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The Effect of Sports Massage on Physical Fitness in IPNG Teqball Athletes in 2024/2025

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Abstract
This study aims to determine the effect of providing sport massage on physical fitness in UKM Teqball IPNG athletes in 2024/2025. This study used a quantitative method with a descriptive design with one group pretest-posttest without a control group. The sample in this study were 10 athletes from the IPNG Teqball UKM who were selected based on certain criteria. The instrument used to measure physical fitness was a fitness test conducted before and after treatment. Data were analyzed using normality and homogeneity tests to ensure the feasibility of the parametric test. The results of the homogeneity test showed that the data had the same variance, with a significance value of 0.104 greater than 0.05. Furthermore, a Paired Sample T-Test was used to see the difference in pretest and post-test scores. The results of the analysis showed an average difference of -10.7400, and a significance value (2-tailed) of 0.001. This value is smaller than 0.05, thus indicating a significant effect between the administration of sport massage on the physical fitness of athletes. Based on these results, it can be concluded that sport massage can be used as an effective recovery method to improve the overall physical condition of athletes.

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1. INTRODUCTION

Based on the Basic Law Number 36 of 2009 concerning Health, Article 34 paragraph (3) states that health is a state of health, both physically, mentally, spiritually and socially, which enables every person to live productively socially and economically. Every person has the right to health, which is a state of well-being of the body, soul and socially which enables every person to live productively socially and economically. According to health and fitness experts, physical fitness is the ability and capacity to perform activities or work, increasing work capacity without experiencing excessive fatigue. Health and fitness also affect physical and mental performance in sports, especially in physical exercise. *Sport Massage* Treatment *Sport Massage* is what is very important to know about its role in all circles, especially for athletes, including players. *Sport massage* is an important preventive treatment to maintain health and fitness Ade Jubaedi (2011:61)

Knowledge about *Massage*, specifically *Massage* Therapy is very important for those involved in sports and health, including coaches at sports clubs and sports training centers. *Massage* Therapy is very important for athletes under his care, especially players, in an effort to improve and maintain their physical condition and performance. Its purpose is to "smooth blood circulation, especially the push of venous blood towards the heart. This smooth blood circulation will then speed up the process of removing combustion residues and the distribution of nutrients to the tissues. It can also reduce pain or relieve nervous tension and may even put the patient to sleep" Ade Jubaedi (2011:6).

Uniqueness *massage* lies in its ability as a tool to establish wordless communication

between the giver and the recipient. Especially for a person *masseur* and the IPNG Teqball UKM players as a demonstration of the players' abilities on the field, which aims to improve the players' performance and the quality of training on the field and can restore their best abilities on and off the field. Therefore, with the influence of providing *massage in* order on improving the condition of the players and to restore the players' best abilities on the field and to show the quality of the players on the field.

Sports massage with a delicate, gentle and sometimes strong and steady touch of the hand, a*masseur* can cause a feeling of pleasure and happiness and sympathy in the recipient (patient) towards a person *masseur*. Therefore, if you get a *massage* in a good and proper way, a person can sometimes be in a happy and safe mental and physical state. This feeling of happiness and comfort can lead to reduced complaints from people experiencing mental stress, or those suffering from injuries or illnesses, especially for UKM players of *Teqball I*PNG.

Sport Massage is a massage treatment that addresses the physical, physiological, and psychological aspects of athletes and players. It can be used before or after sports activities. If used before sports activities, it is very helpful in lengthening and loosening soft tissues. Massage refers to the systematic manipulation of the body's soft tissues for therapeutic purposes and to improve blood circulation. Sports massage is the science and art of applying massage and related techniques to maintain athlete health and to improve athletic performance. Patricia J. Benjamin, PhD, Scott P. Lamp, LMT (in Arief Setiawan 2016). Said a physi-cian court to the Roman Emperor Marcus Aurelius, wrote that the purpose of massage is to soften the body before exercise Calvert (in Arief Setiawan 2016).

Role *Sport Massage* is ideal before warming up. This allows players to feel comfortable on the field during matches, stay fresh and fit, and aims to improve their performance and demonstrate their quality on the field. Warming up can usually begin with walking, jogging, gymnastics, or modified exercises with sufficient intensity. The purpose of warming up is to slowly increase the heart rate, allowing sufficient time for the working muscles to be saturated with oxygen-rich blood. Without warming up, the risk of sprains increases. Lack of warming up can also increase the risk of muscle cramps during training. It should be emphasized that UKM players of *Taqwa* need to be given special treatment. *Sports Massage* in order to be able to implement and improve the mood of the players/condition of the players so that in the future they can minimize injuries and prevent injuries before they occur when training on the field of *Taqwa.*

2. RESEARCH METHOD

The research design used in this study is "*One Group Pretest and Posttest Design*", namely the research design that is contained in *pretest* before treatment and *posttest* after being given treatment. This way, more accurate results can be obtained, because it can be compared with the results before being given treatment (Sugiyono, 2010: 64).

