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The ability basic physical components of row athlete

Abstract

The problem in this study is how the physical components of the paddle sport. The purpose of this study was to determine the ability level of the basic physical components of paddle athletes in West Kalimantan. The method used in this research is descriptive method with survey research form. The population in this study amounted to 18 athletes. The sample in this study amounted to 18 athletes. Based on the results of research conducted on the ability level of basic physical components, it turns out that paddle athletes in West Kalimantan belong to 4 categories: perfect amounted to 2 athletes or by 11%, either 7 athletes or 39%, good categories of 5 athletes or 28 % and enough amount to 4 athletes or by 22%. This shows that the ability of the basic physical components in West Kalimantan paddle athletes is in the good category.

Keywords: Basic Physical Components

Introduction

Rowing sports achievements are dynamic progressive, meaning that each phase of time is always changing and tends to increase along with the development of science and technology. Therefore the paddle sports coaching system must always be improved to be able to achieve the desired peak performance. One thing that must be considered in the coaching process is the training process.

Paddle is one of endurance sports, the main target of rowing is water using boat and paddle media. Rowing in Indonesia belongs to the parent organization called PODSI (Persatuan Olahraga Dayung Seluruh Indonesia) in which three main sports branches are joined; rowing, canoeing and traditional boat races.

The contribution of sports scientists to the improvement in athletes' performance in canoeing is a support for the latest findings on training methods that are specific to the demands of the sport itself, measured and well programmed. Therefore, coaches for sport's achievements must have an awareness of the important role of sports science and knowledge in improving athlete achievement, especially in canoeing sport (Harsono, 2015).

In canoeing, the role of basic physical components is very important, therefore every athlete in certain sports requires specific basic physical components to support

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maximum performance (Bompa, Tudor et al, 2009). Basic physical components that are specific to athletes in canoeing that need to be maximized are basic physical abilities namely; strength (arm and shoulder muscles, back muscles, leg muscles), endurance muscles (arm and shoulder muscles, abdominal muscles, back muscles, leg muscles), power (arm muscles), cardiovascular endurance (cardio vascular) (Goer, 2000; Wilmore and Costil, 2008; Purba, 2019).

Rowing is an endurance sport that involves a unique pattern of loading (Nurjaya D.R. 2016). The rowers who win the rowing race are the rowers who complete the distance in the fastest time and make no mistakes or break rules. The winners in the semi-final round advanced allowance, and the final semi-final winners.

There are several types of rowing, namely Rowing, Canoeing, and Traditional Boat Race. All three sports have their own international parent organizations, namely for Rowing, the International Federation of Societies de Aviron (FISA), for International Canoeing, Canoe Federation, and for Traditional Boat Race, International Dragon Boat Federation (IDBF). Paddle Sports Association of Indonesia (PODSI) is the parent organization of the three branches of rowing in Indonesia.

Today to optimize the basic mobility of rowing athletes must be based on the application of sport science through training periods. The training periodization program consists of stages, namely; the general preparation stage (TPU), the special preparation stage (TPK), the pre-match stage (TPP), the main competition stage (TPUT) and end with a rest period.

For rowing athletes, especially the branch of canoeing in order to perform optimally, it requires specific basic physical skills training to be carried out precisely at the special preparation stage (TPK). The basic physical components are; strength (arm and shoulder muscles, back muscles, leg muscles), endurance muscles (arm and shoulder muscles, abdominal muscles, back muscles, leg muscles), power (arm muscles), general endurance (cardio vascular) (Goer, 2000 ; Wilmore and Costil, 2008; Purba, 2019).

Athlete training must be carried out in stages and continuously so that the physical-physiological conditions that are specific to the branch of sport canoeing get the maximum achievement, the grading starts from junior athletes to senior athletes. Changes in the physical-physiological conditions of athletes canoeing after doing exercise can be evaluated with athlete physiology tests or athletes' physical condition tests. The athlete's physiology test must be carried out periodically to evaluate the effectiveness of training from the junior stage to the senior stage (Wilmore and Costil, 2008; Bompa, Tudor et al, 2009).

