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Measurement of Badminton Physical Tests on Students of Junior High School 2 Indaralaya Utara Using Outdor Laboratory

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Abstract

A fit physical condition is a state in which the body is able to carry out various activities to the fullest without experiencing excessive fatigue. Good physical condition for junior high school students is very important because it can support their achievements in both the academic and non-academic fields. Therefore the research aims to determine the physical condition of students in extra-curricular badminton at Junior Hight School Junior Hight School2 Indralaya Utara. This type of research is a descriptive quantitative research where researchers will find out the value of the results of a fitness test conducted by 20 students of Junior Hight School 2 Indralaya Utara. In this study the tests used to measure students' physical fitness were zig-zag running tests, push ups, sit ups, upright jumps and bleep tests. The data analysis used in this study is a descriptive percentage. The results obtained from the physical condition of the students of Junior Hight School2 Indralaya Utara, namely out of 20 students in total using the test norm reference, are as follows: for the Very Good category, the score is 55%, Good 35%, Enough 10, Less 0% and Very Less 0%. The total number in percentage is 100%. From the data obtained, it shows that the physical level of students at Junior Hight School2 Indralaya is quite good.

How to Cite

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INTRODUCTION

Measurement of physical tests is essentially an inseparable part of the activities of Physical Education teachers, both in learning in elementary, middle and high school education units. Measurement of physical tests is intended to measure the achievement of learning objectives, where the goals and functions of the Physical Education Center are the development of physical fitness and the development of motor skills, so that this is the same as the goals of physical education as a physically educated person expected of students, 1) physically fit, 2) participate regularly engage in physical activity, 3) contribute to a healthy lifestyle (Tono, 2021).

Some of the physical test measurements related to the measurement of aspects are very little carried out by teachers. This is in accordance with temporary observations made by researchers that there is no physical measurement in badminton at Junior High School Junior Hight School2 Indralaya. Teachers more often carry out tests measuring skills in sports such as volleyball games, soccer games, measuring athletic numbers and so on (Tono, 2021).

Physical tests are also included in very simple sports. Including physical tests in badminton. Described about physical activity and its components as a unified whole of components that cannot be separated, both its improvement and maintenance. This means that every effort to improve physical condition must develop all of these components. The components of physical condition include strength, endurance, explosive power, speed, flexibility, coordination, balance, accuracy, reaction. (reaction) (Zhanisa, 2018).

Based on the results of temporary observations made by researchers, most of the badminton coaches were formerly badminton players and dedicated and devoted their competence to training so they did not understand how to carry out the proper measurement process.

This is the same as the results of research conducted by Utvi in 2015, that: (a) A valid and reliable physical test model for training and coaching prospective badminton athletes consists of 7 forms of physical tests. The contents of the test model are in the form of 7 types of physical activity, namely: (1) flexibility test (sit and reach); (2) speed test (30 m sprint); (3) leg muscle power test (vertical jump); agility test (running 4 corners); (5) armuscle power test (throwing a 2 kg medicine ball); (6) reaction test (step test); (7) endurance test (running 600 meters). In this case, how about the physical test and the results of physical test measurements using the outdoor badminton sports laboratory for Junior High School 2 Indralaya students?

In order to find out how the physical activity of the badminton sport is and to find out the results of measuring the physical activity of the badminton sports of Junior High School 2 Indralaya students.

METHODS

This type of research is descriptive quantitative research which is a method that aims to create an image or descriptive of a situation objectively using numbers, starting from data collection, interpretation of the data as well as appearance and results (Arikunto, 2018). The purpose of descriptive research is to solve problems systematically and factually regarding the facts and characteristics of the population. This study aims to find out how well the physical tests of the badminton sport are performed on students of Junior High School 2 Indralaya using the FKIP.

The research instrument is a measuring tool used to collect data. According to Maksum (2018) explains that variable is a concept that has diversity and is the center of study in research. The types of variables are divided into 2 types, namely the independent variable (which influences) and the dependent variable (which is influenced).

