

Analysis of Hand Grip Strength among Hard of Hearing and Hearing Men Kabaddi Players in Tamilnadu

Dr. S. Sakthivel¹, Dr. N. Karthikeyan², Dr. S. Riyazkhan³, Dr. C. Kala⁴, V.Gopinath⁵

¹Assistant Professor, Faculty of General and Adapted Physical Education Yoga, Ramakrishna Mission Vidyalaya Vivekananda Educational and Research Institute, Coimbatore, India

²Assistant Professor, Faculty of General and Adapted Physical Education Yoga, Ramakrishna Mission Vidyalaya Vivekananda Educational and Research Institute, Coimbatore, India

³Physical Education Teacher, Government Higher Secondary School, Thekkalur, Tiruppur, India

⁴Assistant Professor, Faculty of General and Adapted Physical Education Yoga, Ramakrishna Mission Vidyalaya Vivekananda Educational and Research Institute, Coimbatore, India

⁵Assistant Professor, Vinayaka Mission's College Of Physical Education, Salem, India

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Abstract— Aim: The aim of this study was to observe comparative analysis of hand grip strength among hard of hearing and hearing men Kabaddi players in Tamilnadu. Method: 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). Hand grip strength left and right was measured by using hand grip dynamometer in kilograms Results: The results revealed that significant differences found between hard of hearing group and hearing group on selected hand grip strength. Conclusion: It was concluded that hearing men Kabaddi players were better than hard of hearing group on hand grip strength.

Keywords— Hand grip strength Left, Hand strength right, Height, Hearing Kabaddi players and Hearing-impaired Kabaddi players.

I. INTRODUCTION

The Indian tradition game of Kabaddi requires players to be practically, mentally alert, manage their teams and carry out the strength, weakness and opportunities, to be physically fit, to handle the crises well, and comprehend their opponents' strategies. Agility, strong lung capacity, coordinated muscles, presence of mind, and rapid reactions these basic components were necessary for the developing performance of Kabaddi.

"Physical fitness is very important," he was emphasizing the importance of physical fitness "My advice to you, you'll be closer to heaven by playing football than by studying the Bhagavad-Gita" (Pramanick, et.al., 2022). The importance of physical fitness is emphasized

because it is a crucial component of performance (Hamilton, 1993). Sports have become an important part of our human and social lives today. Sports are generally demanding because they necessitate a great deal of muscle and joint strength through high-level dynamic tasks (Rochongar, 2004). To avoid injuries, offensive and defensive players should have more strength (Alkner et al., 2003).

Individuals with sensory impairments restrict from participating in physical activities and their physical activity level, muscular strength, cardiovascular endurance, balance, and sports performance are decreased (Karakoc, 2016).

II. HEARING IMPAIRMENT

Hearing impairment, often known as hearing loss, makes it difficult to hear or understand sounds. This occurs when there is an issue with one or more ear components, ear nerves, or the brain's hearing centre.

Hearing loss is the inability to hear as well as someone with normal hearing, defined as hearing thresholds of 20 dB or better in both ears. Hearing loss can range from slight to profound to severe. It makes it difficult to hear conversational dialogue or loud noises and can affect one or both ears. Those who are hard of hearing have modest to severe hearing loss. Hearing aids, cochlear implants, and other assistive technologies, as well as captioning, can be helpful for those who have hearing loss and typically use spoken language to communicate. Most deaf persons have significant hearing loss, which means they can hear very little or not at all. They frequently communicate by signing.

III. PHYSICAL ACTIVITY

A person who is deaf and has an additional disability that affects muscle tone will need a program that emphasizes building muscle strength. A person who is deaf and doesn't have an additional disability may not need to focus so much on strength development. Exercise is an essential part of a healthy lifestyle, regardless of your hearing level, even if it cannot "cure" deafness. Frequent exercise is known to promote physical health, including managing cholesterol, blood pressure, and weight, as well as lowering the chance of acquiring diseases including heart disease, diabetes, and some cancers. Exercise is also very beneficial for mental health. It improves sleep, encourages the release of mood-enhancing substances naturally occurring in the body, and has been proved to be successful in treating the symptoms of depression. Exercise on a regular basis

TABLE- 1 Computation of 't' ratio between the test scores of hard of hearing and hearing groups on hand grip strength right and left

Variables	GROUPS	MEAN	SD	Mean difference	't'
Hand grip strength right	Hard of Hearing Group	35.67	8.31	9.70	5.99*
	Hearing Group	45.37	7.15		
Hand grip strength left	Hard of Hearing Group	34.59	8.17	6.74	5.93*
	Hearing Group	41.33	7.53		

improves brain health. Physical activity may be especially crucial for maintaining brain function in deaf or hard of hearing individuals given that untreated hearing loss has been related to an increased risk of memory loss and other issues.

