



# Physical Condition of Athletes of the All Indonesian Athletics Association, Pesawaran Regency

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## ABSTRACT

This research is based on the absence of an athlete database on the physical condition of PASI athletic athletes in the Pesawaran Regency. This study intends to determine how good the physical condition of PASI athletes is in Pesawaran Regency. The test results of each component of different physical conditions are converted into T scores and added up. The components of the physical condition studied included the speed of leg muscle strength, arm and shoulder muscle strength, flexibility, and endurance. This type of research is a quantitative descriptive study with a survey method and test and measurement data collection techniques. The population in this study consisted of 18 athletes, consisting of 10 male athletes and eight female athletes. This study uses a saturated sampling technique. The results of the research on the physical condition of PASI athletes in Pesawaran Regency show the results for the "good" category, and there are ten athletes with a percentage of 55.55%; in the "enough" category, there are four athletes with a percentage of 22.5%; in the "less" category, there are three athletes with a percentage of 16.5%; and in the "very poor" category, there is one athlete with a percentage of 5.5%. The physical condition of PASI athletes in Pesawaran Regency is dominant, or good". Athletes still in the category of less or less need more maximum training so that their physical condition can be even better.

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## INTRODUCTION

Athletics is a physical activity consisting of dynamic and harmonious basic movements, namely, walking, running, jumping, and throwing (Purnomo & Dapan, 2017). On the other



hand, these sports help increase human movement abilities such as strength, speed, endurance, flexibility, and others. For this reason, it cannot be denied that athletic sports play a significant role in increasing physical fitness, ability, quality of speed, and endurance in other sports. Some athletic sports competitions in Indonesia are shot put, javelin throw, disc throw, high jump, pole vault, long jump, long-distance running, relay running, and short-distance running (Hidayana & Rumini, 2020). Meanwhile, Cania & Alnedral (2019) say, "Athletics is one of the sports that require physical conditions such as strength, endurance, speed, flexibility, coordination, and agility". With the number of race numbers in the athletic sport, athletes can also focus more and more deeply to master the knowledge of doing the sport they are interested in, so that they are also maximised in achieving the desired achievements from the sport or athletic sport race number they are interested in. Exercise is a work process carried out systematically (Palar et al., 2015).

According to Muhammad (2018), physical conditions are components that cannot be separated, both in their improvement and maintenance. This physical condition is an essential ability that every athlete must have to not only achieve their achievements but also to show the ability of the body's functions as a whole. In the opinion of Ambara (2017), "In the coaching of amateur athletes, physical condition factors must be considered in order to improve athlete performance so that they can reach the peak point of achievement or golden age". The physical condition of a club or training plan for an athlete really needs data about the level of a person's physical condition as a measure of the level of performance of an athlete in training and coaching; this data can be used as a benchmark for ability or can find out the physical condition of athletes. To be able to achieve high achievements, athletes must have good physical condition so that they can compete optimally.

A good and professional coach can be said to have athlete preparation data, including physical abilities, athlete health, athlete nutrition, and other data supporting athlete achievement. Muslima & Himam (2016) argue that coaching is a profession through formal education organised by higher education institutions and the parent organisation of the sport concerned. Physical conditioning training must be provided when the athlete's body develops systematically and precisely according to his needs.

The physical condition of athletes is very important, so coaches and athletes must also be very aware of how important physical condition is so that they can find out early if there are athletes who experience problems with physical condition, which will result in the acquisition of achievements and athlete performance in a match. The coach will use the results of the physical condition test in the form of data to inform the athletes of the state of their physical condition, as well as being used as a tool to design the next training programme to improve the athlete's physical condition in following the training programme, training challenges given by the coach, or during a race or match.

