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### Analysis of Arm Muscle Strength on Chestpass Ability in Basketball Games for Students of SMP Negeri 7 Makassar

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#### Abstract

Analysis of Arm Muscle Strength on Chest Pass Ability in Basketball Games for Students at SMP Negeri 7 Makassar. Department of Physical Education, Health and Recreation, Faculty of Sports Science, Makassar State University. This quantitative descriptive study aims to analyse arm muscle strength on chest pass ability in basketball games for students at SMP Negeri 7 Makassar. The research variable in this study is the independent variable (arm muscle strength) and the dependent variable (chest pass ability). The population in this study were male students in grade VIII in SMP Negeri 7 Makassar, while the sample was 30 students. The data collected in this study included an arm muscle strength test and a chest pass ability test. The data analysis shows a contribution of arm muscle strength to chest pass ability in basketball games for students of SMP Negeri 7 Makassar by 71.3%.

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#### INTRODUCTION

SMP Negeri 7 Makassar is one of the best schools in Makassar. The school has extracurricular activities that are held twice a week. One of the growing extracurriculars is basketball extracurricular. Extracurricular basketball at SMP Negeri 7 Makassar is always in demand by students to participate in or enter these activities. Extracurricular

basketball always participates in matches held in the city of Makassar. However, it consistently loses in the qualifying round due to a lack of practice and mastery of basic basketball techniques that still need improvement.

Based on observations so far, basketball players of SMP Negeri 7 Makassar students still need to improve in fundamental techniques for playing basketball, which cause

defeat during matches. The basic technique that has many mistakes when competing is the basic passing technique in basketball. These basic techniques often make mistakes starting from body position and making steps before passing. To pass basketball perfectly, of course, you need the ability of physical components that can support the improvement of passing ability, such as; agility, balance, coordination, flexibility, reaction, strength and explosive power and so on. From the various physical components above, in this thesis, the author wants to try to examine the physical component, namely arm muscle strength.

Based on the background above, the formulation of the problem in this study is: Is there a contribution of arm muscle strength to chest pass ability in students of SMP Negeri 7 Makassar? This study aimed to determine the contribution of arm muscle strength to chest pass ability in basketball games of SMP Negeri 7 Makassar students.

Muscle strength is the ability that allows the development of maximum force in maximum contraction to overcome loads or obstacles. So force is the amount of muscle tension used in the maximum contraction of heavy activity. Muscle strength is determined by muscle structure, precisely muscle volume, where strength increases according to increasing muscle volume and is also determined by controllability to the muscle or group of muscles concerned.

There are sports activities in its application, especially chest passes in basketball games; strength is an essential

physical element but only stands with others. Good strength and training in a student will be able to overcome heavy loads, which, when combined with the element of speed, can cause explosive movements, especially the arms in the implementation of chest pass, namely when pushing the ball. With good strength and training, a basketball athlete can pass chest or chest pass easily and quickly. Students who have arm and wrist muscle strength and are accompanied by good passing technique, then the athlete efficiently performs a perfect chest pass.

Basketball is one of the most popular sports in the world. Fans of all ages feel that basketball is fun, competitive, educational, entertaining and healthy. Individual skills such as shots, passing, dribbles, rebounds, and teamwork on offence or defence are requirements to succeed in this sport. The pass is the first basic technique; with the pass, the players can make movements close to the basketball hoop for then shots. The pass can be made quickly. The important thing is that the receiving friend can control the ball. To pass well in various situations, players must master various techniques and pass well. One of the basic techniques in the basketball game is to pass the ball at chest height, commonly called chest pass.

According to Nuril Ahmadi (2007: 13) said, "Chest pass is passing the ball at chest height." How to pass with a hand placed from the front of the student's or player's chest. Passing this way will produce speed, accuracy, and accuracy because this pass is helpful for

use over short distances. From some of the statements above, it can be concluded that a chest pass is a pass towards the chest or between the waist and shoulders of a teammate who receives it. This pass is helpful for short-range passes, so it requires speed and accuracy in passing the ball.

In this study, the strength of the arm muscles in question is the ability of strong and fast arm muscles to reach the maximum in the shortest time when doing chest pass movements. To produce a hard pass, push must be done strongly and quickly, so a sizeable explosive power is needed to achieve the target. The power needed to perform this chest pass movement is obtained from the strength of the muscles in the arms. If done well and systematically, it will affect the ability of chest pass in basketball. It can be concluded that arm muscle strength is vital in increasing chest pass ability in basketball games. Based on the frame of mind, the hypothesis that is a temporary answer to the problem in this study is "there can be a significant contribution between Arm Muscle Strength and ChestpassAbility in SMP Negeri 7 Makassar students. "

## **METHODS**

Descriptive research does not test a particular hypothesis but only describes "what it is" about a variable, symptom or state (Arikunto, 2013). The research site will be at SMP Negeri 7 Makassar, in JL. Skipjack IV Makassar. The location was chosen because it

has all the supporting aspects, so the research can run well.

Research is an attribute or object the researcher determines to be studied and then draws conclusions. The variables in this study are independent variables (arm muscle strength) and bound variables (basketball chest pass ability) at SMP Negeri 7 Makassar.

These research variables need to know the study's limits and scope so as not to cause different interpretations than operationally. The research variables are defined as follows, Arm muscle strength is a maximal contraction ability performed by a group of muscles that work against resistance as a driving force for physical activity. The chest pass ability is a way of passing the ball to teammates, which is done in front of the chest.

The population in this study was all male students of grade VIII SMP Negeri 7 Makassar. Sampling was conducted randomly with a total sample of 30 SMP Negeri 7 Makassar students. The instruments used in the study included an arm muscle strength test and a basketball chest pass ability test.

