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The Nursing Problem for Physical Mobility Impairments in Tibia Fracture Patients Post ORIF Operation with Rom Free Active Exercise (FAE)

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ABSTRACT

Open fracture of the tibia is a complex injury with multifactorial outcomes and variable prognosis. This final scientific work by nurses aims to determine nursing care for physical mobility disorders with range of motion free active exercise in post-ORIF surgery tibia fracture patients. This scientific work uses a descriptive method with a case study approach which was carried out on 30 October – 02 November 2023. The results of the study showed data that the patient said he had pain in his left leg, did not dare to move his left leg, the back of his left leg was swollen. The nursing diagnosis of impaired physical mobility is related to pain. Nursing interventions are ambulation support, mobilization support and pain management with the criteria of increasing physical mobility. Innovation intervention range of motion free active exercise with 2 times the frequency of 2x8 steps. The nursing evaluation showed that physical mobility problems had decreased. Conclusion: range of motion free active exercise can increase range of motion, increase muscle strength, reduce complaints of pain, reduce anxiety when moving, and reduce edema. Suggestions for health workers can apply the results of non-pharmacological therapy research, especially range of motion free active exercise, to treat post-operative patients with complaints of physical mobility problems.

Keywords: nursing problem; physical mobility impairments; tibia fracture; post ORIF operation; ROM free active exercise

INTRODUCTION

Musculoskeletal disorders are a common global problem; even the World Health Organization (WHO) has nicknamed it "The Bone and Joint Decade". Fractures occur due to strong pressure on bones that are not strong enough to support them, which can be caused by direct or indirect impact. If this disease is not treated immediately or is treated incorrectly, this disease can also result in bleeding and other complications (Andri et al., 2020).

Based on the findings of Basic Health Research in 2013 by the Research and Development Agency of the Indonesian Ministry of Health, bone fractures can be caused by various non-traffic accidents, such as falls (3.8%) and sharp or blunt object punctures. (1.7%), which can occur in the most common domestic or household accidents and work- and sports-related accidents. Collisions in traffic accidents can also result in broken bones and non-traffic incidents (8.5%)(Shafira et al., 2024).

Based on preliminary study data at Mangusada Hospital, Badung Regency, in 2022, there will be 603 fracture cases receiving ORIF treatment. From January to October 2023, the number of fracture patients who received ORIF treatment was 853 cases. Based on the results of the preliminary study, it was found that the number of fracture patients receiving ORIF treatment from 2022 to October 2023 had increased by 250 cases.

In addition to disease processes resulting in pathological fractures, stress, and impact can also cause certain fractures. There are two categories of fractures, namely open fractures and closed fractures. The difference between the two is that open fractures cause injury to the skin tissue, while closed fractures are characterized by intact skin and no obvious external bleeding problems (Andri et al., 2020).

The impact of a broken bone can vary greatly, from changes in the function of the injured body part (which can cause anxiety) to bleeding from internal and external wounds, shock, impaired skin integrity, and risk of infection (Nopianti, et al., 2019). Starting with ORIF or OREF surgery, treatment is determined by the type of fracture suffered. Early mobilization may be used to gradually train patients with difficulty performing daily tasks after surgery. A person has a

Volume 4, Number 3 (September 2024)
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condition that prevents him from moving freely due to spinal trauma, severe brain injury followed by fractures in one or more extremities, or other diseases. They are said to have impaired mobility or immobility (Syokumawena, 2022; Djafar et al., 2022).).

Impaired physical mobility is difficulty relocating one or more body parts independently. Avoiding bone fragments can cause discomfort, so the corrective action that can be taken quickly and precisely in fracture patients is to start immobilization as early as possible. Almost any part at the fracture site can hurt. If left untreated, this disease can cause dangerous side effects that hinder healing and increase the risk of morbidity and death (Tamsuri et al., 2013). To increase patient and family awareness of the pain patients suffer from surgery, nurses also teach cold compress techniques and explain how to prevent post-operative infections. Nurses use Active Range of Motion Exercises to prepare patients for mobilization as part of rehabilitation gradually.