For this reason, physical condition is essential, especially in sports that aim for achievement. So far, the athletic athletes of the All-Indonesian Athletics Association of Pesawaran Regency who take part in training do not have a database on the level of their physical condition; the training programme given by the coach continues while the physical condition of the athletes is unknown. Based on observations made at the Training Centre of the Indonesian Athletics Association of Pesawaran Regency and the results of interviews with athletic trainers of the Indonesian Athletics Association of Pesawaran Regency during training, Pesawaran Regency PASI athletes have never had data and tests for their athletes. For this reason, the Pesawaran Regency PASI Athletic Trainer is obliged to record the progress of the athlete's physical condition and show the database to athletes about their physical condition. It can also be used as a tool in designing the next training program. For

athletes who have good physical condition, it can be easier to understand the movement techniques that the coach will give. There has been no research on the physical condition of Pesawaran Regency PASI athletes; for that, the researcher wants to conduct a study entitled "Physical Condition of Athletes of the All-Indonesian Athletics Association Pesawaran Regency". It is hoped that this research can find out the level of physical condition that each athlete has so that the coach can more easily design training programmes for athletes.

## **MATERIALS AND METHODS**

The type of research used is descriptive-quantitative. According to Siyoto & Sodik (2015) "research is an organised investigation, or a careful and critical investigation, in finding facts to determine something". In my opinion, research is a method that has been organised and systematic to find new facts that will be conclusive. In contrast, the method used for this research is the survey method. The data collection technique uses test and measurement techniques. According to Arikunto (2014), "survey is a technique of obtaining data from individuals at the same time".

Meanwhile, Suwartono (2014) states that "surveys include studies that aim to collect factual information to describe existing phenomena". The physical condition test consists of six items: a. leg muscle strength using a leg dynamometre; b. leg muscle power using a vertical jump; c. speed with a 50-metre run; d. flexibility with a flexsometre; e. leg muscle endurance using a squat jump; f. abdominal muscle endurance using sit-ups (Purba, 2022).

In the above opinion, a survey is to see or observe a research sample by looking at data from individuals or groups with factual information to describe the data simultaneously. The sample used in this research is the entire population of Pesawaran Regency PASI athletic athletes totaling 16 people, sure ten male athletes and eight female athletes, consisting of 8 short-distance running athletes, three middle-distance running athletes, one long-distance athletic athlete, three jumping athletes, two throwing athletes, and one javelin throwing athletic athlete. For data collection techniques, namely carried out by test techniques, The test carried out is a speed test with a 60-metre running test; the second test is a leg muscle strength test with the help of a back and leg dynamometre; the third test is a test of arm and shoulder muscle strength with the help of a pull and push dynamometre tool; and the fourth test is a flexibility test using a sit. It reaches the tool, and the fifth test is an endurance test with an aerobic test (running 2.4 km). To analyse the data in this study, namely, descriptive statistical analysis with percentages. Data is converted into the form of T scores, especially. If the data has been converted into T-scores, then the data is grouped into several categories, changing the raw score to a five-scale standard value or value in letters: A, B, C, D, and E.

## **RESULTS AND DISCUSSION**

This study describes the results obtained from various tests and measurements carried out on research samples and statistical calculations that are carefully calculated and analysed by researchers in obtaining the results of the physical condition of Pesawaran Regency PASI athletes. The results of the data analysis of the physical condition of Pesawaran Regency PASI athletes can be seen in the table below. Based on Table 1 above, it can be seen that the physical conditions possessed by Pesawaran Regency PASI athletes are as follows: for male athletes who fall into the "very good" ability category of 0.00%, there are 0 people; in the "good" ability category of 60.00%, there are six people; in the "enough" ability category of 20.00%, there are two people; in the "poor" ability category of 10.00%, there is one

person; and in the "very poor" ability category of 10.00%, there is one person. The percentage of women's physical conditions can be seen in the table below.

Based on Table 2 above, it can be seen that the physical conditions possessed by Pesawaran Regency PASI athletes, for female athletes who fall into the "very good" ability category 0.00% there are 0 people, the "good" ability category of 50.00% there are four people, the "enough" ability category of 25.00% there are two people, the "poor" ability category of 25.00% there are two people and the "very poor" ability category of 0.00% there are 0 people.

