

Research Article

Influence Combination Exercise William Flexion and Mckenzie Extension to Scale Painful Back Lower on Farmer

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Article history:

Submission October 2022

Revised December 2022

Accepted December 2022

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ABSTRACT

Background: Low Back Pain is one of the musculoskeletal disorders that can be experienced by those who have poor standing posture, especially farmers. Farmer risk caught low back pain caused by position work that is not ergonomically carried out continuously long, increasing with age. **Method:** This study used a pre-experimental research design with one group pre-post test design. Technique sampling used purposive sampling. A total of 32 respondents were involved, and the intervention was three times a week for two weeks. Scale painful be measured using the Numeric Rating Scale (NRS). **Result:** Results showed the scale of sore back lower before conducted intervention obtained an average of 4.06 (painful currently). After the intervention, the average scale lower back pain decreased to 2.16 (mild pain). Results analysis data using the test Wilcoxon shows the p-value = 0.000 < (0.005) value. **Conclusion:** There is an influence gift practice combination of William Flexion and McKenzie Extension to drop scale painful back lower on the farmer.

Keywords: lower back pain, combination practice William flexion and McKenzie extensions, farmer

Introduction

Low Back Pain (LBP) or painful lower back is related to stress/strain of back muscles, tendons, and ligaments, usually felt after strenuous activity. The activities include lifting heavy weights in wrong position, bending over too long, and standing/sitting in the wrong position too long. Having LBP could result in loss and interfere with work productivity [1].

Work farming character is monotone and continuous for a long time. Extreme exposure to the sun makes farmers get tired quickly at work, so that said farmer has a risk tall caught

disease as a consequence of work (SIR) [2]. The prevalence sufferer musculoskeletal disease is highest in Indonesia according to Health Research data work Base shows that farmers are one of the most frequent jobs that cause musculoskeletal disease (31.2%). In Indonesia, the prevalence rate of incident LBP is not yet known and certain. However, it estimated many experienced Public Among 7.6 %- 37% of the population [3]

Research in the United States on worker agriculture year 2010 reported 25.7% worker agriculture which sighs painful back lower [4]. A

How to cite:

Hartono, Darmawan, R. E., & Listyowati, D. (2022). Influence Combination Exercise William Flexion and Mckenzie Extension to Scale Painful Back Lower on Farmer. *Basic and Applied Nursing Research Journal*, 3(1), 46 – 50. doi: 10.11594/banrj.03.02.03

former study in Indonesia found 48 of 70 farmers (68.6%) had low back pain complaints [5]. Low back pain is a nuisance musculoskeletal caused by activity or body movement that is not good enough

One effort that could reduce pain lower back is stretching. Stretching back exercises could reduce pain in lower back body. Back exercises consist of William flexion and McKenzie extension, which will practice muscle becoming more solid and flexible. Normal flexibility will influence the widening vessels of capillary muscle, and blood circulation improves, reducing accumulation of rubbish metabolism and irritant, increasing oxygen supply to muscle cells, and reducing pain in theufferer [6].

A previous study stated a significant difference between the pretest low back pain scale and the posttest in the treatment group, given intervention William flexion [7]. McKenzie's exercise also showed significant results reduce the intensity of LBP ($p < 0.001$) gift Mckenzie exercise for lower pain intensity due to LBP [4]. Another two previous researchers showed that William Flexion or McKenzie exercise is capable of lower intensity LBP, but there is a study that combines William flexion and McKenzi extension against lower back pain scale [8]. This researcher will study the influence of William flexion combined with McKenzie extension against drop scale pain back lower on farmers in Region Work Public health center Wonosari I.

Methods

This study used pre- experiment approach with one pre-posttest design. This research was conducted in the region work Public Health Center Wonosari I from 22 February to 31 March 2021. The sampling technique used

purposive sampling and obtained 32 respondents who experienced low back pain by meeting the inclusion criteria and exclusion set by the researcher.

Researchers explained the aim, benefits, and research procedures in detail. Then prospective respondents were asked to sign informed consent if ready Becomes respondent in the study. Next, the researcher assessed the pain back lower scale (pretest) using the Numeric Rating Scale (NRS)[9]. The respondent practice a combination of William flexion and McKenzie extension[10] three times a week for two weeks. After finishing the intervention, it was measured for the post-test.

In the study, the univariate analysis consists of age, sex, and pain before intervention and after. Analysis bivariate aimed to analyze the effect of a combination of William flexion and McKenzie extension to LBP felt by the farmer. Analysis bivariate used a nonparametric Wilcoxon test.

Result and Discussion

Analysis Univariate

Table 1 shows the distribution of respondents based on characteristics. Most respondents were female as of 17 (53.1%) respondents, and 15 (46.9%) were male respondents. Whereas based on age showed majority was age early elderly (46-55 years) as of 17 (53.1%) respondents, and the lowest age was adult early (26-35 years) amount two (6.3%) respondents.

Table 2 shows pain scores before and after the intervention. Before the intervention William Flexion and exercise McKenzie Extension, most respondents experienced moderate pain 18 (56.3%), while 25 (78.1%) respondents experienced painful light after the intervention.

