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Relationship of Body Building Performance on Selected Anthropometric Measurements among Belgaum District Body Builders

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ABSTRACT
The purpose of study was to analyze the body building performance in relation with the selected anthropometric measurements among Belgaum District National Level Body builders of the year 2015. To facilitate the study, ten body builders from various colleges in Belgaum district, were randomly selected as subject. They were in the age group of 19 –25 years. The criterion variable (body building performance) and anthropometric measurements (standing height, body weight, arm length, chest girth, biceps girth, leg length, waist girth, thigh girth, calves girth and wrist girth) were considered in this study. The data collected from ten body builders on selected anthropometric measurements and body building performance have been statistically analyzed. To ascertain the degree of relationship Pearson product moment correlation was selected and the level of confidence was fixed at 0.05. Result of the study indicated that, there was no relationship between body building performance and all the selected anthropometric measurements such as standing height, body weight, arm length, chest girth, biceps girth, leg length, waist girth, thigh girth, calf girth and wrist girth.

1. Introduction

Bodybuilding purely depends upon muscular endurance. Muscular endurance can be defined as “the ability of muscle to do the activity for longer time without getting fatigued”. Since 11th century there was stone dumbbell weights, known as Nals, were lifted by those wanting to develop their bodies to enhance health and stamina to help overcome the challenges of daily life.

Followers of the iron game will know that bodybuilding in its popular form began earnestly in the 1890s with the arrival of Mr Eugene Sandow, on whom the Mr. Olympia statuette is modeled on. Eugen Sandow, who is now generally referred to as "The Father of Modern Bodybuilding". He is credited as being a pioneer of the sport because he allowed an audience to enjoy viewing his physique in "muscle display performances". Later Ben and Joe Weider formed the International Federation of BodyBuilders (IFBB) - which organized their competition IFBB Mr. America. In 1950, another organization, the National Amateur Bodybuilders Association (NABBA) started their NABBA Mr. Universe contest weightlifting in the UK. Another major contest, Mr. Olympia was first held in 1965 - and this is currently the most prestigious title in bodybuilding. In the 1970s, bodybuilding had major publicity thanks to Arnold Schwarzenegger and the 1977 film Pumping Iron. Legendary bodybuilder Arnold Schwarzenegger played an active role in bodybuilding's development throughout the 90s and beyond. Arnold Schwarzenegger,(1985), “Encyclopedia of Modern Bodybuilding” Simon & Schuster, NewYork

2. History of Belgaum Body Building:

Since 1955 Bodybuilders of Belgaum district bodybuilders are participating in various National Bodybuilding Competitions. Now at present, Bodybuilding sports is very popular in Belgaum district. Mr. Katti first started taking bodybuilding competitions restricted for gym. As per knowledge of seniors most bodybuilder Mr. L.R.Patil, the history of bodybuilding begin from Samarth Gymnasium the oldest gym of Belgaum. In 1998, B.D.B.B.A (Belgaum District Bodybuilding Association) got form under the noble guidance of Mr. Sunil Aptekar (National Judge), Prakash Pujari (National Judge), were founder members of association.

Mr Ajit Siddnavar, Bandu Majurkar, L R Patil were the association. This association is responsible to conduct Mr. Belgaum District Competition and send Belgaum team to state and national competitions.

These competition were very famous for the bodybuilders like Premchand Degara (Mr. Universe), Prasad Kumar of Service, Sunil Aptekar etc, who used to come from outside as a guest poser and seeing their Hercules physique and ability of displaying muscles, Belgaum people used to get amazed and their curiosity and love for bodybuilding started increasing.

Amit S Jade, (2008), “Case Study on Mr Sunil N Aptekar, International Body Builder”.

The study is to find out the correlation between the anthropometric measurements and performance of bodybuilders at the National Level Bodybuilding Competition, 2015.

3. Methodology

The purpose of study was to analyze the body building performance in relation with selected anthropometric measurements among Belgaum district National level body builders. To facilitate the study, ten body builders from various colleges in Belgaum district, were randomly selected as subject. They were in the age group of 19 – 25 years. The criterion variable (body building performance) and

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anthropometric measurements (standing height, body weight, arm length, chest girth, biceps girth, leg length, waist girth, thigh girth, calves girth and wrist girth) were considered in this study. The data collected from ten body builders on selected anthropometric measurements and body building performance have been statistically analyzed. To ascertain the degree of relationship Pearson product moment correlation was selected and the level of confidence was fixed at 0.05, which was considered adequate for this study. Person product moment correlation was employed to determine the relationship between the selected criterion (body building performance) and independent variables (standing height, body weight, arm length, chest girth, biceps girth, leg length, waist girth, thigh girth, calves girth and wrist girth).

