Journal of Interdisciplinary and Multidisciplinary Research (JIMR)
E-ISSN:1936-6264| Impact Factor: 6.886|
Vol. 13 Issue 08, August- 2018
Available online at: https://www.jimrjournal.com/
(An open access scholarly, peer-reviewed, interdisciplinary, monthly, and fully refereed journal.)

Assessment of Hand Grip in Badminton and Table-Tennis Players

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Abstract

Assessment of hand grip tests has prevalent system of testing muscle function in sports relates movement sciences. To determine maximum isometric strength of the hand and forearm muscles by hand grip in badminton and table-tennis players. 15 badminton and 15 table-tennis National players were selected from Manipur, India. Players in the age group of 19-26 years were designated randomly. Descriptive statistics (mean ± SD), t-test was adopted. The study revealed that hand grip of badminton players (44.5 ± 2.31) than table-tennis players (39.6 ± 4.25).

Keywords: Handgrip, Badminton, Table-tennis

Introduction

Assessing muscular strength and force is by hand grip strength that synchronised exploit of the muscles of the hand and forearm. Grasping device is hand that accomplishment isometric hand grip, muscles elaborate to muscles of forearm and muscles of hypothenar eminence. Current sport global that entails fast and potent shots and swift skill with fastest racket sports are badminton, long tennis, table tennis which can be played both on the forehand and backhand sides and drop shot, slow drop shot & fast drop shots involving good wrist governor. Badminton and table tennis knocks are accomplished by farm the racket although the wrist is in different degrees of co-ordination and reliant on the blows and type of shot presence hit by players and require achieving grip force and racket control while hitting. Grip forces employed by fingers flexor muscle are isometric. Good wrist movement exploits power and progresses regulator. Thus the present study was commenced to regulate a part in performance isometric hand grip in badminton and table tennis players.

Methods

To attain the purpose 15 badminton and 15 table-tennis National players were selected from Manipur, India to explore the maximum isometric strength of the hand and forearm muscles by hand grip test. The selected player's age group from 19 to 26 years males were designated as participant for this study. The participants were selected by simple random method. To relate the particular hand grip of males' badminton and table-tennis players' descriptive statistics (mean ± SD), t-test was adopted. The criterion for statistical significance was set at 0.05 level of confidence.

Result and analysis of data

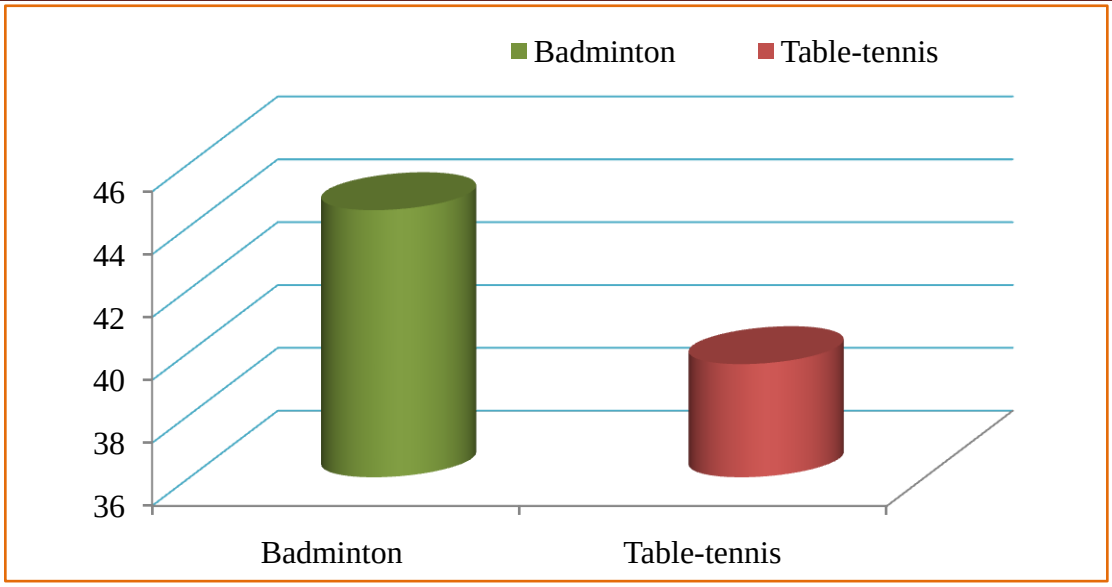
The comprehensive data was arrived as Mean ± SD. badminton and table-tennis players' group comparison was analysed by relating "t" test. Significant P value was set at less than 0.05 ($P < 0.05$).

