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PHYSIOTHERAPY MANAGEMENT OF WILLIAM FLEXION EXERCISE FOR PAIN REDUCTION IN LOW BACK PAIN MYOGENIC: CASE STUDY

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Abstract

Introduction: Introduction: Low back pain is a major health problem in all developed countries. Myogenic low back pain is defined as pain, muscle tension, or stiffness localized to the lower trunk and above the inferior gluteal folds, with or without pain. The most dominant symptoms of non-specific low back pain are pain and disability. The prevalence of low back pain in the general US adult population is 10-30%, and the lifetime prevalence of AS adults is as high as 65-80%. The global prevalence of LBP is estimated to be around 31%, and it often occurs in women aged 40-80 years. The prevalence of LBP in the productive age group is almost 40%. The etiology of low back pain can often be distinguished based on the patient's history, physical examination, and some cases. For example, myofascial pain is a musculoskeletal complaint that is often seen, especially after trauma or repetitive motion injuries. Several risk factors that can cause low back pain include; age, body mass index, years of service, work chair, sitting position, and sports activities.

Case Presentation: A literature review of several databases (PubMed, Science Direct, Web of Science). A mix of keywords has been used in searches or Medical Subject Heading (MESH) terms related to "William flexion exercise-related low back pain" or "low back pain myogenic and William flexion exercise" and combined with or treatment and "low-income countries and medium". The inclusion criteria of the article were patients with myogenic low back pain and all studies assessed were published in English in the period 2000-2021. The methodological quality of the included studies in terms of internal validity was assessed using the CASP (Critical Appraisal Skills Program).

Management and Outcome: William flexion exercise can improve functional status, decrease pain level and intensity, and improve quality of life in low back pain sufferers are the benefits of

physiotherapy management to solve myogenic low back pain.

.Discussion: Several articles have been selected from three databases with an 80% quality rating for each study. The study states that an exercise program 3 times a week, an exercise program using hamstring stretch techniques, pelvic tilt, double knee to chest, hip flexor stretch can improve functional status, reduce the pain level and intensity, and improve quality of life in patients with low back pain. physiotherapy management to treat myogenic low back pain

Conclusion: Physiotherapeutic management using a three to a twelve-week exercise program. The special technique of William flexion is used to treat myogenic low back pain.

Keyword: Low back pain, Visual analog scale (VAS), William flexion exercise.

Introduction

Low back pain (LBP) is the most common musculoskeletal condition affecting the adult population, with a prevalence of over 84%. Myogenic low back pain (LBP) is a disorder of the lower back muscles caused by disorders or abnormalities in the musculoskeletal system without any neurological disorders (Case et al., n.d.).

Low back pain is defined as pain between the 12th rib and the lower hip. Acute low back pain lasts up to three weeks, whereas subacute low back pain lasts three to 12 weeks and chronic low back pain lasts more than 12 weeks. Low back pain has a multifactorial etiology and is called specific if the cause is known and nonspecific if the cause is unknown. The causative factors of low back pain are identified in 5 to 15% of cases, whereas more than 85% of patients exhibit non-specific low back pain (Lawand et al., 2015).

Low back pain or low back pain is caused by several risk factors. Risk factors that can cause low back pain include; age, body mass index, years of service, work chair, sitting position, and sports activities. Low back pain is suffered by young and old age but the situation can get worse in the age range of 30-60 years and over (Arwinno, 2018)

The etiology of low back pain can often be distinguished based on the patient's history, physical examination, and some cases. For example, myofascial pain is a musculoskeletal complaint that is often seen, especially after trauma or repetitive motion injuries. Myofascial pain is characterized by the presence of myofascial trigger points located in the fascia, tendons, and muscles which when moved or pressed produce a pain response (Urits et al., 2019).

The prevalence of low back pain in the general US adult population is 10-30%, and the lifetime prevalence of AS adults is as high as 65-80%. The global prevalence of LBP is

estimated to be around 31%, and it often occurs in women aged 40-80 years. The prevalence of LBP in the productive age group is almost 40%. Disability caused by LBP is the highest compared to other conditions globally (Sukmajaya et al., 2020)

Low back pain has a clear pathological cause and it is a disease, not a symptom. Low back pain represents the leading cause of disability worldwide which is a major welfare and economic concern (Allegri et al., 2016).

Physiotherapy has a very important role in the treatment of myogenic low back pain, especially in restoring and overcoming impairments and activity limitations so that patients can perform their daily functional activities. The modality that can be done is with exercises that can also be done at home (home program), namely the William flexion exercise.