Physical conditions for canoeing athletes that need to be optimized at the special preparation stage (TPK) are basic physical abilities namely; strength (arm and shoulder muscles, back muscles, leg muscles), muscles' endurance (arm and shoulder muscles, abdominal muscles, back muscles, leg muscles), power (arm muscles), general endurance (cardio vascular) (Goer, 2000 ; Wilmore and Costil, 2008; Purba, 2019). As table 1 below:

Table 1. Categories of Basic Physical Components Ability Special for Paddle Sports

No	Component	
1	Strength	Deltoids, trapezius, latissimus dorsi, hamstrings
2	Muscle Endurance	Deltoids, trapezius, rectus abdominis, latissimus dorsi, hamstrings
3	<i>Power</i>	Deltoids
4	General Durability	Cardiovascular

Source: (Goer, 2000; Wilmore dan Costil, 2008; Purba, 2019)

Canoeing athletes can achieve peak performance if the preparation of training periods is done by implementing sports coaching with a sports physiology approach. There are 3 important factors that need to be considered so that canoeing athletes can achieve maximum, namely; optimal physical condition, having a winning mentality, good strategy and technique (Goer, 2000; Wilmore and Costil, 2008; Purba, 2014).

Thus the achievement of the top achievements of canoeing athletes can be achieved by: 1.) The application of sports physiology science and technology in determining exercise dosage, 2.) The application of sports physiology science and technology to help accelerate the process of improving canoeing athletes' achievements, 3.) Conducting a test of physical conditions for the latletsan of program preparation periodization the exercise and evaluate the effectiveness of the exercise.

Some benefits of physiology test results on canoeing athletes, it is found out the effectiveness of exercise against; 1. Formation of lactic acid, 2. Selection of junior rowing athletes, 3. Planning an exercise program with a specific training dose for canoeing, 4. Evaluating the success of the exercise during the exercise.

The preparation of a training periodization program and determination of the correct training dose will prevent athletes' injuries. It also can provide enough stimulation to improve the ability of the athlete's physical condition because if the amount of exercise exceeds the athlete's ability will produce lactic acid (Javanmardi, 2003).

Methods

The method used in this research is descriptive research with a quantitative approach. While the form of research used in this study is survey research. The population in this study were all UNTAN Rowing UKM athletes, totaling 18 people. Sampling in this study was conducted using total sampling means that the samples taken were all UNTAN Paddle UKM athletes, amounting to 18 people.

The data collection in this study is to use observation sheet basic physical components specifically rowing. When conducting the research the researcher was assisted by 1 research assistant, where before descending the field the researcher had explained apperception about the purpose of the research to the research assistant to equate perceptions so that errors did not occur in the study.

In carrying out the test the basic physical components of the athlete are carried out based on a predetermined path. The flow test that is not right with the previous test will produce data measurement capabilities of the basic physical components that are not right (Miller, 2002).

This study uses observational sheets of basic physical components specifically rowing in accordance with Purba's opinion, (2019: 101) where each item contains 4 components namely components of strength, muscle endurance, power, general endurance.

This study uses a Likert scale with alternative models, namely the five choice model (scale of five). As for the instrument lattice, it can be presented in Table below:

