

Correlation between Anthropometric Variable and Goal Shooting of Korfball Player

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Abstract: *Background: To correlate selected kin anthropometric variables with the Korfball shooting ability. Methods: A samples of 20 national and international players were selected from the teams participated in Senior National Korfball Championship held at M.D.U, Rohtak in Sports Complex from 22nd to 25th August 2013. Purposive Random sampling method was used to select the sample. The data related to goal shooting and anthropometric variables were collected during the national tournament. Results: For analysis and interpretation of data, the investigator was used Pearson Product Moment Correlation statistical techniques with the help of SSPSS analytic software. There were no significant relationships found between Korfball shooting ability with anthropometric variables (Weight, Height, Arm length and Leg length) of Korfball players.*

Keywords: Anthropometry, Shooting ability, Korfball.

1. Introduction

Human variation is a biological fact. This is a strikingly apparent in every sports and games where events selectively reflect concomitant genetic and environmental influence on physique. For this reason the Olympic Games provide an anthropological microcosm which permits human biologists to delineate prototypes with specific structural and functional capacities to excel at highly defined, ritualistic, physical performance tasks of combination of tasks in organizing play. The world of games and sport has crossed many milestones, as a result of different achievements, in general, and their application in the field of sports, in particular. Korfball is one of the most popular sports in India. It is a game played by both males and females across many age groups and levels of participation. Scientific investigation into performance of sportsmen has been playing an increasingly important role in the training of athletes, in the scientific way, to attain excellence in performance, in different spheres of sports. Various research studies conducted by experts, in Physical Education and sports, have emphasized the importance of investigating the specific structures correlated with various sports activities for the selection and development of talent in sports for better performance, at different levels of sports competitions. Anthropometry is the interface between anatomy and movement. It is the application of a series of measurements made on the body and from these we can use the data that we gather directly or perform calculations using the data to produce various indices and body composition predictions and to measure and describe physique. Korfball is a team sport in which two teams of eight active players. Four players of each team try to score points against one another by propelling a ball through a 3.5 meter high hoop (the goal) under organized rules. Points are scored by shooting the ball through the Korf (basket) above, the team with more points at the end of the game wins. Shooting a korfball is both an art and a science. Basketball shooting is an art form because it involves finely tuned hand-eye coordination rather than gross motor skills. The correlation also been done on selected Kin-anthropometric variables and sports

performance of different athletic events, games and sports. They have emphasized that top level performance, in particular sports activity, demands particular size, shape and proportions of the body. Performance improvement are mainly due to application of different sport sciences, new techniques, methods of training, fitness techniques, availability of appropriate body structures, and modern facilities. Time has come to explore the possible body structures and motor fitness related to specific sports activity and develops them for particular level of performance. In this way Kin-anthropometry and motor fitness components plays an important role in the selection and development of players. Motor fitness is the ability to perform activities that require muscular coordination such as walking, running, playing and manipulating instrument and machinery. Mathews (1973) defined general motor fitness as the immediate capacity of an individual to perform in many varied stunts or athletic event. Identification of requirements that increase performance in a specific sport could aid the coach, trainer, and/or athlete in creating a proper training program for that sport.

2. Method and Procedure

Sample: A sample of 10 international players were selected from the teams participated in Senior National Korfball Championship held at M.D.U, Rohtak in Sports Complex from 22nd August to 25th August 2013. The players of four states i.e. Delhi, Uttarakhand, Andhra Pradesh and Haryana were selected as samples for the study. The investigator approached the coaches of the team for approval to select players at a regularly scheduled practice time. After approval, the investigator collected the data related to anthropometric measurement. The data related to goal shooting were collected during the tournament.

3. Tools Used

The following standardized anthropometric tools were for data collection:-

Standard korfbal- Used to measure the korfbal shooting ability of the subjects. **Steel tape-** Used to measure the measurements. **Weight Machine-** Used to measure weight of particular players.

The following standardized anthropometric measurements were used by Weiner and Lourie (1969) method for data collection.

- 1)Weight (kg): Weight is the name given to the force on a weighing machine due to gravity.
- 2)Height (cms): Height was measured by stadiometer. The height rule is taped vertically to the hard flat platform.
- 3)Arm Length (cms): The vertical distance between acromio and radial.
- 4)Leg Length (cms): The straight distance between head of the femur and lateral malleolus of fibula.
- 5)The korfbal shooting ability was measured by no. of Korfbal counted form the penalty point in 30 Sec.

4. Statistical Analysis

To determine whether relationship among the selected variables exists or not, Pearson Product correlation method was applied. The data was computed on the SPSS Statistical Package for the Social Sciences for Windows.

5. Results of the Study

Table 1: Correlations of Anthropometric Variables with Shooting Ability of Korfbal Players

S. No.	Variables Correlated with Korfbal Shooting Ability	Coefficient of Correlation 'r'
1	Arm Length (cms)	.144
2	Leg length (cms)	.169
3	Weight (kgs)	.100
4	Height (cms)	.109

** Correlation is significant at the 0.01 level (2-tailed).

Table 1 result showed the obtained the value of coefficient of correlation of goal shooting with Anthropometric variables namely, Arm length (.144), Leg length (.169) Weight (.100), and Height (.109) found to be no significant correlation at 0.01 level of confidence as the computed value found to be lower than the significance value. It proved the anthropometric variables have no correlation with Korfbal shooting ability. Thus, hypothesis of research is rejected at the significant level of 0.01 (2 tailed). These results may be explained by the fact that there are no need of big height, weight, Arm length and Leg length for a good Korfbal player.