In this study there was only one independent variable, namely: Students' Physical Fitness Level In this study the physical test was chosen by the researcher as an instrument to obtain data. The Badminton Physical Test for ages 13-15 consists of:

a. Son
   1) Zig-Zag Run
   2) Push Ups
   3) Sit Ups
   4) Jump Upright
   5) Bleep Test

b. Daughter
   1) Zig-Zag Run
   2) Push Ups
   3) Sit Ups
   4) Jump Upright
   5) Bleep Test

Things to prepare and pay attention to when going to do the test, including:

Usability Test

Special tests for the sport of badminton are used to measure and determine the level of physical fitness of adolescents (according to their

respective age groups).

b. Tools and Facilities

1) Non-slippery and flat running/field track
2) Stopwatch
3) Star flag
4) Single bar for hanging elbows
5) Scale board for diving board
6) Chalk powder
7) Eraser
8) Whistle
9) Test form
10) Stationery etc

Test Conditions

is a series of tests, therefore all test items must be carried out sequentially continuously and uninterruptedly with due regard to speed. Transfer of test item to the next test item in 3 minutes. It should be understood that the test items in the TKJI are standard and may not be reversed in the following order of tests: Table of Indonesian Physical Fitness Test or ages 10-12.

Zig-Zag Running, this test aims to measure speed and agility using a stopwatch. The following norms are used according to age criteria based on Physical Fitness Test. Purpose: To measure speed with and agility.

Tools and Facilities 1) The track uses kun as a zig-zag obstacle. 2) Start flag 3) Whistle 4) Stopwatch 5) Stationery 60 second Push up test, this test aims to measure the strength and endurance of the abdominal muscles. The following norms are used according to age criteria based on Physical Fitness Test. Purpose: Measure the local muscle endurance of the forearm. Tools and Facilities: Stopwatch and stationery

Execution: The initial position of the push-up movement is the position of the body parallel to the surface and the elbows form a 900 angle. If there is a ”yes” signal, the body position rises as much as possible with the arms straightened, after that the body position returns to the starting position and is carried out for 60 seconds (one minute). For the son as a pedestal using the tip of the foot, while the female pedestal uses both knees with both legs crossed.

60 second sit up test, this test aims to measure the strength and endurance of the abdominal muscles. The following norms are used according to age criteria based on Physical Fitness Test. Purpose: Measure the local endurance of the abdominal muscles. Tools and Facilities: Stopwatch and stationery

Execution: The initial position of the sit-up movement is the position of the body parallel to the surface and knees bent about 45º with the position of the hands attached behind the head. If there is a ”yes” signal, the body moves forward to the knees as quickly as possible, and after that the body returns to its initial position and is carried out for 60 seconds (one minute).

Jump straight, this test aims for muscle explosive power and explosive power. The following norms are used according to age criteria based on Physical Fitness Test. Purpose: To measure leg power and lower body parts. Tools and Facilities : 1) Centimeter-scale board (cm), dark color, size 30 x 150 cm, mounted on a flat wall or pole. The distance between the floor and the zero (0) on the test board is 150 cm. 2) Chalk powder 3) Blackboard eraser 4) Stationery

Implementation:

First the participants' fingertips are smeared with chalk powder.

Participants stand upright near the wall, feet together, the scale board is on the right / left side of the participant's body. Raise the hand near the wall straight up, palm affixed to the scale board to leave finger marks (reach upright).

The participant takes the start by bending his knees and swinging both arms back, then the participant jumps as high as possible while tapping the board with the closest hand so that it creates a mark (jump achievement).

This test is carried out three times without rest or may not be interspersed with other participants.

Recording results: The difference between the jumps minus the straight gains, the three differences in the test results are recorded, then enter the result of the biggest difference

Bleep Test, this test aims to measure the endurance of the heart, blood circulation and breathing. The following norms are used according to age criteria based on Physical Fitness Test. Purpose: Measure the ability of aerobic (cardiovascular). Endurance Tools and Facilities: Stopwatch, track, start flag, breastplate number and stationery.

After carrying out discussion activities, students carry out a fitness test simulation by means of some being testers and some being samplesThis research was conducted at JUNIOR HIGHT SCHOOLN 2 Idralaya, South Sumatra Province. The reason the researchers chose this location was for various reasons, including the following: close to where they live, easy to reach and economical.