**Table 1.** Frequency Distribution of Physical Condition of Pesawaran Regency PASI Male Athletes

No	Interval	Category	Frequency	Percentage
1	$X > 288,76$	Very Good	0	0,00%
2	$262,92 < X \leq 288,76$	Good	6	60.00%
3	$237,08 < X \leq 262,92$	Enough	2	20.00%
4	$211,24 < X \leq 237,08$	Poor	1	10.00%
5	$X \leq 211,24$	Very Poor	1	10.00%
<b>Total</b>			10	100.00%

**Table 2.** Frequency Distribution of Physical Condition of Pesawaran Regency PASI Female Athletes

No	Interval	Category	Frequency	Percentage
1	$X > 288,76$	Very Good	0	0,00%
2	$262,92 < X \leq 288,76$	Good	4	50.00%
3	$237,08 < X \leq 262,92$	Enough	2	25.00%
4	$211,24 < X \leq 237,08$	Poor	2	25.00%
5	$X \leq 211,24$	Very Poor	0	0.00%
<b>Total</b>			8	100.00%

The components of the physical condition of Pesawaran Regency PASI athletes in detail can be explained in the table below, include: 1) Speed is using the 60m sprint run; 2) Leg muscle strength with the help of a back and leg dynamometer tool; 3) Arm and shoulder muscle strength with the help of a pull and push dynamometer; 4) Determination by using the sit and reach tool; 5) Endurance with aerobic test (running 2.4 Km).

**Table 3.** Frequency Distribution of Speed Tests for Male and Female Athletes PASI Pesawaran Regency

No	Interval		Category	Male		Female	
	Male	Female		F	%	F	%
1	S.d - 7.2"	S.d - 8,4"	Very Good	2	20,00%	1	12,50%
2	7.3" - 8.3"	8,5" - 9,8"	Good	4	40.00%	4	50.00%
3	8.4" - 9.6"	9,9" - 11,4"	Enough	3	30.00%	1	12.50%
4	9.7" - 11,0"	11,5" - 13,4"	Poor	1	10.00%	1	12.50%
5	11,1" dst	13,5" dst	Very Poor	0	0.00%	1	12.50%
<b>Total</b>				10	100.00%	8	100.00%

**Table 4.** Frequency Distribution of Limb Muscle Strength Tests of Male and Female Athletes PASI Pesawaran Regency

No	Interval		Category	Male		Female	
	Male	Female		F	%	F	%
1	$> 259,50$	$> 219,50$	Very Good	1	10,00%	0	00,00%
2	$187,50 - < 259,50$	$171,50 - < 219,50$	Good	4	40.00%	1	12.50%
3	$127,50 - < 187,50$	$127,50 - < 171,50$	Enough	3	30.00%	5	62.50%
4	$84,50 - < 127,50$	$81,50 - < 127,50$	Poor	2	20.00%	2	25.00%
5	S.d < 81,50	sd < 81,50	Very Poor	0	0.00%	0	00.00%
<b>Total</b>				10	100.00%	8	100.00%

**Table 5.** Frequency Distribution of Arm and Shoulder Muscle Strength Tests of Pesawaran Regency PASI Male and Female Athletes

No	Interval		Category	Male		Female	
	Male	Female		F	%	F	%
1	> 44,00	> 43,00	Very Good	1	10,00%	0	00,00%
2	35,00 - < 44,00	34,00 - < 43,00	Good	5	50.00%	4	50.00%
3	26,00 - < 35,00	25,00 - < 34,00	Enough	4	40.00%	2	25.00%
4	18,00 - < 26,00	17,00 - < 25,00	Poor	0	00.00%	2	25.00%
5	Sd < 18,00	Sd < 17,00	Very Poor	0	0.00%	0	00.00%
<b>Total</b>				10	100.00%	8	100.00%

**Table 6.** Distribution of Frequency of Athlete Determination Tests for Male and Female PASI Pesawaran Regency

No	Interval		Category	Male		Female	
	Male	Female		F	%	F	%
1	17 – 27	20 - 30	Very Good	1	10,00%	1	12,50%
2	6 – 16	11 - 19	Good	4	40.00%	4	50.00%
3	0 – 5	1 - 10	Enough	4	40.00%	2	25.00%
4	-8 - -1	-7 - 0	Poor	1	10.00%	1	12.50%
5	< -9	<-8	Very Poor	0	0.00%	0	00.00%
<b>Total</b>				10	100.00%	8	100.00%

