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## JUARA: Jurnal Olahraga

E-ISSN 2655-1896 ISSN 2443-1117  
<https://doi.org/10.33222/juara.v8i1.2584>



### The Effect Of Traditional Herbal Medicine On The Fitness Level Of Swimming Athletes In Palopo City

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#### Info Artikel

##### Article History:

Received 19 August 2022

Approved 29 December 2022

Published 04 Januari 2023

##### Keywords:

Herbal Medicine and Wellness

#### Abstract

Traditional herbal medicine is used for treatment and health maintenance in Indonesia. One is to improve physical fitness with ginger, free-range chicken eggs, palm sugar, and Honey. This study aims to determine the effect of herbal medicine on the physical fitness level of swimming athletes in Palopo to discover if traditional herbal drinks affect physical fitness levels. This study uses an experimental method with a one-group pretest-posttest research design with the number of samples in this study are 15 athletes combined into one group. This research was conducted for 16 meetings. The analysis was carried out at the University of Muhammadiyah Palopo campus; the groups were combined into one and given treatment in the form of herbal drinks after doing pre-test activities with a dose of 250 ml. To measure the final data of the fitness test after consuming the herbal drink, a post-test post-test was carried out, which later became a comparison of whether there was an effect of the herbal drink on the level of physical fitness. This research shows an improvement in physical fitness by drinking traditional herbal medicine the Palopo Swimming athletes. Thus, a significant relationship exists between consuming conventional herbal medicine and Palopo swimming athletes' physical fitness.

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## INTRODUCTION

Traditional herbal medicine is the heritage of the Indonesian nation which has been used for treatment and health maintenance (Sebayang et al., 2020). Traditional herbal medicine is a treatment medium using traditional knowledge before the modern era; this traditional herbal medicine is made from natural ingredients such as ginger, palm sugar, Honey, and eggs.(SUBADERY & Purnamayudhia, 2022). The other ingredients often used to make traditional herbal medicine are ginger, turmeric, and minerals. One of them is the athlete's physical fitness.

Physical fitness is one of the factors that support athletes' achievement. Therefore every athlete must have a fit physique; an athlete is said to have a healthy physique if his body can adjust or adapt to physical activity without producing excessive fatigue(Revelation of Dirgantoro & Akbar Fauzan, 2021). Palopo city swimming athletes sometimes experience extreme physical fatigue after swimming exercises. With physical fitness, athletes have a role in improving the training process (Rusli & Physical, 2018).

There are many different things a person can do to get physically fit; one of them is a traditional herbal medicine that can help the body recover, as stated by the Minister of Health and the Minister of Home Affairs coordinating PMK development announced in January 2015 that herbal medicine can be used to increase one's fitness productivity. The purpose of implementation occurs through the "Fit With Jamu" (Bude Jamu) generator.

Herbs must be safe, quality, and nutritious(Novianto et al., 2020).

Physical fitness, in terms of physiology, is a person's ability to complete daily tasks without having to experience excessive fatigue in meeting needs and enjoying spare time. Every swim athlete can carry out activities without feeling excessively tired, sick, or lazy, both in prime condition to maintain their health.(Novianto et al., 2020).

Physical fitness has two main components: health-related fitness, such as muscle strength, muscular endurance, aerobic endurance, and flexibility. Coordination, agility, movement speed, muscle explosiveness, and balance are components of fitness related to skills(Negeri et al., 2018).

In order to maintain a daily routine filled with activity, individuals have a critical need for physical fitness. People who are seriously ill do not necessarily have good physical fitness and are not necessarily effective at carrying out very sedentary activities. However, if someone has physical fitness, it is clear that they have healthy tubules. The degree of fitness can be strengthened or increased by exercising physical abilities; the fitness level of each person is stated from the results of the fitness and must be carried out thoroughly with the appropriate load(Jasmani et al., 2020), for example, in swimming which requires physical strength in carrying out training activities.

Swimming is a sport that benefits the strength of the body's muscles, lungs, and heart and can evoke a feeling of

courage (Malik & Marsudi, 2021). Swimming involves aerobic-anaerobic to increase the body's strength and endurance. Cardiorespiratory endurance is influenced by blood oxygen transport capacity, capillary muscle density, and mitochondrial muscle mass. Swimming athletes must consume traditional herbal medicine to improve fitness and relieve muscle pain. (Larasati & Yuliana, 2020). Therefore, consuming traditional herbal medicine can improve athletes' physical fitness in Palopo. In this study, what distinguishes it from several previous studies is the composition of herbal medicine, namely temu lawak, turmeric, and minerals. (Novianto et al., 2020). In this study, the researchers used ginger, palm sugar, Honey, and native chicken eggs, which are beneficial for physical fitness. Research results (Redi Aryanta, 2019) showed that several chemical compounds contained in ginger rhizome could affect health, one of which is to relieve muscle pain. At the same time, research (Hasibuan, 2013) showed that palm sugar is useful for increasing endurance. Meanwhile, according to research results (Yudhisthira, 2019), Honey and free-range chicken eggs have benefits for improving physical fitness, even though the comparisons are different. As for the research results, this traditional herbal medicine can affect muscle work in the body.

