THE EFFECT OF HIP STRETCHING EXERCISES (COXAE) ON LEVEL OF LOWER BACK PAIN IN THE ELDERLY AT POSYANDU ASOKA LIMA MANGASA DISTRICT MAKASSAR CITY

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Abstract

Backgrounds ; Low back pain in the elderly is one of the top three health problems targeted by the *World Health Organization* (WHO). WHO data in 2020 shows that almost 727 million people aged 60 years and over experience lower back pain years and above. **Objectives** ; To determine the effect *of stretching* on back pain in the elderly. **Methods** ; Quantitative research with *experimental research type* with *One Group Pre-Posttest design,* the sample size is 25 elderly people who experience lower back pain **Results;** The level of pain before *stretching* was given, 6 (24%) respondents experienced mild pain and 19 (76.0%) respondents experienced moderate pain. Meanwhile, the level of pain after *stretching* was painless was 4 (16.0 %) respondents and mild pain was 21 (84.0%) respondents. **Conclusions** ; The effect of stretching *on* the level of lower back pain in the elderly has a significant impact on reducing the intensity of pain felt. It is hoped that the results of this research can be used as a reference or guideline for treating elderly patients with low back pain.

Keywords *: Stretching; Lower back pain; Elderly*

BACKGROUND

Low back pain in the elderly is one of the top three health problems targeted by the *World Health Organization* (WHO). Low back pain is a leading cause of disability worldwide. The incidence of Low Back Pain is found in Europe and Africa. Based on WHO data in 2020, almost 727 million people aged 60 are experiencing lower back pain years and above.

Data from the Directorate General of Services of the Ministry of Health of the Republic of Indonesia (Kemenkes RI 2020) shows that the prevalence of lower back pain in the elderly is 18.2% and the highest prevalence attacks men compared to women and the incidence is based on patient visits to several hospitals in Indonesia. According to BPS (Central Statistics Agency) of South Sulawesi Province, the number of elderly people who experience lower back pain is not known for certain, it is estimated at 6.24 % in 2021.

Lower back pain in the elderly According to Helmi (2012), low back pain is a condition that occurs in the back area between the lower corners of the costa (ribs) to the lumbosacral area accompanied by activity limitations caused by lower back pain during movement or mobility. Lower back pain often occurs in the elderly, which occurs around the lower spine and is a clinical syndrome that is often found in the elderly. When left untreated, they will experience physical changes that are physiological in nature and cause a lot of discomfort, which does not rule out the possibility of becoming pathological if not followed by good care (Harsono, 2020).

The impact of lower back pain if left untreated will cause discomfort due to prolonged pain and can result in lifelong disability. However, this process can be prevented if prevention is carried out early, integrated and sustainable.

Treatment or efforts that can be made to overcome pain are by doing hip movement therapy (stretching), apart from reducing lower back pain, it can also restore flexibility to muscles experiencing stiffness (Mujianto, 2019).

Giving William flexion stretching to the elderly is a form of exercise therapy that is indicated for elderly people who experience lower back pain and to stretch muscles that experience stiffness due to continuous loading when they are in pain, it can reduce the level of lower back pain.

Stretching or stretching exercises themselves are to keep muscles flexible, joint pain sufferers are ready to move, and lower back pain sufferers can switch activities from sedentary to more mobile activities without causing tension (Anderson, 2018). Stretching has an influence on reducing lower back pain because it provides appropriate (specific) training, thus training can reduce weakness , relieve stress, increase muscle strength and prevent deformity (Sa'adah, 2012).

Aging or becoming old is a condition that occurs in human life. The aging process is a lifelong process, not only starting from a certain time but starting from the beginning of life. Growing old is a natural process, which means a person has gone through three stages of life, namely child, adult and old age. WHO divides elderly into several categories, namely: middle age *between* 45-59 years, elderly *between* 60-74 years, old elderly *between* 75-90 years, very old elderly (*very old*) more than 90 years old. In degenerative terms, the increasing age of the elderly will have an impact on changes both physical and psychological.

Physical changes affect all systems, including the musculoskeletal system. Changes occur from the beginning of life until old age in all organs and tissues of the body, this situation also occurs in the musculoskeletal system, namely the muscles and joints which are related to the emergence of lower back pain (Azizah, 2020).

