



“IS THERE ANY RELATION BETWEEN ANTHROPOMETRIC MEASUREMENTS AND SELECTED MOTOR FITNESS VARIABLES AMONG SPRINTERS, JUMPERS AND THROWERS IN GCPE?- A STUDY”

¹MD. IMRAN & ²Sr. Prof. RAJESH KUMAR

¹*Ph.D. scholar Department of Physical Education, Osmania University*

²*Dean, Faculty of Education, Osmania University, Hyderabad*

ABSTRACT

Objective: To examine the Relationship of anthropometric measurement(Arm girth) and selected motor fitness variable(Abdominal strength-Straddle chin-ups) among athletes in GCPE.

Method: A sample of (N=90) subjects of GCPE were selected For this study total 90 Male Athletes i.e. 30 Male Sprinters, 30 jumpers and 30 Male Throwers and The selected 90 subjects were 21±2years of age. And the anthropometric measurement(Arm girth) and conducted the motor fitness test(Straddle chin ups for abdominal strength) of those subjects were taken after collection of data to Relation sprinters,jumpers and throwers with respective of motor fitness variable i.e Abdominal Strength of those subjects statistical analysis done by Correlation and one-way ANOVA to check the mean differences banferroni post hoc tests were done of those subjects.

RESULTS: The results of the study indicates that there will be a significant and insignificant relations among sprinters,jumpers, and throwers with respective of anthropometric measurement (Arm girth)and motor fitness variable(abdominal Strength).

Keywords: Anthropometric measurements,motor fitness variables.

INTRODUCTION

Athletics is a group of sporting events that involves competitive running, jumping, throwing, and walking. The most common types of athletics competitions are track and field, road running, cross country running, and racewalking. Athletics is collective name for physical exercise and game requiring skill and activity. The history of athletics actually starts in the days of pre-history or of mythology. The story of athletics from before the Olympic games of 776B.C to those of today, however is not a continuous one. The reveal of the Olympic Games in 1896 has stimulated athletics throughout the world to perfect their bodies in size, strength symmetry and agility.

Anthropometry

The word anthropometry is a Greek word and is a combination of two Greek words "Anthropos" means Man and "Metric" means Measure. Measurement of body size and composition should always be accompanied by the measurement of working capacity, physical fitness and energy expenditure. There is no single equipment through which we can measure the size and composition of human body together. Therefore, measuring the human size and composition, there are specific anthropometric equipment's for example: weighing machine for weight, anthropometric rod for height etc.

IMPORTANCE OF ANTHROPOMETRIC MEASUREMENTS

Anthropometric measurement has discovered correlation between body structure physical appearances and sport capabilities. Anthropometry provides a valuable assessment of nutritional status in children and adults. The core elements of

anthropometry are height, weight, body circumferences, body mass index, leg length and skin fold thickness etc., Anthropometric measurements can also evaluate body configuration in athletes this has been shown to enhance the competitive performance of athletes and to help identify fundamental therapeutic problems, such as eating disorders. The maximum athlete's potential, several things need to be done.

Significance of the Study

The research "A study on anthropometric measurements and selected motor fitness variables among athletes of GCPE Hyderabad" useful as follow

1. The result of this study is useful to teachers, coaches, trainers, sports students and those who are involved in competitive sports.
2. The unique aspect of this work is included recommendation for the practical use of research findings.
3. This study is add to the knowledge in the area of sports training and sports coaching.
4. This study may help the future scholars to select problem related to this study.

AIM OF THE STUDY

To assess the relation between anthropometric measurements i.e Arm Girth and motor fitness variables i.e abdominal strength among sprinters, jumpers, throwers of GCPE Hyderabad.

METHODOLOGY

SELECTION OF THE SUBJECTS

A sample of (N=90) subjects of GCPE were selected For this study total 90 Male Athletes i.e. Male 30 Sprinters, 30 jumpers and 30 Throwers and The

selected 90 subjects were 21±2years of age. And the anthropometric measurement (Arm girth) and conducted the motor fitness tests(Straddle chin ups for abdominal strength) of those subjects were taken after collection of data to asses the Relation among sprinters,jumpers and throwers with respective of anthropometric measurement (Arm girth) and motor fitness variables i.e Abdominal strength Strength.

SELECTION OF VARIABLES

The investigator reviewed the available scientific literature on the basis of discussion with experts, feasibility criteria, and availability of equipment’s and relevance of the present study variable.Anthropometric Measurement Arm girth and Selected Motor Fitness variables are – Abdominal Strength by Straddle chin ups .

STATISTICAL TECHNIQUE

After all the data procured the researcher used Pearsons Correlation analysis and one way ANOVA test for statistical analysis to find relation among the sprinters,jumpers,throwers with respective of Anthropometric measurement(Arm

Girth) and motor fitness variable(Abdominal Strength).Then to check the mean differences of anthropometric measurement and motor fitness variables among sprinters,jumpers,throwers Banferroni post hoc test was performed and significant relations and insignificant relations were found.

RESULTS

Pearson correlation analysis results are as fallows

In this study hypothesis affirms that there was a significant relation between Arm girth fitness variable(Straddle chin up) in sprinters,jumpers and throwers.

Results shows that there was a insignificant relation between Arm girth and motor fitness variable(Straddle chin ups) in sprinters.So the research findings were did not match with the formulated hypothesis,so the hypothesis rejected.

