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Application *abdominal massage*in reducing constipation in patients with traction

Ikrima Rahmasari[1*], Yani Sofiani[1], Ninik Yunitri[1], Dhiani Budiati[2]
[1]Medical Surgical Nursing Specialist Program, Muhammadiyah University Jakarta, Indonesia
[2]Prof. Dr. Soeharso Surakarta Hospital, Indonesia
*Corresponding author's email: ikrima_rahmasari@udb.ac.id

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Abstract

Backgrounds: Fractures represent a potential or actual threat to a person's integrity. Fracture management includes conservative measures and surgery. One of the conservative measures is the installation of protective traction. The purpose of traction training is to reduce spasm, reposition and immobilization. Immobilization is a limitation of independence, physical movement of the body or one or more extremities which is often caused by movement restrictions in the form of bed rest, physical restrictions due to external equipment (for example casts or skeletal traction), restrictions on voluntary movements, or physical disorders. There are various physical problems that can occur in a state of immobility, one of which is the problem of changes in fecal elimination, namely constipation. Abdominal massage is a complementary therapy that can be used as an effective intervention to treat constipation without causing side effects.
Method: application of Evidence Based Practice (EBNP) with evidence sourcesobtained from the Pubmed journal. The article was published in 2020. Searches were carried out in several databases, namely the Cochrane Library, Biomed Central, MEDLINE (EBSCOhost), MEDLINE (PubMed), and Scopus. The author carried out screening using the PICO formulation.
Results: Data analysis results were processed using Jamovi with the one sample T-Test statistical test. The average reduction in constipation was found before and after abdominal massage with a P-Value of 0.001.
Conclusion: There is a significant difference in reducing constipation before and after giving abdominal massage with P-Value <0.005.).

Keywords: Abdominal massage; Constipation, Skeletal Traction

INTRODUCTION

A fracture is a physical injury. has become a public concern because there are still many fracture cases without proper treatment. Fracture according to Wijaya and Putri (1) is a condition of discontinuity in the bone structure through direct or indirect trauma. According to Gusty and Armayanti (2014) the principles of fracture treatment include reduction, retention and rehabilitation.

Reduction is the effort and action of manipulating broken bone fragments as far as possible to return them to their original position. Retention is a general rule in the installation of a cast that is placed to maintain reduction, the installation must pass through the joint above the fracture and below the fracture. Rehabilitation is the treatment and healing of fractures. According to Putri and Sarifah (2015) fracture management includes conservative and surgical measures. Conservative measures include: placing casts, splints, skin traction, bone traction, as well as repairs by manipulation and repositioning to a position close to normal.

Traction is resistance used with weight or other tools to treat damage or disorders of bones and muscles, meaning to treat fractures, dislocations or muscle spasms in an effort to correct deformity and speed up healing, while the traction mechanism is a push in the opposite direction that is needed to the effectiveness of these tractions, one of these tractions is skeletal traction.

Traction is a technique used to treat joint dysfunction such as stiffness, reversible joint hypomobility and pain. Previous research suggested that the use of traction was related

to the emergence of problems related to immobility. These problems include decubitus ulcers, pneumonia, constipation, loss of appetite, urinary stasis, urinary tract infections and venous stasis.

If there is a change in mobilization, then every body system is at risk of disruption. Disorders of gastrointestinal function vary and result in decreased motility of the gastrointestinal tract (Potter, 2015). Constipation is a condition in individuals who experience or are at high risk of experiencing colon stasis, resulting in infrequent or hard elimination, or the passage of stool that is too dry and hard (Hidayat, 2019).

Currently, laxative therapy is one of the medical management methods for treating constipation. According to Sinclair, (2020) using laxatives for a long period of time will actually cause problems with constipation and fecal impaction. One of the complementary therapies that can be done to prevent and treat constipation is by doing abdominal massage.

The mechanism by which abdominal massage can reduce the incidence of constipation is not fully understood, possibly due to the combined effect of stimulation and relaxation. Direct pressure on the abdominal wall sequentially and then interspersed with periods of rapid relaxation can increase the gastrocolic reflex and increase contractions of the intestines and rectum (Brooks, et al., 2004, in Sinclair, 2020).

Abdominal massage can reduce constipation through several different mechanisms, including by stimulating the parasympathetic nervous system so that it can reduce tension in the abdominal muscles, increase motility in the digestive system, increase secretion in the intestinal system and have an effect on sphincter relaxation (Lamas, 2009 in Sinclair , 2020).

Studies carried out on patients with musculoskeletal disorders at the Prof. Dr. The patient said he had not defecated since 8 days in the hospital. Based on the results of observations carried out in the room, there has been no nursing action to prevent constipation in patients. So the author is interested in carrying out abdominal massage nursing interventions to reduce constipation.

