Case Report

Pain Management for Unconscious Patient Based on Indonesian Nursing Intervention Standards in Intensive Care Unit : Case Study

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ARTICLE INFO
Article history:
Received 29-03-2023
Revised 10-05-2023
Accepted 15-05-2023

Keyword:
ICU settings, pain management, unconscious patient

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https://jurnal.unpad.ac.id/pacnj/

E-ISSN: 2715-6060

ABSTRACT

Pain is a subjective thought and can be experienced by everyone. Patients with decreased consciousness may also feel pain. The intensity of pain experienced by patients in the intensive care unit ranges from moderate to severe pain. Previous studies stated that the phenomenon of pain in patients can cause physical and psychological complications. Thus, pain management in the scope of intensive care is crucial to do. To identify management that can be done in patients with unconsciousness who experience pain. This case study used Indonesian Nursing Intervention Standards as a guideline for pain management. A 29-year-old female patient with decreased consciousness was treated in the intensive care unit. The patient was in the intensive care unit for four months. The results showed a severe pain scale at the time of the assessment using the CPOT. This study established a nursing diagnosis of chronic pain related to treatment procedures characterized by a severe pain scale using the CPOT, invasive devices, and the presence of fourth-degree pressure sores on the sacrum. Pain management carried out is pain assessment, non-pharmacological and pharmacological management. In each of these interventions, nurses must pay attention to nursing ethics. Evaluation and documentation are carried out to review the interventions' effect and become a part of communication for interprofessional regarding the treatment process.

Introduction

The International Association for the Study of Pain, 2020 defines pain as an unpleasant sensation and emotional experience associated with actual or potential tissue damage. Pain always refers to personal experience so anyone who experiences it has a different concept of pain. The experience of pain is not only felt by individuals who are fully conscious but also by those who have decreased consciousness. The difference between them is that patients who experience decreased consciousness cannot verbally express the characteristics of the pain they feel. This is commonly found in intensive care units where most patients receive mechanical ventilation and experience delirium (Nordness et al., 2021).

Pain is a common phenomenon found in the intensive care unit. According to Almutairi et al., 2022, the prevalence of pain experienced by patients in the intensive care unit is more than 80%. Nordness et al., 2021 state that more than five million patients receive treatment in ICU rooms in the United States. More than half experienced moderate to severe pain related to the clinical conditions they were experiencing or related to the treatment procedure being undertaken. Nur et al., 2022 and Hidayat et al., 2020 in their research in Indonesia, stated that almost all patients in the intensive care unit experienced pain, ranging from moderate pain, severe to very severe pain. Clinical conditions that cause pain in intensive care patients such as inflammatory pain, ischemic pain, neuropathic pain and various other causes. Whereas pain arising from treatment procedures can be caused by installing mechanical ventilation, using an endotracheal tube, suctioning and positioning processes (Nordness et al., 2021).

Nurses often do not realize this because patients cannot report the pain, so pain management in the realm of intensive care requires optimal assessment and planning to achieve interventions according to patient needs. Pain management in the intensive care unit seems difficult to do. This is related to the patient's health status which is often unstable, the lack of health workers knowing the pain they are experiencing, and the impact of this pain on patients to the demands of physical care which predominate in the intensive care setting (Go et al., 2013). According to Rijkenberg & van der Voort, 2016 adult patients in the intensive care unit whose not handled properly will have an impact on physical and psychological complications. In this article, the authors present a case study related to pain management in post-respiratory failure patients with decreased consciousness in the intensive care unit.

Method

This article used a case study design to identify pain management based on Indonesian Nursing Intervention Standards. The patient is 29-year-old female with unconsciousness in Intensive Care Unit. The study was given a permission from patient’s family member.

Results

A 29-year-old woman experienced decreased consciousness after respiratory failure and used mechanical ventilation in the intensive care unit with status epilepticus caused by autoimmune encephalitis and has been hospitalized for four months. The general condition is weak, the body position is rigid accompanied by hyperflexion and under the influence of sedation drugs. The patient reportedly had no history of previous illness and five months before entering the hospital the patient experienced fluctuating emotional changes, got tired easily and suddenly had seizures and decreased consciousness.