Table 1: Mean, Standard Deviation and t-value for means scores of hand grip of males' badminton and table-tennis players' of Manipur

Variable	Group	Mean ± SD	SEM	df	t-value
Handgrip	Badminton	44.5 ± 2.31	0.55	28	0.0004
	Table-tennis	39.6 ± 4.25	1.09		

*0.05 level of confidence, where $t_{0.05\,(28)} = 2.048$

Graph displays comparison of hand grip of males' badminton and table-tennis players



Mean value of strength of the hand and forearm muscles in badminton was higher than table-tennis players. The difference between strength of the hand and forearm muscles of badminton and table-tennis players was statistically not significant.

Discussion and conclusion

In various sports events, hand grip strength is a substantial analyst of performance. In the study hand grip strength influence must amplified due to steady physical application and stamina that prompts increase in muscle strength. The conclusions of the present study have enormous concrete presentation in assortment of aptitudes in sportsmen.

References

Carrasco L, Pradas F, Floria P, Martinez A, Herrero R, Antonio JAG. 2010. Grip strength in young top-level table tennis players. *International Journal of Table Tennis Sciences*, 6: 64-66.

Foo LH. 2007. Influence of body composition, muscle strength, diet and physical activity on total body and forearm bone mass in Chinese adolescent girls. *British Journal of Nutrition*, 98: 1281-1287

Incel NA, Ceceli E, Durukan PB, Erdem HR, Yorgancioglu ZR. 2002. Grip strength: Effect of hand dominance. *Singapore Medical Journal*, 43: 23407.

Ivanovic J, Dopsaj M. 2012. Functional dimorphism and characteristics of maximal hand grip force in top level female athletes. *Collegium Antropologicum*, 36: 1231–1240.

Koley S, Yadav MK. 2009. An association of hand grip strength with some anthropometric variables in Indian cricket players. *Physical Education and Sport*, 7(2): 113–123.

Kuzala EA, Vargo MC. 1992. The relationship between elbow position and grip strength. *American Journal of Occupational Therapy*, 46(6): 509-12.

Newton R, Kraemer W. 1994. Developing explosive muscular power: implications for a mixed methods training strategy. *Strength and Conditioning Journal*, 16: 20-31.

Ramkumar B, Chittibabu B. 2012. Evaluation of dominant and non dominant hand grip strength among cricket, handball and volleyball players. *International Journal of Physical Education Sports and Yogic Sciences*, 2(1): 41- 43.

Richards L, Olson B, Palmiter-Thomas P. 1996. How forearm position affects grip strength. *American Journal of Occupational Therapy*, 50: 133-139.

Sneade M, Furnham A. 2016. Hand grip strength and self-perceptions of physical attractiveness and psychological well-being. *Evolutionary Psychological Science*, 2(2): 123–128.

Trosclair D, Bellar, D, Judge LW, Smith J, Mazerat N, Brignac A. 2011. Hand-grip strength as a predictor of muscular strength and endurance. *Journal of Strength and Conditioning Research*, 25: 99.

Vishrutha KV, Rao AP, Prarthana KG , Chaitra. U. 2016. Evaluation of hand grip strength in vegetarian and non vegetarian table tennis players. *Indian Journal of Clinical Anatomy and Physiology*, 3(1): 83-85.

Wagh PW, Birajdar G, Nagavekar M. 2017. Comparison of handgrip muscle strength on sportsmen and sedentary group. *IOSR Journal of Dental and Medical Sciences*, 16(7(IV)): 62-65.