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Original Research

Analysis of Implementation of Perioperative Care Instrument Based on Standards of Nursing Diagnosis, Intervention and Outcomes in Indonesia

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ABSTRACT

Introduction: Perioperative nursing care has been widely applied in either various hospitals or other healthcare facilities. The purpose of this study was to analyze the implementation of a perioperative care instrument based on the Indonesian Nursing Diagnosis Standards (SDKI, the Indonesian Nursing Intervention Standards (SIKI), and the Indonesian Nursing Outcome Standards (SLKI) in the operating room in a Teaching hospital, East Java.

Methods: This research design was a descriptive study. The study population was the perioperative nursing care instrument in the medical records of patients with fracture cases. The research sample consisted of 106 medical records with total sampling. The dependent variable of this study was the implementation of the perioperative nursing care instrument based on SDKI, SLKI, and SIKI. Data were collected using observation sheets and analyzed using descriptive analysis.

Results: Applying the diagnosis of nursing care according to the standard the risk of infection is (27.36%), acute pain (20.75%), and the risk of injury (2.83%). The application of nursing outcomes according to standards is the infection rate (27.36%), pain level (20.75%) and fluid balance (2.83%).

Conclusion: The nursing interventions, implementation, and evaluation of nursing are not according to the Indonesian Nursing Intervention standards (SIKI). The application of perioperative nursing care instruments, which includes titles, diagnoses, and outcomes, is partly following SDKI and SLKI standards. Nursing interventions, implementation, and evaluation of nursing are not according to standards.

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INTRODUCTION

Standard nursing language in nursing services is now a global trend in the nursing profession that arises to unite the terminology used in nursing practice (GUSEN, 2017). In providing nursing care standardization of care is needed which includes diagnostic standards, output standards, clear standards of intervention and terminology so that nursing care can be uniform, accurate, and unambiguous to guarantee continuity and quality of service (DPP PPNI, 2017). In various countries, standards for nursing care plans have not been widely explained comprehensively in the nursing literature (Johnson et al., 2018). Although there are already several internationally recognized nursing care standards, because these standards have not been developed with due regard to cultural disparities and the uniqueness of nursing services in Indonesia, these standards are deemed inappropriate for Indonesia (DPP PPNI, 2017).

The Indonesian National Nurses Association (PPNI) as a professional nurse organization in Indonesia has developed nursing care standards in Indonesia by publishing the Indonesian Nursing Diagnosis Standards (SDKI), Indonesian Nursing Intervention Standards (SIKI) and Indonesian Nursing Outcomes Standards (SLKI) (DPP PPNI, 2017). The use of standardized nursing care is essential in improving the quality of nursing care

(Olatubi et al., 2019). Several factors affect the quality of nursing documentation, including documentation according to the nursing process, the use of standard terminology and documentation instruments, electronic documentation and documentation instruments that vary according to nursing practice (De Groot et al., 2019).

Instrument documentation according to standards is one of the factors that influence the quality and integration of nursing documentation (De Groot et al., 2019). Research conducted by Linden, Karen and Jo-ann (2017) explains that the use of standardization in providing nursing care is essential in the successful integration of nursing documentation. Nursing documentation instruments must also be prepared based on established clinical practice standards (De Groot et al., 2019). According to the Indonesian Ministry of Health, in 2015, limb fractures had the highest prevalence among other fractures, which was around 46.2% . Based on research conducted by Rachmania and Yunitasari (2016) in a hospital in East Java, it was explained that, before using the development of documentation, instruments that meet the standards obtained complete documentation of 100% assessment data, 62.55% diagnosis, 62.5% intervention, 50% implementation, and 50% evaluation. The average document filling is around 65% of the recorded documentation (Rachmania & Yunitasari, 2016). The purpose of this study was to analyze the implementation of perioperative nursing care instrument based on the Indonesian Nursing Diagnosis Standards (SDKI), the Indonesian Nursing Intervention Standards (SIKI) and the Indonesian Nursing Outcome Standards (SLKI).

MATERIALS AND METHODS

Literature review

Literature review related to the application of diagnostic standards, outcomes and nursing orders has been carried out. The development of diagnostic and intervention instruments based on established standards was carried out by Diana in 2015. The results of the development of the diagnostic and intervention instruments are valid and reliable (Rachmania & Yunitasari, 2016). Other studies have also been carried out by Sartika on developing clinical pathways using Indonesian Nursing Diagnosis Standards. The result showed that the appropriate nursing diagnosis based on the clinical pathway of diabetes mellitus was: unstable glucose level, activity intolerance, a deficit of nutrition. For thrombotic stroke, the nursing diagnoses were decrease of adaptive intracranial capacity, physical mobility impairment, and ineffective breathing pattern. For pneumonia, the nursing diagnoses were ineffective airway clearance, activity intolerance, and hyperthermia. For acute myocardial infarction, the nursing diagnoses were decreased cardiac output, activity intolerance, spontaneous, circulation impairment (Sartika, 2017). The use of nursing standards can also improve the quality of nursing documentation.