But in some cases like in Jumpers relation between Arm girth and straddle chins and in Throwers Arm girth and straddle chins shown significant results so in these cases hypothesis was accepted

APM	Athletes	Straddle chin ups	Sig.
Arm Girth	Sprinters	.226	.231
	Jumpers	.380	.038
	Throwers	.354	.050

The One way ANOVA results of the study indicates that there was a significance relation between anthropometric measurement and selected motor fitness variable among sprinters,jumpers,throwers. It was

hypothesized that there was significant relation between anthropometric measurements and selected motor fitness variables among sprinters,jumpers,throwers . Hence the hypothesized was accepted.

TABLE – 2

One way ANOVA table of Arm girth in sprinters,jumpers.throwers

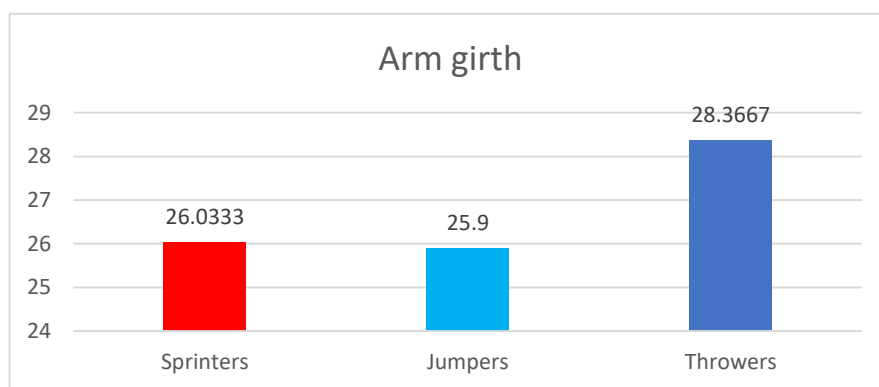
(Units in centimeters)

S.N	APM	Groups	Mean	S.D	SV	SS	df	MS	F	Sig.
1	Arm girth	Sprinters	26.03	1.97	BG	115.46	2	57.73	14.005	.000
		Jumpers	25.90	2.27						
		Throwers	28.36	1.80	WG	358.63	87	4.12		

*The table value required at df2 and df 87 is 3.10 at 0.05 significant level.

Figure-1

Graph represent the difference of Arm girth Among Sprinters, Jumpers and Throwers



DISCUSSION

Researcher conducted the Oneway Anova of the Arm girth among sprinters,jumpers and throwers and get the statistics of Mean and Standard deviation and F-ratio.Mean

of the Arm girth in sprinters,jumpers and throwers respectively 26.03,25.90,28.36 and standard deviations 1.97,2.27,1.80 respectively and researcher did the Anova and result was between groups sum of squares was 115.46 with in groups 358.63 and the F-ratio was 14.00 and significance

is .000 is less than the table value 3.10 so there is difference among subjects to see the how much difference researcher did the post hoc test for differences there was significant relation betwixt sprinters and throwers, and Jumpers and throwers.

Conclusion:

Within the limitation of the study and on the basis of the obtained results from this study, the following conclusions had been drawn:

- By Pearson correlation analysis it was concluded that in jumpers and throwers there was significant relation between Arm Girth and Straddle chin ups.
- And it was concluded that in Sprinters there was insignificant relation between Arm Girth and Straddle chin ups.
- By One way ANOVA analysis It was concluded that for Arm girth there was significant relations betwixt sprinters and throwers, Jumpers and throwers.
- And for Arm girth there was a insignificant relation betwixt sprinters and jumpers.

BIBLIOGRAPHY

Norjali Wazir, M. R. W., Samsu, R., Yaacob, A., Martuan, S. Z. & Ishkandar,

C. D. M. Comparison of Anthropometric and Physical Fitness among Sprinters, Jumpers and Throwers in Male Student-Athletes. *International Journal of Education and Training (InJET)* 8(1): June: (2022) P 1-6.

Nikola RADULOVIC, Differences in anthropometric characteristics between athletes, sprinters and jumpers, an educational-sports study, *RPGE– Revista on line de Política e Gestão Educacional, Araraquara, v. 26, n. 00, e022016, Jan./Dec. 2022. e-ISSN: 1519-9029 DOI: <https://doi.org/10.22633/rpge.v26i00.16466>, P1-13*

Uday N. Manjre, Relationship of Selected Anthropometric Measurement and Cardio Respiratory Endurance of District Level School Male Athletes, *Aayushi International Interdisciplinary Research Journal (AIIRJ), Vol - VI Issue - V MAY 2019 Peer Review e-Journal Impact Factor 5.707 ISSN 2349-638x, P106-108.*

Dr. Baiju Abraham, RELATIONSHIP OF 100MT SPRINT PERFORMANCE OF SPRINTERS ON SELECTED MOTOR FITNESS COMPONENTS, ANTHROPOMETRIC MEASUREMENTS AND PHYSIOLOGICAL VARIABLES, *Indian Streams Research Journal, ISSN: 2230-7850 Impact Factor : 4.1625(UIF) Volume - 6 | Issue - 7 | August – 2016. P 1-5.*

DIRK AERENHOUTS, Comparison of anthropometric characteristics and sprint start performance between elite adolescent and adult sprint athletes, *European Journal of Sport Science, January 2012; 12(1):P 9-*