6. Conclusion

After evaluation of the results of the present study we can conclude that there are no need of big height, weight, Arm length and Leg length for a good Korfbal player.

7. Implication of the Study

The present study will enlighten the coach and sports to search the talent in these sports coaches may ignore these factors while searching the talents.

References

- [1] Ackland, T. R Schreiner, A.B & Kerr, D.A (1997) Absolute size and proportionality characteristics of World championship Female basketball players. Journal of Sports Science 1997 Oct; 15 (5); 485-90.
- [2] Agbonjimi, A. P (1995) Lower Limb Anthropometrics characteristics and Endurance running Performance Time in young Male Adults Nigeria Association of Sport Science and Medicine ((NASSM); 2 16-20
- [3] Batista, R.G., Freire, A.R. and Guerra, O.R. (2008) Comparison between vertical jumps of high performance athletes on the Brazilian men's beach volleyball team. Journal of Sports Medicine and Physical Fitness, 48 (2): 172-176.
- [4] Bayios, I.A., Bergeles, N.K., Apostolidis, N.G., Noutsos, K.S. and Koskolou, M.D. (2006) Anthropometric, body composition and somatotype differences of Greek elite female basketball, volleyball and handball players. Journal of Sports Medicine and Physical Fitness, 46 (2): 271-280.
- [5] Carter JE. Morphological factors limiting human performance. In: DH Clarke, Eckert HM, editors. Limits of Human Performance. Champaign (IL): Human Kinetics, American Academy of Physical Education Papers; 1985. p.1-7.
- [6] Claessens, A.L., Lefevre, J., Beunen, G. and Malina, R.M. (1999) The contribution of anthropometric characteristics to performance scores in elite female gymnasts. Journal of Sports Medicine and Physical Fitness, 39:355-360
- [7] Fox and Matthew (1981) International Society for the Advancement of Kin anthropometry (ISAK) (2003) International Standards for Anthropometric Assessment
- [8] Gaurav, V., Singh, A. and Singh, S. (2011) A study of physical fitness variables among Baseball Players at different level of achievement. Scientific Journal in sports and exercise, 7(2):34-38.
- [9] Gaurav, V and Singh, S. (2010) Anthropometric characteristics, somatotyping and body composition of volleyball and basketball players. Journal of Physical Education and Sports Management, 1(3):28-32.
- [10]Hudson, J.L. (1982), A biomechanical analysis by skill level of free throw shooting in basketball. In: Biomechanics in Sports (edited by J. Terauds and J. Barham) Del Mar; Academic Publishers Pp. 95 – 102.
- [11]Kansal, D.K. (2008) Applied measurement, evaluation and sports selection. Sport and Spiritual Science Publication. Jeevan Park, New Delhi.
- [12]Leone M, Lariviere G, Comtois AS (2002) Discriminate analysis of anthropometric and bio-motor variables among elite adolescent female athletes in four sports. J Sports Sci. Jun; 20(6):443-9.

- [13] Okunneye, R.O. & Osman, I.O (1996) Intersports Muscular Endurance in Lagos State University (LASU) Male Athlete. JORHASS 1 (1):37-40.
- [14] Oranugo (1995) Oranugo, J.B.C. (1995) Human performance factors in achieving Excellence in Sports. In Udoh, C.O. Sobi, A.S & Ajala, J.A (eds) Human performance Factors in achieving Excellence in Sports. Monograph series no. 2 Ibadan; Moba Printers.
- [15] Reilly et al (1997) Reilly, I (1997) Racket Sport. In Reilly, I., Secher N., Snell B. and William C. (eds) Physiology of Sports, London; E.F.N. sport.
- [16] Ross WD, Wilson NC. A stratagem for proportional growth assessment. Acta Paed Bel. 1974; 28:169-82.
- [17] Singh, M., Singh, K.M. and Singh, K. (2010) Anthropometric measurements, body composition and physical parameters of Indian, Pakistani and Srilankan field hockey players. Serbian Journal of Sports Sciences, 4(2): 47-52.
- [18] Siri, W.E. (1956) The gross composition of the body. Adv Biol Med Phys 4: 256–280.
- [19] Tan, F.H., Polglaze, T., Dawson, B. and Cox, G. (2009) Anthropometric and fitness characteristics of elite Australian female water polo players. Journal of Strength and Conditioning Research, 23(5):1530-1536.

Authors Profile



Parveen Dhayal received the Master Degree in Physical from MDU-Rohtak and M.Phil degrees in Physical Education from CMJU, and Qualified the UGC.NET-JRF in physical and Won Bronze medal in 7th Asia Oceania korfbal Championship held at Hong-Kong in 2006, Participation in 8th World Korfbal championship held at Czech Republic in 2007.



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