Research Results (Erna Sariana et al, 2022). Saying that giving William flexion stretching which was done 12 times for 4 weeks had a significant effect on reducing the level of lower back pain in the elderly at the elderly posyandu RW 2, Kedungkung Village, Malang, this was proven by calculating $p<0.05$ with a significance level of a =0.05. Data was obtained from the Asoka Lima posyandu, Mangasa District, Makassar City, including entering the work area of the Mangasa Health Center, Makassar City. The number of elderly people in 2020 was 114 people and 17 people experienced lower back pain, in 2021 the number of elderly people was 180 people who experienced lower back pain, 10 people experienced lower back pain, in 2022 the number of elderly people was 315 people and those experiencing lower back pain were 21 people elderly and in 2023 from the beginning of January to April the number of elderly people will be 112 and those experiencing lower back pain will be 25 elderly people.

So, based on the description above, the researcher tried to conduct research at Posyandu Asoka in five Mangasa sub-districts, Makassar City regarding "The Effect of Hip Movement Exercises (coxae) Stretching on Lower Back Pain Levels in the Elderly." Before we took the initial data, we carried out an initial survey at the research site. this and we found that there was a problem or phenomenon that was in accordance with the title we raised, besides that it was also supported by research data that we obtained in the field.

METHODS

This research uses quantitative research methods with experimental research type with One Group Pre-Posttest design. The characteristic of this research is that it reveals cause and effect relationships by involving a group of subjects. The subject group was observed before the intervention was carried out, then observed again after the intervention was given (Nursalam, 2017). In this way, the results of the treatment can be known more accurately, because it can be compared with the situation before the treatment was given (Sugiyono, 2016). The samples in this research were elderly people who experienced lower back pain at the Asoka Lima Posyandu, Mangasa District, Makassar City. The sampling technique used in this research was total sampling, with a total sample of 25 elderly people who experienced lower back pain. Where researchers determine respondents to be used as samples based on certain criteria. William's flexion exercises (stretching) were carried out 12 times during one month.

RESULTS AND DISCUSSION

Univariate Analysis

Table 1 Distribution of Respondents Based on Age

Age	Frequency	Percentage
45 - 59	11	44.0%
60 - 74	14	56.0%
Total	**25**	**100%**

Source: Primary Data 2023

Based on table 1 above, the results of the frequency test show that of the 25 respondents there were 11 (44.0%) people aged 45-59 years and there were 14 (56.0%) respondents aged 60 - 74 years.

Table 2 Distribution of Respondents Based on Gender

Gender	Frequency	Percentage
Man	4	16.0%
Woman	21	84.0%
Total	**25**	**100%**

Source: Primary Data 2023

Based on table 2 above, the results of the frequency test show that out of 25 respondents, 4 (16.0%) respondents were male and 21 (84%) respondents were female.

Table 3 Distribution of Respondents Based on pre-test pain level

Pain Level	Frequency	Percentage
Mild pain	6	24.0%
Moderate pain	19	76.0%
Total	**25**	**100%**

Source: Primary Data 2023

Based on table 3 above, the results of the frequency test before the stretching intervention was carried out showed that 6 (24.0%) experienced mild pain, and 19 (76.0%) experienced moderate pain.

Table 4 Distribution of Respondents Based on posttest pain level

Pain Level	Frequency	Percentage
Mild pain	4	16.0%
Moderate pain	21	84.0%
Total	**25**	**100%**

Source: Primary Data 2023

Stretching intervention showed that 4 (16.0%) experienced no pain, and mild pain was obtained by 21 (84.0%) respondents.

Bivariate Analysis

Table 5 Effect of William's Stretching Flexion Movement Exercise on Level Lower Back Pain

NRS classification	Pain Level			
	Before		After	
	Frequency	Percentage	Frequency	Percentage
No pain	-	-	4	16.0%
Mild pain	6	24.0%	21	84.0%
Moderate pain	19	76.0%	-	-
Total	**25**	**100%**	**25**	**100%**
p Value = 0.00 α = 0.05				

Source: Primary Data 2023

Based on table 5 above, it shows that of the 25 respondents who experienced lower back pain, before doing hip stretching exercises, the level of pain varied, with 6 (24.0%) respondents experiencing mild pain while 19 (76.0%) respondents had moderate pain. Then the pain felt after stretching was painless for 4 (16.0 %) respondents and mild pain for 21 (84.0%) respondents by carrying out a cross tabulation test. And the statistical results of the Wilcoxon test showed that the value was p = 0.000 < 0.05, which means that there was an effect of stretching on the level of lower back pain in the elderly at Asoka Lima Posyandu, Mangasa District, Makassar City.