Based on the explanation above, the researchers examined the effect of traditional herbal medicine on the fitness of swimming athletes in Palopo. Based on the research results, the researchers hope this traditional herbal medicine can become a healthy drink

for athletes in Palopo city and outside Palopo as a form of cultural heritage.

## METHODS

This research is quantitative research using a pre-experimental experimental method. Experimental research is conducted to determine the causal relationship between variables (Arifin, 2018; Ramadan & Juniarti, 2020). The design used was one group pretest-posttest design. This study will conduct a pre-test to determine the initial ability and then give treatment through traditional herbal medicine. Then do a post-test to measure the final ability. Using pre-test and post-test post-test designs has the advantage that it can determine the effect of the results of the treatment given.

In this design, a test will be carried out twice before and after the experimental treatment. The test that was carried out previously received a treatment called the pre-test. This pre-test was given to experimental athletes (O1). After the pre-test, treatment was given as a herbal drink (X). In the final stage, a post-test post-test (O2) was given.

Data collection from a study was carried out on research subjects. The subjects in this study are 15 swimming athletes, at the pre-test and post-test post-test used to determine the level of athletes' physical fitness was the test (TKJI) for the age range 13-15 years, the test items used were 50m running, Pull-ups (hanging elbows bending), sit-ups (get up sitting), vertical jump (jump straight) and run

1000 meters. Instruments used, running track, stopwatch, and measuring devices.

The design of this study is illustrated in the following chart:

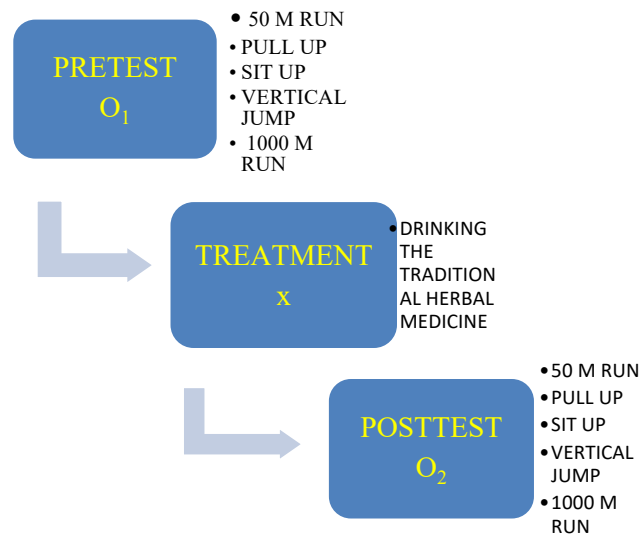


Figure 1. Research design

Furthermore, data analysis will be carried out based on the results obtained from the test. Tests and measurements are data collection techniques used during research implementation, fitness pre-tests to determine the initial fitness data for each subject, and then given herbal drink treatment. Post-test fitness to find out the final results of research subjects after doing a fitness test model. The data analysis technique used descriptive analysis, normality test, homogeneity test, and t-test using SPSS 23.

## RESULTS AND DISCUSSION

### Results

The results in this study are analyzed using descriptive analysis to see the fitness level of the Palopo city swimming athletes using the Indonesian Physical Fitness Test

(TKJI) with pre-test and post-test post-test. The results of the data analysis can be seen as follows:

Based on the table above, it was found that the physical fitness test of the Palopo city swimming athletes, totaling 15 samples, was in the "very bad" category with a percentage of 60%, or 11 athletes, "Fairly Good" 30% or three athletes and "very less" 10%. or one person.

Based on the table above, it was found that the results of the physical fitness test for Palopo city swimming athletes, totaling 15 samples, were in the "Fairly Good" category with a presentation of 60% or eight athletes, "Bad" 30% or as many as six athletes and "Well" 10% or one athlete.

The results of calculating data from the pre-test and post-test post-test of physical fitness with a total sample of 15 Palopo city

swimming athletes have been described into descriptive statistics, which include: (mean), (95% confidence interval for the lower bound), (mean upper bound), (5% trimmed mean), (median), (variance), (std. deviation), (minimum), (maximum), (range), (interquartile range), (skewness) and (kurtosis). The results can be seen as follows.

Based on the table above, it can be found that from the results of the pretest (mean) 11.73 and posttest 13.60, (95% confidence interval for lower bound) pretest 10.64 and posttest 12.28, (mean upper bound) pretest 12.83 and posttest 14.92, ( 5% trimmed mean) pretest 11.65 and posttest 13.56, (median) pretest 11.00 and posttest 14.00, (variance) pretest 3.924 and posttest 5.686, (std. Deviation) pretest 1.981 and posttest 2.384, (minimum) pretest 9 and pretest 10, (maximum) pretest 16 and posttest 18, (Range) pretest 7 and posttest 8, (interquartile range) pretest 3 and posttest 4, (skewnee) pretest .808 and posttest .222, (kurtosis) pretest as much as .126 and posttest -820.