Range of motion, or ROM, is a joint movement exercise that helps assess a patient's muscle tone after fracture repair. ROM, one of the exercises for joint mobility therapy, can impact muscle strength (Biantara et al., 2023). Range of Motion Free Active Exercise is a type of range of motion (ROM) that can be given to individuals who have undergone bone fracture surgery. Exercises that involve muscle contractions to fight gravity without resistance or assistance are called Range of Motion Free Active Exercises. Among the many benefits of Range Of Motion Free Active Exercise include relaxation, coordination training, and increased muscle tone and strength (Agustiningsih, 2023; Abdillah et al., 2022).

Based on the results of research conducted by Agustiningsih in 2023, after being given physiotherapy procedures using the Friction and Free Active Exercise modalities in Frozen Shoulder cases, this method had been used for six therapy sessions according to the SOP, the results obtained were characterized by increased muscle strength, decreased spasms, decreased pain, and increased joint range of motion (Agustiningsih, 2023). Based on findings from research conducted by Hidayat et al. (2021), the intervention was given from 28 December 2020 to 31 December 2020 for 3 x 24 hours, so based on the results of the first day's evaluation, the patient's right upper extremity could still be moved but continued to experience pain like being stabbed (Hidayat et al., 2021).

The patient began to move the right upper extremity on the second examination day, although with some discomfort. The nurse demonstrates the Free Active Exercise technique in the second test, which helps increase joint range and muscle strength. On the third day of assessment, it was found that the patient's muscle strength increased from two to three on a scale, and the pain that had arisen also began to disappear after the drug injection. Although the patient's movements should not be forced, they should gradually become more manageable. According to assessment information collected over three days, some of Mr. A has been resolved (Hidayat et al., 2021).

METHOD

A case study design approach is combined with descriptive research strategies. A research approach called a case study focuses on a specific subject, such as a client, group, family, organization, or community. A descriptive research design aims to characterize or explain important current events (Nursalam, 2020). This research aims to describe Nursing Care for Physical Mobility Disorders in Mrs. S with post-op ORIF tibia fracture at RSD Mangusada.

The population and sample in this study was one patient who experienced a tibia fracture post-ORIF surgery with a nursing diagnosis of impaired physical mobility in the Janger Room, Mangusada Hospital in 2023. The inclusion criteria in this study were patients diagnosed with a tibia fracture post-ORIF surgery with impaired physical mobility and patients undergoing treatment in the Janger Room at Mangusada Hospital. When collecting data and providing nursing care, patients who agree to be respondents fill out an informed consent form. Meanwhile, the exclusion criteria for this study were patients who could not communicate and patients who had mental disorders.

Purposive sampling is the sampling technique that will be used in this research. purposive sampling is a technique for selecting data sources based on a number of factors to achieve research objectives (Sugiyono, 2018). Tools for checking vital signs, medical surgical nursing care formats and MMT assessment forms are data collection tools used in this research. This nurse's final scientific work combines qualitative data analysis techniques for data processing and analysis. The author collects data and continues through the steps until all the data is collected, following the sequence of analysis used: data reduction, data presentation, and conclusions.

RESULT

This nursing assessment data comes from direct interviews with patients, families, and medical records of patients who experienced a tibia fracture post-ORIF surgery on October 30, 2023, at 20.10 WIT in the Janger Room, Mangusada Hospital.

Volume 4, Number 3 (September 2024)
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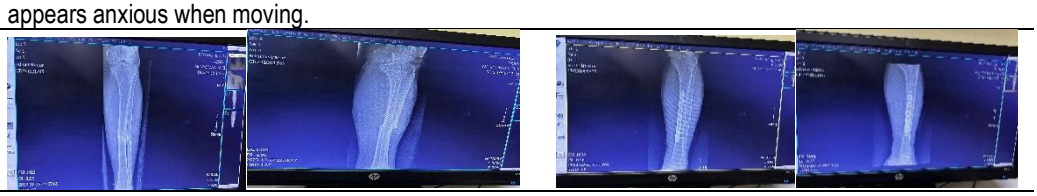
The results of the patient assessment are as follows.