Research conducted by Adubi,. Olaogun, and Adejumo on 270 medical records related to the use of nursing standards found that the existence of programs related to the use of nursing standards, in general, had a significant effect on the quality of nursing documentation (Adubi et al., 2018). Nursing intervention standards can also be relied upon to assess and evaluate clinical competencies, especially

Table 1. Evaluation of Nursing Diagnosis in Operating Room (n=106)

Evaluation of nursing diagnosis	Indonesian Nursing Diagnosis Standard	Total (%)	Results
Worry	Anxiety	49 (46.23%)	Not appropriate
Risk infection	Risk infection	29 (27.36%)	Appropriate
Acute pain	Acute pain	22 (20.75%)	Appropriate
Risk of lack of fluid volume	Risk of fluid imbalance	3 (2.83%)	Not appropriate
Risk of injury	Risk of injury	3 (2.83%)	Appropriate

Table 2. Evaluation of Nursing Outcomes in Operating Room (n=106)

Evaluation of Nursing Outcomes	Indonesian Nursing Outcomes Standards	Total (%)	Results
Distress level	Anxiety level	49 (46.23%)	Not appropriate
Self-control of anxiety	Level of agitation		
Infection rate	Infection rate	29 (27.36%)	Appropriate
	Skin and tissue integrity		
	Control of risk infection		
Pain level	Pain level	22 (20.75%)	Appropriate
Pain control	Physical mobility		
Fluid balance	Fluid balance	3 (2.83%)	Appropriate
Hydration status	Hydration status		
Physical injury level	Falling rate	3 (2.83%)	Not appropriate
Tissue integrity: Skin and mucous membranes	Level of injury		

Table 3. Evaluation of Nursing Intervention in Operating Room (n=106)

Evaluation of Nursing Interventions	Indonesian Nursing Intervention Standards	Total (%)	Results
Reducing anxiety Distraction technique Relaxation therapy	Anxiety reduction Surgical preparation Soothing techniques Relaxation therapy	49 (46.23%)	Not appropriate
Control of intra-action infections Incise / puncture access treatment	Prevention of infection Treatment of incision area	29 (27.36%)	Not appropriate
Pain management Provision of analgesics Help control patient analgesics	Pain management Provision of analgesics	22 (20.75%)	Not appropriate
Vital sign monitoring Fluid and electronic management Intravenous Therapy Bleeding reduction	Fluid monitoring Urinary catheterization	3 (2.83%)	Not appropriate
Intraoperative position regulation Skin surveillance Surgical precaution Temperature regulation: perioperative	Fall prevention Environmental safety management Sedation Management Installation of safety devices	3 (2.83%)	Not appropriate

Table 4. Evaluation of Perioperative Care Instruments in Operating Room (n=106)

Component of perioperative care instruments	Category		Total (%)
	Appropriate (%)	Not Appropriate (%)	
Standard of title	51 (48.11)	55 (51.89%)	106 (100%)
Standard of nursing diagnoses	54(50.94%)	52(100%)	106 (100%)
Standard of nursing outcomes	54 (50.94%)	52 (100%)	106 (100%)
Standard of nursing intervention	0 (0)	106 (100%)	106 (100%)
Standard of implementation	0 (0)	106 (100%)	106 (100%)
Evaluation of nursing care	0 (0)	106 (100%)	106 (100%)

in competency systems for nursing practice (Iglesias-Parra et al., 2015). The use of nursing standards can also be used to minimize ambiguity and identify the terminology used in nursing practice (C. M. G. Carvalho et al., 2017). Research conducted on 122 medical records in the period before and after accreditation found that there was an improvement in the quality of diagnoses, interventions, and outcomes in nursing (Nomura et al., 2016). Other studies also state that the use of nursing care standards can improve the quality of diagnoses, interventions and nursing outcomes that can be assessed using Q-Dio instruments (Linch et al., 2015).

Data collection

This study uses a descriptive research design to describe events systematically and emphasizes factual data rather than conclusions (Nursalam, 2017). This research was conducted between May 2019 and November 2019 at a teaching hospital in East Java. This research was conducted by observing 106 medical records in fracture patients of perioperative nursing care instruments obtained in total sampling. The inclusion criteria in this study were 1) Patients undergoing open reduction internal fixation (ORIF) surgery, 2) With a single operation, and 3) Patients aged 18 to 70 years. Meanwhile, the exclusion criterion in this study was patients who had multiple fracture surgeries.

Data obtained through observation sheets were conducted by researchers on perioperative nursing care instruments in the patient's medical record. This observation sheet to evaluate the perioperative nursing care instruments includes the instrument title, diagnosis, outcomes, interventions, implementation, and evaluation of nursing. This research protocol was declared to have passed the ethics test by the Universitas Airlangga Hospital Ethics Commission with an ethics certificate number No: 185 / KEH / 2019 on November 5, 2019.

Data analysis

Descriptive statistics on evaluating diagnosis are shown in Table 1. Descriptive statistics on evaluating the determination of nursing outcomes are shown in Table 2. Descriptive statistics on evaluating nursing interventions are shown in Table 3 and descriptive statistics on evaluating nursing interventions are shown in Table 4. This evaluation was carried out on 106 medical records of perioperative patients with fracture cases.

