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Effect of bone and joint resposition massage on reducing neck pain syndrome in farm workers

Muhammad Riyan Hidayatullah[1*], Khaerul Anam[1], Utami Rahayu Dewi[2], Ainul Aksa Nurhijati[2], Fasha Avrilia Kasmi Putri[2], Rindiani[2], Nurlaili Sopian[2], Muhammad Irfani[2]

Physical Education, Health, and Recreation, Faculty of Education, Nahdlatul Ulama University, West Nusa Tenggara, Indonesia

[*] Correspondence: mriyanhidayatullah@gmail.com

Abstract

Neck pain is a condition of injury to the soft tissue of the muscles, nerves, blood vessels, lymphatic Neck pain can be caused by several factors, including a sitting position that is too long, the wrong sleeping position, a hard impact on the neck, and pressure on muscles, nerves, bones and joints due to excessive lifting so that muscle stiffness occurs. The aim to be achieved in this study is to determine the effect of repositioning bones and joints (RTS) massage on reducing neck pain (Neck Pain Syndrome) in agricultural workers in Mesanggok Village Kec. Gerung Kab. West Lombok ". This study used a pre-experimental method with a one group pretest posttest design. The population in this study were 15 agricultural workers. The sampling technique used was purposive sampling. Data collection by measuring the Pain variable using the Visual Analogue Scale (VAS) measuring instrument. Data analysis using the T-test formula. The results showed that the results of the posttest based on the formula "t-test" obtained t $_{count}$ is 4.599 which is compared with t $_{table}$ at a significance level of 5% at degrees of freedom n-1 (15-1 = 14) which is 1.761. Because t $_{coun}$ t > t $_{table}$ (4.599 >1.761) then the working hypothesis is accepted so it can be concluded that "there is an effect of massage method repositioning bones and joints (RTS) on Decreasing Neck Pain Syndrome in Farm Labourers in Mesanggok Village, Gerung District, West Lombok Regency".

Keyword: *Bond join resposition; massage; neck pain; farm workers*

Abstrak

Nyeri leher dapat disebabkan oleh beberapa faktor, antara lain posisi duduk yang terlalu lama, posisi tidur yang salah, benturan yang keras pada leher, dan tekanan pada otot, saraf, tulang dan sendi akibat mengangkat beban yang berlebihan sehingga terjadi kekakuan otot. Tujuan yang ingin dicapai dalam penelitian ini adalah untuk mengetahui pengaruh reposisi tulang dan sendi (RTS) massage terhadap penurunan nyeri leher (Neck Pain Syndrome) pada pekerja pertanian di Desa Mesanggok Kec. Gerung Kab. Lombok Barat". Penelitian ini menggunakan metode pra-eksperimental dengan rancangan one group pretest posttest design. Populasi dalam penelitian ini adalah 15 orang pekerja pertanian. Teknik pengambilan sampel digunakan adalah purposive sampling. Pengumpulan data dengan cara mengukur variabel Nyeri dengan menggunakan alat ukur Visual Analogue Scale (VAS). Analisis data menggunakan rumus T-test. Hasil penelitian menunjukkan bahwa hasil posttest berdasarkan rumus "t-test" diperoleh t $_{hitung}$ yaitu 4,599 yang dibandingkan dengan t $_{tabel}$ pada taraf signifikansi 5% pada derajat kebebasan n-1 (15-1= 14) yaitu 1,761. Karena t $_{hitung}$ > t $_{tabel}$ (4,599 > 1,761) maka hipotesis kerja diterima sehingga dapat disimpulkan bahwa "ada pengaruh massage metode reposisi tulang dan sendi (RTS) terhadap penurunan nyeri leher (Neck Pain Syndrome) pada buruh tani

Kata kunci: *Resposisi ikatan bergabung; pijat; nyeri leher; pekerja pertanian*

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Introduction

Neck pain is a condition of injury to the soft tissue of the muscles, nerves, blood vessels, lymphatic system and dislocation of bones and joints in the cervix 1-7 due to overuse experienced by people after carrying out daily work activities. Neck pain can be caused by muscle tension in the back of the neck, right and left neck which is caused by several factors including, the longest sitting position, wrong sleeping position, hard impact on the neck, and pressure on the muscles, nerves, bones and joints due to lifting heavy weights. excessively, resulting in muscle stiffness, especially in farm workers in Mesanggok village.

