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Sport Massage Manipulation on Wemove Futsal Bekasi Club Players

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ABSTRACT

This study aimed to determine how much influence *sports massage* manipulation has before and after training on Wemove Futsal Club Bekasi players. This type of research is an experiment with a quantitative descriptive approach. The research design uses *pre* and *post-tests* before and after training with *sports massage* manipulation techniques in the face-down and prone positions. The study population was 25 Wemove Futsal Bekasi Club Players. The sample of this study was 20 people who were divided into two groups, namely group A and Group B. The data were collected by questionnaire. Data analysis was carried out by quantitative descriptive analysis using *paired t-tests.* The results showed that Manipulation of *sports massage* before and after training affected the body in Wemove Futsal Bekasi Club players with a t value in group A -0.051 < t table -2.262 with a significant value of 0.001 < 0.05 and in groupB t count -5.259 < t table -2.262 with a significant value of 0.001 < 0.05.

INTRODUCTION

One way to maintain a healthy body is by exercising. Sports can be done in sports facilities such as fitness centres, gymnastics studios, futsal courts, martial arts training centres and many other sports facilities. The purpose of establishing these sports centres is so that every communitycan carry out sports activities to improve the health of the body's organs and physical fitness. Sport is a prevalent activity with many people who have gone global and become an inseparable part of people's daily lives. Sports activities can be a way to escape from boredom and the mental stress of daily routines (Jaya, 2019). futsal may be one of the most popular sports.

Teenage children to adults mostly play futsal games. This is evidenced by the number of futsal clubs in each region and futsal matches held locally, regionally, nationally, and internationally (Narlan et al., 2017). According to Lhaksana (2012), Futsal in Spanish is "futbol sala", which means indoor football. The game of futsal is the same as football; what distinguishes these two games is the number of players, the size of the ball, and the size of the field and some basic techniques are different. Continuous and diligent training in futsal will give birth to professional athletes.

Every athlete involved in sporting activities must want achievement itself. Achievement is an achievement of the quality of the training process that athletes have gone through, be it physical, technical, tactical, or mental. These four components are an essential part of the training process and are interrelated. The maximum physical condition must besupported by good technique, and mental affirmation is the final position of the sports achievement pyramid (Titirloloby & Roy, 2021). In the training process, the futsal game has the characteristics of a fast game between defence and attack. Within 2 x 15 minutes of playing, the gamewill not stop running, moving and exchanging positions (Hafizudin et al., 2018). This training will result in fatigue, muscle aches and pain. To overcome the pain or soreness, the body needs adequate recovery to become fresh again. There are various ways to speed up recovery, suchas active rest, acupuncture, massage, and others (Musrifin & Andi, 2021).

Of all the above, massage is now seen as the most successful way to relax due to fatigue or soreness experienced after Training (Musrifin & Andi, 2021). Massage is now seen as the most successful way to relax due to fatigue or soreness experienced after doing activities for mostpeople. This evidence has supported the position of massage practised by several groups of people worldwide (Musrifin & Andi, 2021). Massage is done with various manipulation movement techniques, including effleurage, petrissage, shaking, tapotement, and friction. The movement pattern's direction towards the heart, especially for effleurage massage (Akhmad et al., 2021). There are various kinds of massage, but the best known is Sports Massage.

Sports massage has the effect of reducing anxiety and improving blood circulation. Massage is a manipulation of soft tissue structures applied to the human body to create a sense of calm, comfort, and relaxation and reduce pain (Musrifin & Andi, 2021). The need for sports massage is critical, so futsal athletes can take part in further training. Therefore, if you get a good and correct massage, someone is sometimes in a mental and physical situation that is difficult to describe.Sports Massage's influence creates a sense of pleasure, security, and peace (Setiawan, 2014).

So the researcher wants to examine in depth "The Effect of Sports Massage ManipulationBefore and After Training on Body Comfort in Wemove Futsal Club Bekasi Players". So that researchers can find out and convey information about handling both preventively (prevention) and curatively (treatment). To add insight to Futsal Athletes who experience muscle disorders and body comfort.

Research Objectives: In this study, the authors have the following research objectives: To determinethe effect of sports massage manipulation before and after training on body comfort in Wemove FutsalClub Bekasi players.

