



Analysis of the Physical Condition of Muay Thai Athletes at Jaguar Camp Tebing Tinggi in 2026

Eka Abdurrahman¹, Eka Putra^{2*}

¹ Sekolah Tinggi Olahraga dan Kesehatan Bina Guna, Medan, Indonesia

² Sekolah Tinggi Olahraga dan Kesehatan Bina Guna, Medan, Indonesia

Corresponding Author: ekaabdurrahman4@gmail.com

Abstract

Objectives:

The aim of the study is to determine the physical condition capabilities of each Muay Thai athlete at Jaguar Camp Tebing Tinggi.

Materials and Methods:

This study employs a quantitative descriptive research approach, which is primarily intended to provide information regarding the status of existing phenomena.

Results:

penelitian dilakukan.

The results regarding the test instruments indicate the following: for strength, the push-up test showed 11 athletes (58%) in the Moderate category, and the sit-up test showed 8 athletes (40%) in the Moderate category. Regarding the 30-meter sprint, 8 athletes (40%) fell into the Moderate category. For leg muscle strength, 12 athletes (60%) were in the Moderate category, while the balance test showed 7 athletes (35%) falling into the Good and Poor categories.

Conclusions:

Overall, the results of the physical condition survey of Jaguar Camp Tebing Tinggi Muay Thai athletes fell into the Moderate category, comprising 9 athletes (45%). The remaining athletes were distributed as follows: Excellent (2 athletes or 10%), Good (3 athletes or 15%), Poor (6 athletes or 30%), and Very Poor (0 athletes or 0%).

Keywords: Physical Condition; Athletes; Muay Thai.

Introduction

Sport cannot be separated from or distanced from human life. This is demonstrated by the increasing number and variety of facilities and infrastructure that are developing rapidly to support people in engaging in sports activities. In fact, many people build private sports facilities to meet their needs for physical activity. In addition, sport is essentially any physical activity carried out consciously and systematically with the aim of encouraging, fostering, and developing a person's physical, mental, and social potential. It is also widely recognized that engaging in sports activities can improve a person's physical and mental well-being. As the saying goes, a healthy body contains a strong mind. Therefore, everyone should participate in sports activities. Sport also helps individuals develop and strengthen their bodies so that they can carry out daily activities properly. According to Bagus, L., Lukvi, and Mecca, P. (2021:7), through sports or physical activity, individuals can move easily from one place to another in order to seek and fulfill their daily needs.

Over time, sport has developed into one of the promising professional fields, both financially and socially, particularly through competitive sports. One of the sports that is currently developing is Muay Thai. According to Elya Wibwa (2019), Muay Thai is one of the sports that is currently developing in Indonesia. The development of a sport with the goal of achieving peak or maximum performance requires a structured and well-organized approach. Furthermore, such development should include several important components, such as physical training and other forms of training. According to Harsono (2019), training should include physical, technical, tactical, and mental training to achieve maximum results or performance. In addition, Widiastuti (2019:87) states that



good fitness reflects the physical potential and ability to perform specific tasks optimally without experiencing significant fatigue. Success in developing athletic performance requires various supporting components. Physical condition is one of the factors that determines performance; therefore, a decline in physical condition will result in decreased skills (Lutfi Nur, Arif, A., & Malik, 2021). Conceptually, physical condition is an integrated whole consisting of components that cannot be separated, either in terms of maintenance or improvement. Based on this concept, all components of physical condition must be developed to improve overall physical fitness. Therefore, it is important to determine how an athlete's physical condition can be evaluated at a particular point in time.

Physical condition is an important aspect that must be considered in the development of competitive sports. This is because physical condition greatly influences an athlete's technique, tactics, and mental readiness during competition. In addition, understanding an athlete's physical profile helps coaches develop quality training programs that are appropriate to the specific needs of each athlete. The Muay Thai athletes of Jaguar Camp Tebing Tinggi are athletes under the supervision of the Indonesian National Sports Committee (KONI) of Tebing Tinggi City and are being prepared to participate in various competitions in North Sumatra. Therefore, a comprehensive analysis of physical condition in Muay Thai is essential to identify, support, and fulfill the training needs of each athlete.