**Table 7.** Frequency Distribution of Endurance Tests for Male and Female Athletes PASI Pesawaran Regency

No	Interval		Category	Male		Female	
	Male	Female		F	%	F	%
1	< 10'17"	< 10'59"	Very Good	2	20,00%	0	00,00%
2	10'17" - 12'00"	10'59" - 13'25"	Good	4	40.00%	2	25.00%
3	12'01" - 14'29"	13'26" - 15'46"	Enough	3	30.00%	3	37.50%
4	14'30" - 18'00"	15'47" - 18'57"	Poor	1	10.00%	2	25.00%
5	> 18'00"	> 18'57"	Very Poor	0	0.00%	1	12.50%
<b>Total</b>				10	100.00%	8	100.00%

## Discussion

Good physical conditions owned by athletes will have an advantage over athletes with physical conditions below, especially in training; athletes will quickly learn more difficult training techniques and not easily experience fatigue when given a training programme or in a match. Good physical condition is needed for all athletes in order to support maximum achievement without experiencing obstacles during the game. (Yandrizal & Wardiman, 2021) said, "The purpose of physical condition coaching is to improve overall physical abilities and will improve certain physical developments that will have an impact on the sports techniques being coached."

The physical condition components in this study consist of speed, leg muscle strength, arm and shoulder muscle strength, flexibility, and endurance. Speed From the data above, very good or good results are obtained in short-distance running athletes, while the results are less or significantly less dominant in throwing number athletes. The strength of the leg muscles from the data above is very good, with good results dominating in jumping and short-distance running athletes, while less results dominate in throwing athletes. The strength of the arm and shoulder muscles from the data above is very good or good results dominated by throwing number athletes, while for less results, namely two female athletes from running numbers, one short distance athlete and one medium distance athlete. The flexibility of the data above shows very good or good results dominated by jumping and



running athletes, while fewer results are seen, namely from two throwing athletes. Endurance from the data above shows very good or good results are dominated by long and medium-distance running athletes, while less or very fewer results are dominated by throwing athletes.

From the data obtained from researchers, as many as 18 Pesawaran Regency PASI athletes, consisting of 10 male athletes and eight female athletes, cannot be categorised as good or very good. This can be seen from the results of tests and measurements carried out on each component of physical condition; there are also athletes who fall into the category of enough, less, or very little. Maybe this is likely to be influenced by internal and external factors. For athletes who are still in the less category, of course, the coach has the responsibility to improve the quality of his athletes to get better; good physical condition will have a good impact on athletes, especially mastering techniques in training and variation movements given by the coach, and also during the match athletes are not quickly tired and avoid injury as well. According to Hambali, Sundara, & Meirizal (2020), "athletes who have good technical mastery, if the athlete does not have excellent physical condition, then the athlete will also not provide maximum performance. Nutritional intake also plays an important role for athletes and has an important relationship to athlete achievement; if an athlete lacks nutritional intake, then the athlete will potentially be able to cause impaired organ function and physiological function in the body, and eventually, the athlete will be susceptible to disease.

## CONCLUSION

From the results of data analysis obtained based on data obtained by going directly to the field using tests and measurements on Pesawaran Regency PASI athletes, conclusions can be drawn, namely the physical condition of Pesawaran Regency PASI athletes, which shows the results that the physical condition, for the "good" category there are ten athletes, the "sufficient" category there are four athletes, the "less" category there are three athletes and the "very less" category there are one athlete. So the physical condition of Pesawaran Regency PASI athletes is dominated by the "good" category. Considering the total of 18 athletes, ten athletes have good physical conditions based on tests and data calculations conducted by the author. For that, athletes with good physical condition continue to maintain and improve their physical condition to achieve maximum results. In contrast, athletes still under the good category need to improve training with a regular training schedule and maximum coaching patterns provided by the coach.

## CONFLICT OF INTEREST

Author No conflict of interest to declare.

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