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## **The effect of *slow stroke back massage nursing (SSBMN) cutaneous stimulus on pain intensity on sweet food cravings (Arai Pinang) suffering low back pain (LBP)***

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**Abstract**--Low back pain is the most common complaint. About 90% of the causes of LBP are mechanical factors. The normal anatomic structure of the body when used excessively or previously experienced trauma can cause stress or strain on muscles, tendons and ligaments. Actually the pain is minimized by using a back massage. AHCPR (Agency for Health Care Policy and Research) guidelines for non-pharmacological acute pain management are suitable interventions. Non-pharmacological interventions that can be done to treat pain are cutaneous stimulation, distraction, relaxation, guided imagination and hypnosis. This study aims to determine the effect of slow stroke back massage cutaneous stimulus on pain intensity in Ladu snack craftsmen (aria pinang) who suffer from low back pain in Pariaman City. The research design used is a quasi experiment. The number of samples is 14 respondents with purposive sampling technique. The independent variable was slow stroke back massage cutaneous stimulus while the dependent variable was pain intensity. This study used the Wilcoxon signed rank test. The results showed that there was an influence between the intensity of pain before and after the intervention of cutaneous stimulation of slow stroke back massage in 1 week 3 times in a row for 4 weeks on Ladu snack craftsmen (aria pinang) who suffered from low back pain with  $p$  value =  $0.000 < 0.05$ .

**Keywords**---Low back pain, pain disorder, pain intensity.

## **Introduction**

Musculoskeletal disorders have become a common problem in border centers around the world. WHO (2017) in its report published in the WHO Technical Report Series Number 919 entitled "The Burden of Musculoskeletal Conditions at The Start of the New Millennium" states that there are approximately 250 types of musculoskeletal disorders suffered by humans, resulting in pain, prolonged inflammation and disability, causing social psychological disorders of the sufferer. Low back pain, which is the most common complaint [1].

Low back pain (LBP) is essentially a complaint or symptom, not a specific disease [2]. LBP not only results in a poor quality of life for a person, but also reduces work productivity, increases absenteeism and accelerates retirement [3]. The results of the study by Cropcord Indonesia (2004) showed that the prevalence of LBP in men was 18.2% and in women was 13.6%, while 60-90% of the population said that they had experienced low back pain (LBP) once or more during their lifetime [3].

About 90% of the causes of LBP are mechanical factors. The normal anatomic structure of the body when used excessively or previously experienced trauma can cause stress or strain on muscles, tendons and ligaments [5]. In addition, from an anatomical and functional point of view, LBP can also be caused by abnormalities in the spine, where the spine is a structure that supports the body and head which is always involved in various postures and movements so that it is easy to be disturbed [5].

Pain in patients with LBP makes the sufferer afraid to move so that it interferes with daily activities and can reduce productivity. The pain experienced by LBP sufferers can lead to frustration in living daily life so that it can interfere with the quality of life [6]. Pain is one of the causes of discomfort. Nurses are obliged to help clients who experience pain discomfort to reduce or eliminate pain. Pain management can be done with pharmacological and non-pharmacological therapy. Pharmacological therapy using cyclooxygenase inhibitors (COX inhibitors) often causes side effects, namely gastrointestinal disturbances [7]. Long-term use of COX inhibitors can result in gastrointestinal bleeding, peptic ulcers, perforation and renal impairment [8]

The AHCPR (Agency for Health Care Policy and Research) guidelines for the management of acute pain (1992) state that non-pharmacological interventions are suitable interventions for patients who do not want to use pharmacological therapy in overcoming pain. Non-pharmacological interventions that can be done to treat pain are cutaneous stimulation, distraction, relaxation, guided imagination and hypnosis [6].