4. Results and Discussion

Table-1
Inter Correlation Matrix among Body Building Performance and Anthropometric Measurements

	1	2	3	4	5	6	7	8	9	10	11
1	1										
2	0.19	1									
3	0.404	0.099	1								
4	0.105	0.229	0.85*	1							
5	-0.106	0.28	0.75*	0.879*	1						
6	-0.243	0.267	0.594	0.778*	0.891*	1					
7	0.267	0.329	0.712*	0.781	0.505	0.506	1				
8	0.058	0.111	0.789*	0.814*	0.883*	0.701*	0.442	1			
9	-0.217	0.026	0.725*	0.834*	0.911*	0.895*	0.488	0.893*	1		
10	0.163	0.247	0.538	0.695*	0.514	0.462	0656*	0.709*	0.624	1	
11	0.084	0.32	0.533	0.643	0.625	0.738*	0.603	0.696*	072*	0.811*	1

Significant 0.05 level (Table value required is 0.632 for 8 degrees of freedom)

Here, 1- body building performance, 2- standing height, 3- body weight, 4- arm length, 5- chest girth, 6- biceps girth, 7- leg length, 8- waist girth, 9- thigh girth, 10- calf girth and 11 - wrist girth.

The table revealed that the obtained correlation coefficient values between the criterion variable and independent variables. The obtained correlation coefficient of standing height, body weight, arm length, chest girth, biceps girth, leg length, waist girth, thigh girth, calves girth and wrist girth body building performance are 0.19, 0.404, 0.105, -0.106, -0.243, 0.267, 0.058, -0.217, 0.163 and 0.084 respectively.

The correlation coefficient between body building performance and all the selected anthropometric measurements such as standing height, body weight, arm length, chest girth, biceps girth, leg length, waist girth, thigh girth, calf girth and wrist girth was insignificant at 0.05 level. Because the obtain values are lesser than the required value of 0.632 for 8 degrees of freedom.

Body weight is significantly correlated with arm length, chest girth, leg length, waist girth and thigh girth. Since the obtain value of 0.85, 0.75, 0.712, 0.789 and 0.725 are greater than the required value of 0.632 for 8 degrees of freedom. Arm length is significantly correlated with chest girth, biceps girth, leg length, waist girth, thigh girth, calf girth and wrist girth. Since the obtain value of 0.879, 0.778, 0.781, 0.814, 0.834, 0.695 and 0.643 are greater than the required value of 0.632 for 8 degrees of freedom. Chest girth is significantly correlated with, biceps girth, waist girth and thigh girth. Since the obtain value of 0.891, 0.883, 0.911 are greater than the required value of 0.632 for 8 degrees of freedom. Biceps girth is significantly correlated with waist girth, thigh girth and wrist girth. Since the obtain value of 0.701, 0.895 and 0.738 are greater than the required value of 0.632 for 8 degrees of freedom. Leg length is significantly correlated with calf girth. Since the obtain value of 0.656 is greater than the required value of 0.632 for 8 degrees of freedom.

Waist girth is significantly correlated with thigh girth, calf girth and wrist girth. Since the obtain value of 0.893, 0.709 and0.696 are greater than the required value of 0.632 for 8 degrees of freedom. Thigh girth is significantly correlated with wrist girth. Since the obtain value of 0.72 is greater than the required value of 0.632 for 8 degrees of freedom. Calf girth is significantly correlated with wrist girth. Since the obtain value of 0.811 is greater than the required value of 0.632 for 8 degrees of freedom.

5. Conclusions

The findings of the study indicated that the correlation coefficient between body building performance and all the selected anthropometric measurements such as standing height, body weight, arm length, chest girth, biceps girth, leg length, waist girth, thigh girth, calf girth and wrist girth are insignificant.

Further, the findings of the study indicated that the body weight is significantly correlated with arm length, chest girth, leg length, waist girth and thigh girth. Arm length is significantly correlated with chest girth, biceps girth, leg length, waist girth, thigh girth, calf girth and wrist girth. Chest girth is significantly correlated with, biceps girth, waist girth and thigh girth. Biceps girth is significantly correlated with waist girth, thigh girth and wrist girth of body builders.

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Finally, the findings of the study indicated that leg length is significantly correlated with calf girth. Waist girth is significantly correlated with thigh girth, calf girth and wrist girth. Thigh girth and calf girth is significantly correlated with wrist girth of body builders.

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