

Analysis of Dominant Physical Abilities and Achievements of Athletic Athletes Pon Aceh in 2024

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Abstract. Pengprov PASI Aceh is one of the places that fosters athletic athletes in Aceh. Aceh PASI provided athletes with a training ground at the Harapan Bangsa Stadium in Banda Aceh city. The achievements are still very lacking, as seen from the results of several championships, including the National Championship and regional offices. Aceh athletics, particularly in the 400m hurdles, high jump, and long jump, did not meet the PON qualification limit, so they cannot participate in the biggest event, such as PON in Papua, at the end of November 2021. This is due to one of them is poor physical condition. This study aims to determine the level of dominant physical abilities and achievements in the 400 m hurdles, long jump, and high jump events among PON Aceh athletes in 2024. This study employs a type of evaluation research with a quantitative approach, utilising descriptive research methods. The population in this study consisted of all athletes participating in the 400 m hurdles, long jump, and high jump events at the 2024 PON Aceh Athletics event, totalling seven individuals. The sampling technique employed in this study was a purposive sampling method involving the selection of 7 participants. Data collection using tests and measurements of athletic physical components and achievement achievements. Data analysis using statistical analysis of average and percentage. This study obtained the results 1) The ability of the dominant physical condition of high jump number athletes is in the good category with the achievement of jumping achievements for Sample N1 reaching a jump height of 190 cm, for N2 reaching a jump height of 195 cm, and for N3 reaching a jump height of 165 cm, 2) The ability of the dominant physical condition of athletes in the long jump number is in the good category with achievement achievements for sample N1 reaching a jump of 6.81 m and for sample N2 reaching a jump of 5.20 m, and 3) The ability of the dominant physical condition of athletes in the 400 m hurdles is in a good category with achievement achievements for sample N1 reaching the achievement time of 52.91 seconds and for sample N2 reaching the time of 65.21 seconds.

Keywords: Dominant Physical Condition; Achievement; Athletic Achievement.

INTRODUCTION

Athletics is considered the first sport in the world and is also known as the oldest sport, often referred to as the parent or mother of all sports. This is because it incorporates basic movements such as walking, running, jumping, and throwing. This is a component of the various basic movements of all sports, so athletics is said to be the mother of all sports.

Sports also provide an important opportunity to improve physical conditions, including musculature, muscle strength, agility, power, speed, and endurance. Mandatory in a sport are the components of physical condition, which are also prerequisites for an athlete to improve and develop optimal sports performance. Therefore, physical conditions must be developed and improved according to the characteristics, needs, and requirements of each sport. In physical condition, it

is a unity that a person owns. An indispensable prerequisite for every achievement is a physical condition.

Besides that, in sports, achieving maximum performance requires different needs, one of which is good physical condition, effective technique, sound tactics, and a strong mental state. To determine the physical conditions required and the level of physical condition needed to achieve maximum performance, a comprehensive understanding is necessary. Physical condition components are divided into nine components, including speed, agility, endurance, accuracy, balance, form, stamina, power, and strength [1]. To maintain a good and excellent physical condition, it is essential to engage in training according to a well-designed program tailored to the specific needs of the sport. Physical condition is a crucial component in achieving success; a good level of physical condition enables athletes to develop basic techniques that progress to more advanced ones.

Achievement is a person's high level of success and is not separate from a lengthy process. It requires a considerable amount of time and cannot be achieved suddenly or directly; instead, it necessitates a gradual process to achieve the desired outcome. For this reason, the coach must pay special attention, one of which is by coaching talented athletes in Pengprov PASI Aceh, especially in events such as the 400 m hurdles, long jump, and high jump.

The athletics branch, which represents measurable sports in this study, is also the mainstay and foundation of the Aceh provincial host in achieving its target. Athletics with various race numbers is expected to contribute significantly to the National Sports Week championship (PON). Therefore, this athletic sport has long involved intensive training under the guidance of coaches, especially in developing dominant physical components for each competition. Athletics, with its various race numbers, also involves the development of the physical character of its athletes, which differs, especially in the development of the predominant energy required for each athlete based on the number they participated in. Athletics is a physical sport that utilises tracks and fields, including high jumping, walking, running, and javelin throwing. Athletics is one of the sports that is done in various ways, including running, throwing and jumping.

In sprint running numbers, the dominant factor is speed, as the definition of sprint running is running as fast as possible over a certain distance in the shortest possible time []. That is, athletes must run from the start to the finish line without reducing their speed within a short time. According to [2], in athletics, especially in sprint running, the key elements of physical condition required are strength, speed, leg muscle explosiveness, and reaction speed at the start. The strength referred to here is the strength of the arm muscles, which is said to be important because strong arm muscles will help maintain a faster pace. While the explosive power of the leg muscles is said to be important because it helps the reaction speed to take the expected time when starting, the explosive power of the leg muscles also plays a crucial role in accelerating and generating a strong push when running. Reaction speed is crucial for the start; the first reaction time when starting greatly affects the overall time results.

All of the above factors form a unity that must be owned and mastered to improve running ability. This improvement can be achieved only by engaging in regular and systematic exercises while still adhering to the principles of exercise. Talent also plays a crucial role in achieving maximum performance in running events, long jumps, and high jumps.