Cutaneous stimulation is skin stimulation performed to relieve pain. One simple step in an effort to reduce pain by using a cutaneous stimulus is to do massage

and touch. According to Meek (1993) massage and touch are sensory integration techniques that affect the activity of the autonomic nervous system [6]. If the individual perceives touch as a stimulus to relax, a relaxation response will appear. Relaxation is very important in helping clients to increase comfort and free themselves from fear and stress due to illness and endless pain [6]. One type of cutaneous stimulus is a slow back massage (Slow Stroke Back Massage Nursing). circulation. Slow stroke back massage (SSBM) causes the release of endorphins, thus blocking the transmission of painful stimuli [6].

The technique for performing SSBMN can be done with several approaches, one method is by gently rubbing the client's skin and rhythmically with the hand, with a speed of 60 strokes per minute [6]. Long, gentle strokes can provide pleasure and comfort for the patient, while short, circular strokes tend to be more stimulating [9]. This technique is simple and easy to do, so every nurse and health institution can apply it to overcome pain problems, especially in LBP patients. This procedure also allows the nurse to examine the patient's skin condition [10] [14].

One of the advantages of the slow-stroke back massage nursing (SSBMN) cutaneous stimulus is that it can be performed at home, allowing patients and families to make efforts to control pain [6]. This can help the client and family independence in managing pain, especially for patients who have difficulty getting medical service facilities or patients who do not want to overcome pain by using pharmacological therapy. In addition, in providing SSBMN cutaneous stimulation, it is not necessary to use special tools that require large costs, but simply a simple massage action with expert skills so that this stimulus can be given to people starting from the upper economic level to the lower economic community [15].

Based on a preliminary study conducted in the Village of Kampung Perak, Pariaman City by collecting data through interviews with several ladu snack craftsmen (aria pinang), five out of six ladu (arai pinang) craftsmen said they often experience musculoskeletal disorders in the lower back area and are strengthened by the presence of signs and symptoms of low back pain, pain feels like a stabbing pain and occurs suddenly due to muscle sprains/muscle injuries and often spreads to the upper and groin. Of the 6 people, said they did not know about slow stroke back massage cutaneous stimulus back massage therapy, to deal with pain they smeared it with balm.

Based on the above background, it is necessary to conduct research to determine the effect of slow stroke back massage cutaneous stimulus on pain intensity in ladu snack craftsmen (aria pinang) who suffer from Low Back Pain (LBP) in Kampung Perak Village, Pariaman City.

## **Research Methods**

This study uses a quasi-experimental pre-post test design method and uses one group to observe the intensity of pain before and after the slow stroke back massage cutaneous stimulus. The independent variable or independent variable in this study is the effect of slow stroke back massage cutaneous stimulus while

the dependent variable or dependent variable in this study is the intensity of low back pain in ladu snack craftsmen (Arai pinang) who suffer from low back pain (LBP) in Kampung Perak Village, Pariaman City. The population in this study were 27 people who work as artisans of ladu snacks (aria Pinang) (Home Industry) in the Village of Kampung Perak, Pariaman City. The data collection tool used in this study consisted of a questionnaire to obtain data about the characteristics of the respondents. This questionnaire consists of 3 parts, the first part is an interview sheet conducted during the preliminary study, the second part is an observation sheet in the form of respondent's diagnosis data, the third part is a pain intensity observation sheet to get the value of low back pain intensity before and after slow cutaneous stimulus intervention. stroke back massage. The test was carried out according to the slow stroke back massage cutaneous stimulus procedure. The data collection method in this study used primary data collection methods, namely data measuring the degree of reduction in pain intensity using a pain scale.

## Results and Discussion

Kampung Perak village was chosen as the research site because part of this area is an industrial area for ladu snacks (aria pinang), where most of the residents work as craftsmen for ladu snacks (aria pinang), home industries. This type of work in the Ladu snack (aria pinang) industry is a type of work that requires a lot of energy and activity in the limbs, which makes them vulnerable to low back pain (LBP). This condition allows researchers to conduct research in the Village of Kampung Perak, Pariaman City.