Table 1. Nursing Assessment

Assessment	Response
Patient identity	The patient Mrs. S is 64 years old, female, Indonesian, Hindu, primary education, and housewife.
Main complaint	The patient was taken to the emergency room at Mangusada Hospital due to a traffic accident
Medical diagnosis	Open left distal 1/3 tibial fracture post op ORIF + Debridement
Past Health History	The patient's family said that the patient came to the emergency room on October 27, 2023, at 08.19 pm. accompanied by the police due to a traffic accident while crossing the road. During the examination at the emergency room of Magusada Hospital, the patient complained of dizziness and pain and that he could not move his left leg and had a torn wound on his head. Vital signs examination: BP: 140/90 mmHg, Pulse: 88x/minute, RR: 22x/minute, and composmentis. In the emergency room, the patient was given IVFD Normal Saline (NS) 20 drops/minute, cleaning the wound on the head and left leg, dressing the wound on the left leg and head wound, placing a spalk (splint), administered 1-gram tranexamic acid injection, 1-gram paracetamol drip, tetagam injection, drip ceftriaxone in 100 cc NS and an X-ray examination was carried out on the left leg. It was found that the patient had an open fracture of the left 1/3 of the tibia. The patient was planned to undergo surgical installation of plates and screws, as well as debridement. On October 28, 2023, at 05.30 pm. the patient was transferred to the surgery room for debridement and ORIF surgery. After the operation, the patient underwent an X-ray examination after installing plates and screws, then was moved to the Janger Room on October 29, 2023, at 00.15 am.
Current Health History	During the assessment on October 30, 2023, at 08.10 pm, the patient complained of pain when moving the left leg, the back of the left leg looked swollen, the patient was afraid to move his leg when changing the diapers, the patient appeared to be grimacing. The patient said that this morning he was trained to use a cane, because his right leg was not strong enough to support it, causing pain in the hip area. Patient with left distal 1/3 tibial fracture post op ORIF and debridement on day 1. Vital signs examination: BP: 142/90 mmHg, pulse: 86x/minute.
Family Health History	The patient said he had no history of hypertension, diabetes mellitus or infectious diseases.
Invasive Procedures	The patient had an intravenous infusion (IVFD RL 500 ml with a dose of RL 20 drops/minute) in the right hand.
General Condition	Patient with composmentis, BP: 142/90 mmHg, pulse: 86x/minute
Extremity Physical Examination	The patient complained of difficulty moving his left leg. On examination of muscle strength, the muscle strength scale for the right upper extremity was five, the left upper extremity was five, the right lower extremity was five and the left lower extremity was two. The range of motion of the left extremity joint decreased due to edema and pain in the back of the left leg, the patient complained of pain when moving the left leg, the patient was reluctant to move, the patient's left leg movement seemed limited. The patient appears anxious when moving.
Supporting Examination Results	
Drug Therapy	IVFD RL 20 drops/minute, ceftriaxone 2x200gr, ketorolac 3x30 gr, paracetamol 3x1 gr

Data analysis from nursing assessments in nursing care for impaired physical mobility in tibia fracture patients post ORIF surgery in the Janger room at Mangusada Hospital is as follows.

Based on the assessment data and data analysis, the nursing diagnosis formulated was Impaired Physical Mobility (D.0054) related to post-ORIF surgery pain on the first day, as evidenced by the patient saying he did not dare move his left leg; the patient said it hurt when he moved his left leg, the patient said afraid to move his left leg, there appears to be a decrease in muscle tone in the left leg, there appears to be a decrease in the range of motion due to post-op ORIF, the patient appears anxious when the left leg is positioned, the back of the left leg appears to have edema, the patient appears limited in movement.

Volume 4, Number 3 (September 2024)
e-ISSN: 2798-5067
p-ISSN: 2798-5059

Table 2. Nursing Data Analysis

Data	Etiology	Nursing Problems
Subjective data: – The patient said he did not dare to move his left leg due to pain when moving the position of the leg and body. – The patient said he could not lift his left leg slightly when he was helped to change diapers. – The patient said he was afraid to move his left leg Objective data: – The patient's muscle strength appeared to decrease when he was advised to move his left leg. – The patient's range of motion (ROM) of the left leg is limited 5555 | 5555 5555 | 2222	Associated Clinical Conditions: Fracture (direct trauma) ↓ Tibial bone compression ↓ Open fractures ↓ Tissue damage ↓ Torn blood vessels ↓ Surgery (ORIF Operation) ↓ Damage to skin tissue ↓ Painful ↓ The patient said he had difficulty moving his left leg due to pain when moving the position of his legs and body, the patient said he could not lift his left leg slightly when he was helped to change diapers, the patient said he was afraid to move his left leg, ↓ The patient's muscle strength appeared to decrease when he was advised to move his left leg. The patient's range of motion (ROM) of the left leg is limited. ↓ Impaired Physical Mobility	Impaired Physical Mobility

The nursing planning on the patient, Mrs. S, focuses on the nursing diagnosis of Physical Mobility Disorders as follows.

