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THE PHYSICAL CONDITION OF THE HANDBALL ATHLETE IN GARUT

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Abstract

This study aimed to determine the physical condition of Provincial Sports Week athletes in the men's handball sport in Garut Regency. This research is a descriptive study with a sample of 14 male handball athletes. The components of physical condition measured in this study were aerobic endurance, arm muscle strength, speed, leg muscle explosive power, and agility. The instrument in this study used the Indonesian Physical Fitness Test (Agung Nugroho, FIK UNY Standardization of the Physical Condition Status of Athletes in the KONI Special Region of Yogyakarta). The results showed that the condition of the men's handball sports athletes in Garut Regency showed an average result of 81% in the good category. By doing this test, we can get some benefits for their bodies.

Keyword: Athlete, Physical Condition, Handball

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1. INTRODUCTION

High sports achievements cannot be separated from a long process and cannot be achieved suddenly (instantly), but many things have an effect (Sudarko et al., 2022). For this reason, special attention is needed, one of which is the coaching of talented athletes applied in these areas. With the implementation of the coaching system, a quality training process will be formed, which is expected to produce the seeds of reliable athletes who can achieve achievements. Physical exercise is an indispensable element for sports performance and decisive intervention in optimally developing all the indicators that manifest the main physical qualities - strength, speed, endurance, agility, and agility (Mihai, 2021).

The physical condition of athletes greatly affects their performance of athletes during competition. By analyzing the athlete's physical condition, the coach can know his abilities and develop a program for his athlete(Jiang et al., 2018). Top handball players are distinguished by individual physical performance in terms of relaxation, strength, specific strength, and speed at short distances(Mihai, 2021). Suppose low physical fitness and incorrect technique can result in an imbalance of muscle strength and poor dynamic/static balance in handball players(Wiprich et al., 2022). The test evaluates joint stability, balance, endurance, agility, muscle coordination, and muscle strength (Kramer et al., 2019). So a coach must do a test to find out how far his athlete's performance is before the match. Functional condition is considered an important criterion determining a person's physical and mental performance. Sports potential largely depends on this parameter. They have a significant effect on the possibility of increasing the skill of the athlete. Evaluation and analysis of

functional conditions through special tests as part of monitoring the condition of athletes in different sports(Podrigalo et al., 2019). Bompa said four aspects of training needed careful attention and training, namely physical, technical, tactical, and mental training (Bompa & Buzzichelli, 2019).

Handball is an indoor team sport that relies on high-intensity activity with increased demands for muscle strength, explosive power, speed, agility, reactive agility, strength, flexibility, and muscular endurance.(Hermassi et al., 2020). Handball is one of the sports to work together as a team, respect each other, work for the team, and get out of situations during the game(Daminov, 2021). Handball is a team game (Grabara, 2017). Handball is a professional sport, and the Olympics (its true form since 1972) has become increasingly popular over the last few decades (Bjørndal & Gjesdal, 2020). The use of the term handball refers to an indoor handball game, and Mini-Handball is a modified game for children. In modern developments in Indonesia, handball has been re-developed through establishing PB. ABTI (Commander of the Indonesian Handball Association) in 2007 in preparation for the first Asian Beach Games in Bali in 2008. Then became a member of the International Handball Federation (IHF) in 2009 (IHF, 2013) and became a member of the Central KONI in 2013. first formed in 2012 in terms of preparation for the 2012 IHF Trophy competition. The following is the participation list for the national team competition:

Table 1. 2012-2019 International Competition Participation List

No	Competition Name	Category	Level	Year	Results
1	IHF Trophy	Son	Southeast Asia 1B	2012	3rd
2	IHF Trophy	Princess	Southeast Asia 1B	2012	3rd
3	SEAHAF Championship	Son	Southeast Asia	2012	5th
4	Asian Women's Handball Championship (Host)	Princess	Asia	2012	11th
5	Qatar Women's Handball Championship	Princess	Open	2012	3rd
6	SEAHAF Championship	Son	Southeast Asia	2013	3rd
7	IHF Trophy Junior	Son	Southeast Asia 1B	2014	4th
8	IHF Trophy Junior	Princess	Southeast Asia 1B	2014	4th
9	Asian Women's Handball Championship (Host)	Princess	Asia	2015	9th
10	SEAHAF Championship	Son	Southeast Asia	2015	4th
11	SEAHAF Championship	Princess	Princess	2015	4th
12	IHF Trophy (Host)	Son	Southeast Asia 1B	2016	3rd
13	IHF Trophy (Host)	Princess	Southeast Asia 1B	2016	3rd
14	Asian Women Youth Handball Championship (Host)	Princess	Asia	2017	7th
15	IHF Trophy Junior	Son	Southeast Asia 1B	2018	4th
16	IHF Trophy Youth	Son	Southeast Asia 1B	2018	4th
17	Asian Games (Host)	Son	Asia	2018	12th
18	Asian Games (Host)	Princess	Asia	2018	11th
19	IHF Trophy Junior (Host)	Princess	Southeast Asia 1B	2019	2nd
20	IHF Trophy Youth (Host)	Princess	Southeast Asia 1B	2019	2nd