The total number of respondents in this study were 14 people who had been diagnosed with low back pain (LBP) who worked in the home industry of ladu snack (aria pinang) artisans, then were given a cutaneous stimulus intervention of slow-stroke back massage for 15 minutes. The intervention was given 3 times a week every afternoon for 12 interventions for 4 weeks. Description of the demographic characteristics of respondents consisting of age, gender, religion, ethnicity, education and occupation. Respondents in this study were patients who had been diagnosed with low back pain (LBP) and complained of pain with a moderate pain intensity scale (4-6).

### Pain Intensity before Intervention cutaneous stimulus slow-stroke back massage

Table 1. Intensity of pain before slow stroke back massage nursing cutaneous stimulus intervention on Ladu Snack Crafts (Arai Pinang) who suffer from LBP in Kampung Perak Village, Pariaman City 2020.

Intervention	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
Pre-test N 14	0	6	6	6.00	0.000	0.000

Based on table 1, the intensity of pain in rattan craftsmen who suffered from LBP before the slow stroke back massage cutaneous stimulus intervention in the

Kampung Perak Village, Pariaman City in 2020, was the average pain intensity score of 6.00 with a valid number of 14 people. The percentage of pain intensity before the slow stroke back massage cutaneous stimulus intervention was 14 people (50%) experiencing moderate pain intensity with a pain scale of 6.

### **Pain Intensity after intervention of cutaneous stimulus slow-stroke back massage**

Table 2. Intensity of pain after slow stroke back massage nursing cutaneous stimulus intervention on Ladu Snack Crafts (Arai Pinang) who suffer from LBP in Kampung Perak, Pariaman City 2020.

Intervention	N	Range	Minimum	Maximum	Mean	Std.	Variance
Post-test	14	2	0	2	0.88	0.84	0.717

Based on table 2, it can be seen that the intensity of pain in rattan craftsmen who suffer from LBP after a slow stroke back massage cutaneous stimulus intervention is the average pain intensity score of 0.88 with a valid number of 14 people. The percentage of mild pain intensity with a pain scale of 2 is 7 people (14.5%), the percentage of mild pain intensity with a pain scale 1 is 7 people (14.5%), and the percentage of pain intensity in the no-pain category with a pain scale of 0 is as many as 13 people (21%).

### **Effect of slow-stroke back massage cutaneous stimulus intervention on Ladu Snack Crafts (Arai Pinang) who suffer from LBP in Kampung Perak, Pariaman City 2020**

Table 3. Effect of slow-stroke back massage nursing cutaneous stimulus intervention on Ladu Snack Crafts (Arai Pinang) Suffering from LBP in the Village Kampung Perak Kota Pariaman 2020

Intervention	Mean	<i>p value</i>
Pre test	6	
Post test	0.88	0,000

Based on table 3, the scores for pain intensity before and after the slow stroke back massage cutaneous stimulus intervention were 30 positive ranks, ties 0 respondents with an average rank of 15.00. Statistical test results obtained - 4.823 p value 0.000 which means H0 is rejected or there is an influence of slow stroke back massage cutaneous stimulus intervention conducted by researchers on pain intensity in Ladu Snack craftsmen (Arai Pinang) who suffer from LBP in Kampung Perak Village, Pariaman City 2020.

### **Pain intensity before cutaneous stimulus intervention slow stroke back massage**

The results of the study on the intensity of pain in Ladu Snack craftsmen (Arai Pinang) who suffer from LBP in the Kampung Perak Village, Pariaman City 2020, which is an average score of 6.00 with a valid number of 14 people.