On physical examination, obtained blood pressure 118/80mmHg, pulse 117x/min,

respiratory rate 33x/min, temperature 37.7C and 100% oxygen saturation with tracheostomy intubation, body weight 40kg, height 150cm and body mass index 17.8kg /m2. In addition, the patient has muscle atrophy and there is a fourth-degree pressure sore that reaches the tendons and bones in the sacrum. The patient's eyes continued to open and occasionally shed tears so eye drops were given and the eyes were covered with gauze to prevent irritation. Assessment of pain in patients was also carried out using the Critical Care Pain Observation Tool (CPOT) instrument. In this patient, a pain score of 5 was obtained, indicating severe pain. In addition, laboratory tests are also routinely carried out. At the time of assessment, the results of laboratory tests showed low hemoglobin 7.6 g/dL, low hematocrit 22.5%, and low erythrocytes 2.66 million/uL.

Table 1. Pain Assessment with CPOT

Item	Description	Rate	Score
Facial Expressions	No muscular tension observed	0	2
	Presence of frowning, brow lowering, orbit tightening an levator contraction	1	
	All of the above facial movements plus eyelid tightly closed	2	
Body Movements	Does not move at all	0	0
	Slow, cautious movements, touching or rubbing the pain site, seeking attention through movements	1	
	Pulling tube, attempting to sit up, moving limbs/thrashing, not following sommands, striking at staff, trying to climb out of bed	2	
Muscle Tension	No resistance to passive movements	0	2
	Resistance to passive movements	1	
	Strong resistance to passive movements, inability to complete them	2	
Compliance with the ventilator **OR** **Vocalization**	Alarms not activated, easy ventilation	0	1
	Alarms stop spontaneously	1	
	Asynchrony: blocking ventilation, alarms frequently activated	2	
	Talking in normal tone or sound	0	
	Sighing, moaning	1	
	Crying out, Sobbing	2	
TOTAL SKOR			**5**

Discussion

Data analysis and Nursing Diagnosis

Based on the studies obtained, one of the nursing problems that arise in patients is a disturbance of pain comfort. The problem of pain nursing is supported by data on the patient's facial expressions that appear tense, the patient's body that looks tense and stiff is indicated by the presence of strong resistance when moved. In addition, this diagnosis is also supported by an assessment of the pain scale which indicates severe pain. According to Olsen et al., 2021 the pain experienced by patients in the intensive care unit is caused by many factors such as underlying health conditions, use of catheters, use of invasive devices, immobilization or from treatment procedures given to patients. In addition to these factors, the patient also has fourth degree pressure sores which are the source of the pain experienced by the patient.

In the SDKI, 2016 the diagnosis of pain is defined as a sensory or emotional experience related to actual or functional tissue damage with sudden or slow onset and mild to severe intensity. SDKI, 2016 contains two diagnoses of pain, namely acute pain and chronic pain with the difference being the period of time the pain is felt. Acute pain lasts less than three months and chronic pain lasts more than three months (SDKI, 2016). In this case, a nursing diagnosis of acute pain can be enforced related to treatment procedures marked by a severe pain scale, the use of invasive devices and the presence of fourth-degree pressure sores on the sacrum.

Nursing Intervention based on Indonesian Nursing Intervention Standards (SIKI)

1. Assesment of Pain Characteristic

Assessment of pain in the realm of intensive care is something that is not easy to do. It requires more sensitivity, especially for nurses who have a role as providers of nursing care. When the patient enters the intensive care unit, monitoring only focuses on vital parameters such as hemodynamics, respiratory mechanisms, ventilator settings and other organ systems. According to Havaldar, 2022 pain is the fifth

vital sign that is often forgotten in the intensive care unit.

Havaldar, 2022 in his writings suggests several measuring instruments that can be used to assess pain experienced by patients who are unable to self-report related to their pain, namely the Behavioral Pain Scale (BPS) and the Critical Care Pain Observation Tool (CPOT). BPS is a pain scale measurement tool that can be used in patients with mechanical ventilation. This pain measurement tool is based on three domains, namely facial expressions, upper limb movement and response to ventilation (Rijkenberg et al., 2017). Scores for each domain range from 3 (no pain) to 12 (severe pain). In addition to the above, there is a Behavioral Pain Scale-Non-Intubated (BPS-NI) which can be used to assess pain in patients without intubation treatment but are unable to independently report perceived pain (Olsen et al., 2021).

