Relationship Of Body Mass Indexwith Theperformance Of National Level Taekwondo Players

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ABSTRACT
The purpose of the present study was to analyse the relation of body mass index with the performance of Taekwondo players. The subjects selected for this study were national taekwondo players. The data for this study was collected during senior national taekwondo championship 2018. The data for body mass index was caluculated by using the weight and height data of the players. The data collected then was analysed using Pearson product moment correlation coefficient at 0.05 level of significance. The results of the study showed significantnegative relationship between body mass index and the performances of taekwondo players.

Keywords : sparring, anthropometry, taekwondo, BMI

1. INTRODUCTION

Taekwondo is a full body contact sport which is widely famous for its beautiful kicking techniques among the whole world. Korea is the mother land of taekwondo as it has its birth in the soil of Korea. Taekwondo is also the national sport of Korea. The meaning of this word Taekwondo is related to the techniques of punching and kicking. As the word 'Tae' is related to kicking and the word 'Kwon' is relate to punching and the word 'Do' means way.

In 936 A.D, Wang Kon founded the Koryo dynasty. During Koryo dynasty the growth and development of the martial arts was at its peak. New techniques were added to the Soobak and its name changed to Soobakgi. It was then when an unarmed combat sport Soobakgi gained its popularity among military and the general population of all ages in korea. New martial art styles were also started to evolve during this Koryo dynasty. Tae Kyon was one of such style. Tae Kyon consisted of many new techniques of kicking and was considered more as a fighting sport. Soobakgi and Tae kyon were contested annually at the festival in the honour of the king. Winners from these competitions were honoured with high level offices and some were made leaders to train these martial arts to the military. During that time these martial arts were made mandatory to practice for the military personnels. Soldiers during their travels spread their knowledge of martial arts around the whole kingdom.

In 1392 A.D Joseon-dynasty which was also known as the Yi-dynasty came into existance. The King Taejo,was the founder of the Joseon-dynasty. During this Yi-dynasty the previously dominant religion Buddhism changed to Confucianism. This Chinese influence took over the government and the people of the Korea. The study of martial arts and weapons was banned among all the people. Only miliary personnels were allowed to practice some of these martial arts. The importance of Hwarang Do among the youth started to fade. There was a drastic downfall of martial arts during this period. However the King Jong Jo made a

very important contribution to the martial arts when he ordered that the martial arts like Tae Kyon and Soobakgi were be written in the manual. This manual written by Lee Duk Mu helped in preserving the techniques of these fighting arts. This Yi-dynasty came to an end when the Japanese takeover on August, 1910. Japan dominated the korea from 1910 to the end of the world war II in 1945. During this time Japanese combat sports were introduced to the korea. The name of SooBakGi was changed to SooBakDo and it was practiced secretly during this time. Again martial arts began to develop and popularize during this period. Today's Taekwondo is majorly influenced by the Japanese Karate. On 15th August 1945 the dominance of Japan ended and the Korean arts again started to develop.

Body Mass Index is an anthropometrical variable which in actually is the fraction of weight and height. As taekwondo is a sport which is played by different players under different weight categories and also height plays a very important role in the success of players during competitions, so it is obvious that that there may be some relation of body mass index with the performances of taekwondo players.

2. OBJECTIVES
The objective was postulated as:-
1. To examine the relation of BMI with the Winning Performance of Taekwondo Players.

Hypotheses
The hypotheses of the study was postulated as:-
1. There exists a significant negative relationship between Body Mass Index (BMI) and Winning Performance of Taekwondo Players.

3. METHOD & PROCEDURE
For this study the subjects were selected using purposive random sampling. The subjects were 25 male taekwondo national players. The data was collected in between the conduction of 37th Senior National Kyorugi& 10th Senior National Poomsae Taekwondo Championship 2018 held at Government Mahakaushal Arts and Commerce College, Jabalpur, Madhya Pradesh. The subjects were first informed about the purpose of this study and then the anthropometrical data was collected for weight and height of the players. The values of height and weight were used to calculate the body mass index of the subjects. The formula used for the calculation was **BMI** = weight kg/height m^2 where subject's weight was in kilograms (kg) and height was in metres squared (m^2).The BMI was recorded to the nearest of 0.1 kg/m^2. The performance of the players were calculated by taking the results of the players in the previous year's national competitions. To interpret the collected data and to test the hypothesis of the study, descriptive statistics such as (mean, standard deviation) and Pearson Product Moment Correlation Coefficient technique was employed to analyze the taekwondo performance in relation to selected anthropometric measurements and level of significance was set at 0.05.

