

USING THE WILLIAM FLEXION TRAINING METHOD IN DECREASING ISCHIALGIA

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ABSTRACT

This study aims to determine the effectiveness of the William Flexion exercise method in reducing pain levels. The research method used in this study is quantitative, namely experimental research. The results in this study showed that the T value was 7.819 with the T table was 1.714, meaning that the T count > T table, meaning that using the William Flexion training method can reduce the level of ischialgia pain. This is because the movements in the William Flexion training method, such as sit-ups and flexion movements, are appropriate for people who suffer from pain. In conclusion, giving William flexion exercise is effectively applied to ischialgia patients.

Keywords: Ischialgia, William Flexion Exercise, Pain

INTRODUCTION

One of the physical ailments in humans is Ischialgia or Neuralgia Ischiaica, better known as sciatica pain, which is a pain condition that arises due to pressure or irritation of the sciatic nerve, which reaches from the lower spine to the feet (Shirokov et al., 2021). Ischialgia is often exacerbated by spinal flexion, twisting, sideways bending, or coughing. In addition, Sciatica is a major cause of health problems due to increased morbidity (ratio of sick to healthy people), disability (inability to work), and a significant cause of limitations in work and daily activities (e.g., carrying heavy objects, walking, sitting and creating financial burden with a significant impact on individuals, families, communities, industry, and government. Therefore, appropriate health services are needed to overcome this ischialgia problem (Tania & Rahman, 2022).

Ischialgia is also a significant cause of pain. It is a major health problem because ischialgia is a problem that often occurs in society and continues to be a problem at the global level (Tang et al., 2023). The prevalence of ischialgia in the Netherlands was 117,200 new cases in 2017 (steel, 2020). The prevalence of ischialgia in Indonesia is 18-21%, including 13.6% for men and 18.2% for women (Barilla et al., 2021). Based on the results of research conducted nationally by the pain study group of the Indonesian Neurologist Association (Perdossi) in 14 cities in Indonesia in 2002, it was found that 18.13% of Ischialgia sufferers had an average NRS value of 5.46 ± 2.56 , which means moderate to severe pain, 50% of whom are sufferers aged between 41-60 years (Khadijah & Budi, 2019).

Bhakti Wira Tamtama Semarang Hospital, commonly called RST BWT, is in the middle of Semarang City. Based on an initial survey at RST BWT for the last three months, looking at medical records, it was found that almost 80% of 150 patients who came to Medical Rehab or Physiotherapy experienced ischialgia, and 40% of them were patients with a diagnosis of ischialgia. Regarding gender, there were 53 male sufferers and 97 female sufferers.

From the problems above, therapy is needed to relieve pain due to ischialgia, one of which is the William flexion exercise method. The William Flexion exercise method is an exercise approach developed by Dr. Alan M. Williams, a physical therapist, and his thinking is based on the concepts of biomechanics and kinesiology. This method aims to reduce pain and increase the range of motion in patients with spinal problems, especially in the neck and lower back (Amila et al., 2021). This exercise combines flexion (bending forward), rotation (turning), and repetition. The sit-up movement in the William Flexion method is done by lying on your back, knees bent, and hands behind your head. Then, the upper body is pulled up using the abdominal muscles and lower back to lift the shoulders off the floor. This movement is done slowly and in control (Aras et al., 2020).

In addition, the William Flexion exercise method uses sit-ups as essential. However, this method's sit-up movement differs from the conventional sit-up movement. The body is pushed up in conventional sit-ups using the neck and head muscles. Whereas in the sit-up movement in the William Flexion method, the body is pushed up using the abdominal and lower back muscles (Akbar & Zainuddin, 2020).

Therefore, this study aimed to determine the effectiveness of using the William Flexion exercise method in reducing sciatica pain. This is due to finding out which is more effective for reducing pain in patients with ischialgia.

RESEARCH METHODS

The research method used in this study is quantitative, namely experimental research. The research design was a quasi-experimental one-group pretest-posttest design. The population in this study were patients at Bhakti Wira Tamtama Hospital Semarang who experienced ischialgia in May 2023, namely 24 patients. The research sample used total sampling so that the population was used as the sample.

Data collection techniques in this study were carried out by pretest and posttest pain levels using the Numeric Rating Scale (NRS) method. Data collection in this study was carried out 12 times. The respondents did the William Flexion exercise method to reduce pain while the assessment was conducted every two meetings. Before conducting data analysis, a normality test was carried out first, then the data analysis technique in this study used a paired t-test.

