

Brief Study of Fitness Levels of Men Handball Players

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Abstract: *The basic purpose of physical education is to develop students' skill sets, knowledge bases, and mental outlooks via the medium of human movement. Students at the college levels are needed to take some kind of physical education in every part of India. The players' ages varied from 20 to 28, making up the bulk of the team. Performance physical fitness components include the 600-yard dash, standing broad jump, reaction time test, 50-meter sprint, bent-knee sit-ups, endurance, speed, 300-meter run, flexibility (Wrist and Ankle Flexibility) and agility (10x4- shuttle run). The current research evaluated the psychological well-being of men handball players to their performance on the field. A total of 100 Men handball players were used in the study: 25 from the state team, 25 from the district team and 25 from the national team. Positive mental health, which is correlated with a high degree of mental organizations and integration, was shown to be a differentiating factor in handball athletic success. This data reveals a negative correlation between a player's handball playing ability and agility, Reaction Ability, speed, ankle flexibility, Endurance and Speed.*

Keywords: Endurance, Reaction Ability, Flexibility, Handball Game, Speed, Agility, Speed, Physical Fitness Variables

I. INTRODUCTION

Handball is an ancient sport with a rich history. Today, Handball is played globally, with international competitions and recognition from organizations like the International Olympic Committee (IOC). On the Indian subcontinent, handball is the most played game. Handball is a physically demanding sport that can improve your fitness, coordination, and mental focus. It can also help you burn calories and fat.

This game fosters many desirable traits such as sportsmanship, teamwork, loyalty, competitiveness, and self-esteem as well as speed, agility, strategy and quick thinking. This game in itself is a personal development tool for the athlete that takes up the challenge. A Handball is a competitive game played by teams according to established rules, whether it is inside or outdoors. The first official handball match was played in 1917 in Germany. Karl Schelenz modified the rules in 1919. The first international games were played (under these rules) with men in 1925 (between Germany and Belgium) and with women in 1930 (between Germany and Austria). Formation. In India, sport of handball and HFI was founded by Jagat Singh Chauhan, also founder of netball and throwball games in India. His efforts in Germany during the Munich Olympics in 1972 helped in establishing HFI.

Fitness refers to the ability of the body to perform physical tasks and functions with efficiency and effectiveness. It encompasses various aspects of physical and mental well-being. Overall, fitness is a multifaceted concept that encompasses various physical and mental abilities that enable individuals to perform daily tasks, enjoy leisure activities, and maintain overall health and well-being. The definition of fitness is capacity to maintain a healthy, fulfilling lifestyle. It encompasses not only the mental and emotional but also the social and spiritual dimensions of a person. Because of the intricate web of relationships between these many aspects of a man's health, he will be unable to function normally in his profession or daily life if even one of them is out of whack. Having a healthy heart, lungs, muscles and blood vessels is the essence of physical fitness.

There are many different kinds of fitness, but the most common ones include physical fitness, mental fitness, social fitness, and emotional fitness. To educate students in the areas of knowledge, skill and attitude development via human

movement is the primary goal of physical education. Physical education is a mandatory aspect of the curriculum at the secondary and postsecondary levels in most countries. Taking a holistic view of education, physical education programmed in schools give each student the chance to evaluate his or her current level of fitness and based on that assessment, choose activities that will help him or her improve areas of weakness and foster the growth of transferable skills and knowledge that will serve him or her well throughout his or her lifetime.

II. METHODOLOGY

Sample: To conduct the study, 25 national male handballs players, 25 district level male handball players and 25 state level male handball players were selected as sample. The sample was collected through convenience sampling method.

SELECTION OF VARIABLES: General handball skill and performance serve as dependent variables while Components of physical fitness serve as independent variables.

SELECTION OF SUBJECTS: To pick its participants this research has employed a random sampling method. All of the players used have competed in national handball tournaments for male in 2023- 2024. 100 handball players aged 20 to 28 from Vidarbha (part of the state of Maharashtra) served as the study's participants.

III. COLLECTION OF DATA

In this research, three experts rated each male player's performance during a handball match on a scale of one to five, with the average representing that player's skill level. Components measured: tests, muscular endurance-bent knee-sit ups, muscular strength-pull-ups, muscular power-standing broad jump, flexibility - (wrist and ankle flexibility), Agility-shuttle run, speed-50 mtrs sprint, cardiovascular endurance- (600 yards run/walk/12 min. run/walk), reaction ability - foot reaction test, speed endurance - 300 mtrs run, Pull-ups - (Muscular Strength): Total score is based on the maximum number of repetitions you were able to perform. The best of his three attempts at the standing broad jump was recorded as his score. Timing for the agility test (Shuttle Run) was recorded to the nearest hundredth of a second. The number of sit-ups with a bent knee in one minute was recorded as his result for the muscular endurance test.

The 50-meter dash time was timed to the nearest tenth of a second for accuracy. A person's score in a test of cardiovascular endurance (600-yard run) was based on how quickly they completed the test. When timing the 300-meter dash for speed endurance, the time was rounded up to the closest tenth of a second. For the purpose of measuring flexibility (both wrist and ankle), the angle at which each subject's wrists moved from flexion to extension was measured independently for each hand and then averaged. Timed reactions on the foot were recorded to the nearest tenth of a second to assess reaction time. Competence in Playing:

The ability to play at a high level is a necessary but not sufficient condition for success in any sport. How well each player does in the real game depends on this factor. This refers to the experts' evaluation of a player's performance in both defensive (running) and offensive (chasing) situations.