Table 2 Instrument Grid

No.	Components	Measurement Techniques	Categories				
			Less	Enough	Good	Very Good	Perfect
1.	Strength a. Arm & should. mus. b. Back muscles c. Leg muscle	Hand Dynamometer Back Dynamometer Leg Dynamometer	23-29 59-74,5 10-29	30-36 80-100,5 46-214	37-43 101-122 215-282	44-50 122,5-143 ≥283	≥ 51 ≥ 144
2.	Muscles' Endurance a. Arm & should. mus. b. Stomach muscle c. Back muscles d. Leg muscle	Pull-Ups Sit-Ups Back Lifts Squat Jumps	1- 4 10-29 10-20 4-24	5-8 30-49 21-31 25-45	9-12 50-69 32-42 46-66	13-16 70-89 32-53 67-87	≥ 17 ≥ 90 ≥ 54 ≥ 88
3.	Power a Arm muscles	Medicine ball put	2,63-3,67	3,36-4,52	4,53-4,52	5,38-6,22	≥ 6,23
4.	General Endurance (cardio vascular)	Astrand (VO2 Max mL/Kg/mnt)	≤ 36	37-45	46-54	55-67	≥ 68

Source: (Goer, 2000; Wilmore dan Costil, 2008; Purba, 2019)

Data Analysis Technique

The activities carried out in analyzing and processing data are as follows:

1. Editing is checking all data collected.
2. Classification is a grouping of observational data into categories (scores) that have been determined.
3. Tabulation is the process of making tables.
4. Classify the value obtained by the athlete.
5. Present the data that has been calculated by the formula.

$$Dp = n / N \times 100\%$$

Dp = descriptive percentage

n = number of values obtained

N = total value

(Mohammad Ali, in Lestudy, 2012: 31)

6. Summing up the results of the study, a description of the ability level of the basic physical athletes of UNTAN Paddle UKM athletes was obtained.

Results and Discussion

a. Basic Physical Components of Rowing Athletes

The study was conducted using instruments based on Purba, (2009: 101). After the research, the data and values obtained from each athlete will be categorized according to their percentage and percentage. As table 3 below:

Table 3 Classification of Basic Physical Components of Rowing Athletes

Whole	Classification	Percentage
548,77-556,57	Perfect	11%
540,96-548,76	Excellent	39%
533,15-540-95	Good	28%
525,34-533,15	Enough	22%
517,53-525,33	Lack	0%

From the results of the research that has been carried out the data listed in table 3 shows that the UNTAN Paddle athletes belong to three categories: perfect, good and sufficient. As for the total grouping score of 548.76 which means the ability of the basic physical components of all athletes is included in the excellent category. Athletes included in the perfect category were 11%, athletes included in the excellent category were 39%, while those included in the category were quite 22%. For athletes that are included in the category of less and less so amounted to 0%.

Based on data from the results of research conducted, it can be seen that the basic physical components (strength (arm and shoulder muscles, back muscles, leg muscles), endurance muscles (arm and shoulder muscles, abdominal muscles, back muscles, leg muscles), power (arm muscle), general endurance (cardio vascular) in UNTAN Paddle UKM athletes are included in the excellent category, which is 39% or as many as 7 athletes. This shows that most UNTAN Paddle UKM athletes already have a level of basic physical components in accordance with the branch rowing.

After conducting research on the basic physical components of rowing athletes it is known that the basic physical components (strength (arm and shoulder muscles, back muscles, leg muscles), endurance muscles (arm and shoulder muscles, abdominal muscles, back muscles, leg muscles), power (arm muscles), general endurance (cardio vascular) in UNTAN Paddle UKM athletes are classified as very good, physical condition tests aim to determine the success of the exercise (Plisk & Committee, 2003).

Here it appears that UNTAN Paddle UKM athletes are not always perfect for rowing athletes so that they can perform optimally requiring specific basic physical skills training (D. Baker, 1998). The basic physical components are; strength (arm and shoulder muscles, back muscles, leg muscles), endurance muscles (arm and shoulder muscles, abdominal muscles, back muscles, leg muscles), power (arm muscles), general endurance (cardio vascular) (Purba, 2019 , p. 101).

