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Analysis of Strength and Body Composition Variables among Hard of Hearing and Hearing Men Kabaddi Players in Tamilnadu

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ABSTRACT

The aim of this study was to analysis of strength and body composition variables among hard of hearing and hearing men kabaddi players in Tamilnadu. One hundred and ninety two (N=192) hard of hearing and hearing men kabaddi players from various districts of Tamilnadu state, India, were included in this study as subjects and group - 1 as hard of hearing group (n=96), group - 2 as hearing group (n=96). Arm Strength left and right were measured by using grip dynamometer in kilograms, height was measured by using stadio meter in centimeters and body mass index was measured by using body composition analyser in kilograms. The results revealed that significant differences found between hearing impaired kabaddi players group and normal kabaddi players group on selected strength and body composition variables. It was concluded that hearing impaired kabaddi players group determined low arm strength and body composition than the hearing kabaddi players group.

Keywords: Arm strength left, Arm strength right, Height, Body mass index, and Hearing impairment.

INTRODUCTION:

The world of games and sports has crossed many mile-stones, as a result of different achievements in general and their application in the field of sports in particular. Scientific investigation into performance of sportsman has been playing an increasingly importance role to attain excellence of performance in different sports. The use of new, scientifically supported training tech-niques and means of carrying out sports exercise, such as sports techniques and tactics, improved sports grass and equipment, as well as other elements and condi-tions of the system of sports training, has allowed athletes to perform to their full potential (Powel, 1983).

Hearing Impairment

Hearing impaired includes both the hard-of-hearing (partially hearing) and the deaf. The two define the severity of the impairment. The term "hard of hearing" describes people who either have hearing loss in the pre-lingual period or later that is not severe enough to prevent the development of some spoken language or people who have normal hearing in the pre-lingual era but subsequently develop hearing loss. Compared to the deaf, their impairment is not as severe (Bryan, 1975).

Hearing loss is a disabling issue that interferes with a child's ability to operate normally. Regardless of the

severity of the impairment, the condition hinders their ability to succeed in Educational aspects Ernbrey, (1971). Proper diagnosis is therefore important for proper categorization and eventual realization of the fullest potentials of hearing impaired children.

METHODOLOGY:

The study was conducted on 192 hard of hearing and hearing men kabaddi players from various districts of Tamilnadu state, India (age between 15-25 years) of two groups namely, Group 1: hard of hearing group, Group 2: hearing group. The aim of the study was explained to each participant and signed informed consent was obtained from the participants. Also, all the participants were eligible for inclusion in this study on the basis of their medical record and determined that they could co-operate with the assessment and exercise procedures and that they could undertake exercise safely. The left and right arm strength has been measured using hand grip dynamometer in the unit of kilograms, the height was measured with the help of stadiometer in unit of centimeters and body mass index was measured by using body composition analyzer in kilograms. To determine the differences between the mean of the selected criterion variables among different groups through independent 't' test for all the variables selected for this study. The entire statistical analysis tests were computed at 0.05 was level of significance.

Table 1: Computation of 't' Ratio Between The Test Scores of Hard of Hearing and Hearing Groups on ARM Strength Right.

Groups	Mean	SD	Mean difference	't'
Hard of Hearing Group	35.67	8.31	6.71	5.99*
Hearing Group	45.37	7.15		

*level of significance was fixed at 0.05 with df 190 table value is 1.97.

Table 1 shows that the mean value of arm strength right between hard of hearing group and hearing group were 35.67 and 45.37 respectively. The obtained "t" ratio value of 5.99 was greater than the required table value of 1.97 for significant at 0.05 level of confidence. The result of these study showed that there was a significant difference between the hard of hearing group and hearing group on arm strength right.