Based on the results of observations and interviews with several agricultural laborers, it was found that there were several complaints that were often felt while working in the fields for long periods of work, continuously for hours, such as low back, back and neck pain. The movement of hoeing, planting and harvesting field crops which is carried out over a long period of time causes injuries to certain parts of the body such as the neck, waist and shoulders. It is not uncommon for farmers to complain of pain due to the pain they experience after returning from work from their fields. Almost the majority of the people in Mesanggok village are agricultural laborers. Earning a living for the family's daily living needs by working on rice fields or fields. It is from this problem that researchers want to provide a solution to the complaints felt by farmers by carrying out manual massage (manurak) using the joint and bone restoration method in one of the dominant body organs that experiences pain, such as neck pain, which is expected to restore and normalize the body's health. farm laborers in Mesanggok Village.

Pain in the neck can spread to the head, shoulders and arms over time if it is not treated appropriately and properly. To overcome this pain or soreness, the body needs sufficient recovery so that it becomes fresh again. There are various ways to speed up recovery, such as: active rest, acupuncture, reflexology, Swedish massage, sports massage, etc. (Hidayatullah et al. 2022). Of all the methods above, sports massage is seen as the most successful way to relax and restore physical condition due to fatigue or soreness experienced after doing activities for most people. This can be proven by several studies that have been carried out in various parts of the world regarding the effects of massage on the recovery of a person's physical condition.

Massage with a combination of traction and repositioning of bones and joints is an alternative way to treat injuries in neck pain. Massage is a technique for treating injuries using a method of massaging injured muscles which can eliminate stiffness and tension so that the muscles become relaxed, flexible and can improve blood circulation. Sports massage is a massage aimed at all healthy people, in this case it does not mean that sports massage is only for sportsmen, but it can also be given to anyone, both old and young, men or women, including someone who suffers. Minor injuries can be cured with sports massage (Riyan Hidayatullah & Yaka Saputra, 2021). Massage can improve problems in muscle joints, relax the body, restore tension and relieve pain (Triyadini et al,. 2019). Traction is a pull or stretch carried out on muscles, bones and joints by stretching in the opposite direction with a slight

muscle contraction so that the injured part can move freely. Resposition is the final stage in injury treatment which can restore the position of soft tissue that has shifted or been dislocated due to injury back to its original position by rotating the injured joint with a combination of stretching the bones and joints.

The focus of this research is to provide treatment for the recovery of injuries experienced by farmers using traction methods and repositioning joints with bones. Based on the problems above, the author is interested in conducting research entitled "The Effect of Bone and Joint Resposition Method (RTS) Massage on Reducing Neck Pain (Neck Pain Syndrome) in Farm Workers in Mesanggok Village, Gerung District, West Lombok".

Method

This research uses a pre-experimental method because in this research the pre- and posttest treatment (pretest and posttest) is only carried out in each class or one group. The research design uses a one-group pretest posttest design because the pretest and posttest treatment is carried out on one group without a control or comparison group (Sugiyono, 2014:109). The research samples/respondents became one group and then data collection and measurements were carried out before and after being given Bone and Joint Reposition Therapy treatment, with the aim of knowing whether or not there were changes experienced by the respondents before and after being given the treatment. The research design used can be described as follows:

$$T_1 \rightarrow X \rightarrow T_2$$

Image 1. Research design
(Reference: Hulfian, 2014:38)

