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The Relationship Between Shoulder Arm Muscle Power and the Ability to Punch the Court Tennis Drive in Students of the 2022 FKIP USK Physical Education Study Program

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Abstract

Field observations obtained when I was on the committee of the Field Tennis League (LITEL) from these players stated that to achieve high tennis achievements, supported by good physical, technical, tactical and mental conditions, especially when hitting drives on sportsmen is a requirement that cannot be neglected, especially the game of court tennis. This type of research can be classified under Descriptive research as stated by Arikunto (1991: 63) that "Descriptive research. The number of samples in this study was 31 Penjaskesrek students. Data collection techniques in this study were Measurement of Power Ability of shoulder arm muscles and Measurement of Agility of Stroke Drive Tennis Court. The calculation of the correlation coefficient value above can be concluded that arm muscle power with the ability to punch the court tennis drive in FKIP USK Physical Education Students has a significant relationship. The results of the data calculation, showed that the correlation coefficient value (r) between the power of the shoulder arm muscles and the ability to punch the court tennis drive in FKIP USK Penjaskesrek Students was 0.50. In the sport of field tennis, the Drive punch is one of the basic techniques that must be mastered in the game of court tennis.
Keywords: Shoulder Arm Muscle Power, Drive Shot in Court Tennis

Abstrak

Pengamatan dilapangan yang diperoleh pada saat saya menjadi panitia Liga Tenis Lapangan (LITEL) dari pemain-pemain tersebut menyatakan bahwa untuk mencapai prestasi olahraga tenis yang tinggi, di dukung adanya kondisi fisik, teknik, taktik dan mental yang baik terutama pada saat melakukan pukulan Drive pada olahragawan merupakan persyaratan yang tidak dapat terabaikan khususnya permainan tenis lapangan. jenis penelitian ini dapat digolongkan dalam penelitian *Deskriptif* sesuai yang dikemukakan dengan Arikunto (1991:63) bahwa "Penelitian *deskriptif*. Jumlah sample dalam penelitian ini adalah 31 orang mahasiswa Penjaskesrek. Teknik pengumpulan data dalam penelitian ini adalah Pengukuran Kemampuan Power otot lengan bahu dan Pengukuran ketangkasan Pukulan Drive Tenis Lapangan. Perhitungan nilai koefesien korelasi diatas dapat disimpulkan bahwa *Power* otot lengan dengan kemampuan pukulan *drive* tenis lapangan pada Mahasiswa Penjaskesrek FKIP USK memiliki hubungan yang signifikan. Hasil perhitungan data, menunjukkan bahwa nilai koefesien korelasi (r) antara power otot lengan bahu terhadap kemampuan pukulan drive tenis lapangan pada Mahasiswa Penjaskesrek FKIP USK yaitu 0,50. Dalam cabang olahraga tenis lapangan, pukulan *Drive* merupakan salah satu teknik dasar yang harus di kuasai dalam permainan tenis lapangan.
Kata Kunci: Power Otot Lengan Bahu, Pukulan Drive Tenis Lapangan

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INTRODUCTION

In principle, to achieve the goal of optimal achievement in each sport, it must be based on the principles of the sports science approach. The modern principles of any sport require specificity. Four kinds of equipment that need to be owned if someone will achieve an optimal performance. According to Sajoto (1988: 7) these completeness include: 1) physical equipment, 2) technical development, 3) mental development, 4) champion maturity. At first tennis was a game that was usually only played

by wealthy people, members of executive groups. Although such group tennis still exists, people of all socio-economic classes have played tennis, as evidenced by the fact that world-class players often turn professional in their teens. Field observations obtained when I was on the committee of the Field Tennis League (LITEL) from these players stated that to achieve high tennis achievements, supported by good physical, technical, tactical and mental conditions, especially when hitting drives on sportsmen is a requirement that cannot be neglected, especially the game of court tennis. In addition, high physical freshness can improve the appearance or performance of sportsmen so as to reduce the possibility of injury.

Power is the result of a combination of strength and speed, in accordance with Harsono's opinion (1988: 199), namely "power is the ability of muscles to direct maximum strength in a very fast time". In the game of court tennis, power greatly determines the success of the drive stroke, in accordance with the opinion of Brown J. 2001: XI said that "Power greatly determines the success of the drive punch because the drive punch is a forehand or backhan punch made after the ball bounces once on the court then hit with all force and sharply falls on the opponent's court". So that in the game of court tennis, the power of the shoulder arm muscles greatly determines the success of a strong and sharp drive stroke.

Students of the Health and Recreation Physical Education Study Program, Faculty of Teacher Training and Education, Syiah Kuala University, are students who are required to take the court tennis course in every even semester, this is in accordance with the curriculum of the Health and Recreation Physical Education Study Program, Faculty of Teacher Training and Education, Syiah Kuala University. Based on the curriculum of the Health and Recreation Physical Education Study Program, Faculty of Teacher Training and Education, Syiah Kuala University above, it can be concluded that students of the Health and Recreation Physical Education Study Program, Faculty of Teacher Training and Education have been able to master tennis playing techniques well.