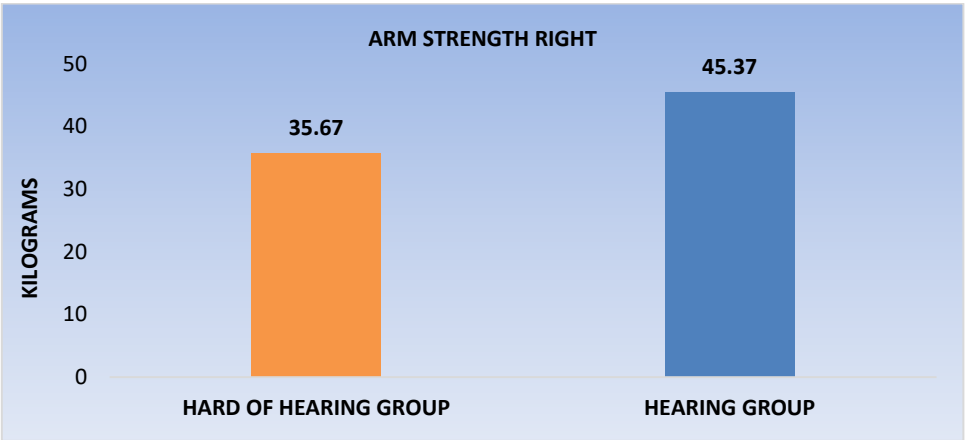

Fig. 1: Bar Diagram Showing the Mean Values of the Test Scores of Hard of Hearing and Hearing Groups on ARM Strength Right.

Table 2: Computation of 't' Ratio Between The Test Scores of Hard of Hearing and Hearing Groups on ARM Strength Left.

Groups	Mean	SD	Mean difference	't'
Hard of Hearing Group	34.59	8.17	6.74	5.93*
Hearing Group	41.33	7.53		

*level of significance was fixed at 0.05 with df 190 table value is 1.97.

Table 2 shows that the mean value of arm strength left between hard of hearing group and hearing group were 34.59 and 41.33 respectively. The obtained "t" ratio value of 5.93 was greater than the required table value of 1.97 for significant at 0.05 level of confidence. The result of these study showed that there was a significant difference between the hard of hearing group and hearing group on arm strength left.

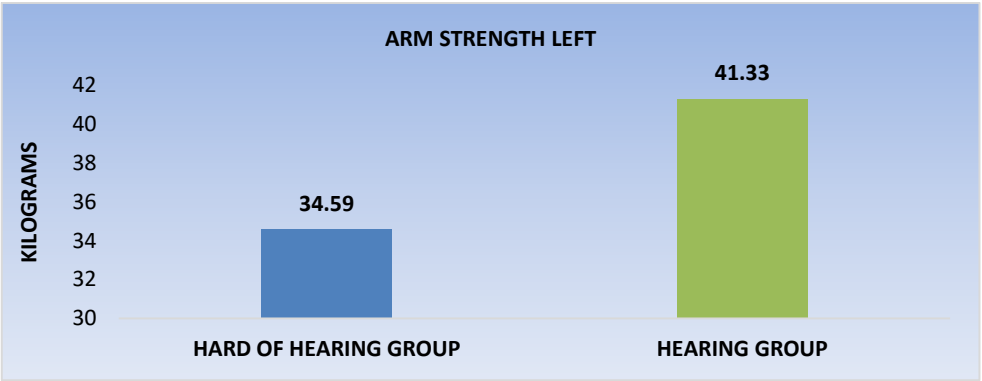

Fig. 2: Bar Diagram Showing the Mean Values of the Test Scores of Hard of Hearing and Hearing Groups on ARM Strength Left.

Table 3: Computation of 't' Ratio Between The Test Scores of Hard of Hearing and Hearing Groups on ARM Strength Height.

Groups	Mean	SD	Mean difference	't'
Hard of Hearing Group	1.68	5.82	2.07	2.39*
Hearing Group	1.70	6.21		

*level of significance was fixed at 0.05 with df 190 table value is 1.97.

Table 3 shows that the mean values of height between hard of hearing group and hearing group were 10.13 and 18.07 respectively. The obtained "t" ratio value of 2.39 was higher than the required table value of 1.97 for significant at 0.05 level of confidence. The result of these study showed that there was a significant difference between the hard of hearing group and hearing group on height.

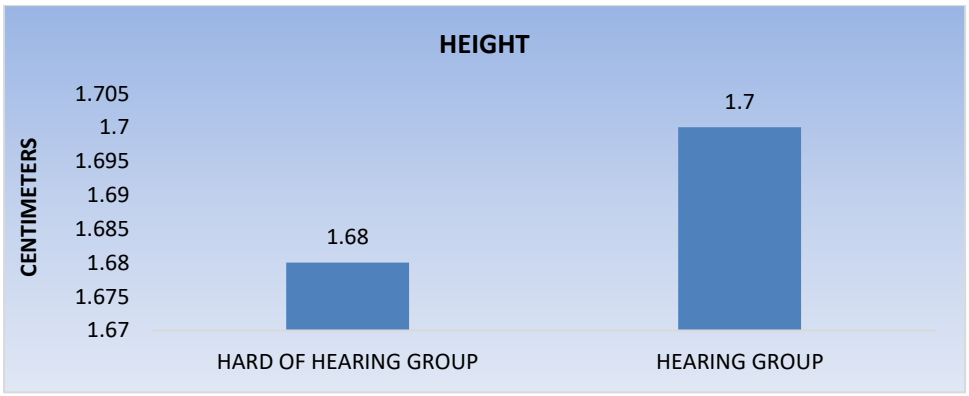

Fig. 3: Bar Diagram Showing the Mean Values of the Test Scores of Hard of Hearing and Hearing Groups on ARM Strength Height.