Note: Processed from various sources.

As a new sport, handball has begun to take shape in various cities/districts in the province of West Java. The transfer of knowledge obtained is not only obtained by the organization but also by athletes. Attendance at sporting events and participation in sports makes citizens more aware and involved in sport(Silva et al., 2020). Handball entered Garut Regency in 2021 before the implementation of the 2022 Provincial Sports Week qualification round, which was held in Subang Regency, West Java as the host. Where in the implementation of the qualifying round, 10 districts/cities participated in, which were divided into 3 groups. Garut Regency sent only the men's team.

Athletes' existence is crucial to stimulate the quality and motivation of training, competition, and competition at local and national levels. An environment of talent development and mental toughness is essential for athletes to realize their athletic potential(Li et al., 2019). The context of South Korea's elite sport serves as a major site of exploration as nearly all of Korea's elite coaches are

former elite athletes who share their collective experience of being trained under official training.(Kim et al., 2020).

2. METHODS

This research was conducted at Sports Facilities RA Adiwijaya, Tarogong Kaler District, Garut Regency. This quantitative descriptive study describes the results of this study as a descriptive study, namely a method that examines the status of human groups, an object, a situation, a system of thought or a class of events at the time. This descriptive research aims to make a systematic, factual, and accurate description, picture or painting of the facts and characteristics of the phenomena studied. In this study, researchers used descriptive research methods. Because this research does not control and manipulate the research variables. To get the appropriate data, then learn to use test techniques.

Participation in this article is all Porprov handball athletes from Garut Regency, with a total of 14 men. who will depart for the 2022 Porprov event in Subang Regency, West Java. The population in this study were 14 men's handball team players in Garut Regency. The sample in this study was taken using total sampling, or the entire population was used as the research sample. Namely, the sampling technique takes all population members as respondents or samples (Sugiyono, 2011).

The instrument used to measure the physical condition in this study used several instruments as follows:

- Flexibility with Sit and Reach.
- Leg muscle strength using the Vertical Jump test
- Explosive power of hand muscles using Push Up test (60 Seconds)
- Stomach resistance using Sit Up test (60 Seconds)
- Agility using the Shuttle Run test.
- Cardiovascular using the Cooper Test (2.4 Km)

In this descriptive study, we were only looking for a real picture of the physical condition of male handball athletes. Data collection was taken from the results of athletes' physical tests carried out by KONI Garut Regency, so the results of this study can be used as a reference for future training and development programs for handball athletes.

This data collection activity was carried out with several activities. The details of the overall activities are as follows:

This data collection activity is carried out with several activities. Details of the overall activities are as follows:

Preparation, planning and arrangement

In this case the researcher prepares the athlete to carry out the test both physically and psychologically, then plans the schedule for carrying out the test, then makes arrangements to be carried out.

Test execution and data capture

Data collection is carried out according to the plan that was made in the previous stage.

Data processing and analysis

The data that has been received is then processed to get results that describe the athlete's condition.

Preparation of research reports

After the data is processed and analyzed, a report from the athlete test results is prepared.

Submission of research reports and publications

The report results were submitted to the branch head and published in a journal at this stage.