This research activity aims to determine the effect of providing *sport maasage* on physical fitness in athletes of the IPNG Central Lombok Teqball UKM or to test the hypothesis about whether or not there is an effect of the treatment given. Through this experimental research, the researcher wants to know whether there is an effect of giving *sport massage* on fitness in UKM Teqball Central Lombok athletes.

Rumus One Groups *Pretest-Posttest* Design:

O1	**X**	**O2**

Caption: Sugiyono (2010: 111)
O1: *Pretest* (results of observations made before treatment was given)
X: *Treatment* (Treatment)
O2: *Posttest* (results of observations made after treatment)

The research was conducted at the Campus I Field of the Nusantara Global Education Institute. This location was chosen because the sample consisted of Teqball players active in the IPNG Teqball Student Activity Unit. The location is safe, spacious, open, and accessible to the Teqball players participating in the Central Lombok Teqball Student Activity Unit.

This study was conducted over approximately four weeks. Training sessions took place three times a week, with 12 sessions each, on Mondays, Wednesdays, and Fridays. Practice sessions began in the morning at 4:30 a.m. and ended at 5:30 p.m. WITA (Central Indonesian Time). The sample consisted of all 10 students from the Teqball Student Activity Unit (UKM) at the Nusantara Global Education Institute (IPNG).

Athletes will be given treatment in the form of massage after training. Tools used to perform the treatment of *Sport Massage* namely: lubricant, towel, mattress.

a. Tool

- Lubricant (massage oil) - Mattress

- Towel

Figure 3.2*Sports Massage Equipment/Supplies*
Source: Arif Setiawan, 2015: 11)

b. implementation

starting from movement techniques, *kneading, stroking, friction, tapping, and shaking*. Technique *petrissage* done for 5-7 minutes, then continued to effleurage for 5-7 minutes, then continued with the friction technique for 5 minutes, and then with the tapotement movement for 5 minutes, and finally with the shaking technique as a closing movement, and then done in 5 places with 5 types of movements in sequence and in stages.

The research concept is as follows:

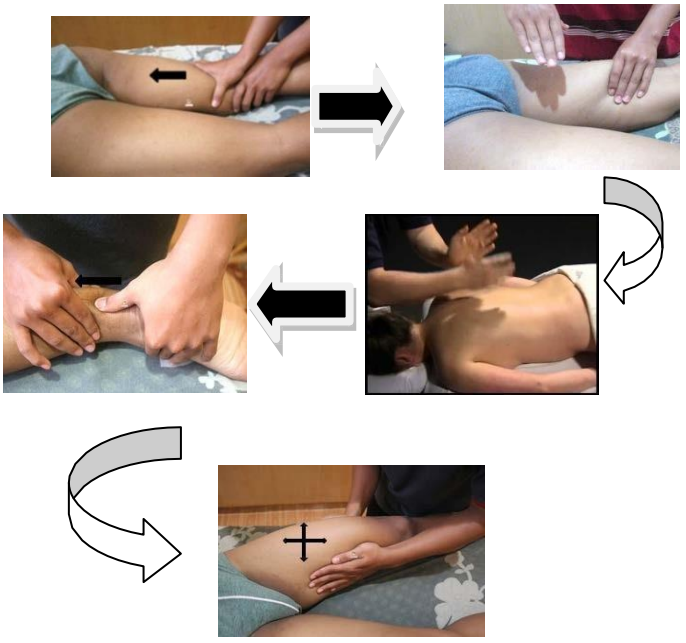

Figure 3.3*Masseur's Massage Treatment Techniques*
(Source: Arif Setiawan, 2015: 22-28)

3. RESULTS AND DISCUSSION

In this chapter, the distribution analysis obtained during the research will be explained based on the results that have been carried out previously. In accordance with the objectives and hypotheses that have been proposed previously, the results of this research will be discussed and described as follows.

Research results on the influence of giving sports massage on physical fitness in UKM athletes. This research was conducted in May–July 2025. The results above are described as follows:

1. Descriptive Analysis

Results *pretest-posttest* results of the research conducted by the researchers produced an average result of 26,280 for pre-test and 37,020 for post-test, while the standard deviation is 3.8830 for pre-test and 5.2837 for post-test.

Table 4.1 *Hasil pretest-posttest*

PRE-TEST POST-TEST BLEEP TEST OBSERVATION SHEET

NO	NUMBER	SCORE (VO2MAX)	SCORE (VO2MAX)
1	IHLS	22,4	31,8
2	second	24,2	32,9
3	RMDNI	26,8	39,6
4	ZKR	27,2	33,6
5	RSKY	29,8	40,2
5	KHD	22,4	31,8
6	NEW	23,2	36,8
7	JLNI	22,8	33,5
8	AZW	31,4	42,6
9	MILLION	32,6	47,4

Table 4.2*Descriptive Analysis*

Descriptive Statistics

	N	Minimum	Maximum	Sum	Mean	Std. Deviation
PRETEST	10	22,4	32,6	262,8	26,280	3,8830
POSTEST	10	31,8	47,4	370,2	37,020	5,2837
Valid N (listwise)	10					

Based on the table above, it shows that the average value (mean) of the data results pre-test is smaller than the data results post-test, which is 22.4 with 47.4, for the maximum value obtained when data collection pre-test is 22.4 for the maximum value obtained is 47.4.