Additionally, the coaching place also supports the athlete's career and achievements, in addition to the guidance of Pengprov PASI Aceh, which is one of the places that fosters athletic talent in Aceh. Especially the guidance of Pengprov PASI Aceh has given birth to or created many athletes who excel at both regional, National, and International levels. Aceh PASI Pengprov athletes have a training ground at the Harapan Bangsa Stadium, Banda Aceh city. The achievements are still lacking, as seen in the results of several championships, including the National Championship and regional offices. Aceh athletics, particularly in the 400m hurdles, high jump, and long jump, did not meet the PON qualification limit, so they cannot participate in the biggest event, such as the PON in Papua, at the end of November 2021. PASI Aceh athletics athletes have yet to win medals in the 400 m hurdles, high jump, and long jump, and their performance remains suboptimal. This is due to one of them is poor physical condition. Therefore, the Aceh PASI Pengprov coaching is the destination of the research that I will study.

METHOD

This research employs a quantitative approach with a descriptive methodology. The purpose of this research is to make a systematic description of the facts in the form of the results of the Analysis of Dominant Physical Condition Abilities and the achievements of PON Aceh athletic athletes. The research location is a site where researchers conduct their studies, particularly in capturing phenomena or events that occur to the object under investigation, to obtain accurate research data. This research will be conducted on March 9, 2024, starting at 08:00 WIB and will continue until its completion at the Jantho City Stadium in Aceh Besar.

To analyse the relationship between leg muscle explosiveness, abdominal muscle strength, speed, agility, flexibility, and performance in running 400 m hurdles, long jump, and high jump, the data obtained must be processed using statistical formulas. The steps that will be taken are:

To determine the average value, the authors use the formula proposed by [3] for calculating the average. To determine the percentage value, the authors use the percentage formula put forward by [4].

RESULTS AND DISCUSSION

This study aims to analyse the relationship between the dominant physical abilities of PON Aceh athletics athletes and their achievements in each event, consisting of 400-meter hurdles, long jump, and high jump. Based on the results of data collection and analysis presented above, which examined the achievements of 400-meter hurdles and the physical components of athletes in Aceh Province, it is evident that the physical component ability for sample N1 is in the good category, and sample N2 is also in the good category. Overall, for the 400-meter hurdles, the physical components of the athletes are in a good category. As for the achievement of achievement in each sample, it is known that Sample N1 reached an achievement time of 52.91, and Sample N2 reached a time of 65.21 seconds.

Based on the results of these research findings, it can be understood that the physical abilities of hurdles athletes are already in a good category. This is certainly a positive achievement in the coaching process that has been carried out. The author [5] explains, "Physical exercise plays a

very important role in the athlete's training program, especially athletes who are intended for a match". As is known, training in sports aims to develop the physical, technical, tactical, and psychological factors of athletes.

The long jump is one of the numbers in athletics that is contested. The long jump movement can be divided into four parts, namely the prefix (approach run), repulsion/support (take off), body attitude while in the air (action in the air), and landing attitude (leading) [6]. Long jump achievement depends on jumping power. Based on the results of data collection and analysis of the physical components and achievements, the results of the ability of the physical components for sample N1 are in the good category, and sample N2 is also in the good category. Overall, for the long jump, the athlete's physical component falls into the good category. As for the achievement of achievement in each sample, it is known that Sample N1 reached a jump of 6.81 m and Sample N2 reached a jump of 5.20 m.

Based on the results of the data analysis above, it is evident that the average physical component ability for sample N1 falls into the medium category. In contrast, samples N2 and N3 are categorised as good. Overall, for high jump numbers, the physical components of athletes are in a good category. As for the achievement of jumping achievements, it is known that in each sample, Sample N1 reached a jump height of 190 cm, sample N2 reached a jump height of 195 cm, and sample N3 reached a jump height of 165 cm.

Based on the explanation above, referring to the findings in this study, the jump achievement of each athlete is still very possible to be improved, seeing that the achievement of physical component abilities in the average athlete is still in the good category and it is still possible to be improved to a very good or excellent condition. The development of physical components in high jump athletes is crucial for achieving optimal performance. Strength and flexibility are crucial for enhancing performance in high jump sports. Strength training can be achieved by lifting weights or using tools such as dumbbells or resistance bands, while flexibility training can be accomplished through stretching and other static movements [7].

CONCLUSIONS

Based on the results of data collection, processing and analysis of research variables, namely the relationship between the dominant physical abilities of PON Aceh athletics athletes and achievement achievements, the conclusions in this study can be drawn as follows:

The dominant physical condition ability of 400 m hurdles athletes falls within the good category, with achievements for the N1 sample reaching a time of 52.91 seconds and for the N2 sample reaching a time of 65.21 seconds.

The dominant physical condition ability of long jump athletes is in a good category, with sample N1 achieving a jump of 6.81 m and sample N2 achieving a jump of 5.20 m.

The dominant physical condition ability of high jump number athletes is in a good category, with

the following achievements: Sample N1 reaching a jump height of 190 cm, Sample N2 reaching a jump height of 195 cm, and Sample N3 reaching a jump height of 165 cm.

Based on the research findings above, the suggestions in this study are as follows:

For coaches, considering the achievement of the dominant physical component of athletes is still in the good category. This can be a consideration for improvement to achieve better results, which in turn can increase the achievement of each individual.

For research institutions, this research aims to contribute knowledge that will be useful in improving athletic sports coaching patterns, particularly in areas such as running and throwing.

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