IV. METHODOLOGY

The study was conducted on 192 hard of hearing and hearing men Kabaddi players from various districts of Tamilnadu state, India. The selected subjects age between 15-25 years and divided into two groups namely, Group I- hard of hearing group, Group II-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. Hand grip strength left and right was measured by using Hand grip dynamometer in kilograms.

V. STATISTICAL TECHNIQUES

The mean and standard deviation are two descriptive statistics that may be used to gain a feel for the spread of a set of numbers. The means of the groups' variables were compared the study to analyze whether there were any statistically significant difference. The purpose of this study was to use a independent t-test 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.

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, 34.59 and 45.37, 41.33 respectively. The obtained “t” ratio value of 5.99 and 5.93 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 hand grip strength right and left. The mean value of hard of hearing group and hearing group on hand grip strength right and left were graphically represented in figure - 1.

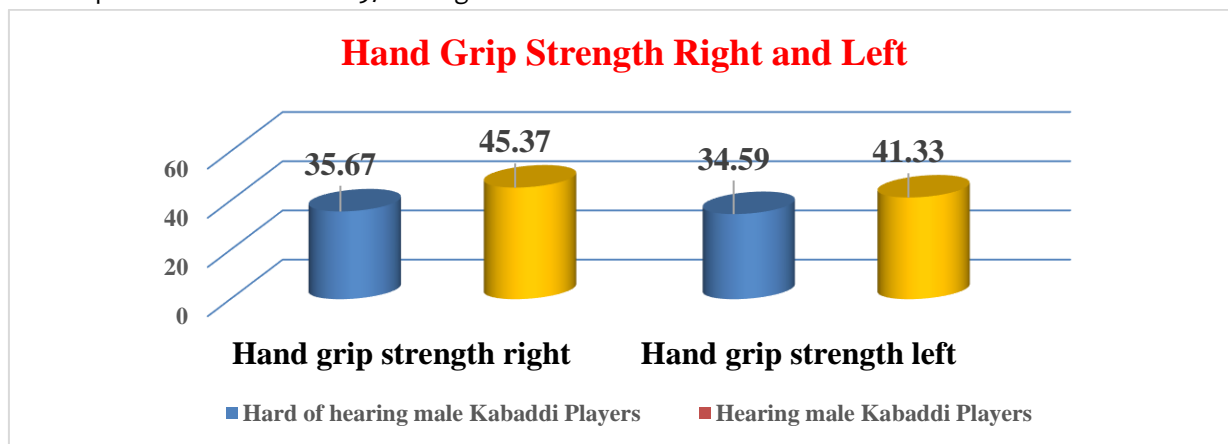


Fig. – 1: Bar diagram showing the mean values of the test scores of hard of hearing and hearing groups on hand grip strength right and left

VI. DISCUSSION ON FINDINGS

The purpose of the present investigation was to find out the comparative analysis of hand grip strength among hard of hearing and hearing men Kabaddi players in Tamilnadu. The selected variables were hand grip strength right, hand grip strength left. Both offensive raiders and defensive players must have strong arms. Both raiding and defensive players frequently used their arm power to trick the opponents over the course of the game's forty minutes. Defense players only use their arms to grasp a raider; the raider commonly utilizes his arms to escape grips, push and drag the defenders with the help of his muscular strength. (Sackett 1963)

A slow and lethargic movement is detrimental to secure a point. Invariably, raider and anti raider to push and pull each other, during the course of game, either to hold or escape and for repeated movements similar type of muscular power and endurance are needed. Arm strength and power dominate in Kabaddi, as game is a body contact game (Malhotra, 1972).

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

hand grip strength right and arm hand grip strength left. Similar study was conducted by (Kaori et al., 2022). The result of the study suggests that it is important to maintain physical fitness, motor function and strength for hearing loss peoples. Further studies are required to investigate sex differences in the relationship between physical function and other parameters among hard of hearing and general population.

VII. CONCLUSION

It was concluded that there was significant difference on selected strength variables of hand grip strength right and hand grip 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 both hand grip strength right and hand grip strength left variables values than hard of hearing group. Further, Recent studies have attempted to find a ultimate picture of the difference between dominant and non-dominant hand grip strength (Crosby et al., 1994). Whereas, this study result indicates that hand grip strength on right better than the left in both hearing and hard of hearing group.

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