Table 3. Nursing Intervention

Nursing diagnosis	Objectives and outcome criteria	Nursing interventions
Impaired physical mobility (D.0054) related to pain as evidenced by complaints of difficulty moving extremities, decreased muscle strength, decreased range of motion (ROM), pain, reluctance to move, feeling anxious when moving, limited movement	After nursing intervention was carried out for 3 x 24 hours, Physical Mobility (L.05042) increased with the following criteria: 1. Extremity movement increases (5) 2. Muscle strength increases (5) 3. Range of motion (ROM) increases (5) 4. Pain decreases (5) 5. Decreased anxiety (5)	1. Ambulation Support (I. 06171) Observation – Identify any pain or other physical complaints – Identify physical tolerance for ambulation Therapeutic – Facilitate physical mobilization, if necessary

Volume 4, Number 3 (September 2024)
e-ISSN: 2798-5067
p-ISSN: 2798-5059

Nursing diagnosis	Objectives and outcome criteria	Nursing interventions
	6. Limited movement downhill (5) 7. Decreased physical weakness (5)	Education – Explain the purpose and procedure of ambulation 2. Mobilization Support (I.05173) Observation – Identify physical tolerance for movement – Monitor general condition during mobilization. Therapeutic – Facilitate movement, if necessary – Involve the family to help the patient increase movement Education – Explain the objectives and procedures of mobilization – Recommend early mobilization

Implementation is carried out following the established nursing plan. Nursing implementation was determined for the patient Mrs. S conducted on 30 October – 02 November 2023 in the Janger Room, Mangusada Hospital.

Nursing implementation has been carried out on Mrs. S to overcome the problem of physical mobility disorders, namely monitoring vital signs, identifying pain or other physical complaints, identifying physical tolerance for ambulation, facilitating physical mobilization, if necessary, explaining the purpose and procedure of ambulation, identifying physical tolerance for movement, monitoring general condition during mobilization, facilitating movement, if necessary, involving the family to help the patient increase movement, explaining the goals and procedures of mobilization, recommending early mobilization, identifying the location, characteristics, duration, frequency, quality, intensity of pain, identifying the scale of pain, providing non-pharmacological techniques to reduce pain with cold compresses, facilitating rest and sleep, recommending monitoring pain independently, and providing ROM Free Active Exercise therapy (explains the purpose and benefits of ROM FAE and teaches how to do ROM FAE 2x8 counts).

Based on the implementation that has been carried out by Mrs. S in line with the nursing plan for 3 days, as for the summative evaluation has the following results.

Table 4. Nursing Evaluation

Day, Date, Time	Progress Notes (SOAP)
Thursday, 02 November 2023 08.30 pm	Subjective: – The patient said he had the courage to move his left leg slowly – The patient said the pain had decreased – Pain assessment: ○ P: Post ORIF operation on day 4 ○ Q: stabbed ○ R: Left calf ○ S: Scale 2 (1-10) ○ T: Disappears Objective: – The patient appears to be able to move the extremities although it is still limited (3) – The patient's muscle strength appears to begin to increase (3) 5555 | 5555 5555 | 3333 – The patient appears capable of range of motion (ROM) assisted by the family (3) – The patient's pain has decreased on a scale of 2 (1-10) (3) – The patient seems no longer anxious about moving his legs (5) – The patient still appears to be limited in movement on the left leg (2) – The patient does not appear to be weak; the patient appears to be able to shift in bed (3) Assessment: – Impaired physical mobility and problems resolved

Volume 4, Number 3 (September 2024)
e-ISSN: 2798-5067
p-ISSN: 2798-5059

	Planning: – Ambulation Support o Facilitate movement using crutches – Mobilization Support o Facilitate physical mobilization o Involve the family to help the patient increase movement o Continue doing ROM Free Active Exercise 2x8 steps.