This data analysis aims to assess the distribution of data in a group of data or variables, whether the distribution is said to be

normally distributed or not. The pre-test and post-test were carried out according to the requirements, and the kломogrov-smirnov and Shapiro-Wilk tests were carried out.

Based on the table above, it was found that the results of the significant value (P) in the Kolmogorov-Smirnov test were 0.200 ( $p > 0.05$ ) for pre-test and post-testpost-test data while in the sphapiro-wilk test 0.191 in the pre-test and 0.486 post-testpost-test, so that said to be normally distributed. This research conducts tests to discover whether the variances of two or more distributions are the same, then a homogeneity test is carried out as shown in the table below:

Based on the table above, it was found that the result of the sig value of  $0.412 > 0.05$ , the data distribution was declared homogeneous. Moreover, continued with ANOVA analysis with a sig value of  $0.027 < 0.05$ , the HO is rejected (there is a difference), then it can be continued. The t-test is a statistical test used to test the truth or falsity of the null hypothesis. As in this study, the paired sample t-Test calculates the different paired samples. As in the following table:

Table 8. Paired sample test

Paired Samples Test							
Paired Differences							
Means	Std. Deviation	std. Error Means	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
			Lower	Upper			

Pair 1 prettest - posttest	-1,867	.915	.236	-2,374	-1,360	-7,897	14	.000
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Based on the table above, it is found that the result of the probability number from sig is  $0.000 < 0.05$ , which means that  $H_0$  is not accepted. Therefore, there is a significant effect of herbal medicine on the level of physical fitness.

### Discussion

Based on the results of this study consuming herbs can improve the physical fitness of Palopo city swimming athletes using the Indonesian Physical Fitness Test (TKJI) to measure the fitness level of Palopo city swimming athletes, pre-test and post-test post-test are carried out, with test items given in the form of the 50-meter run, pull-pull ups, sit-ups, vertical jumps, and 1000 meter running according to the age range of 13-15 years., seen from the analysis and study of data that has been done before. Then seen from the results that the average value of the physical fitness test for the pre-test was 11.73 and the post-test post-test was 13.60. therefore the results of the t-test Paired sample t-test it is said that there is an increase

In the level of physical fitness significantly by giving herbal drinks. This research was conducted for 16 meetings; The research was carried out at the University of Muhammadiyah Palopo. The groups were combined into one by being given treatment in herbal drinks after carrying out pre-test activities with a dose of 250 ml. To measure the final data of the fitness test after consuming herbal drinks, a post-test post-test

was carried out, which later became a comparison of whether there was an effect of herbal drinks on the level of physical fitness.

This traditional herbal drink is used to maintain health and improve physical fitness. Some people consume herbal medicine as a health and fitness drink.(Indrawati & Mutmainnah, 2020). In this study, the physical fitness of an athlete is needed in carrying out daily tasks by consuming herbal drinks, which can improve physical fitness. Each individual has differences related to their respective physical fitness because everyone's activities are different, such as on one's physical fitness. The physical fitness of a swimming athlete must be improved properly to complete his activities; physical fitness also has other functions, such as increasing the ability of the body's organs socially and emotionally and providing enthusiasm for competition.(Sakti Rumpoko et al., 2022).

Physical and physical fitness are two types used interchangeably; physical fitness creates quality and continuity of function in a system. Overall, organs can work with a complex and intact affinity in the circulatory and respiratory systems with other metabolic systems. Therefore, physical fitness is generally considered an ability for daily activities(Judge & Hidayat, 2020). Related to pre-existing research, herbal medicine can improve physical fitness. According to(Novianto et al., 2020), in the journal "The Effect of Curcuma Herbal Formula, Turmeric, and Mineran on Physical Fitness," Moreover,

according to (Aztri 2022), in the journal "The Effect of Giving Turmeric Tamarind on Pain Intensity After Extrinsic Activity" in t, his study the method used was experimental data analysis that had been carried out to get the result that there was no effect of giving turmeric tamarind on pain intensity after extrinsic activity.

The advantage of this study compared to previous studies lies in the composition of the herbs used in m; in search using ingredients which that ginger, native chicken eggs, Honey, and palm sugar. At the same time, previous studies used ingredients that include temulawak, turmeric, and mineral. The recommendations in this study are to provide understanding and application, not only for swimming athletes but for all other athletes from various sports and people who want to improve their physical fitness; herbal drinks can be used as medicine or concoctions daily.

## CONCLUSION

The results of this study can be concluded that traditional herbal medicine made from ginger, free-range chicken eggs, Honey, and palm sugar can improve the physical fitness of swimming athletes, as can be seen in the Indonesian physical fitness test (TKJI), which was carried out in this study from the pre-test and the post-test post-test which experienced a significant increase which was analyzed into the data review. For athletes who want to increase endurance and physical fitness for maximum results, herbal drinks can be a solution to improve fitness.

Acknowledgments to Palopo Muhammadiyah University for facilitating research and publication activities and to supervisors, informants, and respondents in this study.

## ACKNOWLEDGMENTS

Acknowledgments to Palopo Muhammadiyah University for facilitating research and publication activities and to supervisors, informants, and respondents in this study.

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