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Selected Anthropometric Measurements Association with Performance of Netball Players.

[1*]Dr. R.S. Varma, Deputy Registrar, Centurion University of Technology and Management Andhra Pradesh, India.

***[2]Dr. B. Gowri Naidu, Government Medical College, Srikakulam, A.P, India.**

Abstract

The purpose of this study was relationship among anthropometric measurements and Netball player's performance. The 82 female Netball players were selected from National level representation in Andhra Pradesh on non-randomly by purposive sample was used. Karl Pearson coefficient of correlation was used to Analysis of the collected data on anthropometric measurements are Height (0.585*), Sitting Height (0.259*), Weight (0.364*), Palm Span (0.239*), upper Arm Length (0.462*),Forearm length (0.299*), Hand Length (0.379*), Upper Leg Length (0.627*), Lower leg length (0.389*),Chest Circumference (0.397*), Wrist Circumference (0.473*), Thigh Circumference (0.313*), Calf Circumference (0.271*), Shoulder Diameter (0.573*), Upper Arm Diameter (0.251*) and BMI (0.271*) coefficient of correlation with Netball players performance had been positively with significant level 0.05. Remaining anthropometric measurements not correlated on this current study.

Key words: Anthropometric, Measurements, Netball, Performance.

Introduction

Netball is an exciting, fast and skilful game of fair contest. It is a game in which two teams of seven players each strive to keep or gain possession of the ball. The team with the ball, through running, jumping, throwing and catching, attempts to move the ball into its goal circle from where a goal may be scored, while the opposing team uses defensive movements and strategies to prevent this and to gain possession. The team with the greater number of goals is the winner of the match.

Players have specified areas in which they can move. Play restarts after each goal with teams having alternate possession. The Rules are based on the core values of equal opportunity, fair play and respect for an opponent's skill and safety. It is the responsibility of players to ensure that they are physically and technically prepared in a manner that enables them to play the Game, comply with the Rules and participate safely in a sporting and fair manner.

In Netball, anthropometry and motor performance ability of players seems to be the most vital determinants of success Anthropometric measurements have the potential to quantify the relationship between bone mass, body structure, physical characteristics and individual players' sporting abilities thereby providing the basis for evaluating sport performance. Anthropometric measurements are often used to classify players according to their respective age or level of performance. Height is an advantage in executing attacking strokes in Netball.

Anthropometric profiles of elite athletes provide insight into the requirements for competing at top level in particular sports. Previous reports have shown that body structure and morphological characteristics are important determinants of performance in many sports and certain physical impressions such as body composition (body fat, body mass, muscle mass) and physique (somatotype) can significantly influence athletic performance (Carter 1984).Children experiencing early success in a particular sport, not necessarily at a (high) competitive level, might increase their chances for sustained sports participation and an active lifestyle later on. With respect to talent identification, children with a profile that matches the requirements of a specific sport from a young age on will more likely continue training and by consequence have better chances on an optimal talent development pathway. Anthropometric means the scientific study of the measurements and proportion of the human body parts either living or non-living. Anthropometric measurements as an effective role with best performance Netball players may to give as best as possible top form. The present study is anthropometric measurements with relation to Netball player's performance. Its leads to may won the match.

Methodology

Purpose of the Study: This study would be decided to the anthropometric measurement's relation with Netball player's performance.

Selection of the Subjects: The 82 female Netball players were selected from National level representation in Andhra Pradesh on non-randomly by purposive sample was used.

Figure-I

Selected of the Anthropometric Measurements

S. No	Anthropometric Measurements	Equipment	Criterion Measures
1	Weight	Weighing Machine.	Kilograms
2	Height	Stadiometer	Centimeter
3	Sitting Height	Anthropometer Rod	Centimeter
4	Hand Length	Anthropometer Rod	Centimeter
5	Upper Arm Length	Anthropometer Rod	Centimeter
6	Fore Arm Length	Anthropometer Rod	Centimeter
7	Hand Breadth	Anthropometer Rod	Centimeter
8	Upper Leg Length	Anthropometer Rod	Centimeter
9	Lower Leg Length	Anthropometer Rod	Centimeter
10	Foot Length	Flexible Tape	Centimeter
11	Foot Breath	Flexible Tape	Centimeter
12	Chest Circumference	Flexible Tape	Centimeter
13	Upper Arm Circumference	Flexible Tape	Centimeter
14	Fore Arm Circumference	Flexible Tape	Centimeter
15	Wrist Circumference	Flexible Tape	Centimeter
16	Thigh Circumference	Flexible Tape	Centimeter
17	Calf Circumference	Flexible Tape	Centimeter
18	Ankle Circumference	Flexible Tape	Centimeter
19	Upper Arm Diameter	Flexible Tape	Centimeter
20	Elbow Diameter	Sliding Caliper	Centimeter
21	Shoulder Diameter	Flexible Tape	Centimeter
22	Hip Diameter	Flexible Tape	Centimeter
23	Ankle Diameter	Sliding Caliper	Centimeter
24	BMI	Calculation	Percentages

Collection of the Data and Tools

The data has been collected by administrating the standard procedures for taking anthropometric measurements as well as Netball player's performance and tools had been used weighing machine for Weight, Stadiometer for Height and Flexible measuring tape for Lengths, Diameters and Circumference measurements. The score is recorded weights in kegs and remaining the nearest one tenth of the centimeters.

