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Intervention of Autogenic Relaxation on Lowering Pain Scale in Head Injury Patients: A Case Study

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Abstract

Background : Pain is one of the physiological problems that can be found in mild head injury patients. Efforts that can be made to overcome these problems are autogenic relaxation interventions. **Objective**: This case study was conducted to describe an autogenic relaxation intervention on lowering pain scale in head injury patients. **Method**: This study uses a case study design with an evidence-based practice implementation approach that focuses on nursing interventions. The study was conducted at the BLUD RSU Banjar on 25-27 May 2022. The participants in this study were Mr. S aged 35 years, male, complaining of headaches on a scale of 5 (1-10). Pain measurement using Numeric Rating Scale. The process of assessing and establishing a diagnosis is focused on the main problem. Objective and subjective data becomes a reference for periodic evaluation of nursing implementation. **Results**: The patient acknowledged that pain decreased from a 5 to 2 scale after being given an autogenic relaxation intervention. **Conclusion**: Autogenic relaxation intervention should be suspected to be effective in reducing pain scale in patients with mild head injury, evidenced by the client's subjective acknowledgment that the pain scale decreased from 5 to 2 using the Numeric Rating Scale. **Recommendation**: This research does not conflict with previous research, so it can be a reference in future research. Clinically, autogenic relaxation intervention can be an alternative intervention to reduce the level of pain scale in patients who experience pain in hospitals and in health centers.

Keywords: autogenic relaxation, head injury, pain

INTRODUCTION

Modern society places transportation as a primary need. The increasing number and types of motorized vehicles have an impact on increasing traffic accidents that cause head injuries (1). Head injury is a traumatic disorder of brain function with or without bleeding (2). Head injuries can result in disruption of normal brain function due to blunt or sharp trauma, bumps or falls (3). Head injuries include trauma to the scalp, brain and skull. Minor head injury is an event where the GCS is between 13-15, there can be loss of consciousness for no more than 10 minutes (4).

According to the World Health Organization (WHO) in 2018 reporting traffic accidents to be the main cause of death, every year 1.35 million people die due to traffic accidents worldwide with a death toll of 100,000 people. Based on the results of the 2018 Basic Health Research (RISKESDAS), the total number of data analyzed was 1,027,758 people for all ages The respondents who were not injured were 942,984 people and those who had been injured were 84,774 people. A total of 34,409 cases of injuries were caused by motorbikes which became the second highest cause (40.6%) after falls (40.9%). The national prevalence of injury is 8.2%.

Head injury is a heterogeneous and dynamic process with complications that occur in the form of increased intracranial, pressure namely the pressure that occurs in the cerebral space due to an increase in brain volume that exceeds the tolerance threshold in the cranial space This can be caused by cerebral edema and cerebral hemorrhage. One of the symptoms of increased intracranial pressure is headache (5). Pain management can be done with pharmacological and non-pharmacological therapy (6,7).

Pharmacological management is the administration of analgesic drugs Non-pharmacological management includes deep breath relaxation, hot or cold compresses and music therapy (8). One of the non-pharmacological therapies to reduce pain is autogenic relaxation, Autogenic relaxation is a combination of deep relaxation techniques and guided imagination to relieve pain, relaxation that comes from oneself by using words or short sentences that make the mind calmer (9). Autogenic relaxation also helps individuals to control several body functions such as blood pressure, heart rate and blood flow (10). The results of previous studies showed that there were differences in pain scores of fracture patients before and after being given the Autogenic relaxation intervention. where the pain score before the intervention was 5.53 with moderate pain category, decreased to 2.84 mild category (11–14).

There are several findings in previous studies reported the strengthen of evidence for the clinical and practical benefits of autogenic relaxation interventions (15). Several cases reported were the effectiveness of autogenic relaxation significantly in reducing acute and chronic pain in head injury and postoperative patients. As an executor, nurses play a role in implementing independent nursing interventions in the form of non-pharmacology therapy (16).

OBJECTIVE

This case study was conducted to describe an autogenic relaxation intervention on lowering pain scale in head injury patients.

METHODS

This study uses a case study design with an evidence-based practice implementation approach that focuses on nursing interventions. The study was conducted at the BLUD RSU Banjar City on 25-27 May 2022. The participants in this study were Mr. S aged 35 years, male, complaining of headaches on a scale of 5 (0-10). Pain measurement using Numeric Rating Scale. The process of assessing and establishing a diagnosis is focused on the main problem. Objective and subjective data becomes a reference for periodic evaluation of nursing implementation.

CASE PRESENTATION

Nursing Assessment

The client is Mr. S, 35 years old from Sidamulih village, Pamarican came to the emergency room on May 25, 2022 with complaints of back pain, like being stabbed, the pain radiates to the back area, on a scale of 5 (0-10) using the Numeric Rating Scale, the pain is felt continuously. Previously, the patient had no comorbidities.

At the time of examination of vital signs there were results of blood pressure 130/90

mmHg, temperature 36.˚C, respiration 20x/minute, pulse rate 98x/minute, oxygen saturation 98%. Psychosocial status shows the anxiety obtained from the patient's answer at the interview by saying that he is worried about pain that does not decrease, spiritual data do not show serious problems, patients say they are patient and trusting in their illness. The patient's activity pattern is disturbed because the patient complains of pain when moving, the sleep pattern is disturbed because the patient complains of the head. The therapy given to the patient was ceftriaxone, paracetamol, kalnex, ranitidine, infusion fluid RL 1500 drops.

The results of a complete blood test in the laboratory showed parameters within normal limits. Likewise with a CT scan, it did not show any cracks, fractures, or intracranial bleeding.