The data obtained from the test results are still in the form of raw scores, so the data must be processed and analyzed statistically. Research conclusions must be drawn based on data obtained in research activities. Following are the raw data results from measurements of the physical condition tests of handball athletes in Garut Regency:

Table. 2 Data on the results of the physical test of men's handball athletes in Garut

NO	ATHLETES NAME	TB	BB	BMI	RESULTS					
					Flexibility	Abdominal muscles	Limb Muscle Power	Arm & Shoulder muscles	Agility	VO2Max
					Sit & Reach	60 Second Sit Up Test	Vertical Jump Test	60 Second Push Up Test	Agility Test (Illinois Agility Run Test)	Cooper Test
1	ATO HARYANTO	1.69	63	22.06	**18**	**33**	**63**	**40**	**17,91**	**39.41**
2	FOR SAEPUL ANWAR	1.81	75	22.89	**20**	**43**	**55**	**30**	**18,62**	**51,82**
3	ABDUL MUFTI	1.73	67	22.39	**24**	**44**	**53**	**53**	**17,9**	**51.98**
4	ARYA FADILLA AZKA PRATAMA	1.70	57	19.72	**22**	**52**	**53**	**46**	**18,82**	**30.63**
5	MOHAMMED RIDWAN	1.76	68	21.95	**22**	**39**	**66**	**48**	**19.13**	**48,39**
6	TAOPIC ILHAM ISMAIL	1.70	95	32.87	**25**	**23**	**29**	**25**	**21,27**	**30.63**
7	OPID	1.72	61	20.62	**27**	**34**	**53**	**46**	**18.98**	**40,28**
8	MUHAMMAD SYAHRUL S	1.76	94	30.35	**7**	**30**	**50**	**26**	**21,41**	**42.52**
9	KURNIA MUHAMAD IQBAL S	1.70	75	25.95	**10**	**22**	**57**	**31**	**18.98**	**47,57**
10	ALFI SYAHRINNUR JUANDI	1.80	63	19,44	**17**	**41**	**61**	**30**	**16.63**	**48,9**
11	MUHAMMAD RAMDHAN ALFARISSY	1.80	60	18.52	**26**	**37**	**56**	**50**	**16.47**	**43.1**
12	MUHAMMAD FIRDAUS NAZAR A	1.65	59	21.67	**25**	**42**	**69**	**50**	**16.05**	**41.66**
13	RIDWAN FADILAH	1.70	54	18,69	**13**	**28**	**52**	**30**	**18.52**	**30.63**
14	DIKI DAMARIS	1.80	72	22,22	**28**	**40**	**60**	**48**	**18.5**	**46.74**

From the raw data obtained then processed with the following results:

Table. 2 Data on the results of the physical test of men's handball athletes in Garut

NO	ATHLETES NAME	TB	BB	BMI	RESULTS						Rata-Rata
					Flexibility	Abdominal muscles	Limb Muscle Power	Arm & Shoulder muscles	Agility	VO2Max	
					Sit & Reach	60 Second Sit Up Test	Vertical Jump Test	60 Second Push Up Test	Agility Test (Illinois Agility Run Test)	Cooper Test	
1	ATO HARYANTO	1.69	63	22.06	**69**	**79**	**88**	**83**	**89**	**72**	**80**
2	FOR SAEPUL ANWAR	1.81	75	22.89	**77**	**102**	**76**	**63**	**86**	**94**	**83**
3	ABDUL MUFTI	1.73	67	22.39	**92**	**105**	**74**	**110**	**89**	**95**	**94**
4	ARYA FADILLA AZKA PRATAMA	1.70	57	19.72	**85**	**124**	**74**	**96**	**85**	**56**	**87**
5	MOHAMMED RIDWAN	1.76	68	21.95	**85**	**93**	**92**	**100**	**84**	**88**	**90**
6	TAOPIC ILHAM ISMAIL	1.70	95	32.87	**96**	**55**	**40**	**52**	**75**	**56**	**62**
7	OPID	1.72	61	20.62	**104**	**81**	**74**	**96**	**84**	**73**	**85**
8	MUHAMMAD SYAHRUL S	1.76	94	30.35	**27**	**71**	**69**	**54**	**75**	**77**	**62**
9	KURNIA MUHAMAD IQBAL S	1.70	75	25.95	**38**	**52**	**79**	**65**	**84**	**86**	**67**
10	ALFI SYAHRINNUR JUANDI	1.80	63	19,44	**65**	**98**	**85**	**63**	**96**	**89**	**83**
11	MUHAMMAD RAMDHAN ALFARISSY	1.80	60	18.52	**100**	**88**	**78**	**104**	**97**	**78**	**91**
12	MUHAMMAD FIRDAUS NAZAR A	1.65	59	21.67	**96**	**100**	**96**	**104**	**100**	**76**	**95**
13	RIDWAN FADILAH	1.70	54	18,69	**50**	**67**	**72**	**63**	**86**	**56**	**66**
14	DIKI DAMARIS	1.80	72	22,22	**108**	**95**	**83**	**100**	**86**	**85**	**93**

The table above shows the tests the men's handball athletes carried out in Garut Regency.

