

Patient Care for Gout Arthritis with Physical Mobility Impairments Who Received Active Therapy Range of Motion (ROM) at Kandang sapi Health Center

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Abstract:

Impaired physical mobility is a health problem where a person cannot move freely and regularly. In general, the problem of impaired physical mobility can occur in various age groups, one of which can occur in elderly sufferers. gout arthritis. Generally, sufferers of gout arthritis experience joint stiffness and pain when moved, making it difficult for sufferers to move their extremities. If physical mobility problems are not treated immediately, it can cause sufferers to have difficulty carrying out daily activities. Generally, sufferers of gout arthritis take medication to lower uric acid levels, but consuming too much medication can cause dependence, memory problems, kidney failure, and so on. Therapy range of motion can be a reference for overcoming physical mobility disorders that can be done anytime, anywhere, and do not cause side effects such as taking drugs. This case study aims to identify further changes in physical mobility experienced by sufferers of gout arthritis who experience physical mobility problems after therapy range of motion. This research method is a case study design where the patient is approached using the nursing process. In this case study, the author applies the therapy range of motion active in-patient Mrs. S for seven days. The results showed that on the seventh day, the nursing problem of impaired physical mobility was resolved, and this was proven by achieving all the outcome criteria for nursing goals. So, the therapy range of motion effectively overcame physical mobility disorders in patients with gout arthritis.

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INTRODUCTION

Physical mobility impairment is when a person has difficulty moving body parts independently, easily, and regularly (PPNI, 2018a). Generally, sufferers of gout arthritis experience impaired physical mobility due to the accumulation of monosodium urate crystals in the joint area, causing pain when moving (Petty et al., 2019). Gouty arthritis is characterized by sudden pain attacks, swelling, and redness in the joints, especially the big toe joint. This condition is caused by the buildup of uric acid crystals in the joints, which triggers inflammation and joint damage over time. Gouty arthritis affects a patient's quality of life and can significantly impair their physical mobility. If this problem is not addressed immediately, it can reduce the quality of life and risk of contracting chronic or acute diseases (Rossini et al., 2015; Afandi & Kurniyawan, 2017).

Based on the diagnosis of health workers, the number of sufferers of gout arthritis in Indonesia is 11.9%, with the highest number of sufferers aged 75 years. A number of sufferers of gout arthritis in East Java was 6.72%, while the number of sufferers of gout arthritis in Pasuruan

City was 5.1% (Riskesdas, 2018). Of 26 sufferers of gout arthritis, 80.7% showed a decrease in the range of motion of the subtalar joint by 17.9°, and experienced toe deformities, making it difficult for sufferers to carry out activities (Petty et al., 2019).

Physical mobility problems in sufferers of gout arthritis are serious because sufferers have difficulty carrying out daily activities. If the problem of impaired physical mobility is not treated further, it will cause continued structural damage, such as bone and joint damage, and even cause permanent disability (Pangesti, 2018). Optimal physical mobility is an important aspect of daily life, especially for patients with chronic conditions such as gouty arthritis. Range of Motion (ROM) exercises are a rehabilitation method that is widely used to increase joint mobility, reduce stiffness, and minimize the risk of muscle atrophy. ROM exercises involve movements designed to increase joint flexibility and strength through active and passive movements (Putri et al., 2022).

According to SIKI, there are several nursing interventions to improve physical mobility, namely ambulation support, ROM, and others (PPNI, 2018b). Range of motion Active (ROM) is movement exercises carried out independently by the patient in order to increase physical mobility. Active ROM therapy is effective for increasing physical mobility because it can increase muscle stiffness and reduce joint stiffness in the elderly (Hartinah et al., 2019). Non-pharmacological therapy is more popular because it is thought to be safe, can reduce drug dependence, and is easy and cheap (Huda et al., 2023).

This case study research aims to provide an overview of the physical mobility of patients who receive ROM exercises as an intervention to prevent gouty arthritis. This study aimed to identify changes in joint mobility, measure pain levels, and evaluate patients' quality of life after participating in a ROM exercise program. Understanding the effect of ROM exercises on the physical mobility of gouty arthritis patients is hoped to guide health practitioners in designing effective rehabilitation programs. In addition, it is hoped that the results of this study will increase patient awareness of the importance of physical exercise as part of the long-term management of their condition.