Information:
T1 = *pretest*
X = *Treatment*
T2 = *postest*

The population and sample in this research were 15 agricultural laborers. The research population is delimited based on agricultural laborers who lift heavy loads for farmers' harvests in Mesanggok Village. Sampling in this study used a purposive sampling technique to determine the criteria for those affected by pain in the neck. The data processing method used is a statistical analysis method, because the data obtained is quantitative in the form of numbers. In statistical analysis, the data obtained must first be proven to be correct and valid. For this purpose the author uses the "t-test" formula with the following explanation: The data processing method used is a statistical analysis method, because the data obtained is quantitative in the form of numbers. In statistical analysis, the data obtained must first be proven to be correct and valid. For this purpose the author uses the "t-test" formula with the following explanation:

$$t = \frac{\sum D}{\sqrt{\frac{N.\sum D^2 - (\sum D)^2}{(N-1)}}}$$

(Hulfian, 2014: 70)

Keterangan:
D = The difference between each pair of scores (*posttest pretest*)
N = Number of samples used

Results and Discussion

Results

1. Pretest results of pain levels in farmers

   The pretest results are data obtained before the sample in the research, namely 15 farm workers in Mesanggok Village, before receiving treatment in the form of giving Bone and Joint Resposition Method Massage (RTS).

Table 1. Pretest results of pain level in the neck

No	Name of Farmer	Assess Pain Level
1.	Abdul Latif	90
2.	Abu Bakar	81
3.	Abdullah	80
4.	Abdul Muis	90
5.	Muhammad aldin	61
6.	Sabri	60
7.	Yasin	81
8.	Abdul kadir	81
9.	Saparwadi	41
10.	Suhardin	41
11.	Humaini	80
12.	Muhammad Yunus	61
13.	Saifullah	60
14.	Khaeruddin	90
15.	Kaharuddin	81

Based on the table above, we can see that farm workers experience high levels of pain in the neck. The information on the pain scale categories is no pain, value 0, slight pain, value 1-20, pain, value 21-40, moderately severe pain, value 41-60, severe pain, 61-80, very severe pain, value 81-100.

2. Posttest results of the level of pain in the neck

   The posttest results are data obtained before the sample in the research, namely 15 farm workers in Mesanggok Village, before receiving treatment in the form of giving bone and joint resposition method massage.

Table 2. Posttest results of level of pain in the neck

No	Name of Farmer	Assess Pain Level
1.	Abdul Latif	80
2.	Abu Bakar	61
3.	Abdullah	80
4.	Abdul Muis	80
5.	Muhammad aldin	60
6.	Sabri	60
7.	Yasin	61
8.	Abdul kadir	80
9.	Saparwadi	0
10.	Suhardin	0
11.	Humaini	41
12.	Muhammad Yunus	41
13.	Saifullah	60
14.	Khaeruddin	61
15.	Kaharuddin	41

Based on the table above, we can see that there are 2 farm workers who have a scale score of 0, namely the category of people who do not have pain in the neck.

1. Hypothesis test

   Ha : There is an Effect of Bone and Joint Resposition Method (RTS) Massage on Reducing Neck Pain (Neck Pain Syndrome) in Farm Workers in Mesanggok Village, District. Gerung District. West Lombok.

   Ho : There is not an Effect of Bone and Joint Resposition Method (RTS) Massage on Reducing Neck Pain (Neck Pain Syndrome) in Farm Workers in Mesanggok Village, District. Gerung District. West Lombok

2. Prepare a work table

Tabel 3. Prepare a work table

No	Name	Level of pain in the neck		D	D^2
		Pretest (T_1)	*Posttest* (T_2)		
1	Abdul Latif	90	80	10	100
2	Abu Bakar	81	61	20	400
3	Abdullah	80	80	0	0
4	Abdul Muis	90	80	10	100
5	Muhammad aldin	61	60	9	81
6	Sabri	60	60	0	0
7	Yasin	81	61	20	400
8	Abdul kadir	81	80	1	1
9	Saparwadi	20	0	20	400
10	Suhardin	20	0	20	400
11	Humaini	81	41	40	1600
12	Muhammad Yunus	61	41	20	400