Evaluation of the provision of innovative therapy with ROM Free Active Exercise in the final scientific work of this nurse is given to patients with a frequency of 2 times a day with 2x8 counts. Free Active Exercise will increase the number of motor units required, which will cause more muscle fibers to contract and increase muscle strength as the motor units are stimulated.

DISCUSSION

Based on the study, the patient complained of pain in the left leg, did not dare to move the left leg, the back of the left leg was swollen, the patient's muscle strength appeared to decrease, the range of motion (ROM) decreased, the patient said he was anxious when moving his left leg, the patient's movements seemed limited.

There is conformity between the results of the patient assessment and the author's reference theory by the nursing assessment analysis. Three (100%) major symptoms and signs and four (57.2%) minor symptoms from indicators of impaired physical mobility were evaluated in Mrs. S based on the Indonesian Nursing Diagnosis Standards (SDKI).

In order to follow the author's reference theory and be implemented, data analysis and problem identification are based on information on major and minor symptoms and indicators so that a nursing diagnosis of impaired physical mobility related to pain can be established, as evidenced by the patient complaining of difficulty moving the left lower extremity, the patient complaining of pain when the leg is moved, the patient is reluctant to move, the patient says he is anxious when moving his left leg, muscle strength appears to decrease, range of motion (ROM) appears limited and movement of the left lower extremity appears limited.

Nursing planning and interventions are carried out to minimize, eliminate, and prevent patient nursing problems after diagnosis (PPNI, 2018). Referring to the Indonesian Nursing Intervention Standards (SIKI), nursing interventions to handle nursing problems with physical mobility disorders are the main intervention of ambulation support (I. 06171) with four nursing plan actions out of 10 total actions, including identification of pain or other physical complaints, identification of physical tolerance. perform ambulation, facilitate physical mobilization, and explain the purpose and procedure of ambulation (Tim Pokja SIKI DPP PPNI, 2018).

The next intervention to handle the nursing problem of impaired physical mobility is the main intervention, Mobilization Support (I.05173), with six nursing plan actions out of ten total actions, including identifying physical tolerance for movement, monitoring general conditions during mobilization, facilitating movement, if necessary, involve the family to help the patient increase mobility, explain the goals and procedures of mobilization and encourage early mobilization (Tim Pokja SIKI DPP PPNI, 2018).

Supporting interventions for impaired physical mobility are pain management (I.08238), where five nursing plan actions out of nineteen total nursing actions include identifying location, characteristics, duration, frequency, quality, intensity of pain, pain scale, and providing techniques. non-pharmacological to reduce pain (cold compresses), facilitate rest and sleep, and recommend self-monitoring of pain (Tim Pokja SIKI DPP PPNI, 2018).

The innovative intervention is providing Range of Motion Free Active Exercise training, including education, explaining the purpose of Free Active Exercise therapy, and teaching patients to do Free Active Exercise therapy with a frequency of 2x8 counts.

Following the SLKI outcome plan, nursing care for Ny. S uses the Physical Mobility outcome (L.05042) with increasing expectations from nine outcome criteria, but in the application of the case managed by Mrs. S used seven outcome criteria for 3x24 hours, including increased limb movement (5), increased muscle strength (5), increased range of motion (ROM) (5), decreased pain (5), decreased anxiety (5), decreased restricted movement. (5), decreased physical weakness (5)(Tim Pokja SLKI DPP PPNI, 2018).

Interventions that emphasize the nursing problem of impaired physical mobility in patients Mrs. S, namely using Range of Motion Free Active Exercise scattering therapy.

Volume 4, Number 3 (September 2024)
e-ISSN: 2798-5067
p-ISSN: 2798-5059

Implementation of nursing on patients Ny. S was carried out on 30 October – 02 November 2023. The nursing implementation carried out included:

Observation: identify pain or other physical complaints, identify physical tolerance for ambulation, identify physical tolerance for movement, monitor general conditions during mobilization, and identify location, characteristics, duration, frequency, quality, and intensity of pain, and identify the pain scale.

Therapeutic: facilitate physical mobilization, facilitate movement, if necessary, involve the family to help the patient increase movement, provide non-pharmacological techniques to reduce pain (cold compresses), facilitate rest and sleep.