STUDY DESIGN

The method used is a case study, where an assessment is carried out, and a nursing diagnosis, intervention, implementation, and nursing evaluation are formulated. This will be written in narrative format to illustrate nurses' experiences in providing the nursing care process for physical mobility disorders for elderly sufferers of gout arthritis who live in the Kandang Sapi Health Center, Pasuruan City, working area. This study used a combination of therapies, such as range of motion active and ambulation support interventions, which examine the impact of providing therapy with a range of motion active in patients with gout arthritis and nursing problems of physical mobility disorders at the Kandang Sapi Community Health Center. This study compared changes in physical mobility before and after therapy range of motion in an elderly patient gout arthritis who have physical mobility problems.

PATIENT INFORMATION

The name Mrs. S is 63 years old, works as a housewife, is Muslim, is a retired civil servant widow, last education is MTS and lives on Jl. Kom Yos Soedarso, Mandaranrejo, Pasuruan City.

CLINICAL FINDINGS

Disease history

The main complaint found was that Mrs. S said she had difficulty moving her legs because they felt stiff. Complaints that were found when examined were that the patient said his knees and feet felt stiff, difficult to move, and felt a little painful if forced to move. The history of the current illness that was discovered was during a home visit on May 6 2024, an assessment was carried out on the patient. The patient said his knees and feet felt stiff and difficult to move since 2 months ago. If you are forced to move, you will feel a little pain, therefore the patient prefers to try not to move often. The history of previous illnesses found was that the patient said he had suffered from gout and cholesterol since 2 years ago and only had normal aches and pains, not serious, had no history of allergies, accidents, had never been treated in hospital before. Now taking simvastatin 10 mg and allopurinol 100 mg. The family medical history found was that the patient said his father and mother had suffered from gout and cholesterol, while his first child suffered from gout and hypertension.

Physical examination

When a physical examination was carried out, he was found to be in sufficient condition, with composmentis consciousness, with a GCS of 4/5, a body weight of 70 kg, and a height of 156 cm. Then vital signs were checked and BP was found: 120/60 mmHg, pulse: 97x/minute, temperature: 36°C, and RR: 23x/minute. Then, when the extremity was examined, it was found that there was a lump on the big toe, the right knee flexion range of motion was 120°, and a left knee flexion range of motion of 110°. When palpation was carried out, it was found that there was no edema, cold acral, and decreased muscle strength, namely (right hand; 5, left hand; 5, right leg; 4, left leg; 4).

Supporting investigation

When the uric acid level in the blood was checked, it was found that the uric acid level in Mrs. S's blood reached 7.5 mg/dL.

Nursing diagnoses

Based on the data obtained during the assessment on May 6 2024, the appropriate nursing diagnosis is impaired physical mobility (D.0054) related to joint stiffness as evidenced by the patient complaining of difficulty moving the extremities, muscle strength decreased to (right hand; 5, hand left ; 5, right leg ; 4, left leg ; 4), and range of motion (ROM) decreased to right knee flexion 120°, and left knee flexion 110°.

THERAPEUTIC INTERVENTION

Nursing intervention

At the planning stage, this was done by visiting Mrs. S's house for 7 visits to overcome the problem of physical mobility disorders by providing ambulation support interventions (I.06171) and additional therapy: active range of motion. Observations include identifying pain or other physical complaints, identifying physical tolerance for ambulating, monitoring heart frequency and pressure before starting and monitoring general conditions during ambulation. Therapeutic measures are taken, namely facilitating physical mobility, if necessary, and providing therapy range of motion (ROM) is active. As well as carrying out educational measures, namely explaining the purpose and process of ambulation and recommending early ambulation.

Nursing implementation

Implementation of ambulation support with additional therapy range of motion. Actively carried out during 7 home visits from 06 May 2024 to 12 May 2024.