The data analysis technique that is often used in research is called statistical data analysis. Statistics can be defined as, mathematical methods to collect, organize, summarize and

analyze (data various mathematical methods to collect, manage, summarize and analyze data) (Morrisan, 2012, p. 57). Following are some data analysis techniques in survey research, namely as follows:

Reliability Analysis

Reliability analysis is a series of activities in measurement, to measure the same symptoms and the measurement results obtained are relatively consistent, so the measuring device is reliable. In other words, reliability shows the consistency of a measuring device in measuring the same symptoms. In this reliability analysis it was used to calculate the research questionnaire given to students to measure the physical measurement activities of the badminton sport that had occurred at 2 Indralaya using a pilot test.

Validity Analysis.

In this validity analysis are the results in measuring the physical activity of the badminton sport at Junior Hight School 2 Indralaya. In this validity analysis, the researcher used a field test technique. The results of measuring physical activity using ALPHA are 0.50, so the measurement has been accepted. After the data is obtained then to find the percentage using the following formula:

DP=n/N×100%

Description:

DP = Expected Score

N = Maximum Total Score

n = Total Score Obtained

Source: (Sutrisno Hadi, 2015).

RESULTS AND DISCUSSION

Tes Lari Zig-Zag

The zig-zag meter test scores were obtained for each category which were assessed directly by the researcher from 8 male students using the zig-zag Running test norm reference, namely as follows: for the Very Good category it obtained a score of 100%, Good, Good 0%, Enough 05, Less 0% and Less)%. Total grand total in percentage 100%. Below you can see the percentage **Diagram 1** of the test results obtained.

The results of the zig-zag run test diagram show that the average results are in the Very Good category. While the rest are in categories good, enough, less and less.The number of samples is 8 people, the largest value is 6.01, the smallest value is 5.02, the range of values is 0.99, the total value is 42.69, the average value is 5.33, the standard deviation is 0.29 and the variance is 0.089.

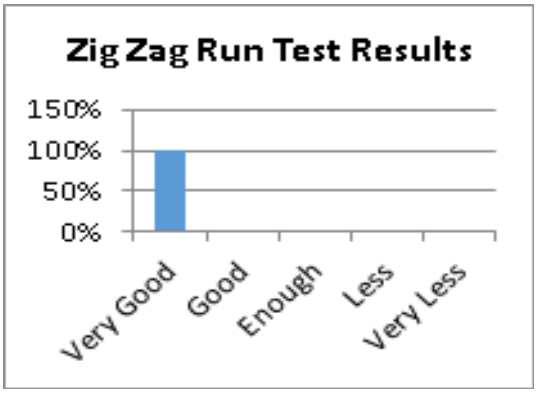

Diagram 1. Zig-Zag Running Test Results Diagram

Men's Sit Up Test

The Sit Up test scores for each category were assessed directly by the researcher from 8 male students using the Sit Up test norms as follows: for the Very Good category, the scores were 100%, Good, Good 0%, Enough 0%, less 0% and less)%. Total grand total in percentage 100%. Below you can see the percentage **Diagram 2** of the test results obtained.

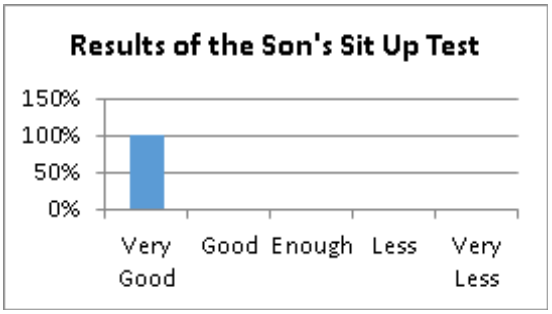

Diagram 2. Male Sit Up Test Results Diagram

The results of the hold-up push-up test diagram show that the average test results are in the Very Good category. While the rest are in categories good, enough, less and less.Based on the table above, the number of samples is 8 people, the largest value is 30, the smallest value is 18, the range of values is 12, the total number of values is 189, the average value is 23.6, the standard deviation is 4.89 and the variance is 23.9.

Men's Upright Jump Test

The vertical locat test scores for each category were assessed directly by the researcher from 8 male students using the vertical locat test norms as follows: for the Very Good category, it obtained a score of 62.5%, Good, Good 25%, Enough 12.5%, Less 0% and Very Less 0%. Total grand total in percentage 100%. Below you can see the percentage **Diagram 3** of the test results obtained.