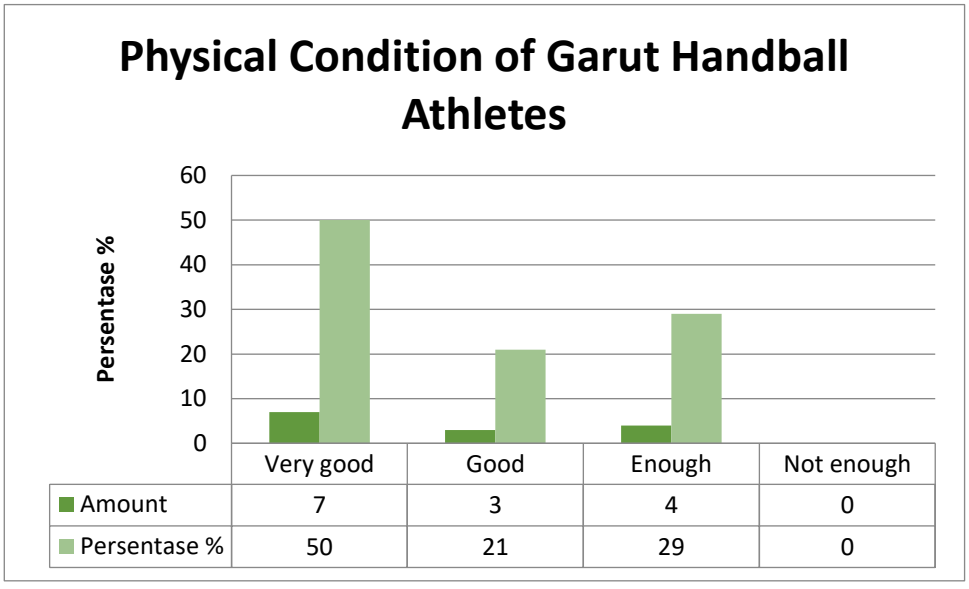
3. RESULT

Based on the results of tests and measurements of the physical condition of the Garut district handball athletes, the aim is to determine the extent to which the level of physical condition of the Garut district handball athletes. Where in carrying out these tests and measurements using several instruments as follows: 1) Flexibility in using Sit and Reach; 2) Leg muscle strength using the Vertical Jump test; 3) Explosive power of hand muscles using Push Up test (60 Seconds); 4) Stomach resistance using Sit Up test (60 Seconds); 5) Agility using the Shuttle Run test; 4) Cardiovascular using the Cooper Test (2.4 Km). From a series of test results obtained the following results:

Table. 3 Percentage of test results and measurements of the physical condition of the Garut Handball athlete team

Category	Amount	Percentage %
Very good	7	50
Well	3	21
Enough	4	29
Not enough	0	0

Based on the data above, it is known that the number of athletes in very good physical condition is 7 people with a percentage of 50%, in good condition there are 3 people with a percentage of 21%, in fair condition there are 4 people with a percentage of 29%. It is further described as follows:



Picture. 1 Percentage of test results and measurements of the physical condition of the Garut Handball athlete team

Overall, the physical condition of the handball athletes of Garut Regency is in a good category with an average value of 81. The following are the results of the overall physical condition of the Garut Regency handball athletes:

Table. 4 Test results and measurements of the physical condition of the Garut Handball athlete team

Criteria	*Sit & Reach*	*Sit Ups*	*Vertical Jump*	*Push Ups*	*Illinois Agility Run*	*Cooper Test*	*RESULTS*
RESULTS	78	86	77	82	87	77	81
TARGET	100	100	100	100	100	100	