At the first visit, building a relationship of mutual trust between the patient and the nurse was carried out, identifying physical tolerance for ambulation with the result that muscle strength decreased to (right hand; 5, left hand; 5, right leg; 4, left leg; 4), and range of motion (ROM) decreased to right knee flexion 120°, and left knee flexion 110°, monitor heart frequency and blood pressure before starting ambulation with results of pulse: 97x/minute, and BP: 120/60 mmHg, monitor general condition during ambulation with results of general weakness, explain the purpose and process of ambulation, facilitate the patient to ambulate, recommend perform early ambulation, provide therapeutic intervention range of motion active, as well as facilitating patients to ask questions with the result of patients asking "is therapy range of motion is it active?"

On the second visit, building a relationship of mutual trust between the patient and the nurse was carried out, identifying physical tolerance for ambulation with the result that muscle strength decreased to (right hand; 5, left hand; 5, right leg; 4, left leg; 4), and range of motion (ROM) decreased to right knee flexion 120°, and left knee flexion 110°, monitor heart frequency and blood pressure before starting ambulation with results of pulse: 94x/minute, and BP: 110/60 mmHg, monitor general condition during ambulation with results of general weakness, facilitate patient ambulation, provide therapeutic intervention range of motion active.

On the third visit, building a relationship of mutual trust between the patient and the nurse was carried out, identifying physical tolerance for ambulation with the result that muscle strength decreased to (right hand; 5, left hand; 5, right leg; 4, left leg; 4), and range of motion (ROM) decreased to right knee flexion 120°, and left knee flexion 110°, monitor heart frequency and blood pressure before starting ambulation with results of pulse: 92x/minute, and BP: 120/60 mmHg, monitor general condition during ambulation with good general condition results, facilitate patient ambulation, provide therapeutic intervention range of motion active.

On the fourth visit, building a relationship of mutual trust between the patient and the nurse was carried out, identifying physical tolerance for ambulation with the result that muscle strength decreased to (right hand; 5, left hand; 5, right leg; 4, left leg; 4), and range of motion (ROM) decreased to right knee flexion 120°, and left knee flexion 110°, monitor heart frequency and blood pressure before starting ambulation with results of pulse: 85x/minute, and BP: 110/60 mmHg, monitor general condition during ambulation with good general condition results, facilitate patient ambulation, provide therapeutic intervention range of motion active.

On the fifth visit, building a relationship of mutual trust between the patient and the nurse was carried out, identifying physical tolerance for ambulation with the result that muscle strength decreased to (right hand; 5, left hand; 5, right leg; 5, left leg; 4), and range of motion (ROM) decreased to right knee flexion 125°, and left knee flexion 115°, monitor heart frequency and blood pressure before starting ambulation with results of pulse: 98x/minute, and BP: 100/60 mmHg, monitor general condition during ambulation with good general condition results, facilitate the patient's ambulation, provide therapeutic intervention range of motion active.

At the sixth visit, building a relationship of mutual trust between the patient and the nurse was carried out, identifying physical tolerance for ambulation with the result that muscle strength decreased to (right hand; 5, left hand; 5, right leg; 5, left leg; 4), and range of motion (ROM) decreased to right knee flexion 130°, and left knee flexion 125°, monitor heart frequency and blood pressure before starting ambulation with results of pulse: 95x/minute, and BP: 100/60 mmHg, monitor general condition during ambulation with good general condition results, facilitate patient ambulation, provide therapeutic intervention range of motion active.

On the seventh visit, building a relationship of mutual trust between the patient and the nurse was carried out, identifying physical tolerance for ambulation with the result that muscle strength decreased to (right hand; 5, left hand; 5, right leg; 5, left leg; 5), and range of motion (ROM) decreased to right knee flexion 130°, and left knee flexion 130°, monitor heart frequency and blood pressure before starting ambulation with results of pulse: 99x/minute, and BP: 100/60 mmHg, monitor general condition during ambulation with good general condition results, facilitate patient ambulation, provide therapeutic intervention range of motion active.