An athlete must be in good physical condition before entering the competition arena. Without adequate preparation and physical condition, an athlete's performance during competition will not be optimal because physical condition affects technique, tactics, and mental readiness. Good physical condition helps maintain endurance and prevents a drastic decline in performance during competition. However, in reality, comprehensive evaluations of athletes' physical development are often not conducted, and coaches do not yet fully understand the extent to which the implemented training programs have achieved their intended outcomes. Therefore, coaches need to understand the overall physical condition of their athletes.

Materials and Methods

Study Design

This study employs a quantitative approach; quantitative data consists of numerical data. The technique used in this research is the survey method with a quantitative approach.

Study Participants

The population in this study consists of 20 Muay Thai athletes from Jaguar Camp Tebing Tinggi. A sample represents a portion of the total number and characteristics of that population.

Study Organization

The data collection instrument represents the most strategic step in the research, as the primary objective is to obtain data by conducting tests for strength (push up and sit up), speed (30 meter run), back muscle flexibility, and balance (standing stork test).

Statistical Analysis

This study employs descriptive statistical analysis techniques. Descriptive statistics are used to analyze data by summarizing or describing the collected information as it stands, without the intention of drawing generalizations or conclusions applicable to a broader population.

Results

The physical condition assessment of Jaguar Camp Tebing Tinggi Muay Thai athletes involved the following tests: strength (pushup and sit up), 30 meter sprint speed, leg muscle strength, and balance. The results of these tests are described as follows: regarding the overall physical condition of the Jaguar Camp Tebing Tinggi Muay Thai



athletes across the five administered test items, a descriptive analysis yielded a maximum score of 202.62, a minimum score of 162.81, a standard deviation of 11.77869, a mean of 184.1405, and a total score of 3682.81.

Table 6. Physical Condition Results for Jaguar Camp Tebing Tinggi Athletes

No	Name	Total
1	A T	200,71
2	B U	187,21
3	B I	162,81
4	F I	178,72
5	J O	202,62
6	I C	187,68
7	H A	180,32
8	L E	201,32
9	N A	169,42
10	N A	183,66
11	M U	182,57
12	O S	202,24
13	P U	199,75
14	S I	181,47
15	R A	184,81
16	R E	175,72
17	T I	180,24
18	T O	172,92
19	D I	174,76
20	P E	173,86
<i>Mean</i>		184,1405
<i>Std. Deviation</i>		182,0200
<i>Minimum</i>		162,81 ^a
<i>Maximum</i>		11,77869
<i>Sum</i>		162,81

Discussion

Physical fitness is an integrated whole consisting of various components that cannot be separated, both in terms of improvement and maintenance (Sajoto, 1988:57). Having adequate physical fitness is essential for athletes. Therefore, this study aims to determine the physical condition of athletes through the following tests: strength (push up and sit



up tests), 30 meter running speed, leg muscle strength, and balance. Based on the results of the study entitled Survey of the Physical Condition of Muay Thai Athletes at Jaguar Camp Tebing Tinggi using tests and measurements, the results of each test component were obtained and can be explained as follows:

1) Strength

a) Push Up

The ability to perform the push-up test was assessed to determine upper-arm muscle strength. Based on the results of the arm muscle strength test, most of the Muay Thai athletes at Jaguar Camp Tebing Tinggi were categorized as Moderate, with 13 athletes, or 65% of the total frequency. This should receive special attention from coaches to further improve the strength of the arm and shoulder muscles so that performance can improve and, at a minimum, reach the Good category. This improvement is expected to support athletes' performance in achieving peak performance in the future.

Arm and shoulder muscle strength in Muay Thai athletes plays an important role during swinging movements to increase speed. According to Harsono (1988:176), arm muscle strength, or strength, is the ability of muscles to generate tension against resistance. Arm length refers to the part of the body extending from the upper arm, forearm, and palm to the tip of the middle finger.

b) Sit Up

The sit-up test was used to assess abdominal muscle strength. Based on the test results, most of the Muay Thai athletes at Jaguar Camp Tebing Tinggi were categorized as Very Poor, with 12 athletes, or 60% of the total frequency. The abdominal muscle strength of the athletes needs to be improved so that they can reach the Very Good category and thereby support their performance in achieving peak performance in the future.

