Luvisotto MM; Carvalho R; Galdeano LE. Transplante renal: diagnósticos e intervenções de enfermagem em pacientes no pós-operatório imediato. *Einstein*.2007;5(2):117-22.
6. Blum JM, Stentz MJ, Dechert R, et al; Preoperative and Intraoperative Predictors of Postoperative Acute Respiratory Distress Syndrome in a General Surgical Population. *Anesthesiology*. 2013;118(1):19-29. doi: 10.1097/ALN.0b013e3182794975.
7. Van Klei WA, Hoff RG, Van Aarnhem EEHL, Simmermacher RKJ, Regli LPE, Kappen TH, van Wolfswinkel L, Kalkman CJ, Buhre WF, Peelen L. Effects of the Introduction of the WHO "Surgical Safety Checklist" on In-Hospital Mortality: A Cohort Study. *Annals of Surgery*.2012; 255(1):44-49.
8. Santos S; Garbin IS; Carvalho R. Intervenções de enfermagem na recuperação anestésica para o controle da dor e de outros eventos no período pós-operatório imediato. *Rev Dor*.2009; 10(4): 337-342.
9. Souza TM; Carvalho R, Paldino CM. Diagnósticos, prognósticos e intervenções de enfermagem na sala de recuperação pós-anestésica. *REV SOBECC*. 2012; 17(4):33-47.
10. Associação Brasileira de Enfermeiros de Centro Cirúrgico, Recuperação Anestésica e Centro de Material e Esterilização - SOBECC. *Práticas Recomendadas SOBECC*. 6 ed. rev. e atual. São Paulo, SP: SOBECC; São Paulo: Manole, 2013.
11. Takahashi AA; Barros ALBL; Michel JLM, Souza MF. Dificuldades e facilidades apontadas por enfermeiras de um hospital de ensino na execução do processo de enfermagem. *Acta Paul Enferm*. 2008; 21(1):32-8.
12. Popov DCS, Peniche ACG. As intervenções do enfermeiro e as complicações em Sala de Recuperação Pós-anestésicas. *Rev Esc Enferm USP*.2009; 43(4): 953-61.

All authors participated in the phases of this publication in one or more of the following steps, in According to the recommendations of the International Committee of Medical Journal Editors (ICMJE, 2013): (a) substantial involvement in the planning or preparation of the manuscript or in the collection, analysis or interpretation of data; (b) preparation of the manuscript or conducting critical revision of intellectual content; (c) approval of the versão submitted of this manuscript. All authors declare for the appropriate purposes that the responsibilities related to all aspects of the manuscript submitted to OBJN are yours. They ensure that issues related to the accuracy or integrity of any part of the article were properly investigated and resolved. Therefore, they exempt the OBJN of any participation whatsoever in any imbroglis concerning the content under consideration. All authors declare that they have no conflict of interest of financial or personal nature concerning this manuscript which may influence the writing and/or interpretation of the findings. This statement has been digitally signed by all authors as recommended by the ICMJE, whose model is available in http://www.objnursing.uff.br/normas/DUDE_eng_13-06-2013.pdf

Received: 10/06/2014

Revised: 04/06/2015

Approved: 04/16/2015