METHOD

The method used by the author is the implementation of interventions based on EBNP. Evidance search using the PICO formulation. Researchers use systematic review/ meta analysis articles as a reference in carrying out interventions. Screening articles using the PRISMA flowchart. Pubmed (4 articles), Science Direct (39 articles), ProQuest (3 articles).Screening of articles is then continued by reading the title and abstract, selection of eligibility by reading the full-text of the article and critical appraisal of the selected articles. Critical appraisal was carried out by researchers using AMSTAR to assess the quality of systematic review articles.

The population in this study were patients with musculoskeletal disorders with immobilization. Then the researcher used a sampling technique to get the right sample for intervention. The sampling technique used by the researcher is a non-probability sampling technique with an accidental sampling method, namely the process of taking samples that are accidentally encountered by the researcher and then if they match the researcher's criteria they can be used as respondents.

The design used by the author in this EBNP is a quasi-experimental research design with pre and post methods to see the assessment of constipation before abdominal massage is carried out. The data analysis used in EBNP is a paired T-test, where the author tries to find comparisons of data before and after in pairs and connected.

RESULTS

Databases

Searches were carried out in several databases, namely the Cochrane Library, Biomed Central, MEDLINE (EBSCOhost), MEDLINE (PubMed), and Scopus. The author carried out screening using the PICO formulation.

The quality assessment method was carried out by four reviewers intensively to

check the quality of the study based on the Jadad Score for Reporting RCT instrument. From 5 databases, the author identified 3071 articles and 952 were duplicate articles, then the results of the filtering showed that 28 articles had been assessed for eligibility. There were three articles that could not be accessed, the author included 25 articles in the third screening process (Jadad Scale). d). In the final analysis 10 articles were assessed qualitatively.

Table 2.PICO formulation

Population	*"multiple sclerosis, cancer, and elderly adults"*
Intervention	*"Abdomen Massage"*
Comparison	*"abdominal massage AND abdominal AND massage"*
Outcomes	*"Constipation, Gastric volume/ Residual Volume, Pain, Assistance with Evacuation, Diarrhea, Nausea/ Vomiting, Food Intake, Indigestion, Adverse/ Profit Effect"*

Results in a review of the results of the Eivdance source article regarding the effectiveness of abdominal massage in immobilized patients, it has an effect size or standard difference in the average, effective against constipation. Overall, the P value is <0.05, so it can be said that abdominal massage can significantly reduce the incidence of constipation.

The duration of treatment in this study is influenced by the patient's medical diagnosis. There was substantial heterogeneity among studies. The reason for the success of abdominal massage is that it has varying duration and time. In terms of gastrointestinal function, constipation is carried out once every morning before eating for 3 days. Each session is carried out for 15-20 minutes, this is because constipation is a very diverse and long-term process and abdominal massage is able to influence constipation by stimulating the parasympathetic nerves so that it can reduce abdominal distension and increase digestive tract motility, this is in accordance with previous findings.

EBNP Results

Analysis of the results of implementing evidence-based nursing practice by applying abdominal massage to reduce constipation in patients who have traction at the Prof. Orthopedic Hospital. Dr. Soeharso Surakarta. Interventions are carried out in skeletally mounted patients.