Table 4: Computation of 't' Ratio Between The Test Scores of Hard of Hearing and Hearing Groups on Visceral Fat.

Groups	Mean	SD	Mean difference	't'
Hard of Hearing Group	10.29	8.09	**4.06**	4.62*
Hearing Group	6.23	2.92		

*level of significance was fixed at 0.05 with df 190 table value is 1.97.

Table 4 shows that the mean values of visceral fat between hard of hearing group and hearing group were 10.29 and 6.23 respectively. The obtained "t" ratio value of 4.62 was greater than the required table value of 1.97 for significant at 0.05 level of confidence. The result of these study showed that there was a significant difference between the hard of hearing group and hearing group on visceral fat.

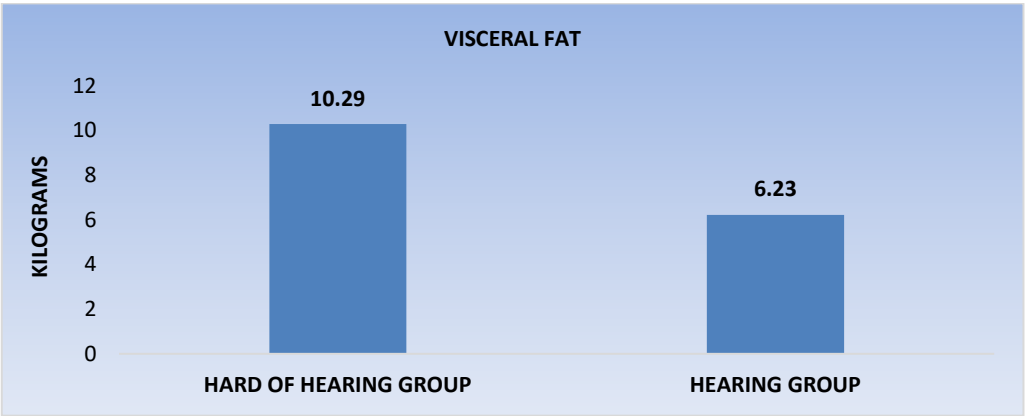

Fig. 4: Bar Diagram Showing the Mean Values of the Test Scores of Hard of Hearing and Hearing Groups on Visceral Fat.

DISCUSSION:

The purpose of the present investigation was to find out the comparative analysis of strength and body composition variables among hard of hearing and hearing men kabaddi players in Tamilnadu. The selected variables were arm strength right, arm strength left, height and visceral fat.

Arm strength right and left

The result of the study indicated that there was a significant difference between hard of hearing group and hearing group, hearing group was better than hard of hearing group on the selected strength variables of arm strength right and arm strength left. Similar study was conducted by (Kaori *et al.,* 2022). The result of study suggests that it is important to maintain physical function for hearing loss in females. Further studies are required to investigate sex differences in the relationship between physical function and hearing loss in the general population

Height and Visceral fat

The result of the study indicated that there was a significant difference between hard of hearing group and hearing group on selected body composition variables of height and visceral fat, hearing group was better than hard of hearing group on height and hard of hearing group was greater than hearing group on visceral fat. Similar study was conducted by (Dawes *et al.,* 2022). Four studies on birth weight and seven on adult height were found, according to the findings. Smaller birth weight has been linked to worse adult hearing, according to three studies. Six investigations found a link between hearing impairment and shorter height. Bias was a low to moderate risk. Data for a two-step individual patient data random-effects meta-analysis were provided by four researches.

CONCLUSION:

It was concluded that there was significant difference on selected strength variables of arm strength right and arm strength left between hard of hearing and hearing men kabaddi players. On the basis of the analysis of data, the hearing group was having better mean values on arm strength right and arm strength left variables values than hard of hearing group. It was also concluded that there was significant difference on selected body composition variables of height and visceral fat between hard of hearing and hearing men kabaddi players. Based on the study of the data, the hard of hearing group had better mean values for visceral fat than the hearing group, but the hearing group had superior mean values for height.

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CONFLICTS OF INTEREST:

We have no conflicts of interest to disclose.

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