RESEARCH METHODS

This research method is descriptive quantitative with experimental design. Quantitative research is a research method based on the positivism philosophy, which is used to research specific populations or samples (Sugiyono, 2012). Pure experimental design is a research design used to seek the effect of specific treatments on others under controlled conditions. The population in this study were all 25 Wemove Futsal Club players. The sample of this study is part of the population that meets the criteria, namely 20 samples divided into two groups, namely Group A and Group B, for these criteria, namely male gender and active Wemove Futsal Club members. Research instruments are test tools that will be used to collect data. The instruments used in this study include the Sports Massage Guidebook written by Arief Setiawan entitled Sports Massage in 2014, Stopwatch Used to set the time during Sports Massage treatment and Questionnaires. The data collection technique in this study was to use a questionnaire. This type of research questionnaire is a closed questionnaire where a respondent answers by choosing a solution that has been adjusted. Validity and Reliability tests were carried out to measure the questionnaire well to produce valid data. The data that has been collected is analyzed using statistical analysis techniques from SPSS version 24. The data analysis technique used first is the Shapiro-Wilk Normality Test with a significant level> 0.05. then the data is analyzed using the Paired T-Test with a significant level <0.05 and the value of t count> t table with N of 20. The T table value is 2.262 / -2.262 (Montolalu & Yohanes, 2018).

RESULTS AND DISCUSSION

Validity Test

Validation testing measures the validity or validity of a questionnaire question. The questionnaire is valid if the question can reveal something measured from the questionnaire. The validity test in the study was used to measure whether or not a questionnaire was valid, with a total score at a significance level of 5% and a sample size of 20 respondents. To test its validity, the researcher compared the Pearson correlation of each item with the product moment r table. If rcount> rtable, then the statement item is declared valid. The validity test results can be presented in the table below with n = 20 and $\alpha = 5\%$; the table value is 0.444.

RI > 0.444, then the questionnaire statement item is valid

RI < 0.444, then the questionnaire statement item is invalid

The results are compared with each item's Person Correlation (r count) with the r product moment table (r table). Based on the validity test of the correlation coefficient of the question items on

the 50 questions used in the questionnaire both before and after training. The value of each r count > From the r table specified, all are declared valid for the validity test on the questions used.

Reliability Test

According to Husein (2008), the reliability test helps determine whether the research instrument used, in this case, a questionnaire, can be used more than once or at least by the same respondents. Reliability calculation is a calculation of the consistency of questionnaire data using the Cronbach Alpha formula. This formula is adjusted to the scoring technique carried out on each item in the instrument. The correlated item-total correlation value in an indicator to be declared reliable is at least 0.70 (Nunnally & Bernstein, 1994). The following are the results of the reliability test of each variable.

Table 1. Reliability Test Results

No.	Variables	Cronbach's Alpha	Description
1	Before Training	0.973	**Reliable**
2	After Training	0.978	**Reliable**

Based on Table 1, the reliability test results before training show a value of 0.973. Thevalue is> 0.7. The results of the reliability test after training get results of Cronbach's Alphavalue of 0.978. The value is> 0.7, so the reliability test results before and after training are declared *reliable.*

Normality Test

The analysis requirements test is carried out using the normality test to determine the feasibility of using the *paired T-Test* or *Wilcoxon test.* If the Sig. Value> 0.05, then the data is normally distributed and can be continued using the *paired T-Test*, whereas if the Sig. Value <0.05, then the data is not normally distributed and can be continued using the *Wilcoxon* test. The normality test used is *Shapiro-Wilk* because the number of samples is smaller than 30 samples**.**

Table 2 Normality Test Results

Tests of Normality						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Group A (Before)	.235	10	.124	.877	10	.119
Group A (After)	.190	10	.200*	.964	10	.835
Group B (Before)	.156	10	.200*	.979	10	.957
Group B (After)	.203	10	.200*	.885	10	.151
*. This is a lower bound of the true significance						
a. Lilliefors Significance Correction						

Based on the table above, it is obtained that the Sig. Value of group (a) before is 0.119, of the group (a) after is 0.835, the group (b) before is 0.957, and the group (b) after is 0.151. Thus it can be decided that these values are> 0.05, so it can be concluded that the data is normally distributed. Then, the hypothesis significance test between two paired samples to determine the effect of giving massages is carried out by paired T-Test test.

Hypothesis Test

The paired T-Test test is a test of two paired samples, where the paired samples are the same subjects but experience different treatments. The results of group A hypothesis testing can be seen in Table 5, and Group B can be seen in Table 3.

Table 3 *Paired T-Test* Results Group A

Massage	*Mean ± SD*	*Mean Difference*	T count	Sig.
Before	171.20 ± 20.362	-36.9	-5.051	0.001
After	208.10 ± 28.061			

Based on the table above, it is obtained that the average value before the massage is 171.20, while the average value after the massage is 208.10. The mean difference is -36.9. The value is negative, thus obtaining information that there is an increase in the average value from before the massage to the massage by 36.9. In addition, the tcount obtained a value of -5.051. This value is < from the ttable -2.262 and Sig. of 0.001 < 0.05, thus it can be decided that the average value before and after being given the Manipulation of sports massages is different, which means that there is an effect of manipulating sports massages before and after training on the comfort level of futsal players.