Case Presentation

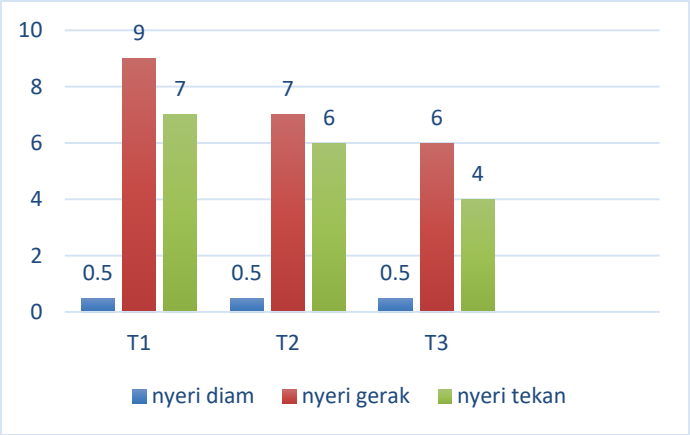
Patient Mrs. Z, 64 years old, a housewife with a medical diagnosis of myogenic low back pain, came for the treatment of low back pain, pain that was felt especially in the lumbar area, which felt intermittent. when the low back pain recurs the patient feels pain to the point of being unable to stand up and walking for too long. this problem began to develop in 2012 ten years ago. The patient's low back pain has increased in frequency 5 years ago until now, sometimes the pain is intermittent. the pain seems to be worse when finished with household chores such as washing, cooking, and sweeping. Examination revealed a female patient with a shoulder girdle prone to stooping slightly and walking using a three-pot assist. Blood pressure 136/60, pulse 90 times/minute, breathing 24 times/minute, temperature 36.2 degrees Celsius, height 157 cm, and weight 65 kg. Full ROM lumbar range of motion. In a special examination, the Laser test was obtained negative without pain, the Bragard and Neri tests were positive for localized pain. With the patient in the supine position, static palpation shows the trigger point for pain in the lumbar erector spine area, namely m. iliocostalis spinalis, m. longisimus spinalis, and m. iliocostalis lumborum.

Management and Outcome

The patient underwent treatment which consisted of stretching the lumbar extensor muscles with the technique of the William flexion exercise for five to ten seconds, eight repetitions. performed three or more times a week. In addition, advice is given regarding maintaining proper posture and assisting the healing process, and to avoid things that can

aggravate the condition, it is expected that the patient should perform the correct position such as: sitting upright, lying down using a slightly firm and flat mattress, standing up from the bed. sitting position by leaning forward first, lifting things by squatting first, and the correct way to wake up is tilting first and then getting up.

The results given to Mrs. Z aged 64 years with a medical diagnosis of low back pain myogenic has a problem, namely the presence of pain in the lower back due to spasm in the erector spine so that pain occurs which results in decreased functional ability, and daily activities.



Graph 1. Pain Evaluation Results

The decrease in the degree of pain using the visual analog scale (VAS) was obtained from silent pain T1 0.5 to T3 0.5 with a result of 0.5/10 cm, pain when moved from T1 9 to T3 6 with a result of 3/10 cm, pain, when pressed T1 7, becomes T3 4 with a result of 3/10cm.

Discussion

Muscle spasm is part of the body's protective reaction, due to hypertonus. Muscle hypertonus is under conscious control and may increase from the source of provocation without improvement. In this case, the muscle spasm usually affects them. erector spine and m. quadratus lumborum. Spasm and pain in low back pain often make individuals afraid to use their back muscles in carrying out movements in the lumbar (disuse the lower back muscles), so that it will cause physiological changes in these muscles, namely reduced muscle mass (atrophy) and decreased muscle mass. muscle strength, which in the end the individual will experience a decrease in his level of functional activity. So that this will occur a vicious circle between pain, muscle spasms, thus causing limited functional activity in patients with low back pain.

William's flexion exercise was introduced by Dr. Paul Williams. This exercise

program is aimed at patients with chronic low back pain to reduce pain, providing lower trunk stabilizers through active development of the abdominal muscles, gluteus maximus, and hamstrings (Wahab & Wahyuni, 2021)

The postural principles of the William flexion exercise serve to reduce lumbar lordosis to a minimum, thereby reducing pressure on the posterior elements of the lumbar spine. The exercise described will achieve the right balance between the flexor group and the extensor group of postural muscles (Kumar & Educational, 2016)

The main purpose of the study by obtaining the results of changes from T1 to T3 is the occurrence of the therapeutic effect of William flexion exercise in reducing erector spine spasm so that the degree of pain decreases.

Conclusion

This case shows the classic presentation of low back pain which can be relieved by stretching the lumbar extensor muscles. Physiotherapy treatment carried out 3 times on low back pain myogenic can be concluded that William flexion exercise can reduce spasm so that the degree of pain decreases.

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