All respondents (100%) work as rattan craftsmen who use more energy and activities, so they are easy to experience LBP. Bimariotejo (2009) states that trauma and mechanical disturbances caused by doing muscle work or carrying out activities with heavy loads can cause LBP type of pain that interferes with daily activities

Based on the discussion above, it can be seen that there is an increase in the intensity of low back pain or a decrease in mobilization in rattan craftsmen who suffer from LBP before performing a slow stroke back massage cutaneous stimulus intervention. Impaired mobilization or decreased mobilization in low back pain patients will cause symptoms of other diseases that appear more severe than acute LBP, such as chronic LBP and allow other diseases to arise as discussed in the previous discussion. In addition to impaired mobility, patients will also experience an increase in pain intensity with various pains that appear depending on the cause of the emergence of LBP.

To overcome the pain, the patient needs to be given further action, such as giving a slow stroke back massage cutaneous stimulus intervention in 1 week, given intervention 3 times in a row on a regular basis for 4 weeks with actions according to the SOP, it aims to reduce the intensity of LBP pain and reduce pain. as a prevention effort by avoiding other disease factors (complications arise).

#### **Pain intensity after cutaneous stimulus intervention slow stroke back massage**

The results of the study on pain intensity in Ladu (arai areca) snack craftsmen with LBP after the slow stroke back massage cutaneous stimulus intervention in the Kampung Perak Village, Pariaman City 2020, namely the average pain intensity of 0.88 with a valid number of 14 people.

Based on the results above, it can be seen that after the slow stroke back massage cutaneous stimulus intervention, the average pain intensity increased significantly, if you look before the slow stroke back massage cutaneous stimulus intervention the average pain intensity is greater. The results of this study are supported by Sri Adhyati's research (2010) which shows that there is an influence or decrease between pain intensity before and after the slow stroke back massage cutaneous stimulus intervention 3 times a week for 15 minutes in LBP patients. From the results of his research, the score was 3.2 after the intervention, while the results of this study obtained an average value of 0.88 after the intervention was lower than the previous study.

#### **The Effect of Cutaneous Stimulus Intervention Slow Stroke Back Massage on Pain Intensity Low Back Pain**

The results of the study were obtained after the slow stroke back massage cutaneous stimulus intervention compared to before the slow stroke back massage cutaneous stimulus intervention -4.823 p value 0.000 which means that HO is rejected or there is an influence of slow stroke back massage cutaneous stimulus

intervention conducted by researchers on pain intensity in low back patients. pain in Kampung Perak Village, Pariaman City in 2020.

This shows that the provision of slow-stroke back massage nursing cutaneous stimulus affects the intensity of pain in patients with low back pain (LBP). The decrease in pain intensity and this significant difference was due to the effect of giving a slow-stroke back massage nursing cutaneous stimulus, in the form of massage on the back with slow strokes for 15 minutes. By giving a slow-stroke back massage nursing cutaneous stimulus, it can stimulate A beta fibers which are abundant in the skin and respond to light massage on the skin so that impulses are delivered faster. Giving this stimulation makes the dominant impulse input from the A beta fiber so that the gate closes and pain impulses cannot be transmitted to the cerebral cortex to be interpreted as pain. pain transmission and pain perception do not occur

Thus, the cutaneous stimulus of slow-stroke back massage nursing affects the intensity of pain in patients with low back pain and is proven to be able to reduce the value of the intensity of low back pain. The results of previous research conducted by Shocker (2018) on "The Effectiveness of Slow-Stroke Back Massage Nursing Therapy Against Blood Pressure in the Elderly" also proves that the cutaneous stimulus of slow-stroke back massage affects and lowers blood pressure in the elderly. Therefore, by conducting a slow-stroke back massage nursing cutaneous stimulus intervention in low back pain patients in Kampung Perak Village, Pariaman City regularly with the right steps, it can improve pain intensity or reduce pain intensity and increase mobilization.

### **Conclusion**

Giving slow stroke back massage nursing cutaneous stimulus to Ladu snack craftsmen (Arai Pinang) who suffers from low back pain in Kampung Perak Village, Pariaman City very effective in reducing pain in LBP patients. And the need to pay attention when working in a good and correct (ergonomic) position is very important in order to reduce the incidence of low back pain due to bad working position.

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