From the results of research on 25 respondents, a comparison of pain was obtained before administering William's flexion stretching. The scale (moderate pain) felt by respondents was at a score of 6 with a total of 4 respondents, a score of 5 with a total of 5 respondents, a score of 4 with a total of 10 respondents, a score of 3 (mild pain) with a number of respondents of 5 people, Scored 2 with 1 respondent. And 19 respondents experienced moderate pain, while 6 respondents experienced mild pain. The pain scale after giving William flexion stretching was obtained by 17 respondents with a score of 1 (mild pain), mild pain with a score of 2 as many as 3 respondents. There were 4 respondents who experienced no pain with a score of 0. And 21 respondents experienced mild pain and 4 respondents had no pain, using the Numerical Rating Scale (NRS) measurement.

Then, from the results of the statistical analysis of the Wilcoxon test, the value p = 0.000 < a = 0.005. Thus, Ha is accepted and Ho is rejected, meaning that there is an effect of stretching on the level of lower back pain in the elderly at Posyandu Asoka Lima, Mangasa District, Makassar City. Low back pain in the elderly (NPB) is a musculoskeletal disorder in the back area caused by various diseases and poor body activity. The causes of low back pain vary, including degenerative, infectious, metabolic, neoplastic, traumatic, congenital, musculoskeletal, viscerogenic, vascular, psychogenic, as well as post-operative (Johannes, 2010).

This is in accordance with the theory (Ika Rahmawati et al, 2021) that William's flexion stretching can widen blood vessels, so that blood circulation is smooth and allows nutrients to be distributed optimally and can activate the release of the endorphin system in the blood. This reduces pain, followed by reduced muscle spasms. The reduction in the pain scale was influenced by stretching exercises in William's flexion exercises, which can stimulate muscle

contractions. Energy when muscles contract is obtained from the breakdown of ATP, calcium and oxygen, so that blood circulation can improve and the mechanism for transporting substances contained in muscles such as lactic acid becomes smoother.

This is supported by research (Suprianto 2020), with a sample of 10 elderly respondents who experienced lower back pain, before stretching was given, 4 (40%) respondents felt mild pain, 6 (60%) respondents felt moderate pain. After giving stretching, it was found that the pain scale decreased in 3 (30%) respondents experienced moderate pain, 8 (70%) respondents experienced mild pain. From the results of the Wilcoxon test, it shows that the statistical test results obtained a p value = 0.00 a <0.05. Based on the research results, it can be concluded that there was a decrease in pain levels after giving stretching to the elderly at the Bagas Gymnastics Studio, Mangunrejo Village, Kepanjen District, Kab. Poor.

So from the results of the research discussion, it is assumed that stretching can influence the reduction of pain in elderly people aged 45 - 74 years at Posyandu Asoka Lima, Mangasa District, Makassar City when stretching is carried out in accordance with the SOP provided, the benefits of William's flexion exercises can help reduce weakness, relieve stress , increasing muscle strength. Because lower back pain cannot be accepted as an aging process, then this is just a chronic problem that requires a change in daily activities so that the aging process is not a problem.

CONCLUSION

Based on the results of research on "The Effect of Hip Movement Exercises (Coxae) Stretching on the Level of Lower Back Pain in the Elderly at Posyandu Asoka Lima, Mangasa District, Makassar City" it was found that the level of pain before stretching was given, 6 (24%) respondents experienced mild pain and 19 respondents experienced moderate pain. (76.0 %). while the level of pain after stretching was painless was 4 (16.0%) respondents and mild pain was 21 (84.0%) respondents.

So it can be concluded that there is an effect of stretching on the level of lower back pain in the elderly at Asoka Lima Posyandu, Mangasa District, Makassar City. Where the Wilcoxon test results obtained a p value = 0.00 < 0.05

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