The results of the hold-up push-up test diagram show that the average test results are in the Very Good category. While the rest are in catego-

ries good, enough, less and less.The number of samples is 8 people, the largest value is 85, the smallest value is 17, the range of values is 68, the total value is 393, the average value is 49.1, the standard deviation is 4.94 and the variance is 585.5

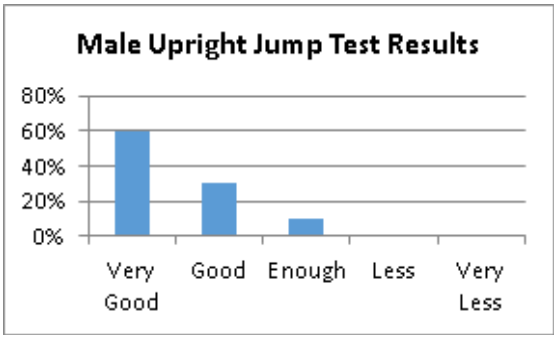

Diagram 3. Male Erect Jump Test Results Diagram

Male Bleep Test Result Data

The Bleep Test scores for each category were assessed directly by the researcher from 8 male students using the Bleep Test norm reference, namely as follows: for the Very Good category, it obtained a value of 0%, Good, Good 0%, Enough 10%, Less 90% and Less than 0%. Total grand total in percentage 100%. Below you can see the percentage **Diagram 4** of the test results obtained.

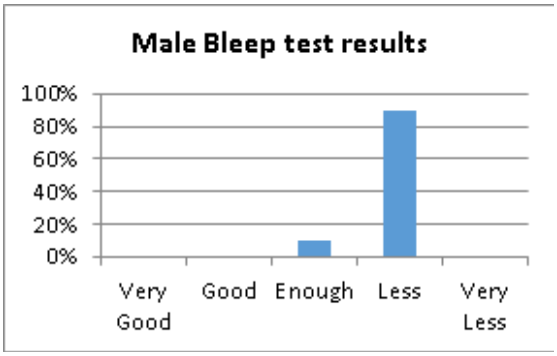

Diagram 4. Male Bleep Test Results Diagram

The results of the hold-up push-up test diagram show that the average test results are in the less category. While the rest are in the very good category good, enough, and not very much. The number of samples is 8 people, the largest value is 40, the smallest value is 25, the range of values is 15, the total number of values is 257, the average value is 32.1, the standard deviation is 4.94 and the variance is 24.4.

Women's Zig-Zag Running Test Results

The zig-zag running test scores for each category were assessed directly by the researcher from 12 female students using the zig-zag running test norms as follows: for the Very Good category, the score was 100%, Good, Good 0 %, Enough 0%, Less 0% and Very Less 0%. Total grand total in percentage 100%. Below you can see the percentage **Diagram 5** of the test results obtained.

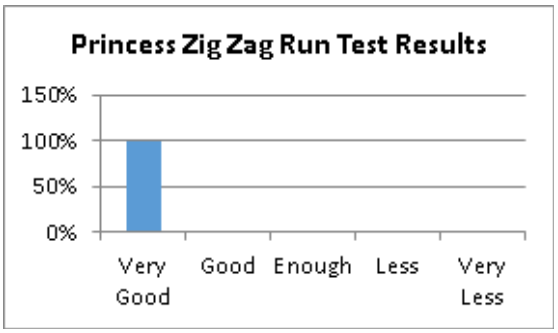

Diagram 5. Female measurement results diagram

The results of the hold-up push-up test diagram show that the average test results are in the Very Good category. While the rest are in categories good, enough, less and less. The number of samples is 12 people, the largest value is 6.48, the smallest value is 5.01, the range of values is 1.47, the total value is 70.08, the average value is 5.84, the standard deviation is 0.49 and the variance is 0.24

Women's Push Up Test Results

The Push-up test scores for each category were assessed directly by the researcher from 12 female students using the Push-up test norms as follows: for the Very Good category, it obtained a score of 75%, Good, Good 25%, Enough 0 %, Less 0% and Less 0%. Total grand total in percentage 100%. Below you can see the percentage **Diagram 6** of the test results obtained.