13	Saifullah	60	60	0	0
14	Khaeruddin	90	60	30	900
15	Kaharuddin	81	41	40	1600
Jumlah		1037	805	240	6382

3. Distribute data into formulas

$$t = \frac{\sum D}{\sqrt{\frac{N.\sum D^2 - (\sum D)^2}{N-1}}}$$

$$t = \frac{240}{\sqrt{\frac{15\,(6382) - (240)^2}{15-1}}}$$

$$t = \frac{240}{\sqrt{\frac{95730 - 57600}{14}}}$$

$$t = \frac{240}{\sqrt{\frac{38130}{14}}}$$

$$t = \frac{240}{\sqrt{2723{,}57}}$$

$$t = \frac{240}{52{,}18}$$

$$t = 4{,}599$$

4. Test the t value
   The result of the t calculation based on the formula above is the calculated t, namely 4.599, which is compared with the t table at a significant level of 5% at the n-1 degree of freedom (15-1= 14), namely 1.761.
5. Draws Conclution
   Because $t_{count} > t_{table}$ (4.599 > 1.761) the working hypothesis is accepted so it can be concluded that "There is an influence of bone and joint reposition method massage (RTS) on reducing neck pain (Neck Pain Syndrome) in agricultural workers in Mesanggok Village, District. Gerung District. West Lombok. When carrying out daily physical activities, of course we still have to pay attention to our physical condition so that we are still able to carry out our activities well. Military work is work that is very tiring and prone to causing pain, therefore it is important to continue to receive treatment in the form of massage, so that it can help reduce the pain experienced. From the results of the initial test, there were deficiencies in the workers, namely the level of pain in the neck.

Discussion

When carrying out daily physical activities, of course we still have towe must pay attention to our physical condition so that we are still able to carry outcan perform our activities well. Military work is work that is very tiring and prone tocan causinge pain, thereforeso it is important to continue to receive treatment in the form of massage, so that it can help reduce the pain experienced. From the results of the initial test, there were

deficiencies in the workers, namely the level of pain in the neckreceive massage treatment to help reduce the pain.

According to Bambang Priyonoadi (2008:5-6), the aims and benefits of massage in generalare:

1. Improveing blood circulation, especially the encouragement of venous blood or blood that goes to the heart. This smooth blood circulation will then speed up the process of removing combustion residuevenous blood flow to the heart. This promotes the removal of waste products and the distribution of food juicenutrients to the body's tissues.
2. Stimulates innervation, especiallying peripheral nerves, to increase sensitivity to stimuli.
3. Increaseing muscle tension and muscle elasticity to increase theirenhance working power, m. Massage will help thefacilitates muscle contraction process, namely maximal tensing and shortening of the muscles.

From the aims and benefits of bone and joint repositioning massage described above, this is in line with the results of research that has been carried out that providing bone and joint repositioning massageand shortening. The benefits of bone and joint repositioning massage align with the research findings that it can help reduce pain levels. After calculatanalyzing the pain level scale data, the researchers were able to find out that givingit was discovered that bone and joint repositioning massage tofor farm workers couldresulted in reduced pain levels. From The data above we can also see that there arelso shows that 2 farm workers who have a score ofd 0, indicating that is, they doid not feelexperience any pain after being given treatment. The results of the research are relevant to research conducted by (Mulya et al,. 2021) regarding Providing Sports Massage and Stretching on the Recovery of Muscle Fatigue and Lactic Acid Levels in Athletes. The results of this study indicate that sports massage provides the effect of recovering muscle fatigue (after intervention for up to 7 days thereafter) and lactic acid levels (effective in men) while stretching has no significant effect.

Conclusion

If we look at the results of the t-test data analysis $t_{count} > t_{table}$ (4.599 > 1.761) then the working hypothesis is accepted so it can be concluded that "There is an influence of bone and joint reposition (RTS) massage on reducing neck pain (Neck Pain Syndrome) in workers. Farm Workers in Mesanggok Village, District. Gerung District. West Lombok. It is hoped that the results of this research will be able to provide education to the general public, especially farmers, in maintaining and maintaining their physical condition so that they are not easily injured.

Author's Statement

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