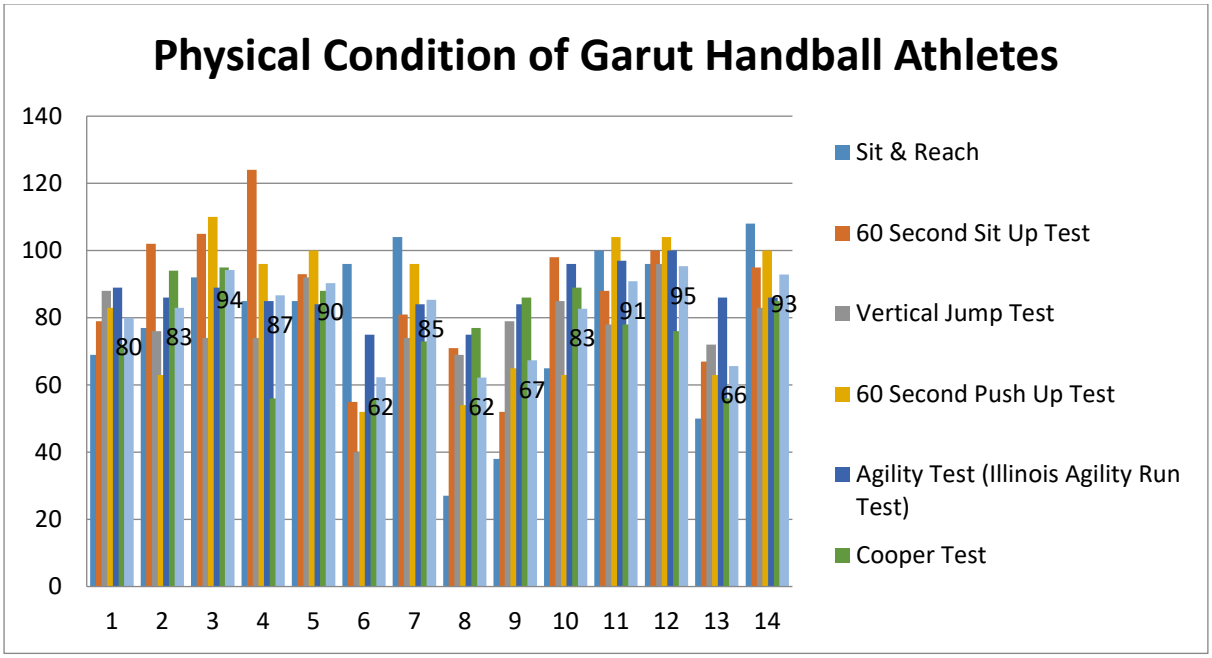


Image 2. Physical Condition of Garut Regency Handball Athletes

4. DISCUSSION

Handball is an indoor team sport that relies on high-intensity activity with increased demands for muscle strength, explosive power, speed, agility, reactive agility, strength, flexibility and muscular endurance (Hermassi et al., 2020).

The physical condition of athletes is needed in order to get better results, and we must have good conditions too. The results are 7 people (50%) in very good category, 3 (21%) in good condition, and 4 people (29%) insufficient condition. Overall the physical condition of the athletes is in a good category, with an average value of 81. This shows that the condition of the athletes in the Garut district handball field is in good condition, although 4 athletes are in moderate condition, this is because 2 athletes are goalkeepers whose physical condition and training program are different from those of other players. After all, the Vo2max goalkeeper does not have to be the same as the other players, the goalkeeper's job is to keep the goal and be in the goal area only, so automatically the range of motion and running, shooting, pivot and others does not have to be the same as other players. Then there are 2 more people in the sufficient category, they are athletes who are in the process of recovering during the test, so their condition is not in good condition. However, overall the physical condition of the Garut regency handball athletes is in good condition with an average score of 81. they are athletes who are in the process of recovering during the test, so their condition is not in good shape. However, overall the physical condition of the Garut regency handball athletes is in good condition with an average score of 81. they are athletes who are in the process of recovering during the test, so their condition is not in good shape. However, overall the physical condition of the Garut regency handball athletes is in good condition with an average score of 81.

Even though from the experience and flying hours of handball athletes in Garut Regency, there are still few because this sport has just been established in Garut Regency, the Garut Regency handball team passed the 2022 provincial sports week qualification round. Then in the Bandung City Mayor Cup championship in 2022 won a medal bronze.

In this study, there are still deficiencies that researchers have yet to examine further regarding the physical condition of athletes, due to the limited time athletes train, athletes' flight hours for handball sports so that athletes' abilities are not maximized. The hope is that future researchers will examine other things apart from their physical condition

5. CONCLUSION

Based on the test results and data analysis, the condition of the athletes in Garut district handball was in the good category with an average score of 81 athletes from the overall test results. With details of the very good category, there were 7 people with a percentage of 50%, in good condition there were 3 people with a percentage 21%, in sufficient condition there are 4 people with a percentage of 29%. This indicates that they are in good condition.

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