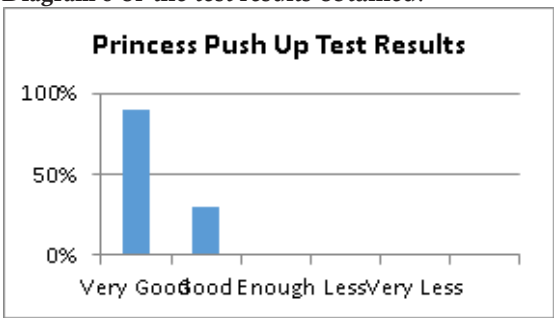

Diagram 6. Female Push Up Test Results Diagram

The results of the hold-up push-up test diagram show that the average test results are in the Very Good category. While the rest are in categories good, enough, less and less. The number of samples is 12 people, the largest value is 42, the smallest value is 11, the range of values is 31, the total number of values is 311, the average value is 25.9, the standard deviation is 9.69 and the variance is 94.08

Women's Sit Up Test Results

The Sit Up test scores for each category were assessed directly by researchers from 12 female students using the Sit Up test norm reference, namely as follows: for the Very Good category it obtained a score of 66.7%, Good 33.3%, Fair 0% , Less 0% and Less 0%. Total grand total in percentage 100%. Below you can see the percentage **Diagram 7** of the test results obtained.

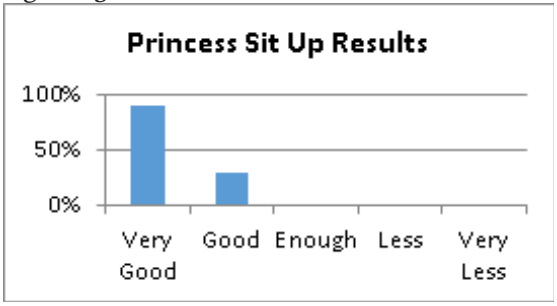

Diagram 7. Sit Up Test Results Diagram

The results of the hold-up push-up test diagram show that the average test results are in the Very Good category. While the rest are in categories good, enough, less and less.The number of samples is 12 people, the largest value is 36, the smallest value is 11, the range of values is 25, the total number of values is 290, the average value is 24.16, the standard deviation is 6.82 and the variance is 946.5

Results Of The Female Vertical Jump

The values for the Straight Jump test for each category were assessed directly by the researcher from 12 female students using the standard jump test norms as follows: For the Very Good category, it obtained a score of 25%, Good 41.7%, Enough 33.3%, Less 0% and Less 0%. Total grand total in percentage 100%. Below you can see the percentage **Diagram 8** of the test results obtained.

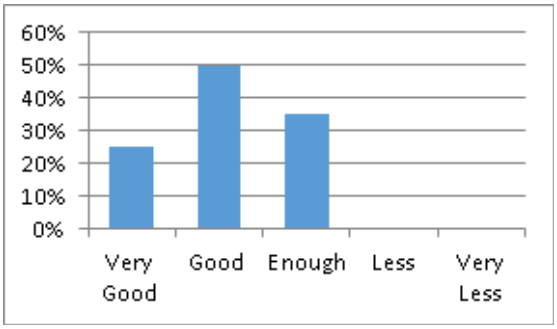

Diagram 8. Female Erect Jump Test Result Diagram

The results of the hold-up push-up test diagram show that the average test results are in Very Good. While the rest are in the category of very good, enough, less and very less. The number of samples is 12 people, the largest value is 70, the smallest value is 27, the range of values is 43, the total number of values is 513, the average value is 42.7, the standard deviation is 42.7 and the variance is 211.1.

Daughter's Bleep Test Results

The Bleep Test scores for each category were assessed directly by the researcher from 12 female students using the Bleep Test norm reference, namely as follows: for the Very Good category, it obtained a score of 8.3%, Good 8.3%, Fair 0%, Less 58.4% and less 25%. Total grand total in percentage 100%. Under