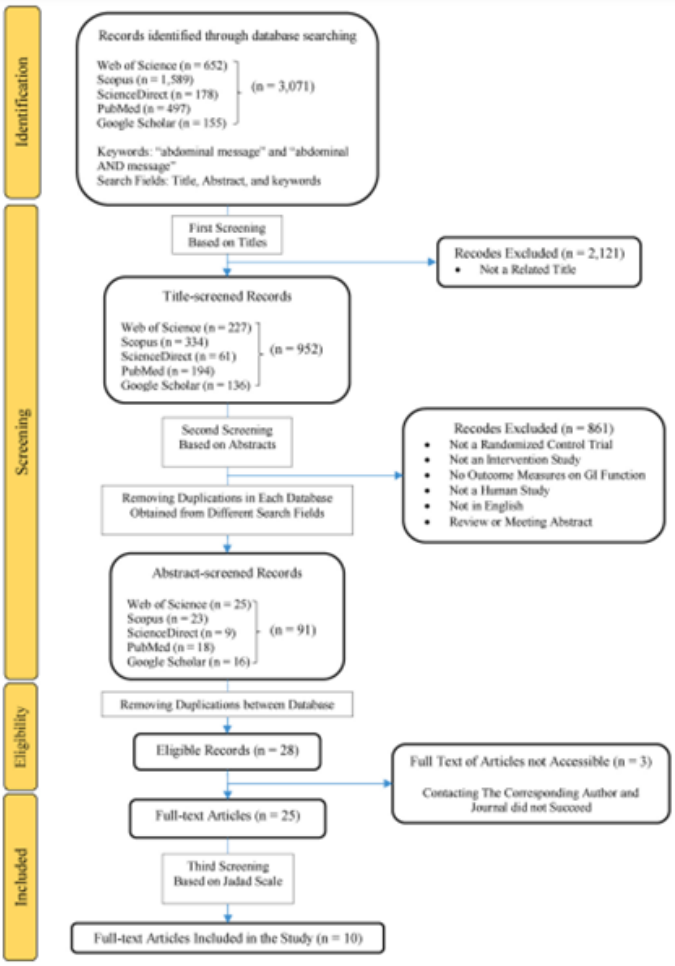

Figure 1.Researcher Flow Diagram

Before carrying out the intervention, a constipation assessment was carried out using the Constipation Assessment Scale (CAS), then continued with abdominal massage intervention for 3 days. Each intervention session lasted 15-20 minutes. Then a reassessment was carried out using the Constipation Assessment Scale (CAS).

1. Respondent Characteristics

Based on the data above, it shows that the characteristics of the respondents are age, with the majority being 68 years old

(18.2%). The gender of the respondents was male with a percentage of 81.8%. Meanwhile, the characteristics of the respondents determined were the cause of fractures, the majority of which were femur fractures with 9 respondents (18.2%).

Table 2. Characteristics of Respondents

Characteristics	Number (N)	Percentage (%)
Age	68 years old (2)	18.2
Gender		
Man	9	81.8
Woman	2	18.2
Causes of Fractures		
Femur	9	18.2
Tibia	2	100.0
Humerus	0	

The inclusion criteria used in implementing EBNP are respondents aged > 18 years. This is in accordance with previous research conducted on adult patients. Apart from that, according to the hospital, traction, especially skeletal traction, is possible for patients who are ready for surgery and where the fracture occurred. In children, the first treatment is usually using skin traction.

Skeletal traction is definitive traction in adults which is balanced traction carried out to complete the surgical wound with metal wires or clamps through bone/metal tissue. The pulling load on traction for adults starts at 5-7 kg and can increase to a maximum of 14 kg every day. The use of skeletal traction is given to people over 12 years of age, if use under 12 years of age it will damage the muscles (Smeltzer, 2018).

Based on the table of respondents' gender characteristics, the majority of patients had traction, namely 9 patients. In this case it is related to the incidence of fractures. According to Reeves (2017) one of the factors that influences the incidence of fractures is gender. Usually fractures tend to occur in men, because they are often related to sports, work, or injuries caused by motor vehicle accidents.

In table 2, it can be seen that the cause of the fracture which led to traction being carried out was mostly due to a femur fracture. The most common fracture incidents in Orthopedic Hospitals are femur fractures that are treated with traction, namely skeletal traction. However, until now there have been no significant reports related to the cause of fractures with the use of traction.

In hospitals, traction is still often used as part of management, especially for femoral fractures. In line with Hartini (2020), the lower extremities are the most common location for fractures, namely in the femur area. This is proven by several studies, one of which was conducted by Gill, which stated that the lower extremities (femur and tibia) are the most common locations for fractures, followed by the upper extremities (radius and ulna).

2. Results of Applying Abdominal Massage to Reducing Constipation

In the table above are the results of analysis using one sample T-test. Based on the data above, the average reduction in constipation was obtained before and after abdominal massage with a P-Value of 0.001. This shows that statistically there is a significant difference in reducing constipation before and after being given abdominal massage with a P-Value <0.005, so it can be concluded that abdominal massage can reduce constipation in patients with traction.

Table 3. Intervention Characteristics

Intervention	Statistics	df	Amount	Mean difference
Pre Abdominal Massage	12.1	10.0	< .001	8.55
Post Abdominal Massage	11.4	10.0	< .001	6.36

Caroline (2017) said that several factors can influence changes in defecation patterns in hospitalized patients such as immobilization, embarrassment about using a bedpan, lack of privacy, or because defecation is very uncomfortable, patients can also receive drugs such as sedatives in large quantities, giving morphine and codeine because they can reduce gastrointestinal activity through their action on the CNS.

One of the complementary therapies used to treat constipation is abdominal massage. Abdominal massage is effective in preventing constipation because its mechanism of action is able to stimulate the parasympathetic nervous system so that it can reduce tension in the abdominal muscles, increase secretion in the intestinal system and have an effect on relaxing the sphincter. The majority of types of traction used by patients are skeletal traction.

*Abdominal massage*given to patients who experience constipation will stimulate increased intestinal motility so that the patient will be stimulated to defecate. These results are in line with the theory which states that abdominal massage changes intra-abdominal pressure, has a mechanical effect and activates intestinal reflexes, thereby increasing peristalsis, increasing contractions and pushing power. This abdominal massage can reduce transit time in the colon and soften feces (Emly, 2018).

CONCLUSIONS

1. The characteristics of the respondents found were age with an average of 68 years old, the majority were male and the cause of the fracture was due to a femur fracture.
2. There was a reduction in constipation in patients in traction after abdominal massage with a P-Value < .001.

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