Abdominal muscle strength functions during the starting phase in all competition events. According to Sulianta (2017:21), static bar-hopper calisthenics movements require abdominal muscle strength and endurance to maintain static positions such as the back lever, front lever, dragon flag, human flag, and planche. Similarly, basic calisthenics movements such as planks and push-ups require adequate abdominal muscle strength; weak abdominal muscles can cause even basic movements to be performed with poor form. Therefore, abdominal muscle strength is an important factor in various sports because it contributes to maintaining and strengthening the abdominal and core muscles.

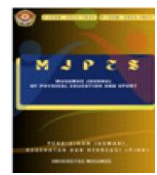
c) 30-Meter Running Speed

The 30-meter sprint test was used to assess running speed. Based on the results of the speed test, most of the Muay Thai athletes at Jaguar Camp Tebing Tinggi were categorized as Very Poor, with 13 athletes, or 65% of the total frequency. Therefore, the athletes' physical profile in terms of speed still needs to be improved through specific speed training so that they can reach the Good category. However, speed training should be preceded by endurance and strength training, as explained in the theoretical review.

In Muay Thai, speed plays an important role during exchanges that require rapid movements, particularly in short-distance movement situations. If coaches can improve the quality of athletes' movement speed and reaction speed, this will have a significant effect on performance during both training and competition. Coaches should also pay attention to this component of physical fitness to support athletes performance development so that they can achieve peak performance.

Running speed is one of the components of physical fitness required in various sports. Speed is the ability to move from one position to another within a short period of time (Widiastuti, 2017:54).

d) Leg Muscle Strength



The athletes leg muscle strength was assessed using a leg dynamometer. Based on the results of the leg muscle strength test, most of the Muay Thai athletes at Jaguar Camp Tebing Tinggi were categorized as Poor, with 17 athletes, or 85% of the total frequency. Leg muscle strength is important when athletes perform movements involving lifting or overcoming loads. The load or resistance can come from the athlete's own body weight, such as when performing a high jump. Strength is a fundamental component of physical fitness. Without sufficient strength, a person cannot jump, push, pull, resist, lift, and perform other physical activities effectively (Ismaryati, 2016:54).

e) Balance

The stork stand test was used to assess balance. Based on the results of the balance test, all Muay Thai athletes at Jaguar Camp Tebing Tinggi were categorized as Moderate, with 20 athletes, or 100% of the total frequency. Coaches are expected to maintain the athletes' balance and, if necessary, improve it further to support their performance in achieving peak performance in the future. Balance is one of the basic physical components required to maintain body stability. According to Harsono (1988:23), balance is the ability to maintain the neuromuscular system in an efficient position or posture while moving. Meanwhile, according to Fenanlampir and Muhyi (2015:44), balance is the ability to maintain the neuromuscular system in an efficient position or posture while performing movements.

Good physical fitness provides several benefits. Among them, athletes are able to learn relatively difficult skills more easily, do not become tired easily during training or competition, can complete training programs with fewer obstacles, and are able to perform demanding training sessions. Physical fitness is essential for athletes because without excellent physical fitness, achieving peak performance will face many obstacles and it may be impossible to achieve high levels of athletic performance. Through this study, it is expected that coaches and athletes will be able to understand their physical fitness status. This information can serve as a basis for coaches and athletes to maintain and improve their physical fitness so that it remains at an optimal level and supports future performance.

Conclusions

Based on the data analysis, description, research findings, and discussion, it can be concluded that the physical condition of the Jaguar Camp Tebing Tinggi Muay Thai athletes falls into the Moderate category (9 athletes or 45%). The remaining athletes fall into the following categories: Excellent (2 athletes or 10%), Good (3 athletes or 15%), Poor (6 athletes or 30%), and Very Poor (0 athletes or 0%).

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Conflict of Interest

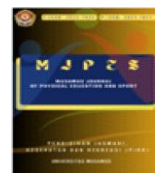
The authors declare no conflict of interest.

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