IV. FINDINGS

For predicting the handball playing ability of Men, analyzed the data using the person's product moment coefficient of correlation between the men overall playing ability and each of the performance physical fitness components.

Table-1 Relationship of physical fitness Components with playing ability of handball players

Physical Fitness Components	Reaction Ability	Cardiovascular endurance	Agility	Speed Endurance	Muscular Strength	Muscular Endurance	Foot Flexibility	Foot Flexibility	Muscular Power	Speed	Ankle Flexibility
Coefficient of correlation (r)	0.194*	0.120	0.267*	0.182*	0.100	0.13	0.274*	0.062	0.214*	0.214*	0.165

* Significant at 5% level $r=0.173$, $DF = 117$

Figure-1 relationship between Playing Ability and physical fitness Components of Male Handball players

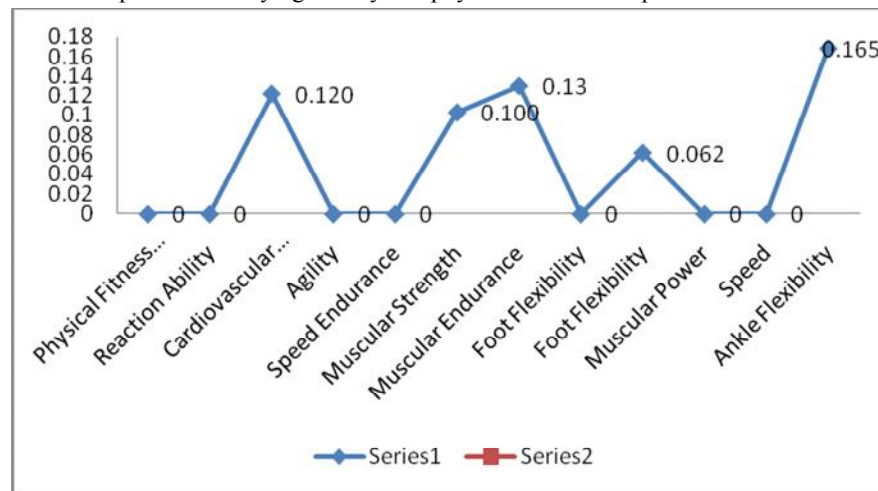


Table-1 reveals muscular strength, muscular endurance, muscular power, cardio respiratory endurance, and wrist flexibility are not significantly correlated with Handball playing skill. A negative but statistically significant relationship between the speed component of physical fitness and the Handball playing skill at the 5% level. At the 5% level, Handball players' agility, reaction time, speed endurance, and ankle flexibility were positively correlated with their performance. This data reveals that a player's Handball performance is inversely related to his or her measures of agility, speed, Reaction Ability, Speed Endurance, and ankle flexibility.

Table 2: Comparison of Positive Mental Health among male handball Players on the Basis of their Sports Achievements (N=120)

Groups	N	Positive Mental Health	
		Mean	S.D.
National Level Male Handball Player	40	20.79	2.99
State Level Male Handball Players	40	18.35	4.66
District Level Male Handball Players	40	17.62	4.52

Table 2 shows that there is a large disparity between the national , state and district handball players' good mental health. At the.01 level of significance, the computed $F=4.98$ supports this result. Since the F value obtained in One Way ANOVA was determined to be statistically significant, the Least Significant Difference Test was performed to compare the mean scores on the positive mental health survey for Handball players at the national, state, and district levels. Check out table 3 for the outcomes.

Table 3: Comparison of Mean Positive Mental Health Scores of Different Study Group with Least Significant Difference Test

Mean (I)	Mean (J)	Mean Difference (I-J)
National Level Male Handball Players	State Level Male Handball Players	2.40*
	District Level Male Handball Players	3.19*
State Level Male Handball Players	District Level Male Handball Players	0.73

* Significant at .05 level

The Least Significant Difference Test received the following findings: - At the.05 level of statistical significance, the mean difference between the two groups was 2.40 and 3.19. Positive mental health among male Handball players at the state and district levels did not vary significantly. There was no statistically significant variation from the mean of 0.73. male Handball players at the national level reported considerably higher levels of positive mental health than their counterparts at the state and district levels. The following findings are derived from the data analysis: Positive mental

health was shown to be considerably higher among national level male handball players when compared to state and district level male Handball players, but no significant difference was identified among players at the state and district levels. According to the findings of the current investigation, Vaillant's hypothesis (2003:15) holds true. The current research found a significant relationship between the mental health and performance of male Handball players. In terms of positive psychology, which incorporates emotional, social, and physical well-being, Vaillant (2003) conceived of mental health as a positive. It demonstrates that all four aspects of health- social, physical, psychological and emotional,—are necessary for success in any efforts.

V. CONCLUSION

As per to Table-1, there were favorable and statistically important connections between Handball players' reaction time, agility, speed endurance, and ankle flexibility at the 5% level of significance. At the 5% level, the speed component of physical fitness correlates negatively but significantly with Handball players' skill. There are no links between other aspects of physical fitness and a player's Handball skill. Due to conduct of this study, could gain insights into the fitness levels of men Handball players and identify areas for improvement to enhance their performance.

Players' Handball skills seem to be inversely related to their agility, speed, response time, speed endurance, and ankle flexibility. Positive mental health of male Handball players does vary considerably by level of athletic accomplishment, according to the findings.

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