2. Data Normality Test

The normality test is used to determine the distribution of the data of the *pre-test* and *post-test* is a normality test with the *Shapiro-Wilk*. With the hypothesis, if the p-value < α = 0.05, it means there is a significant difference, and if the p-value > α = 0.05, then there is no significant difference. Application to the Shapiro-Wilk is that if the significance of the p-value < α = 0.05 means that the data to be tested has a significant difference from the standard normal data, meaning that the data is not normally distributed. If the significance of the p-value > α = 0.05 means that there is no significant difference between the data to be tested and the standard normal data.

Table 4.3*Normality Test Results*

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
PRETEST	,204	10	,200*	,877	10	,120
POSTEST	,241	10	,103	,889	10	,165

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Based on the table above, for all group data from both the pretest and posttest, it shows that the significance value is shown. *Pre-test* is 0.120 > 0.05, and post-test is 0.165 > 0.005. So the conclusion from this distribution is that it states normal.

3. Homogeneity Test

The next test conducted by the researchers was a homogeneity test. The hypothesis in this homogeneity test is that Ha is accepted if sig > 0.05, while Ha is rejected if sig < 0.05. The results of the homogeneity test for the two research sample groups can be seen in the following table:

Table 4.4*Homogeneity Test Results*

Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
PRE	Based on Mean	1,124	1	18	,303
	Based on Median	,700	1	18	,414
	Based on Median and with adjusted df	,700	1	14,534	,416
	Based on trimmed mean	,981	1	18	,335

Based on the table above, the values obtained show that *Sig Based on Mean* 0.303 > 0.05, so it can be concluded that the data variance pre-test and *post-test* are the same or homogeneous. Thus, one of the conditions (not absolute) of the Independent *Sample T Test* has been fulfilled.

4. Uji Paired Sample Test

The paired *sample T test is* a test used to compare the difference between two means from two paired samples with a statistically normally distributed mean. Each variable is taken in different situations and conditions.

Basis for Decision Norms:

a. A significance value (2-tailed) < 0.05 indicates that there is an influence from the treatment performed.
b. A significance value (2-tailed) > 0.05 indicates that there is no effect of the treatment performed.

Table 4.5 *Hypothesis Test (T-Test)*

Paired Samples Test

		Paired Differences					t	df	Significance	
					95% Confidence Interval of the Difference					
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper			One-Sided p	Two-Sided p
Pair 1	PRETEST - POSTEST	-10,7400	2,4905	,7876	-12,5216	-8,9584	-13,637	9	<,001	<,001

a. Uji Paired Sample T-Test

From the results of the Paired Sample T-Test, it was obtained that the mean or average result was -10.7400. This value is the difference between the average values of *pre-test* and post-test, and it is also known that Sig. (2-tailed) is 0.001. Based on decision making in the Paired Sample T-Test according to Singgih Santosa, based on the Sig. value, namely as follows:

1) If the Sig. score (2-tailed) < 0.05, then Ha is accepted while Ho is rejected.
2) If the Sig. score (2-tailed) > 0.0,5 then Ha is rejected while Ho is accepted.

In the Paired Sample T-Test above, it is known that the sig. value (2-tailed) is 0.001, which means it is less than 0.05, meaning there is a significant difference between the average results of the pretest and post-test.

Based on the value data of the *post-test* was found that there was an increase in fitness in the players, this can be seen in the average test value. *Bleep test before* and after treatment was 26.28 to 37.02. This different result was due to the treatment given of *sport massage* athletes. Routine training also influences these results.

This study aims to find out whether there is an influence of giving sports massage on fitness in IPNG teqball UKM athletes, namely the pretest and posttest design in one group. The subjects used in this study were IPNG Teqball UKM athletes. The athletes who became my sample were 10 athletes. This study was conducted for 12 meetings with a training frequency of 3 times a week over 4 weeks. The results of the analysis of the t-test data of repeated observations (Paired Sample t Test) were thitung (-13.637)> t-table (2.262) with a significance level of 5% and the interpretation of the significance test was (0.001) smaller than the significance of 5% (0.05). So it can be concluded that there is an effect of giving sports massage on physical fitness in UKM Teqball IPNG 2024/2025 athletes.

4. CONCLUSION

Based on the results of the research that has been conducted, it can be concluded that giving sports massages significantly impacted the improvement of physical fitness in IPNG Teqball UKM athletes. This was demonstrated by an increase in the average VO2Max value from 26,280 in the pre-test to 37,020 in the post-test, with the test results Paired *Sample T-Test* showing a t-value of -13.637, which is greater than the t-table of 2.262 and a significance value of 0.001 < 0.05. In addition, the data obtained in this study also meet the assumptions of normality and homogeneity, with the significance values of the normality test being 0.120 and 0.165, respectively, and the homogeneity test value being 0.303. The very strong correlation between the pre-test and post-test values of 10.7400 also strengthens that the treatment given in the form of sport *massage,* Regular and structured training over 12 sessions, can have a positive impact on an athlete's fitness, as *sport massage has* proven to be effective in improving athletes' physical fitness.

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