METHOD

This research can be classified in Descriptive research as stated by Arikunto (1991: 63) that "Descriptive research studies problems in society and procedures that apply in society and certain situations including activities, attitudes, views and ongoing processes and the influences of phenomena". In accordance with Arikunto's opinion (1991: 41) said that "Research design or research design is a design made by researchers, as a plan for activities to be carried out". So the design in this study measured the power of the shoulder arm muscle (X) with the ability to punch Drive (Y). The design of this research can be described as follows:

The sample in this study was active male students in the physical education study program who had passed tennis courses totaling 306 people. The determination of the number of samples is based on the opinion expressed by Arikunto (1991: 109) that "If the number of subjects is greater than 100, it is taken between 10-15%. Whereas if it does not reach 100 then the subjects are all taken". then the

number of samples in this study is 31 people Table 1: Number of Research Samples of Shoulder Leg Muscle Power Against Drive Blows of FKIP USK Physical Education Students:

Table 1. Number of Research Samples of Shoulder Leg Muscle Power Against Drive Blows of FKIP USK Physical Education Students

No	Force	Line	Population		Tennis Pass		Sample 10%
			Pa	Pi	Pa	Pi	
1	2	3	4	5	6	7	8
1	2012	Reguler	104	11	-	-	-
		Mandiri	-	-	-	-	-
2	2011	Reguler	117	13	-	-	-
		Mandiri	-	-	-	-	-
1	2	3	4	5	6	7	8
3	2010	Mandiri	82	9	82	9	8
		Reguler	49	1	49	1	5
4	2009	Mandiri	59	6	59	6	6
		Reguler	39	1	39	-	4
5	2008	Mandiri	48	3	48	3	5
		Reguler	29	-	29	-	3
J u m l a h					**306**		**31**

Sumber : http://krsonline.USK.ac.id/DataAkademikUSK/DHMD

The instruments in this study are questions about the ability to understand concepts and problem-solving abilities. The methods used in collecting this research data are:

Measurement of Power Ability of Shoulder Arm Muscles

Table 2. Norms of Assessment of Medicine Ball Test.

Norma Penilaian		
1	2	3
Criterion	**Prince**	**Daughter**
Very Good	> 600	> 410
Good	525 – 599	370 – 409
Keep	426 – 524	315 – 314
Less	351 – 350	217 – 314
Less Than Once	< 350	< 270

Sumber : Moeslim. M dikutip dalam Harsuki.H (2003:336)

Measurement of Stroke Drive Agility of Court Tennis

Table 3. Norms for Assessing Court Tennis Proficiency

NO	Assessment Norms		KET
1	189 - Ke Atas	**Baik**	
2	163 – 188	**Cukup**	
3	139 – 162	**Sedang**	
4	112 – 138	**Kurang**	
5	111 - Ke Bawah	**Kurang Sekali**	

Sumber : Dinas Olahraga (2007 : 10)

RESULTS AND DISCUSSION

The results of the implementation test of the power relationship of the shoulder arm muscles to the ability to punch the court tennis drive in FKIP USK Physical Education Students obtained the results as contained in table 4.1 below:

Table 4. Results of the Shoulder Arm Muscle Power Test and Drive Punch Ability in Students of the FKIP USK Physical Education Study Program

No	Name	Arm Muscle Power (X)	Court Tennis Drive Capability (Y)			Ket
			Forehand	*backhand*	Sum	
1	**2**	**3**	**4**	**5**	**6**	**7**
1	Karibudin	5,99	86	88	174	
2	Hasbuna	6,4	96	84	180	
1	2	3	4	5	6	7
3	Veri Gusfirman	5,80	86	94	180	
4	M. Akbar	5,24	90	78	168	
5	Amrullah Rahim	5,88	88	84	172	
6	Agus Syakir	5,40	98	84	182	
7	Sabardi	5,88	78	84	162	
8	Arif Yakari Malaw	6,23	90	8	180	
9	Rizki Munanda	5,99	88	9	174	
10	Yusri Anizal	5,30	94	10	176	
11	M. Syuhada Fahmi	6,21	92	11	184	
12	Amrijal Rahmat	5,30	86	12	170	
13	Kamalul Ikhsan	6,10	94	13	178	
14	Helmi Fitra	6,00	82	14	170	
15	Andika	5,30	88	15	174	
16	Ikhwanul Amin	6,20	98	16	184	
17	Arisman	6,15	98	17	188	
18	Munawar Kalidh	6,25	100	18	184	
19	Zul Fahrizal	6,02	94	19	192	
20	Agus Rinaldi	5,25	78	20	168	
1	2	3	4	5	6	7
21	Iwan Rantoni	5,27	88	21	166	
22	Ardiansyah	4,20	78	22	162	
23	Azhari	5,30	100	23	196	
24	Suryadi	5,24	82	24	158	
25	Nasri	5,45	88	25	168	
26	Surya	5,24	80	26	170	
27	Heru Kurniawan	4,30	78	27	164	
28	Ibrahim Khalik	6,15	90	28	182	
29	Haris Munandar	5,43	82	29	152	
30	Agus Syakir	5,55	86	30	168	
31	Amanda Syukri	5,25	82	72	162	
Sum		**174,9**			**5388**	

CONCLUSION

Based on the results of research and discussion in this thesis, it can be concluded that there is a relationship between the Power of the Shoulder Arm Muscles and the Ability to Drive Tennis Court Strokes in Students of the FKIP USK Physical Education Study Program for the 2012/2013 Academic Year. This is based on the calculation of the correlation coefficient value in this study obtained a value of 0.50. Furthermore, to determine the amount of power contribution of the shoulder arm muscles is calculated using the calculation of the termination coefficient value, the calculation results are obtained a value of 25% while the remaining 75% is determined by other variables. To determine the significance of the variable power of the shoulder arm muscles with the ability to punch drive was

tested using hypothesis testing through the t test, the test results obtained a value of 3.12. Then look for the t-table level of siqnifikan /= 0.05 and the Termination of DK Coefficient = N – 2 = 29, so that it is known t-table = 1.70 Then t-calculate the > t-table which is 3.12 > 1.70. The calculation above can be concluded that there is a significant contribution of shoulder arm muscle power to the ability to punch the court tennis drive in students of the USK FKIP Penjaskesrek Study Program. In addition, it is also supported by the techniques mastered by the player, the better the technique mastered by the player, the more optimal the results of the Drive punch.

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