Table 4 *Paired T-Test of* Group B

Massage	*Mean* ± *SD*	*Mean Difference*	T count	Sig.
Before	158.80 ± 22.592	-48.2	-5.259	0.001
After	207 ± 22.925			

Based on the table above, it is obtained that the average value before the massage is 158.80, while the average value after the massage is 207. The mean difference is -48.2. The value is negative. This information is obtained that there is an increase in the average value from before the massage to the massage by 48.2. In addition, the t count obtained a value of -5.259. This value is < from the t table -2.262 and Sig. of 0.001 < 0.05, thus it can be decided that the average value before and after being given the Manipulation of *sports massages is* different, which means that there is an effect of manipulating *sports massages* before and after training on the comfort level of futsal players.

Discovery Discussion

From the results of the data obtained, the provision of sports massage manipulation before and after training influences the comfort of the body of futsal players. *Sports massage* manipulation causes a physiological and mechanical effect that brings relaxation or reduced pain dueto swelling. In addition, massage also has a psychological impact that can foster self-confidence. Thephysiological effects of massage manipulation can increase the range of motion, strength, coordination, balance, and muscle function to improve physical performance while reducing the risk of injury. Sports massage also plays an essential role as a warm-up to stimulate the body's muscle work and avoid injury (Hariadi et al., 2020).

The results of several studies show an effect of giving *sports massage*. Giving sports massage to Gapura Kerongkongan volleyball players gives significant results betweenmassage manipulations during training with paired T-Test tests with a value of t count> t table (Hariadi et al., 2020). In addition, according to Malingga (2018), the Manipulation of *sports massage* before and aftertraining affects body comfort in the UNY martial arts student activity unit athletes. Giving is donewith a prone and supine position giving significant results as evidenced by the calculated F value of body comfort of 10.153, the F table value of 4.413 (10.153>4.413), and the value of p=0.005.

Ilmi et al. (2018) state that the provision of *sports massage* manipulation in the *effleurage, petrissage, shaking, tapotement,* and control treatment groups 6 hours after abnormal activity can reduce pain intensity with a value of p = 0.00. The visual analogue scale (VAS) measures pain intensity using objective criteria. The study results found that most respondents felt comfortable when given *sports massage* manipulations in the face-down position before training. *Sports massage* manipulation in the face-down position includes the upper limbs (thighs) of the back and sides, lowerlimbs of the back (calves), heels and soles of the waist and back, buttocks, nape, and shoulders.

Most respondents felt comfortable when given *sports massage* in the supine position before training. *Sports massage* manipulations in the prone position include the upper leg area frontand side, lower leg, front and side, back of the foot and footprint, upper arm and forearm, back of the palm and palm of the hand, chest, and abdomen, and forehead and nose. Most respondents felt very comfortable when given *sports massage* in the face-down position after training. Manipulation of *sports massage* in the position includes the body parts of the upper limbs (thighs) of the back and sides, lower limbs of the back (calves), heels and soles of the waist andback, buttocks, nape, and shoulders.

Most of the respondents felt comfortable when given *sports massage* manipulations in the supine position after training. Sports massage manipulation in the prone position covers the upper limbs,

front and side, lower limbs, front and side, back of the foot and sole of the foot, upper arm, and forearm, back of the hand and palm of the hand, chest and abdomen, forehead and nose.

Based on the results of discussions with respondents, most respondents felt more comfortable when given a *sports massage* after training. This is supported by the results of the respondents' comfort level on the questionnaire. Most respondents felt a very comfortable level of comfort (SN) after training. According to Umam & Fatkur (2020), the Manipulation of *sports massage* affects widening blood circulation so that the amount of blood pumped throughout the body becomes large and smooth. Muscle tension contractions after activity become normal. This means that the pulse rate and blood pressure can return to normal when sports massage manipulation is given. The physiological effect of Manipulation is related tomuscle stimulation by improving blood flow and increasing muscle tone.

The futsal players feel very comfortable when given a *sports massage* after training. This is because, after training, the futsal players feel fatigued. Fatigue can be caused by lactic acid, which is produced and then accumulates in the muscles. Lactic acid is a product of carbohydrate metabolism without using oxygen (*anaerobic metabolism*). Lactic acid is produced in muscle cells with insufficient oxygen supply to support energy production. Lactic acid will accumulate when we do activities or activities continuously (Hasisibuan & Yansen, 2020). Therefore, futsal players will feel more comfortable being given a *sports massage* after experiencing fatigue.

CONCLUSION

Based on the results of research and discussion that has been presented previously. It can be concluded that there is an effect of *sports massage* manipulation before and after training on both groups of Wemove Futsal Club players. With a t value in group A -0.051 < t table -2.262 with a significant value of 0.001 < 0.05 and in group B t count -5.259 < t table -2.262 with a significant value of 0.001 < 0.05.

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