Wiegand et al., 2018 in their research stated that the assessment of pain in critical care patients should have two dimensions of work, physiological and behavioral. Both can be found in the Multidimensional Objective Pain Assessment Tool (MOPAT). MOPAT consists of eight statement items which are divided into two dimensions, namely the behavioral dimension and the physiological dimension. Included in the behavioral dimension are anxiety, muscle tension, grimacing responses that appear on the face, and the patient's voice. While the physiological dimension includes blood pressure, pulse frequency, respiratory rate and diaphoresis. This instrument uses a Likert scale consisting of five points, from strongly disagree to strongly agree. MOPAT can be used on non-communicative patients immediately when transferred from other rooms to the intensive care unit and from the intensive care unit to other rooms (Wiegand et al., 2018).

2. Non-pharmacological Management

Non-pharmacological interventions are defined as all therapies that do not involve the role of drugs or other active substances (Boldt et al., 2014). Non-pharmacological interventions themselves are complementary or complementary agents to pharmacological interventions. These two interventions are closely related to each other, so management is needed that integrates the two interventions to overcome existing problems, including pain management. Until now, non-pharmacological interventions for pain management methods in the context of intensive care depend on the knowledge, training and skills and beliefs of nurses in the effectiveness of the non-pharmacological interventions provided (Gélinas et al., 2013).

Research by Gélinas et al., 2013 identified 33 non-pharmacological interventions for pain management in the intensive care unit. All of them are divided into five classifications of intervention including cognitive-behavioral, physical, emotional support, assistance with daily activities (ADL) and creating a comfortable environment. This is also in line with the results stated by Sandvik et al., 2020, where in their literature review it states that there are cognitive-behavioral methods, physical therapy and emotional support. Sandvik et al., 2020 added a new sub-category, namely music therapy in the cognitive-behavioral method which is considered effective in reducing pain in patients in the intensive care unit. Based on the things that have been stated above, the following are things that can be done regarding pain management in related patients.

Table 2. Non-pharmacological Pain Intervention

Klasifikasi	Intervensi
Cognitive-behavioral	Music therapy to help achieve changes in behavior, feelings and physiology
	Aromatherapy uses essential oils with massage, moisturizing, bathing, inhalation or compresses to reduce pain and promote relaxation and comfort
	Help patients to understand and prepare themselves to undergo treatment procedures by providing explanations
	Provide information regarding the disease process experienced
	Explain concretely and objectively about the treatment procedure that will be passed
Physical intervention	Give a simple massage to reduce pain, provide relaxation and increase circulation
	Do reflexology by touching specific areas on your hands, feet or ears to relieve tension and stabilize your body's balance
	Repositioning

	Exercise to prevent loss of muscular tones
	Touching for provide comfort
Psychological intervention	Pay attention from non-verbal message
	Provide the information and support for make the decisions
	Pay attention to the "presence" aspect where the nurse is physically and psychologically present during treatment
	Facilitate the presence and support of the family and the emotional and physical participation of the family in caring for the patient
	Do animal-assisted therapy, namely companion pet therapy to provide emotional support, distraction and relaxation
Activity daily living	Help the client to clean the body or take a shower to get a relaxed, clean and comfortable body
Environment	Facilitate environmental management such as reducing light intensity, turning off alarms and keeping the patient's environment clean
	Use pillows for support to stabilize the body and protect the body part from injury
	Provide music therapy according to the patient's preferences

In these patients, various non-pharmacological therapies have been applied. At any time, the patient is heard murottal Al-Quran and various Islamic music according to the patient's beliefs. According to the identification results put forward by Dewi & Kariasa, 2022, murottal therapy is a non-pharmacological therapy that can be used to reduce pain in patients in the intensive care unit who use mechanical ventilation. In addition, this therapy has physiological effects such as decreasing pulse rate, respiratory rate, lowering blood pressure and increasing oxygen saturation (Dewi & Kariasa, 2022). This is in line with the results of research by Ekawati & Khofifatus, 2019; Rustam et al., 2021. Listening to the chanting of the holy Koran for 15 minutes every day increases patient comfort, especially in the context of psychospiritual and sociocultural comfort (Rustam et al., 2021).