RESULTS

Evaluation of nursing diagnosis

Based on evaluation of 106 medical records that have been analyzed (Table 1), the diagnosis most often made in perioperative patients is anxiety (46.23%), and what is rarely established is the risk of lack of

fluid volume (2.83%) and risk of injury (2.83%). The diagnosis has been established and, following the Indonesian Nursing Diagnosis Standards (SDKI), the risk of infection is (27.36%), acute pain (20.75%) and risk of injury (2.83%).

Evaluation of nursing outcomes

Based on evaluation of 106 medical records that have been analyzed (Table 2), the nursing outcomes that have been determined and are in accordance with the SLKI are the level of infection (27.36%), the level of pain (20.75%), and fluid balance (2.83%).

Evaluation of nursing interventions

Based on evaluation of 106 medical records that have been analyzed (Table 3), all of the specified nursing interventions that have been determined are not in accordance with Indonesian Nursing Intervention Standards (SIKI).

Evaluation of perioperative care instruments

Based on evaluation of 106 medical records that have been analyzed (Table 4), the majority of the intervention, implementation and evaluation of nursing are following the standards. However, the titles of instruments, diagnoses, and outcomes of nursing are still not following established standards.

DISCUSSION

Evaluation of perioperative nursing care instruments in fracture cases in the operating room of the Educational Hospital in East Java was measured using an observation sheet based on diagnosis standards, outcome standards and intervention standards as well as implementation and evaluation that have been determined by nursing professional organizations (PPNI). The instrument title is based on the problem/label on the component of the nursing diagnosis. The perioperative nursing care instruments currently in use are five instruments, including instruments of anxiety, acute pain, risk of infection, risk of lack of fluid volume and risk of injury to the perioperative position. However, this instrument is still based on NANDA, NOC AND NIC has not been based on SDKI-SLKI-SIKI since it was first created in 2012, and there has been no change until now. The results of the evaluation of the perioperative nursing care instruments on 106 medical records found that the title of the instrument was according to the established standards of 48.11%. Nursing diagnoses and nursing outcomes that have been set at 50.94% are in accordance with the SDKI and SLKI. Nursing interventions, implementation and evaluation of nursing that have been set are not in accordance with established standards.

The title of the instrument matches the label/problem in the component of diagnosis. Standard diagnosis includes an actual diagnosis consisting of problems, etiology, major/minor signs and symptoms. Standard outputs include primary and additional outputs. Intervention standards include observation, therapeutic, education and collaboration (DPP PPNI, 2018). Patient development records can be seen from the evaluation of diagnoses, interventions and nursing outcomes (Myklebust, 2017). Law No. 38 of 2014 concerning Nursing emphasizes that nursing practice must be based on a code of ethics, service standards, professional standards, and operational procedure standards (Presiden RI, 2014). On 29 December, 2016, PPNI established nursing care standards by publishing the Indonesian Nursing Diagnosis Standards book (SDKI), then proceeding with the issuance of Indonesian Nursing Output Standards (SLKI) and the Indonesian Nursing Intervention Standards (SIKI)(DPP PPNI, 2018). The accuracy in the nursing diagnosis can be caused by the standardization of nursing care that has been determined (E. C. De Carvalho et al., 2016). The use of standardization in nursing can also improve patient safety and nursing care provided (Florin et al., 2016). Research conducted by Linden, Karen and Jo-ann (2017) explains that the use of standardization in providing nursing care is vital in the successful integration of nursing documentation (Johnson et al., 2018). Nursing documentation instruments must also be prepared based on established clinical practice standards (De Groot et al., 2019).

Standardization of nursing care is very important in improving the quality of nursing care. In the current era of healthcare, the use of standardized language terminology in providing patient care is needed to improve patient care, patient safety and patient outcomes (Oreofe & Oyenike, 2018). The nursing law also regulates the matter mandated by professional organizations. Standardization of care can increase the continuity of nursing care. This standardization of care must, of course, adhere to the standards of professional organizations, not from foreign standards. Although there are already several internationally recognized nursing care standards, because these standards have not been developed with due regard to cultural disparities and the uniqueness of nursing services in Indonesia, these standards are deemed inappropriate for Indonesia (DPP PPNI, 2017). The use of documentation instruments that are not in accordance with the standards can cause discrepancies in the nursing care provided so that it can affect the quality of documentation. The use of documentation instrumentation can also cause incompleteness in documentation due to differences in terminology, different understandings, and differences in the enforcement of nursing diagnoses. This research is limited to the perioperative nursing care instruments in fracture cases, thus, it is necessary to do more research related to other cases.

CONCLUSION

The application of nursing care that includes the standard title, diagnosis, and nursing outcomes in the perioperative nursing care instrument is almost in accordance with the SDKI and SLKI. The application of nursing diagnoses in accordance with the IDHS is the risk of infection, acute pain and risk of injury. The application of nursing outcomes in accordance with SLKI is the level of infection, the level of pain and fluid balance.

CONFLICT OF INTEREST

No conflicts of interest have been declared

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