The results conducted by researchers during the study of UNTAN Paddle UKM athletes showed that the ability level of the basic physical components of

UNTAN Paddle UKM athletes was already good, although there were still athletes who still did not have above average abilities.

b. Descriptive Data Component Strength

Based on the data the results of the research that has been carried out can be seen in table 4 regarding the components of the UNTAN Paddle strength UMM, namely:

Table 4 Categories of Strength Components

Total Score	Classification	Percentage
359-365	Perfect	10%
352-358	Excellent	40%
345-351	Good	30%
338-344	Enough	20%
331-337	Less	0%

The results of table 4 of the research on the strength of the athlete component, can be explained that the UNTAN Paddle athletes are classified into four categories, namely perfect by 10%, good by 40%, enough by 30%, and less by 20%. The difference in categories between perfect and good is 30%. While the good and enough categories have a difference of 10%. For the category there is no missing or 0%.

c. Strength Component

In accordance with data on the strength components of athletes, it can be explained that UNTAN Paddle UKM athletes fall into four categories, namely perfect, which is 10%, very good at 40%, good at 30% and enough by 20%. This data shows that the basic physical component especially the strength component of UNTAN Paddle UKM athletes is included in the excellent category.

The number of athletes belonging to the perfect category is 2 athletes or 10%. These results indicate that when in the training process athletes must be more active in increasing the strength component in order to meet the basic physical component criteria, especially the strength component according to the specific branch of rowing.

Athletes are included in the good classification of 40% or as many as 7 athletes. These results indicate that athletes have shown an increase in strength components and have met the criteria of basic physical components, especially the strength components that are specific to rowing.

Enough category classification is equal to 30% or as many as 6 athletes. These results indicate that in the lecture process athletes already have adequate attitudes. While the classification of the categories is lacking at 20% or as many as 3 athletes. These results indicate that in the lecture process there are 3 athletes who almost reach the criteria. In this case the athlete must continue to increase the strength component to meet the basic physical component criteria, especially the strength component according to the specific branch of rowing.

Athletes that are classified as less are 0%. This means that there are no athletes included in the classification, so it can be said that the ability of the basic physical components of UNTAN Paddle UKM athletes is no longer in doubt.

d. Descriptive Data of Muscle Endurance Components

The data obtained can be seen in the following table 5:

Table 5 Categories of Muscle Endurance Components

Total Score	Classification	Percentage
156-160	Perfect	10%
150-155	Excellent	10%
145-149	Good	20%
140-144	Enough	60%
135-139	Less	0%

Based on the results of the data obtained on the category of muscle endurance components from table 5 it turns out that the UNTAN Paddle athletes belong to 4 categories, namely perfect by 10%, excellent by 10%, good by 20% and enough by 60%. While the less category is equal to 0%.

e. Muscle Endurance Components

Regarding the components of muscle endurance athletes can be explained that the UNTAN Paddle UKM athletes belong to 4 categories, namely perfect by 10%, excellent by 10%, good by 20% and enough by 60%. As for the category of less than 0%.

Athletes included in the perfect category by 10% or as many as 1 athlete. These results indicate that only 1 athlete has only the basic physical components according to the criteria contained in the instrument.

Excellent classification of muscle endurance components by 10% or only 1 athlete. These results indicate that the auto endurance component of UNTAN Paddle UKM athletes is very good and should be maintained. Good category by 20% as many as 6 athletes. While the classification of categories is enough that is equal to 60% or as many as 10 athletes.

This shows that the muscle endurance component of UNTAN Paddle UKM athletes has not yet reached the criteria and the athlete must always pay attention to aspects of muscle endurance and do exercises related to the muscular endurance component appropriately.

There are no athletes who are in the lacking category, of course, proving that the muscle endurance component of UNTAN Rowing UKM athletes need not be doubted.

f. Descriptive Data Component Power

In accordance with research data can be described regarding the components of power in athletes. The data obtained can be seen in table 6 below:

Table 6 Power Component Categories

Total Score	Classification	Percentage
57-60	Perfect	10%
53,7-56,9	Excellent	80%
50,3-53,6	Good	10%
46,9-50,2	Enough	0%
43,5-46,8	Less	0%

Based on the results of the data in table 6 above, the power components of UKM UNTAN Paddle athletes are classified into 3 categories: perfect by 10%, excellent by 80% and good by 10,%. As for the category of adequate and less than 0%.

g. Power Component

Regarding the level of power components athletes can be explained that the UNTAN Paddle UKM athletes belong to 3 categories, namely perfect by 10%, very good by 80% and good by 10%. As for the category of ample and less by 0%.