Education: explain the purpose and procedure of ambulation, the purpose and procedure of mobilization, recommend early mobilization, and recommend monitoring pain independently.

Providing innovative Range of Motion Free Active Exercise therapy through education explaining the purpose and benefits of free active exercise therapy and teaching patients to carry out Free Active Exercise therapy twice with a frequency of 2x8 steps.

The results of implementation in Mrs. S results showed that the implementation was following the intervention. Innovation therapy is provided by providing Range of Motion Free Active Exercise, which is carried out with a frequency of 2x8 counts for 3x24 hours. Providing Range of Motion Free Active Exercise can expand the range of motion of joints by activating voluntary movements, which transfer electrical signals from the precentral gyrus to the spinal cord via neurotransmitters that encourage movement (Rustanti, 2017).

The established nursing goals are the foundation for the final phase of the nursing process. The occurrence of adaptation in individuals is a certain outcome criterion that determines the success of nursing care through behavior change. The SOAP method is used to carry out evaluations. Goal and outcome criteria are considered when evaluating a given nursing intervention (Nursalam, 2020).

Nursing evaluation uses the SOAP method, namely:

S (Subjective): The patient said he dared to move his left leg slowly. The patient said the pain had decreased. Pain assessment: P: Post ORIF surgery day 4, Q: prickling, R: Left calf, S: Scale 2 (1-10), T: Recurring, muscle strength

O (Objective): The patient appears to be able to move the extremities although it is still limited (3), the patient's muscle strength appears to be starting to increase (3), the patient appears to be able to perform range of motion (ROM) with the help of the family (3), the patient's pain has decreased on a scale 2 (1-10) (3), the patient appears no longer anxious about moving his legs (5), the patient appears still limited in moving his left leg (2), the patient appears no longer weak, the patient appears able to shift in bed (3).

A (Assessment): Impaired physical mobility and problem resolved

P (Planning): Ambulation Support, facilitate movement using crutches, mobilization support, facilitate physical mobilization, involve the family to help the patient increase movement, and continue doing ROM Free Active Exercise 2x8 counts

The planning objectives and outcome criteria referring to PPNI (2018) have identified patient nursing problems following the expected nursing evaluation. The outcomes of the nursing problem of impaired physical mobility are increased mobility with the criteria of increased limb movement (5), increased muscle strength (5), increased range of motion (ROM) (5), decreased pain (5), decreased anxiety (5), limited movement decreased (5), physical weakness decreased (5) (Tim Pokja SLKI DPP PPNI, 2018).

After the intervention was carried out by giving Range of Motion Free Active Exercise 2 times a day with a frequency of 2x8 steps, the results showed that the patient said he experienced an increase in movement, complaints of pain decreased, he made movements without anxiety, ROM seemed to start to increase, muscle strength seemed to start to increase.

The intervention provided is a range of motion-free active exercises. Patients perform movements with the ability to move against gravity by contracting their muscles and limbs without assistance. The movements carried out by the patient are flexion and extension movements to train knee muscle strength, plantar flexion, and dorsal flexion movements to train ankle muscle movements, flexion and extension movements, adduction and adduction movements as well as inversion and eversion movements to train finger muscle strength - toes.

Putri et al. (2021) supported the choice of intervention in that the results of the two respondents in Mrs. R experienced increased muscle development and joint strength after implementing an active range of motion for three consecutive days. On the first day, there was no change in the value of muscle and joint strength, namely value 2. On the second day, value 2 became value 3; on the third day, value 3 became value 4. Meanwhile, Mrs. S's value of 1 remains

Volume 4, Number 3 (September 2024)
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unchanged on the first day. On the second day, it rose to a value of 2; on the third day, its value 2 did not increase again (Putri, Hermawati and Widodo, 2023).

Mintarsih's (2015) research findings support that joint mobility training impacts knee joint performance. Specifically, his research shows that performing range-of-motion exercises consistently, correctly, and as early as possible can affect joint flexibility (Mintarsih, 2015).

Patients with fractures will lose their motor function permanently if the muscles of their lower extremities are not trained regularly over a period of time. This occurs due to limited muscle movement, which can cause atrophy. Reduced mobility can result in significant musculoskeletal injury and pathophysiological changes, especially atrophy (Muttaqin, 2018).