Nursing Diagnosis

The results of the study found that nursing problems that appeared physiologically were ineffective breathing patterns related to respiratory effort barriers with the diagnosis number D.0077 (17).

Nursing Intervention, Implementation and Evaluation

Nursing interventions and activities need to be established to reduce, eliminate and prevent nursing problems for patients with acute pain associated with physical injury agents according to the Indonesia Nursing Diagnosis Standard, namely as follows:

Table 1. Nursing Intervention and Outcome

Nursing Outcome	Nursing Intervention
After nursing actions for 1x24 hours are expected to decrease the level of pain with the following criteria: a) Complaints of pain decreased b) Grimace decreases c) Decreased protective attitude d) Restlessness decreases e) Decreased sleep difficulty	Observation: a) Identify the location, characteristics, duration, frequency, quality, intensity of pain b) Identify pain scale Therapeutic: a) Provide non-pharmacological techniques to reduce pain (autogenic relaxation therapy) b) Facilitate sleep breaks c) Consider the type and source of pain in the selection of pain relief strategies

Table 2. Nursing Evaluation

Nursing diagnoses	Evaluation		
	1st Day	2nd Day	3rd Day
Acute pain related to physical injuring agent	S: The patient said the headache was slightly reduced on a pain scale of 5 from 0-10 O: The patient is still wincing in pain A : Acute pain related to physical injuring agent P: Plan the intervention day 2 I: administration of autogenic relaxation interventions	S: The patient said the pain was reduced on a 4 scale O: the patient is still grimacing A: Acute pain related to physical injuring agent P: Non pharmacological interventions have been given, namely autogenic relaxation I: Autogenic relaxation interventions E : the patient understands how to	S: the patient said the pain was reduced on a scale of 2 O: the patient is no longer grimacing A: Acute pain related to physical injuring agent P: Non-pharmacological interventions have been given, namely autogenic relaxation I: Autogenic relaxation interventions E: the patient understands how to use autogenic relaxation techniques R: Intervention discontinued

	E: The patient does not understand how to use autogenic relaxation techniques R : Continue intervention	use autogenic relaxation techniques R : Interventions continue

In practice, there are procedures performed on patients with acute contact with physical injuring agents, Identify the location, characteristics, duration, frequency, quality, intensity of pain, Identify the pain scale, provide non-pharmacological techniques to reduce pain (autogenic relaxation therapy, facilitation of sleep rest, Consider the type and source of pain in selecting a pain relief strategy. According to what has been done on the patient, evaluation is obtained in Table 2.

DISCUSSION

Nursing care for patients who experience mild head injury pain at the *BLUD RSU Banjar* City has been carried out by researchers comprehensively based on theories contained in various sources. Nursing care procedures are carried out in 5 stages, including assessment, diagnosis, intervention, implementation and evaluation of nursing.

The results of the assessment carried out on Mr. S were stabbing pain in the back of the head, radiating to the back area, with a scale of 5 (0-10) using the Numeric Rating Scale, pain felt continuously Physical examination showed a pulse rate of 98x/minute, with a blood pressure of 130/80 mmHg, while temperature and respiration were within normal limits. The more the patient feels pain, the more the pulse rate increases (18). An increased pulse rate is a nociceptor stimulation due to a stimulus in the vascular system, so that it will increase peripheral resistance and increase pulse rate (19). Therefore, the diagnosis obtained based on the results of the assessment is acute pain associated with a physical injuring agent.

Theoretically, pain is an unpleasant sensory and emotional experience due to tissue damage, both actual and potential, that can occur as a result of the disease process (20) In the nursing diagnosis, pain includes a group of diagnoses with physiological problems with the diagnosis number D007 page 172, In addition to physical data, pain is characterized by the patient grimacing, being protective (eg alert, position to avoid pain), restlessness, increased pulse rate and difficulty sleeping (21). The patient also said that he had difficulty sleeping, Patients with pain problems are at high risk for experiencing disturbed sleep patterns because the relationship between sleep and pain is complex (22). To overcome this problem, researchers conducted nursing interventions and implementations in accordance with Indonesian nursing intervention standards with number I.08238 page 201, among others Identify the location, characteristics, duration, frequency, quality, intensity of pain, and subjective and objective signs of pain, Identify pain scale, Facilitate sleep breaks, Consider the type and source of pain in the selection of pain relief strategies. However, researchers feel the need to add non-pharmacological interventions in the form of autogenic relaxation interventions (6).

Autogenic Relaxation is relaxation that comes from oneself by using words or short sentences that make the mind calmer, a combination of deep relaxation techniques and guided imagination (23). The results of previous studies showed a significant reduction in the level of pain scale in patients with fractures after being given an autogenic relaxation intervention (11) reported a difference in pain scale in fracture patients before and after being given autogenic relaxation intervention from moderate to mild. The results of the nursing evaluation showed positive changes in the patient's physiological status in the form of pain from a

scale of 5 to 2 using the Numeric Rating Scale. The patient claimed to understand how to deal with pain with autogenic relaxation intervention after 3 times of intervention. The results of this study are in line with research conducted by Andriati who gave 3 interventions for 15-20 minutes in postoperative sectio caesaria patients.

CONCLUSSION

Autogenic relaxation intervention is supposed to be effective in reducing pain scale in patients with mild head injury, as evidenced by the client's subjective acknowledgment that the pain scale has decreased from 5 to 2 using the Numeric Rating Scale. This research does not conflict with previous research, so it can be a reference in future research. Clinically, autogenic relaxation intervention can be an alternative intervention to reduce the level of pain scale in patients who experience pain in hospitals and health centers.

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