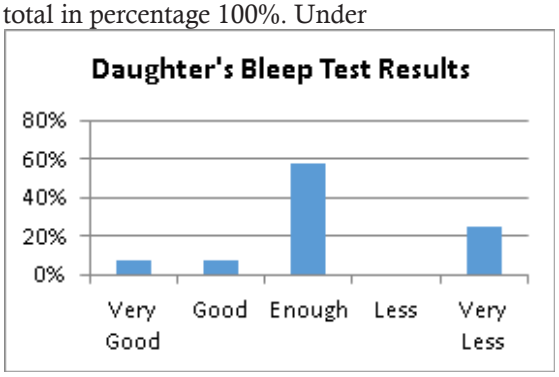

Diagram 9. Female Bleep Test Results Diagram

The results of the hold-up push-up test diagram show that the average test results are in the sufficient category. While the rest are in the category of very good, good, less and very less. The number of samples is 12 people, the largest value is 54, the smallest value is 11, the range of values is 43, the total number of values is 335, the average value is 27.9, the standard deviation is 13.08 and the variance is 171.1

Badminton Player Physical Test Measurement Results

After carrying out a series of tests, the results are then summed up according to the results obtained from the tests which will then be percentaged and grouped based on the applicable categories and norms. It was obtained the test scores for the measurement of the physical test for the badminton sport with each category assessed directly by the researcher from 20 students in total using the test norm reference, namely as follows: for the Very Good category it obtained a score of 55%, Good 35%, Enough 10, less 0% and less than 0%. Total grand total in percentage 100%. Below you can see the percentage **Diagram 10** of the test results obtained.

The results of the hold-up push-up test diagram show that the average test results are in the Very Good category. While the rest are in categories good, enough, less and less.

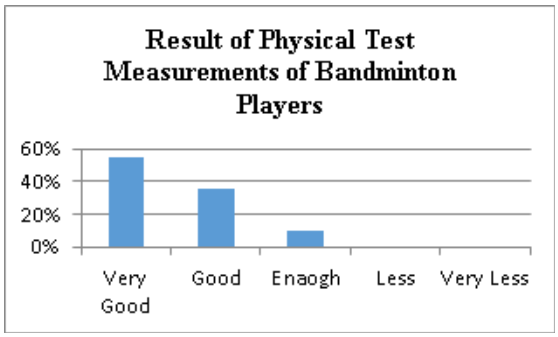

Diagram 10. Diagram of Badminton Player Physical Test Measurement Results

Zig-Zag Running Measurement Test

Based on the zig-zag running test, the results obtained by the students of Indralaya 2 Public Middle School, namely getting an average in the very good category. The zig-zag running test was carried out to find out how fast the students' movements and also their running because in badminton, speed and agility are used to control the direction of the ball's fall which will be immediately greeted by the players. According to (Hermansya, 2022) speed in the game of badminton plays a very important role, when doing a smash, you need perfect hand speed along with power, where if both have perfect acceleration then the resulting punch will be perfect too.

Men's Zig-Zag running is measured using a stopwatch which aims to measure the speed and agility of male students, where male students who manage to run as fast as possible with a distance of 30m in 6.3 seconds will get the highest score and vice versa if the time obtained is slow, namely 8.9 seconds then it will get a low value. In carrying out the zig-zag running physical test for female students at Indralaya 2 Public Middle School, the percentage results for the Very Good category obtained a score of 100%, Good, Good 0%, Enough 0%, Less 0% and Very Less 0%. Total grand total in percentage 100%

Zig-Zag running for girls is measured using a stopwatch which aims to measure the speed and agility of male students, where male students in the 10-12 year age category who manage to run as fast as possible with a distance of 30m in 6.7 seconds will get the highest score and vice versa if the time obtained is slow, namely 9.7 seconds, it will get a low value. In carrying out the zig-zag running physical test for male students at Indralaya 2 Public Middle School, the percentage results for the Very Good category scored 100%, Good, Good 0%, Enough 05, Less 0% and Very Less). Total grand total in percentage 100%.

Push Up Measurement Test

Based on the push-up test by Indralaya 2 Public Middle School students, they obtained an assessment with a very good average because their physical abilities were already very good. The purpose of doing this push-up measurement test is to find out how much their arm muscles are capable of smashing later because the stronger the arm muscle support, the stronger the smash will be given when playing badminton. The push-up test was carried out with the aim of knowing the effectiveness of the weighted training method on the smash accuracy of badminton athletes. Because of this, carrying out physical tests with push ups can make the strength of the smash technique better. (Nasri et al., 2019).