4. RESULTS
The collected data from selected anthropometric measurements and winning performance of 25 Taekwondo players was analyzed and interpreted using the Pearson Product Moment Correlation Statistics.
Result Pertaining to Relation Between BMI and Winning Performance Of Taekwondo Players
The objective was to analyze the relationship between BMIand Winning Performance of Taekwondo players. After administering the anthropometric measurements of BMI and

Performance data of Taekwondo players, the scores were correlated using the Pearson Product Moment Correlation method. The results were shown in the table 4.10 below.

H$_o$:There exists a significant relationship between BMI and Winning Performance of Taekwondo Players.

Table 4.10

Relationship between BMI and Winning Performance of Taekwondo players

Variables	N	Mean	S.D	df	r-value
BMI	25	19.742	1.121	23	-0.462
Performance	25	5.56	6.423		

Table value of r for df = 23 at 0.05 level of confidence was 0.396.

Figure 4.10

Line graph showing the relation of BMI with the Winning Performance of Taekwondo players
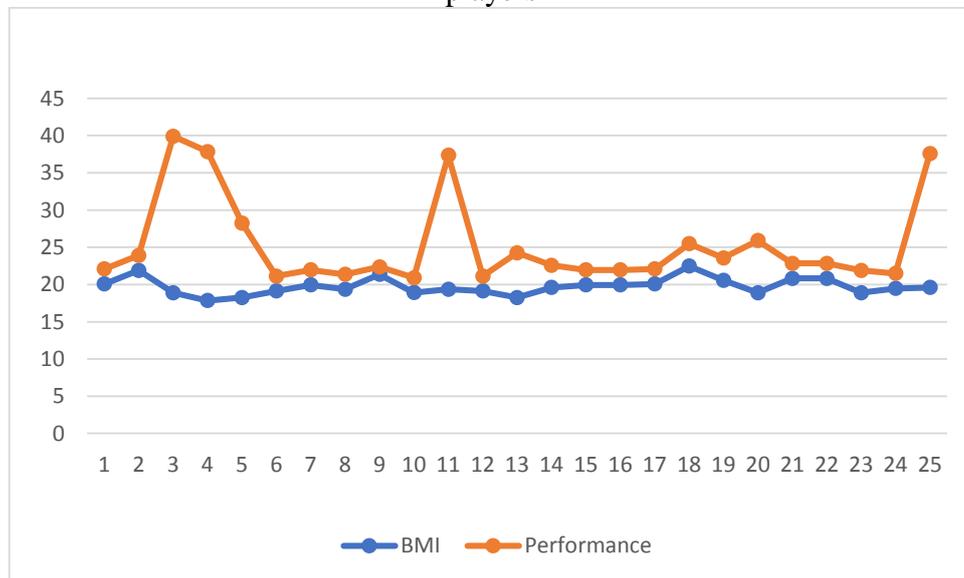
Interpretation

Data presented in table 4.10 indicate that the value of Pearson Product Moment Correlation Coefficient between BMI and Winning Performance for male national Taekwondo players was -0.462. This was a negative average correlation and statistically significant at 0.05 level of confidence. Thus, the stated hypothesis that there exists a significant negative relationship between BMI and Winning Performance of Taekwondo players was accepted.

5. DISCUSSION AND CONCLUSION

The statistical result showed significant negative relationship between BMI and Winning Performance of Taekwondo players which means as the BMI of players decrease the Winning Performance of the players will increase or vice versa. Having lower BMI means that the ratio of weight to height is lower. In Taekwondo, the competitions are conducted under different weight categories. Thus having lower weight in relation to height may help in the winning performance of Taekwondo players as they will have higher heights in comparison to the players in their weight categories. Thus it was concluded that having lower BMI can increases the chances of better performance in Taekwondo competitions. Also it was concluded that the winners in Taekwondo competitions have lower BMI values in comparison to non-winners.

6. REFERANCE

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