Evaluation

The evaluation was carried out every day after implementing nursing for 7 meetings and the results were obtained on the first day. Subjective data was obtained from patients complaining of difficulty moving their legs. Objective data obtained were muscle strength decreased to (right hand; 5, left hand; 5, right leg; 4, left leg; 4), range of motion (ROM) decreased to right knee flexion 120°, and left knee flexion 110°, stiff joints, and limited movement. Analysis of the problem of impaired physical mobility has not been resolved, and intervention planning continues.

On the second day, subjective data was obtained, the patient complained of difficulty moving his legs. Objective data obtained were muscle strength decreased to (right hand; 5, left hand; 5, right leg; 4, left leg; 4), range of motion (ROM) decreased to right knee flexion 120°, and left knee flexion 110°, stiff joints, and limited movement. Analysis of the problem of impaired physical mobility has not been resolved, and intervention planning continues.

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On the fourth day, subjective data was obtained, the patient complained of difficulty moving his legs. Objective data obtained were muscle strength decreased to (right hand; 5, left hand; 5, right leg; 4, left leg; 4), range of motion (ROM) decreased to right knee flexion 120°, and left knee flexion 110°, stiff joints, and limited movement. Analysis of the problem of impaired physical mobility has not been resolved, and intervention planning continues.

On the fifth day, subjective data was obtained, the patient said that his right leg had improved. The objective data obtained is that muscle strength decreased to (right hand; 5, left hand; 5, right leg; 5, left leg; 4), range of motion (ROM) increased to right knee flexion 125°, and left knee flexion 115°, stiff joints are reduced, and limited movement is reduced. Analysis of the problem of physical mobility disorders is being partially resolved, and intervention planning continued.

On the sixth day, subjective data was obtained, the patient said that his right leg had improved. The objective data obtained is that muscle strength decreased to (right hand; 5, left hand; 5, right leg; 5, left leg; 4), range of motion (ROM) increased to right knee flexion 130°, and left knee flexion 125°, stiff joints are reduced, and limited movement is reduced. Analysis of the problem of physical mobility disorders is being partially resolved, and intervention planning continued.

On the seventh day, subjective data was obtained from the patient, who said that both legs were good and that moving was not difficult. Objective data obtained were muscle strength increased (right hand; 5, left hand; 5, right leg; 5, left leg; 5), range of motion (ROM) increased to right knee flexion 130°, and left knee flexion 130°, stiff joints are reduced, and limited movement is

reduced. Analysis of the problem of physical mobility impairment resolved intervention planning stopped.

DISCUSSION

Characteristics of Physical Mobility Disorders

The nursing problem of impaired physical mobility in Mrs. S comes from joint stiffness. The triggering factors experienced by Mrs. S were her age, which was 63 years old, and high blood uric acid levels. This makes it difficult for elderly people to move freely, making them unable to carry out daily activities.

The results shown in this case study were carried out using interviews conducted with the patient Mrs. right; 4, left leg; 4), range of motion (ROM) decreases, namely right knee flexion 120°, and left knee flexion 110°, stiff joints, limited movement, and it is known that the level of uric acid in the blood obtained is 7.5 mg/dL where the data obtained on Mrs. S is in accordance with the existing theory.

The most prominent nursing problem experienced by Mrs. S was impaired physical mobility. According to the Indonesian Nursing Diagnosis Standards (SDKI), the definition of physical mobility impairment is limitations in carrying out physical movements, causing sufferers to have difficulty carrying out daily activities. The signs and symptoms that appear in patients with nursing problems of impaired physical mobility include complaints of difficulty moving the extremities, decreased muscle strength, and decreased range of motion (ROM).

According to the author, the nursing diagnosis that emerged for Mrs. S was impaired physical mobility related to joint stiffness as evidenced by the patient complaining of difficulty moving her extremities, decreased muscle strength, and decreased range of motion (ROM). This is because, from the assessment results, data on signs and symptoms experienced by patients has reached 80%, including major and minor symptoms in the IDHS book, which are defined as limitations in the physical movement of one or more extremities independently with the code (D.0054) entered. in the physiology category and the activity and rest subcategories.