Push-ups are carried out with the aim of measuring the arm muscle strength of male students, where male students in the 10-12 year age category who succeed in doing as many push-ups as possible within 60 seconds will get the highest score and vice versa if they do a little in 60 seconds they will get low value. In carrying out the push-up physical test for female students at Indralaya 2 Public Middle School, the results for the percentage of the Very Good category scored 75%, Good, Good 25%, Enough 0%, Less 0% and Very Less 0%. Total grand total in percentage 100%.

Push-ups are carried out with the aim of measuring the arm muscle strength of male students, where male students in the 10-12 year age category who succeed in doing as many push-ups as possible within 60 seconds will get the highest score and vice versa if they do a little in 60 seconds they will get low value. In carrying out the push-up physical test for male students at Indralaya 2 Public Middle School, the percentage results for the Very Good category obtained a score of 100%, Good, Good 0%, Enough 0%, Less 0% and Very Less). Total grand total in percentage 100%.

Sit Up Physical Test Measurement Test

Based on the sit-up test by Indralaya 2 Public Middle School students, it is the same as the push-up test earlier that actually did not get results in the very good category which shows the physical quality of the students here is beyond doubt. The purpose of doing this test is to find out the ability and also the strength of the students' abdominal muscles which will later function as a support when doing the force when doing the smash. The sit up physical test is used to make

the abdominal muscles stronger. because deep overhead lob the strength of the arm muscles and abdominal muscles are very influential as the first muscles to contribute or contract in this shot (Ilham et al., 2018)

Sit Up Ups are carried out with the aim of measuring the abdominal strength of male students' arms, where male students in the 10-12 year age category who succeed in doing as many push ups as possible within 60 seconds will get the highest score and vice versa if they get a little in 60 seconds it will get low scores. In carrying out the sit-up physical test on female students at Indralaya 2 Public Middle School, the percentage results for the Very Good category scored 66.7%, Good 33.3%, Enough 0%, Less 0% and Very Poor 0%. Total grand total in percentage 100%.

Figure 1. Sit up physical exercise test

Sit Ups are carried out with the aim of measuring the abdominal strength of the male students' arms, where male students in the 10-12 year old category who succeed in doing as many push-ups as possible within 60 seconds will get the highest score and vice versa if they get a little in 60 seconds they will get low value. In carrying out the sit-up physical test on male students at Indralaya 2 Public Middle School, the percentage results for the Very Good category scored 100%, Good, Good 0%, Enough 0%, Less 0% and Very Less). Total grand total in percentage 100%.

Measurement Test Jump Upright Test

Based on the vertical jump test by Indralaya 2 Public Middle School students, they obtained grades with good category results because there were also students who still did not have the ability to jump optimally. In badminton games, training or testing of vertical jumps is very useful for athletes or students who like to play badminton because jumping is a technique combined with smash strokes, where if the higher the jump, the more likely it is to turn off the ball at the time of the smash. big chance. This vertical jump test aims to find out how maximal the explosive power of a person's leg muscles is in carrying out a physical test. The explosive power of the leg muscles greatly influences the footwork ability of badminton players (Alica & S, 2019)

The jump test is carried out which aims to measure the explosive power of the leg and arm muscles of male students, where male students in the 10-12 year old category who succeed in making the highest jump will get the highest score and vice versa if the lowest jump is obtained, they will get a low score. In carrying out the vertical jump physical test on female students at Indralaya 2 Public Middle School, the results for the percentage of assessment for the Very Good category obtained a score of 25%, Good 41.7%, Enough 33.3%, Less 0% and Very Less 0%. Total grand total in percentage 100%

The jump test is carried out which aims to measure the explosive power of the leg and arm muscles of male students, where male students in the 10-12 year old category who succeed in making the highest jump will get the highest score and vice versa if the lowest jump is obtained, they will get a low score. In carrying out the vertical jump physical test for male students at Indralaya 2 Public Middle School, the results for the percentage of the Very Good category obtained a score of 62.5%, Good, Good 25%, Enough 12.5%, Less 0% and Very Less 0%. Total grand total in percentage 100%

Bleep Test Measurement Test

Based on the last test, the bleep test was carried out by Indralaya 2 Public Middle School students, where this test was an aerobic endurance ability test. This diptation at the time of taking the measurement gets less results where students still have low levels of lung and respiratory endurance even though in badminton games aerobic endurance or Why is it really needed at this time in order to be able to do long matches without experiencing significant fatigue . Endurance is related to cardiovascular endurance. Cardiovascular endurance is the ability of the lungs, heart and blood vessels to deliver oxygen and nutrients to cells to meet the needs of long-term physical activity. Cardiovascular endurance is the ability of a person's organs to fight fatigue that occurs when carrying out activities for a relatively longer time (Sikki et al., 2020).

