

EFFECTIVENESS OF SKIN TRACTION ON PREOPERATIVE PAIN SCALE IN INTERTROCHANTERFRACTURE PATIENTS

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ABSTRACT

Fracture is a condition where the continuity of bone tissue is broken. Intertrochanter fractures are fractures that occur in the pelvic bones with a transverse line from the greater trochanter to the lesser trochanter. Broken bones are a potential or real threat to a person's integrity, so they experience physiological and psychological disorders that can cause reactions in the form of pain. Traumatic pain due to bone fractures that damage healthy tissue. The first treatment is to observe whether there are other accompanying injuries, after that skin traction is applied which is considered effective before performing surgery to reduce pain. Objective: to determine the reduction in pain scale in intertrochanteric fracture patients after skin traction was applied. The method in this research uses a pre-experimental design with a one group pretest-posttest design. Data collection techniques used questionnaire sheets and the Numeric Rating Scale (NRS) pain scale. Data analysis used paired T test. The results showed that the intensity of pain before and after being given skin traction had decreased. The conclusion in the study was that the installation of skin traction before surgery could reduce the pain scale in intertrochanter fracture patients.

KEYWORDS

Skin traction, pain, intertrochanter fracture



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INTRODUCTION

Fractures are the most frequently experienced disorders and are one of the most common problems encountered in health facilities. Fracture is defined as a condition where the continuity of bone tissue is broken due to pressure or force loss on the bone which occurs due to blows, pulls, twisting and pressure. Symptoms that are typical and usually felt directly from a fracture are pain that occurs due to muscle spasm, pressure from the broken bone and due to damage to the tissue around the bone (Lynda, 2015). Based on 2020 World Health Organization (WHO) data, there are 1.3 million people suffering from

fractures. One of the most common incidents of closed fractures occurs due to accidents, where around 40% of accidents cause fractures or fractures.

Bone fractures often occur in trauma patients. In adults, fractures can occur in many places, one of which is the hip (intertrochanter, femur fracture, femoral neck fracture, disloc and fracture of the hip), pelvis (pelvic fracture). Intertrochanter fracture of the femur is a break in the continuity of the bone in the area between the greater trochanter and lesser trochanter which is extracapsular (Sjamsuhidajat, 2015). Typical symptoms that are usually felt directly from fracture conditions are pain that occurs due to muscle spasms, pressure from broken bones and due to tissue damage around the bones (Lynda, 2015).

In the management of comorbidities or other potential trauma, a 4-step program of therapy is recommended for the care of patients with intertrochanteric fractures. In stage 1, fracture identification is carried out based on history and findings from physical and radiological examinations. Patients with low force fractures often present with a history of slipping, falling, or twisting of the lower leg followed by severe pain in the affected hip area. High force trauma can occur due to traffic accidents, falls of more than 3 m, or other significant trauma. The patient will not be able to stand or move his body or the affected limb without pain. Local physical examination may show external rotation in hip extension of the affected extremity, and the patient feels pain with either active or passive movement of the hip joint or affected extremity (Nanda, 2021).

Skin traction is a temporary treatment before definitive therapy is carried out to reduce muscle spasms. Skin traction is carried out by pulling the broken bone by attaching plaster directly to the skin to maintain its shape, causing muscle spasm in the injured part and is usually used for the short term (48-72 hours) (Aplay, 2018). Observations were carried out on patients with intertrochanteric fractures, the patient said that when he came to the hospital he complained of pain in the injured area. The pain is felt continuously and gets worse when moved. At the hospital, before surgery, the patient is given skin traction to prevent muscle spasms and hold broken bones and reduce pain. The installation of skin traction is temporary before surgery is carried out.

RESEARCH METHOD

This research design was pre-experimental with a one group pre-post test design technique. The population in this study were patients who had skin traction installed. The sampling used by the researcher is a non-probability sampling technique with the accidental sampling method, namely the process of taking samples that happen to be encountered by researchers, then if they meet the criteria of the researcher, they can be used as respondents. The number of respondents based on calculations was 18 patients. The measuring tool in this research uses the Numeric Rating Scale (NRS). Pain assessment is carried out before skin traction is applied and after skin traction is installed. Researchers use sampling criteria to determine samples for research according to the following inclusion and exclusion criteria:

(1) Inclusion criteria

- (a) Female or male aged ≥ 18 years.
- (b) Patients with intertrochanteric femur fractures.
- (c) Patients with limited mobility due to conservative therapy.

(2) Exclusion criteria

- (a) People with cognitive impairment
- (b) Has a mental disorder
- (c) Mental retardation

RESULT AND DISCUSSION

(1) Respondent Characteristics

Table 1. Respondent Characteristics

Characteristics	Amount (N)	Prosentase (%)
Age	68 years old (6)	33,33
Gender		
Man	12	66,7
Woman	6	33,3
Education		
SD	3	16,7
SMP	6	33,3
SMA	7	39,0
Sarjana	2	11,1

Based on the data above, it shows that the data on the characteristics of respondents is age, with the majority being 68 years old, with 4 respondents (33.33%). The gender of the respondents was the majority male with a percentage of 66.7% with 12 respondents. Meanwhile, based on the respondents' education, the majority had a high school education, namely 7 respondents with 39%.

The incidence of accidents that cause intertrochanteric fractures is more common in the elderly age group (60-69 years). This is because the activity of elderly people is quite high, and fast movement can also increase the risk of collisions or accidents that cause fractures (Kartika, 2018). The high number of cases of intertrochanteric fractures at the time of the study occurred in men, because men had higher activity than women (Kartika, 2018). Characteristics of respondents based on education, namely the majority of high school education. Community education influences the occurrence of activity compliance, so the possibility of experiencing injury will increase (Kartika, 2018).

(2) Pain scale before and after the application of skin traction

Table 2. Pain scale before and after the application of skin traction

Intervensi	Statistik	df	p	Mean difference
Nyeri sebelum intervensi	18,1	10,0	< ,001	11,25
Nyeri setelah intervensi	12,4	10,0	< ,001	8,36

Results of analysis using one sample T-test. Based on the data above, it was found that the average decrease in constipation before and after the intervention was carried out with a P-Value of 0.001. This shows that statistically there is a significant difference in reducing constipation before and after the intervention with a P-Value <0.005. Intertrochanter fracture is a type of fracture that often occurs in the elderly. Pain in intertrochanter fracture patients makes it difficult for patients to carry out daily life. Traumatic pain due to bone fractures that damage healthy tissue (Kusumayanti, 2015). Treatment using skin traction minimizes muscle spasm, to reduce, align, and immobilize the fracture, to reduce deformity, and to increase the space between the two fracture surfaces (Smeltzer, 2016).

Skin traction is used to control skin spasms and provide immobilization. Traction on the skin transmits traction to the musculoskeletal structures. The pulling load on skin traction should not exceed 5 kg, because if the load is excessive the skin can experience necrosis due to the pulling that occurs due to skin ischemia. According to the author's assumption, traction when installing skin traction can maintain bone structure and

reduce excessive tissue damage so that it is effective in reducing pain in intertrochanter fracture patients.

CONCLUSION

The conclusion of this study is that the application of skin traction before surgery is effective in reducing the pain scale in intertrochanteric fracture patients.

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