Therapy Implementation Range of Motion Active

The intervention given to patients is ambulation support. According to the Indonesian Nursing Intervention Standards (SIKI), several interventions were given to Mrs.'s ambulation process, and early ambulation was recommended. The author applies a non-pharmacological therapeutic collaborative intervention, namely terai range of motion active with patients' gout arthritis with impaired physical mobility nursing problems.

Mrs. S received non-pharmacological therapy with a range of motion active where the therapy is carried out by performing flexion, extension, hyperextension, rotation, abduction, and adduction movements in the neck, hands, and feet. The therapy carried out on Mrs. S was without side effects and did not cause injury if it was carried out according to the SOP and paying attention to contraindications. This therapy is given once a day for $\pm$ 30 minutes for 7 days.

Actions are carried out in accordance with the planned intervention, where at the first visit, it is carried out to build a relationship of mutual trust between the patient and the nurse, identify physical tolerance for ambulation, monitor heart frequency and blood pressure, monitor general conditions during ambulation, facilitate the patient to ambulate, recommend early ambulation, providing therapeutic interventions range of motion active, and facilitate patients to ask questions. Meanwhile, educational actions were not carried out during the second visit to the seventh visit, namely explaining the purpose and process of ambulation, and encouraging early ambulation.

According to the author, the actions taken were in accordance with the data obtained and the therapeutic theory range of motion. This active method is highly effective, cheap, and easy to do. Patients will feel the benefits of this therapy after it is applied, which include several benefits such as reducing joint pain, strengthening muscles, and reducing stiffness in the joints.

Changes in Physical Mobility in Patients' Gout Arthritis after Therapy Range of Motion Active

Nursing evaluation is carried out to determine the achievement of problem-solving from action by comparing the outcome and outcome criteria carried out by the author with Mrs.S. The expected outcome of the criteria after implementation in patients for 7 days with physical mobility problems is increased extremity movement, muscle strength increased to (right hand; 5, left hand; 5, right leg; 5, left leg; 5), range of motion increased to 130° right knee flexion°, and left knee flexion 130°, , joint stiffness decreases, and limited movement decreases.

Based on the results of the evaluation carried out, data was obtained that the evaluation results from the first visit to the immediate visit did not show any significant changes, where the patient's condition did not improve, and it was said that the nursing problem had not been resolved so the intervention was continued.

The results of the evaluation on the fifth day showed improvement in the right leg where the patient said his right leg was better, right leg muscle strength increased to 5, right knee flexion range of motion (ROM) increased to 125°, joint stiffness decreased, and limited movement decreased, and it was said that the nursing problem was partially resolved, so the intervention was continued.

The results of the evaluation on the sixth day showed improvement in both legs where the patient said his right leg was better, right leg muscle strength increased to 5, right knee flexion range of motion (ROM) increased to 130°, and left knee flexion increased to 125°, joint stiffness decreased, and limited movement decreased, and it was said that the nursing problem was partially resolved, so the intervention was continued.

The results of the evaluation on the seventh day showed improvement in both legs where the patient did not complain of difficulty in moving both legs, right and left leg muscle strength increased to 5, right and left knee flexion range of motion (ROM) increased to 130°, stiff joints are reduced, and limited movement is reduced, and the nursing problem is said to be resolved, so the intervention is stopped.

CONCLUSION

Based on the results of nursing care provided to Mrs. S who lives in the Kandangsapi Health Center, Pasuruan City work area. Data was obtained that Mrs. S experienced physical mobility problems as evidenced by difficulty moving their extremities, decreased muscle strength, decreased range of motion (ROM), stiff joints, and limited movement. After therapy, range of motion Active and ambulation support intervention for 7x24 hours showed that the patient did not complain of difficulty moving the extremities, range of motion (ROM) increased, joint stiffness decreased, and limited movement decreased. So it can be concluded that therapy range of motion activities carried out on patients with gout arthritis who experience problems with physical mobility disorders have been proven to be effective in overcoming nursing problems with physical mobility disorders.

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