In treatment, the client is also wiped every day and the patient's environment is cleaned regularly. This is to improve body hygiene and increase patient comfort. After wiping, the client is given a full body massage using essential oils. According to Vahedian-Azimi et al., 2014 massage to all areas of the body given to patients in the intensive care unit has a positive effect on reducing systolic blood pressure and improving the patient's GCS score. With massage, blood vessels will be dilated so as to improve blood circulation (Vahedian-Azimi et al., 2014). Massage therapy can reduce pain and make patients relax, as well as help the healing process for patients (Adams et al., 2010).

In addition, nurses also ensure that patients get emotional support during treatment. Nurses pay attention to aspects of presence, touch and always communicate with patients. The applied communication aims to convey nursing interventions to be carried out, informed consent, explain responses that may arise from nursing actions and provide support for patients. As stated by Lindberg & Engström, 2011 in their qualitative study, intensive care nurses who establish good relationships with patients have an impact on the pain management that is carried out.

3. Pharmacologocal Management

In addition to non-pharmacological therapy, pharmacological management is no less important in efforts to reduce pain in patients in intensive care. SIKI, 2018 states that one of the pain management interventions is to collaborate in providing analgesics. This shows that the role of nurses is not limited to providing non-pharmacological therapy, but also collaborating with existing inter-professionals to seek to reduce the pain felt by patients.

Not only playing a role in giving analgesics, nurses are also required to know the type, dosage and the right way to give the prescribed analgesics. In addition, things to note are the side effects that may arise from administering analgesics, especially those that have an impact on organ dysfunction. In the sense that nurses must still pay attention to the principles of beneficence and non-maleficence.

Narayanan et al., 2016 stated that the administration of analgesics to patients in the intensive care unit is recommended through intravenous access. IV access is considered better because other accesses have the potential to slow down the drug absorption process. In addition, this access has a faster onset of action. An ideal analgesic should have

a fast onset of action, a high therapeutic index, low side effects, minimal interaction with other drugs and be cost-effective.

The types of analgesics used to reduce pain are divided into three classifications. Among them are opioid analgesics, non-opioid analgesics and adjunct analgesics (Narayanan et al., 2016). Opioids are the main analgesic of pharmacological management for acute pain experienced by patients with critical conditions but prolonged use can result in reduced drug tolerance. Non-opioid analgesics are simple painkillers that are effective in relieving nociceptive pain, for example paracetamol and non-steroidal anti-inflammatory drugs (NSAIDs). Meanwhile, additional analgesics are anti-pain that are intended for specific pain.

In this patient, the analgesic given was a type of non-opioid analgesic, namely paracetamol. The patient was prescribed paracetamol 1000 mg intravenously at 8 hourly intervals by medical personnel. When administering drugs, nurses must pay attention to the correct drug rules such as correct patient, correct drug, correct time of administration, correct dose and correct route of administration (Grissinger, 2010). After drug administration, the nurse documents the patient's development record correctly and clearly. Nurses also make observations of side effects that arise after administering analgesics.

Man, Material, Method Analysis on Nursing Planning

1. Man

In its implementation, the room nurse on duty carried out a pain assessment. The results of pain assessment are recorded in the observation sheet every hour. However, in practice, some nurses tend to just write down the results of the pain assessment score the same as the previous hour or day. Alotni et al., 2022 in their literature review stated several obstacles in pain management carried out by nurses in the intensive care unit, one of which was a lack of motivation. Reflective motivation involves the nurse's evaluation of and belief in pain management. One of the nurses' perceptions that were identified as an obstacle was that there were still many nurses in the intensive care unit who did not want or lacked confidence in the effectiveness of pain assessment instruments and relied more on their instincts (Alotni et al., 2022). In addition, the lack of knowledge in using assessment instruments can also be one of the reasons why nurses do not carry out pain assessments properly (Rababa et al., 2021). Therefore, the awareness of nurses in the intensive care unit of the importance of pain assessment for patients who are unable to report pain independently needs to be increased.

Nurses have also carried out several implementations related to non-pharmacological management to reduce pain for patients. For example by giving murottal therapy, giving massages, doing presence and giving touch, helping to create a comfortable environment and helping with personal hygiene activities. Another positive value, almost all nurses who are in charge of giving informed consent to patients before carrying out nursing actions and communicating with patients even though patients are unable to provide feedback verbally. Wilson et al., 2019 stated that the key to the patient care journey is the attitude and behavior of the health team that contributes to humanizing patients in the intensive care setting. Previous research revealed that many nurses in the intensive care unit treat patients inhumanely (Wilson et al., 2019). This can affect the physical and mental health of the patient himself. Thus, the attitudes and behaviors shown by nurses besides seeking pain management, are also to strive for patient welfare during treatment.