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Tabel. 1
Characteristics of Respondents

No	Characteristics	Amount	Percentage (%)
1	Gender		
	a. Man	8	33,33
	b. Woman	16	66,67

2	Age		
	a. < 30 Years	1	5,17
	b. 30 – 40 Years	5	21,80
	c. 40 – 50 Years	7	30,18
	d. > 50 Years	10	42,85
3	Long Suffered		
	a. < 1 year	17	70,74
	b. 12 years old	4	16,67
	c. > 2 Years	3	12,59

Table 1 shows that the average respondent is female, aged more than five years, and less than one-year experiencing pain. Apart from the results of the characteristics, Table 2 below shows observations (pretest) and NRS measurements after using the William Flexion Training Method.

Table. 2
NRS Measurement Results

Evaluation	Average Pain	Category
1 (Pretest)	8,01	<i>Severe</i>
2	7,63	<i>Severe</i>
3	7,08	<i>Severe</i>
4	6,67	<i>Moderate</i>
5	5,79	<i>Moderate</i>
6 (Posttest)	5,1	<i>Moderate</i>

Table 2 above shows that from the assessment using the NRS from assessment 1 to assessment 6. Using the William flexion training method can reduce the pain level from the severe to moderate category.

Table. 3
Normality Test

<i>One-Sample Kolmogorov-Smirnov Test</i>			
		Pretest	Posttest
N		24	24
<i>Normal Parameters^a</i>	<i>Mean</i>	8.0417	5.1667
	<i>Std. Deviation</i>	.95458	1.27404
<i>Kolmogorov-Smirnov Z</i>		1.106	1.193
<i>Asymp. Sig. (2-tailed)</i>		.173	.116

Table 3 above shows that the normality test results on the pretest and posttest results are normally distributed because the significance value is more than 5%.

Table. 4
Paired T Test Results

No	Type	Acquisition
1	Amount	24
2	Df	23
3	Standard Deviation	1,801
4	t-count	7,819
5	Significance	0,000

From table 4, the paired T-test analyzed using SPSS, the significance value obtained is 0.000, meaning that the value is less than the α set, namely 5% or 0.05. Therefore, the use of the William flexion exercise method affects reducing pain.

DISCUSSION

The results shown on the characteristics of the respondents were that the majority were female, with a total of 16 respondents. This is because chronic pain conditions such as fibromyalgia, chronic pelvic pain syndrome, migraines, and chronic back pain are more common in women. Research shows that women are more sensitive to pain and may have a lower pain threshold than men. Meanwhile, the characteristics of majority age are more than 50 years old. That is because, with age, the risk of experiencing muscle and joint pain increases. This can be caused by degenerative joint changes, such as osteoarthritis, which is more common in older people. Conditions such as arthritis (rheumatoid arthritis) are also more common in adults. In addition, back pain tends to be more common in adults, especially in middle and old age. This can be caused by degenerative changes in the spine, such as a herniated nucleus pulposus or spinal stenosis.

The results of the descriptive analysis are the results of each meeting in one month. Using the William Flexion Exercise method can reduce pain from the first to the sixth meeting. The average reduction in pain felt by respondents was 0.52 using the NRS. The highest decrease was at the fourth meeting, which was 0.88. In addition, using the William flexion exercise method on the pretest results has an average score of 8.01, or in the severe category, and it can decrease by 2.91, namely to 5.10 or in the moderate category. The descriptive analysis results showed a decrease in pain levels after doing exercises using the William flexion exercise method.

In addition to the results of the descriptive analysis, on the results of the T-test, the significance value is 0.000 meaning less than 0.05, so using the William flexion training method effectively reduces pain levels due to ischialgia. This is because, in the exercise method using the William flexion exercise, there are flexion movements that can be used as part of a rehabilitation program for neck or shoulder injuries. This movement can help restore a normal range of motion, strengthen the muscles, and reduce pain, especially pain (Sardianti et al., 2023; Yapen & Gessal, 2020).

Besides that, in the use of the William flexion exercise method, there are floor sit-up movements. Floor sit-ups require an upright body position and involve the postural muscles. By training the abdominal and core muscles that support the spine, it can improve overall posture. Besides the abdominal muscles, floor sit-ups involve other core muscles, such as the hip and lower back muscles. Regular sit-ups can help increase your core strength and stability (Ni'amah & Sulistiyaningsih, 2021; Arummege et al., 2022). Therefore the use of the William flexion exercise can reduce the level of pain in patients with ischialgia. In addition to the results above, the use of the William flexion exercise, which is effective in reducing pain, is also in line with research that has been carried out with the results that William flexion is adequate when used for reducing pain (Setiani et al., 2023; Setiawan & Widiyanto, 2022).

CONCLUSION

Giving William flexion exercise is effectively applied to ischialgia patients because it can reduce pain. William flexion exercise can be recommended to ischialgia patients as a home program by doing it regularly.

SUGGESTION

Suggestions for pain sufferers, especially ischialgia, can use William flexion exercise regularly to reduce pain levels.

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