Statistical Analysis and Discussions

In order to find out the relationship of anthropometric measurements with Netball performance with the Karl Pearson coefficient of correlation is used and testing the Hypothesis the level of confidence is 0.05.

Figure-II

Anthropometric Measurements Association with Netball Playing Performance

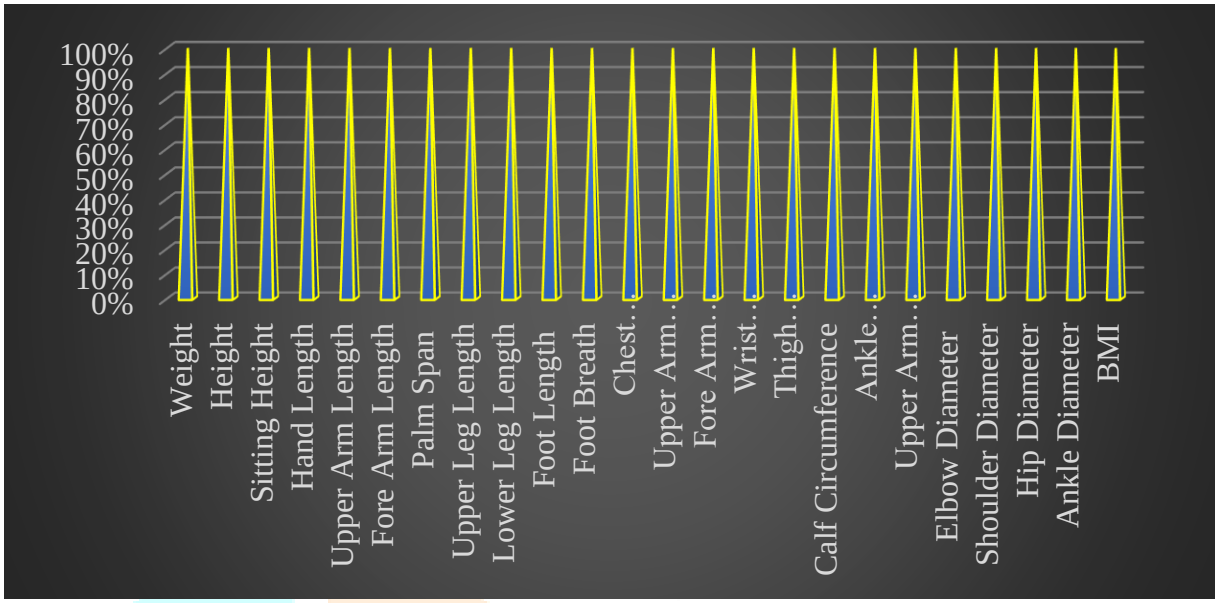
S. No	Anthropometric Measurements	Coefficient of Correlation 'r'
1	Weight	0.364*
2	Height	0.585*
3	Sitting Height	0.259*
4	Hand Length	0.379*
5	Upper Arm Length	0.627*
6	Fore Arm Length	0.299*
7	Palm Span	0.239*
8	Upper Leg Length	0.462*
9	Lower Leg Length	0.389*
10	Foot Length	0.197
11	Foot Breath	0.189
12	Chest Circumference	0.397*
13	Upper Arm Circumference	0.201
14	Fore Arm Circumference	0.213
15	Wrist Circumference	0.473*
16	Thigh Circumference	0.313*
17	Calf Circumference	0.271*
18	Ankle Circumference	0.179
19	Upper Arm Diameter	0.251*
20	Elbow Diameter	0.203
21	Shoulder Diameter	0.573*
22	Hip Diameter	0.117
23	Ankle Diameter	0113
24	BMI	0.271*

N=82, r.05 (82) =0.217, *Significant at 0.05 level.

An analysis of the above table indicates that Netball performance is significantly related to measurements Height (0.585*), Sitting Height (0.259*), Weight (0.364*), Palm Span (0.239*), upper Arm Length (0.462*),Forearm length (0.299*), Hand Length (0.379*), upper Leg Length (0.627*), lower leg length (0.389*)Chest Circumference (0.397*), Wrist Circumference (0.473*), Thigh Circumference (0.313*), Calf Circumference (0.271*), Shoulder Diameter (0.573*), Upper Arm Diameter (0.251*) and BMI (0.271*) as obtained values of correlation were greater than the value of r= 0.217 the correlation to be significant at 0.05 level of confidence. The remaining anthropometric measurements as their correlation values are less than the value of r=0.217 need for significance at 0.05 level of confidence.

Figure-III

Anthropometric Measurements and Netball Players Performance



As for the results finally, the study reveals that Netball performance ability is significantly related to measurements are Height (0.585*), Sitting Height (0.259*), Weight (0.364*), Palm Span (0.239*), upper Arm Length (0.462*),Forearm length (0.299*), Hand Length (0.379*), upper Leg Length (0.627*), lower leg length (0.389*)Chest Circumference (0.397*), Wrist Circumference (0.473*), Thigh Circumference (0.313*), Calf Circumference (0.271*), Shoulder Diameter (0.573*), Upper Arm Diameter (0.251*) and BMI (0.271*). As per the analysis, my suggestion to the coaches, physical directors, physical education teachers, physical instructors to concentrate on the above anthropometric measurements while selecting or screening for Netball players in a basic level. It may be given effective and top performance in a specific competition.

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