Table 1 Distribution of respondents based on characteristics

Characteristics	Frequency	Percentage (%)
Type Sex		
Man	15	46.9
Woman	17	53.1
Age		
Adult Early (26-35 years old)	2	6.3
Adult End (36-45 years)	13	40.6
Older adult Early (46-55 year)	17	53.1

Table 2 Pain score before and after intervention

Exercise Combination	Scale Painful Back Lower on Farmer								Total
	NoPain		Mild		Moderate		Severe		
	N	%	N	%	N	%	N	%	
Before	0	0	14	43.7	18	56.3	0	0	32
After	0	0	25	78.1	7	21.9	0	0	32

Table 3 Mean of pain score before and after conducted intervention

	Mean	Std. Deviation	N	P value
Pre	4.06	1.105	32	0.000
Post	2.16	1.221	32	

Bivariate Analysis

The mean pain score before intervention was 4.06 (moderate pain). After giving the intervention, it changed come 2.06 (mild pain). It dropped to 1.9 after the intervention combination William Flexion and workout McKenzie Extension was given. Wilcoxon test obtained a p-value of $0.000 < 0.05$, which meant there significant influences combination of William Flexion and exercises McKenzie Extension to lower back pain scale on farmer in Region Work Public health center Wonosari I.

Characteristics of Respondents Based on Type Sex

The study was in line with Kaur (2016), who stated that complaint LBP is more pronounced in women than men. It was because women had more intense bend down, which was longer compared with farmer men. Bend down position that is conducted continuously and for a long time could make fatigue, tense muscle, and finally cause flavor sick to the back[11].

A former study showed that level of risk complaint muscle skeleton was influenced by gender, in which case musculoskeletal disorders of women were higher than in men [12]. This happens physiologically, where women's muscle ability is lower than men's.

Characteristics of Respondents Based on Age

Age was divided into three categories, including the early adult category if respondents were below 35 years old, late adult when aged 36-45 years old, and the adult older early if respondents were aged 46-55 year old. From the

results, most respondents aged elderly beginning (46-55 years old) as much 17 respondents (53.1%).

A previous study stated that musculoskeletal complaints generally start at 25-65 years old. in line with increased age will occur degeneration on bone and state this start occurs when someone aged 30 years [13]. At age 30, degeneration occurs in the form of a damaged network, and a replacement network becomes a network scar and subtraction fluid. This causes stability on bone and muscle to become reduced. The more old somebody will increase the risk of reduced elasticity on the bone, which becomes triggers emergence of symptoms of Low Back Pain [2]. It can be assumed that women are more likely to have smaller muscle mass than men because hormones in the body women are more likely to bind fat than shape muscle.

Analysis Influence Combination Exercise William Flexion and McKenzie Extension to Decrease Scale Painful Back Lower

The finding was in line with a previous study that found there was a significant difference in pain scale before and after intervention practice flexion William in the intervention group, where the pain scores mean before intervention 3.82 (moderate pain) and after intervention showed an average of 2.59 (mild pain)[14]. Suputri et al. (2018) revealed a significant difference between the pain scores before and after the intervention McKenzie Extension exercise[15]. Giving practice William Flexion Exercise or McKenzie Extension Exercise designed to reduce back pain with method

strengthen (strengthening) abdominal muscles and gluteus maximus, as well as stall (stretch) muscles extensor back lower.

William Flexion exercise is a practice that aims to reduce painful back with method of stall muscles part posterior and also increase strength of muscle abdominals. Besides, it could increase lumbar stability by actively training the abdominal muscles, gluteus maximus, and hamstrings. That also helps reduce hyperlordosis lumbar and reduce pressure on the intervertebral disc, which can reduce pain in the area stomach and back[2].

Exercise McKenzie Extension is a practice dominated by movement extension, which uses the principle of strengthening and relaxation of muscles stabilizer of the backbone. Extension movement will stretch and relax the abdomen wall muscles and strengthen the backbone extensor muscles[15]. Exercise McKenzie Extension could increase mobility backbone, improve posture, and reduce pain in spine through relaxation of muscles that experience spasms so that they could return to function normally on the lumbar.

Reducing pain after practice William Flexion and McKenzie Extension occurred because this practice increases muscle flexibility which tenses up and influences nerve. Stretching can help the body structure healthy and fit for an extended period of time. Apart from that, this exercise could increase the circulation of blood and cell oxygenation. Besides, stretching could reduce symptom cells' oxygen deficiency which causes enhancement of acid lactate that stimulates pain[16].

The researcher could conclude that there was an influence Combination of William Flexion Exercise and McKenzie Extension to reduce pain LBP in farmers, which could strengthen and relax backbone muscles stabilizer so backbone spasm muscle extensor could reduce the impact intens pf LBP. Besides that also repairs the wrong posture, reducing pressure on the joint bearings back (intervertebral disc) and reducing ligament stretching, which can reduce pain in backbone.

Conclusion

William Flexion and McKenzie Extension could reduce LBP with a minimum practice

range of 20 to 30 minutes twice per week for two weeks. Women might be at higher risk of getting LBP, and an older adult might increase the chance of getting LBP. This exercise would be recommended for any age, as it is easy and safe at home. However, this study used a small sample size, and a bigger sample size is needed. A longitudinal study must check how effective this stretching is for a long time.

The nurse community should give education to promote William Flexion and McKenzie Extension. Another way nurses can collaborate with stakeholders is to find an instructor and practice it one time per week to educate society in any setting.

Acknowledgement

We say thanks to the Director Polytechnic Health Surakarta Satino, S.KM., M.Sc.N., Widodo, M N., as Chairman Major Nursing, Siti Lestari, MN., as Chairman Program Studies Bachelor Applied nursing, Hartono, S.Kep., Ns., M. Case, as lecturer mentor I, Suryanti, S.Kep., Ns., MSc., as supervisor II, as well as farmers who willing to be involved in research this.

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