In addition, nurses have also carried out pharmacological management. This is of course done in collaboration with the medical team and the pharmaceutical team. In every administration of analgesics, the nurse pays attention to the correct principle of the drug. The nurse checks identity, checks drug prescriptions and gives drugs according to the suggested route. After drug administration, the nurse also records all

drug administration activities on the observation sheet.

2. Material

As part of pain management, pain assessment is carried out using the CPOT instrument and recorded in the observation sheet provided. Unfortunately, the observation sheet only wrote the final results of the scores obtained, and did not contain detailed results of the assessment. The results of the detailed assessment can be used as a reference for future interventions.

The non-pharmacological management carried out aims to increase comfort so that it is expected to reduce the pain experienced by patients. In non-pharmacological management, all tools and equipment needed for implementation are available. Not all of them are provided by the hospital, but some are provided by the family. Nurses always communicate the needs of patients with families. From here, nurses can establish patient-family-centered care (PFCC) relationships. PFCC on non-pharmacological management in the intensive care process is effective in supporting quality care (Mitchell et al., 2016). In its implementation, this also requires commitment and cooperation from the health team, family and the patient himself.

For pharmacological management, all the medicines and health equipment are provided by the hospital. Access to medicines or equipment that is not yet available in the room is also easy to reach because there is its own pharmaceutical installation which is close to the intensive care unit. If the nurse needs medicine or equipment, the nurse can go to the pharmacy and ask for what is needed. For example, in administering paracetamol 1000 mg analgesic, drugs will be provided by the pharmacy in the patient's locker according to what has been prescribed by the medical team.

3. Method

In assessing pain management using the CPOT instrument, the method used cannot be observed directly. This is because the nurse directly writes down the results of the pain score only. However, the room has provided standard operating procedures for pain assessment separate from the observation sheet. Nurses are required to understand these standard procedures to be able to carry out pain assessments correctly and appropriately.

Another case, There are no standard operating procedures provided in the room regarding non-pharmacological interventions to relieve pain in the intensive care unit. Non-pharmacological standard operating procedures are needed in the room to be used as a reference for the correct implementation and based on evidence from research that has been conducted.

Nursing Evaluation and Documentation

Nursing evaluation is the final step of the nursing process. Evaluation is a vital thing to do to find out the results of nursing interventions that have been carried out (Toney-Butler & Thayer, 2022). The documentation in it cannot be separated from the review process. From the implementation of the reassessment, the nurse can see whether or not there are changes that appear in the patient. In pain management, reassessment can be reviewed again using measuring instruments used previously.

After evaluating, nursing documentation needs to be done. Documentation is carried out by including the results of the assessment, intervention plans, implementations that have been carried out and evaluations of the treatments carried out. Clear and detailed documentation can be the basis for considering interventions that will be continued previously and be a predictor of clinical conditions in clients in the intensive care unit (Huang et al., 2021). Nursing records can communicate the goals of care, the required care plan and bridge the performance of the interprofessional health involved in it.

In this case, evaluation and documentation is done at the end of the shift. The nursing evaluation writing method uses SOAP which contains subjective, objective, analysis and planning data. The results of the evaluation of the interventions carried out, the pain scale using the CPOT shows the score is still the same. This shows the need for continuous pain management and other pain management methods to reduce the pain scale. Documentation is done in writing

as well as in electronic medical records. This documentation can be used by nurses in the next shift or other health workers as a reference to continue the treatment process.

Conclusions

Pain is a subjective experience that is always felt by patients in the intensive care unit. In general, pain can be identified easily when the patient can self-report pain. Identification of pain in the intensive care setting is a challenge for nurses because most patients experience a decrease in consciousness and are unable to report pain. Pain assessment can be done using the BPS, CPOT and MAPOT instruments. After the pain assessment is carried out, nursing interventions can be carried out with non-pharmacological management and pharmacological management. Both non-pharmacological and pharmacological actions, nurses still have to pay attention to the ethical principles of nursing. Evaluation and documentation are also carried out to review the effect of the interventions carried out and to become a medium of communication for interprofessional regarding the treatment process.

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