The bleep test is carried out which aims to measure the cardiovascular endurance of male students' limbs, where male students in the 10-12 year age category who succeed in doing the bleep test for the longest time will get the highest score and vice versa if the bleep test is obtained for a short time then they will get a score low.

In carrying out the sit-up physical test on female students at Indralaya 2 Public Middle School, the percentage results for the Very Good category scored 8.3%, Good 8.3%, Enough 0%, Less 58.4% and Very Poor 25%. Total grand total in percentage 100%.

The bleep test is carried out which aims to measure the cardiovascular endurance of male students' limbs, where male students in the 10-12 year age category who succeed in doing the bleep test for the longest time will get the highest score and vice versa if the bleep test is obtained for a short time then they will get a score low. In carrying out the sit-up physical test on male students at Indralaya 2 Public Middle School, the percentage results for the Very Good category scored 0%, Good, Good 0%, Enough 10%, Less 90% and Very Less 0%. Total grand total in percentage 100%

Badminton Test

Physical Test Physical fitness is the basis for badminton athletes at Junior Hight School2 Indralaya to be able to carry out each training session properly and smoothly, as well as to support athlete performance when participating in championships. A good level of physical fitness is expected to be able to make athletes take part in training or carry out competitions properly so that they can provide maximum results. This is in accordance with the opinion expressed by Bouchard, Blair, and Haskell in Erwinanto (2017: 32) "physical fitness is a set off attributes that people have or achieve that relate to the ability to perform physical work" which means that physical fitness is a unit possessed by a person related to the ability to perform physical activities.

This study also aims to determine the level of physical condition of the badminton athletes aged 10-12 years in Bantul Regency according to the Indonesian Physical Fitness Test (TKJI) for ages 10-12 years. Based on the results above, it can be seen or concluded that the level of physical fitness of badminton athletes in the age group of 10-12 years is in the good category. Someone who has a good physical level is characterized by a state of good aerobic capacity as well. According to Mubarak, Rahayu and Hidayat (2015: 9) aerobic capacity is a condition that describes a person's level of effectiveness in obtaining oxygen and then sending it to the muscles and using it to procure energy, and at the same time remove metabolic waste that can hinder physical activity. From a good physical condition, athletes can carry out the techniques of playing badminton to the fullest. Based on the data obtained from the results of the research by conducting tests and measurements in the badminton sport for students of Junior High School 2 Indralaya the average fitness level and also the results of the tests carried out by these students were in the very good category where the presentations obtained were from the good category once it's 55% is good with a presentation of 35% while it's enough, namely 10%. At the time of the test the students took the test according to the directions and also the instructions carried out by the researcher where students were directed to carry out a series of tests in sequence with time and also an assessment that had been determined by the investigator based on the norms of the Indonesian physical fitness test. For male students, when carrying out a series of tests, there were 8 male students who carried out the first test, namely the zig-zag running test, the push-up test, the sit-up test, the upright jump test, and the bleep test.

Based on all the data and also the analysis that has been carried out by the researchers, the physical fitness level of Indralaya 2 Public Middle School students is still very good, it's just that there are several fitness levels of the physical fitness component that still need to be improved, one of which is aerobic endurance which is still very lacking. Therefore it is important for teachers and students to always take regular physical test measurements and also carry out exercises related to these components of physical fitness so that in the future physical fitness in the body will have good results, especially in carrying out game activities. badminton where physical fitness is needed in the game of badminton if the physical condition of the body is Normal or even very Fit then it is certain that our performance in playing badminton Even in participating in a match even though it will create a great opportunity to create the best performance from ourselves.

CONCLUSION

Based on the research, it was obtained that the test scores for the physical test of the badminton sport branch with each category were assessed directly by the researcher from 20 students in total using the test norm reference, namely as follows: for the Very Good category it obtained a score of 55%, Good 35%, Fair 10, Less 0% and Less 0%. The total number in percentage is 100%. From the data obtained, it shows that the physical level of students at Junior Hight School2 Indralaya is quite good.

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