Athletes included in the perfect category by 10% or as many as 1 athlete. These results indicate that even though there is only 1 athlete, the level of power component of UNTAN Paddle UKM athletes is in accordance with the criteria and proper training can be done to improve the ability of the basic physical components of rowing athletes especially the power component.

Athletes that are classified as excellent in the power component of 80% or as many as 15 athletes. These results indicate that the ability of the power component in UNTAN Paddle UKM athletes is very good and exceeds the criteria.

While athletes that are classified as good category that is equal to 10% or as many as 2 athletes. These results indicate that the power component of UNTAN Paddle UKM athletes is adequate and athletes must always pay attention to the portion of training that matches the criteria and specific components of power. There are no athletes in the category of lack, of course this proves that the ability level of the competent components of the UNTAN Paddle UKM athletes need not be doubted.

h. Descriptive Data Components of General Durability

In accordance with the research data, it can be elaborated on the general endurance component of UNTAN Rowing UKM athletes. The data obtained can be seen in the following table 7:

Table 7 General Endurance Component Categories

Total Score	Classification	Percentage
57-60	Perfect	30%
53,7-56,9	Excellent	50%
50,3-53,6	Good	20%
46,9-50,2	Enough	0%
43,5-46,8	Less	0%

Based on the results of the data in table 6 above, the general endurance component of UNTAN Paddle athletes is classified into 3 categories: perfect by 30%, excellent by 50% and good by 20%. As for the category enough and less by 0%. This shows that the ability of the general endurance component of UNTAN Paddle UKM athletes is very good.

i. General Durability Components

Athletes included in the perfect category of 30% or as many as 5 athletes. These results indicate that the general endurance capabilities of UNTAN Paddle UKM athletes already have general endurance abilities that are in accordance with the criteria in the instrument.

Classification is good at the component level of general endurance ability of 50% or as many as 9 athletes. These results indicate that the component level of general endurance ability of UNTAN Paddle UKM athletes is already good and should be maintained. While the classification of categories is enough, namely by 20% or as many as 4 athletes. This shows that the level of components of general endurance ability of UNTAN Paddle UKM athletes has reached the criteria although it is not significant and UNTAN Paddle UKM athletes must always try to improve their abilities especially the ability of the general endurance component.

There are no athletes in the category of lack, of course this proves that the level of general endurance competency component of UNTAN Paddle UKM athletes is not in doubt.

Conclusion

Based on the results of research and discussion of the basic physical components of rowing athletes, it can be concluded that:

The strength component, it can be explained that UMAN UNTAN Paddle athletes fall into four categories, namely perfect by 10%, excellent by 40%, good by 30%, and sufficient by 20%. The difference in categories between perfect and excellent is 30%. While the good and enough categories have a difference of 10%. For the less category or 0%. Muscle endurance component, it turns out that UNTAN UMM athletes belong to 4 categories, namely perfect by 10%, excellent by 10%, good by 20% and enough by 60%. While for the less category that is equal to 0%. The components of the UNTAT Paddle poweratlet are classified into 3 categories: perfect by 10%, excellent by 80% and good by 10%. As for the category of

insufficient and lacking or equal to 0%. The general endurance component of UNTAN Paddle UKM athletes belongs to 3 categories, namely perfect by 30%, excellent by 50% and good by 20%. As for the category of insufficient and lacking or equal to 0%. The basic physical components of rowing athletes fall into 4 categories: perfect by 11%, excellent by 39%, good categories by 28% and enough by 22%. This shows that the ability of basic physical components in West Kalimantan rowing athletes is classified as a very good category at 50%.

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