## **FINDINGS AND DISCUSSION**

The results of the analysis of research data carried out can be described as follows: For arm muscle strength in SMP Negeri 7 Makassar students from 30 total samples, a total value of 433.00 was obtained and an average of 14.4333 with a standard deviation of 1.94197 and a variance of 3.771 from a data range of 8.00 between the minimum value of

10.00 and 18.00 for the maximum value. For chest pass ability in basketball games in SMP Negeri 7 Makassar students from 30 total samples, a total value of 464.00 was obtained and an average of 15.4667 with a standard deviation result of 2.08001 and a variance value of 4.326 from a data range of 8.00 between a minimum value of 12.00 and 20.00 for the maximum value.

Testing the normality of arm muscle strength and chest pass ability in basketball using the Kolmogorov-Smirnov Test showed the following results: In testing the normality of arm muscle strength in students of SMP Negeri 7 Makassar, a Kolmogorov-Smirnov Test value of 0.148 was obtained with a probability level (P) of 0.092 more significant than the value of  $\alpha 0.05$ . Thus, the arm muscle strength in SMP Negeri 7 Makassar students obtained follows a normal distribution or normal distribution. In testing the normality of data to chest pass capabilities in basketball games in SMP Negeri 7 Makassar students, a Kolmogorov-Smirnov Test value of 0.126 was obtained with a probability level (P) of 0.200 more significant than the value of  $\alpha 0.05$ . Thus, the data on chest pass ability in basketball games in SMP Negeri 7 Makassar students obtained follows normal distribution or normal distribution.

The F (deviation from linearity) value between arm muscle strength (X) and chest pass ability in basketball (Y) was 2.171 at a significant  $0.129 > \alpha 0.05$ . So, the strength of the arm muscles against the ability n chest

pass in basketball in SMP Negeri 7 Makassar students obtained has a relationship or linear.

Based on the regression analysis of arm muscle strength data against the ability n chest pass in basketball games in Table 4.4, a regression value of 0.845 was obtained with a significant level of  $0.000 < \alpha 0.05$  for a coefficient of determination of 0.713. This translates to a 71.3% contribution of arm muscle strength to chest pass ability in basketball games in SMP Negeri 7 Makassar students.

## CONCLUSSION

The contribution of arm muscle strength to chest pass ability in basketball games in SMP Negeri 7 Makassar students was 71.3%. Testing of the regression model showed an F value of 69.663 with a significant value level of  $0.000 < \alpha 0.05$ . This means that chest pass ability in basketball can be explained significantly by arm muscle strength in SMP Negeri 7 Makassar students.

## REFERENCES

- Abdullah Ma'ruf. 2015. *Metodologi Penelitian Kuantitatif*. Yogyakarta: Aswaja Pressindo
- Ahmadi Nuril. 2007. *Permainan Bolabasket*. Solo: Era Intermedia.
- Adriana. 2012. *Teknik Passing dalam Bola Basket*. Diambil dari <https://ellardiani.wordpress.com/2012/09/05/teknik-passing-dalam-bolabasket/> pada tanggal 25 Oktober 2015 jam 09.07

- Brittenham, Greg. 2002. Bola basket Panduan Lengkap Latihan Khusus Pemantapan. Jakarta: PT Raja Grafindo.
- Fox, E.L. 1993. The Physiological Basis of Exercise and Sport (ed).USA: Wim. C. Brown Publisher.
- Harsono, 1988. Coaching Dan Aspek-Aspek Psikologi Dalam Coaching. Jakarta : Depdikbud Dirjen Dikti.
- <https://endoproteza.info/staw-barkowy/anatomia-i-chorobazwyrodnieniowa-barku>
- <https://artikel-kesehatan/atasi-doms-nyeri-otot-setelah-berolahraga>
- [https:// hakim-2-sore-otot-lengan-bawah-dan-tangan](https://hakim-2-sore-otot-lengan-bawah-dan-tangan)
- [https:// daftar-otot-berdasarkan-fungsi-area\\_28.html](https://daftar-otot-berdasarkan-fungsi-area_28.html)
- Kementrian Pemuda dan Pendidikan. 2013. Pendidikan Jasmani Olahraga dan Kesehatan. Jakarta: Kementrian Pendidikan dan Kebudayaan
- Kravitz Len, 2001. Panduan Lengkap Bugar Total. Divisi Buku Sport PT. Rajagrafindo Persaja Jakarta
- M. Muhyi Faruq. 2009. Meningkatkan Kebugaran Jasmani Melalui Bola Basket. Surabaya: Gramedia Widiasarana Indonesia
- Muhajir. 2004. Pendidikan Jasmani Olahraga & Kesehatan. Bandung: Yudhi Tira.
- Mylsidayu Apta, 2005. Ilmu Kepeleatihan Dasar Bandung.
- Oliver, Jon. 2003. Dasar-Dasar Bola Basket. Human Kinetics.
- Permana, Asepta Yoga. 2008. Bola Basket. Surabaya: Insan Cendekia.
- Prusak Keven A. 2005. Permainan Bola Basket. Citra Hasil Paraman.
- Sajoto, Mochamad. 1988. Pembinaan Kondisi Fisik Dalam Bidang Olahraga. Jakarta: Depdikbud Dirjen Dikti.
- Sudaryono, Gaguk Margono, Wardani Rahayu. 2013. Pengembangan Instrumen Penelitian Pendidikan. Jakarta : Graha Ilmu.
- Sugiyono. 2015. Metode Penelitian Pendidikan. Bandung: Alfabeta
- Sukmadinata. 2011. Metode Penelitian Pendidikan. Bandung: PT. Remaja Rosdakarya.
- Wissel Hal. 2012. Basketball Steps to Success Third Edition. United States: HumanKinetics