Based on research findings conducted in 2021 by Al Fajri and Rino, regular and autonomous range of motion (ROM) can help maintain joint and connective tissue mobility, reduce the effects of contracture formation, maintain muscle mechanical elasticity, improve circulation, increase synovial movement for joint diffusion and cartilage nutrition, reduce or prevent pain, and helps the post-operative healing process. supports patient perception of movement after injury and surgery. Active Range of Motion (ROM) exercises should be done on the second day after surgery and repeated approximately eight times, at least twice daily for three days, to get the best benefits (Rino and Fajri, 2021).

The nursing problem in patients suffering from ORIF due to tibial fractures is impaired physical mobility. The results of providing the Range of Motion Free Active Exercise intervention to patients showed that there was an increase in range of motion, increased muscle strength, reduced complaints of pain, reduced anxiety when moving, and reduced edema. Related research that supports the intervention's findings provides a range of motion-free active exercise therapy to help overcome the nursing problem of physical mobility disorders.

Range of Motion Free Active Exercise intervention is an effective non-pharmacological therapy for treating nursing problems with physical mobility disorders. Free active range of motion is a movement that occurs due to muscle contractions against the influence of gravity without any external assistance. This movement is carried out by the patient himself, accompanied by the help of a therapist to observe the movements being trained. Each movement is carried out in 8 x 1 steps; the benefits of this movement can be to maintain and increase the range of motion of the joints, increase muscle strength and movement coordination. A training frequency of 2 x 8 steps per movement increases LGS, muscle strength, and movement coordination.

CONCLUSION

Applying theory to situations involving the nursing care process begins with an assessment, which is continued with developing a nursing diagnosis, creating a nursing plan, implementing nursing care, and evaluation, which follows the current theory of nursing care steps.

The results of the assessment of cases managed with a medical diagnosis of post-ORIF tibial fracture based on the Indonesian Nursing Diagnosis Standards (SDKI) examined three (100%) major symptoms and signs of impaired physical mobility, including complaints of not daring to move extremities, decreased muscle strength, and range of motion (ROM).) decreased, and four (57.2%) minor symptoms and signs included pain when moving, reluctance to move, feeling anxious when moving, and limited movement.

The nursing diagnosis obtained based on the results of the assessment of managed cases is impaired physical mobility (D.0054) related to pain, evidenced by the patient complaining of difficulty moving the left lower extremity, the patient complaining of pain when moving the leg, the patient being reluctant to move, the patient saying he is anxious when moving his left leg, muscle strength appeared to decrease, range of motion (ROM) appeared limited and movement of the left lower extremity appeared limited.

Nursing interventions that have been determined to overcome the nursing problem of impaired physical mobility are based on the Indonesian Nursing Intervention Standards (SIKI), namely ambulation support (I.06171), mobilization support (I.05173), and pain management (I.08238), with outcomes referring to the Standards. Indonesian Nursing Outcomes (SLKI) are physical mobility (L.05042) with increased expectations (increased limb movement (5), increased muscle strength (5), increased range of motion (ROM) (5), decreased pain (5), decreased anxiety (5), decreased limited movement (5), decreased physical weakness (5)).

The implementation that has been provided for nursing problems with impaired physical mobility is following the main interventions that have been determined, namely 4 nursing plan actions out of 10 ambulation support actions (I.06171), with six nursing plan actions out of 10 Mobilization support actions (I.05173).) and pain management support intervention (I.08238) with five nursing plan actions out of nineteen total nursing actions and providing innovative therapy Range Of Motion Free Active Exercise.

Volume 4, Number 3 (September 2024)
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The evaluation results of the intervention providing a Range of Motion Free Active Exercises were that physical mobility disorders were resolved.

Range of Motion Free Active Exercise intervention is an effective non-pharmacological therapy for treating nursing problems with physical mobility disorders. Movement due to muscle contractions against the influence of gravity without external assistance. This movement is carried out by the patient himself, accompanied by the help of a therapist to observe the movements being trained. Dosage 2 times a day with 2 x 8 steps for each movement.

Implementing nurses are expected to be able to apply the results of non-pharmacological therapy research, especially Range of Motion Free Active Exercise, to treat post-operative patients with complaints of impaired physical mobility.

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