Gender Differences in the Characteristics of Physical and Psychological Health among the Sports participants

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***Abstract*- Aim of the study is to see the difference in physical and psychological health of sports persons aged ranging from 14 years to 18 years. All the male and female sports were the participants of national level tournaments. The Cornell Medical Index was used to measure the physical and psychological health of sports persons. The data was analysed using ANOVA to see the difference between female and male sports persons. The result of the study showed significant (p<0.05) in both physical and psychological health of the sports. In conclusion, research on gender disparities in health among athletes may give very helpful insights into the different health profiles of male and female athletes.**

***Key words*: gender, sportspersons, physical health, psychological health, male, female.**

INTRODUCTION

The assessment of physical and psychological health components is vital in understanding the well-being of people, particularly among athletes who typically encounter specific physical and psychological demands. This research aims to evaluate gender disparities in physical and mental health features using the Cornell Medical Index. It has been shown that taking part in sports and other forms of physical exercise has a number of positive health effects, including enhancements to one's mental and physical well-being (Khan et al., 2012). On the other hand, research reveals that the influence of sports on health outcomes may be different for men and women, especially with regard to physical and mental health traits. Understanding these gender-specific characteristics is essential for the development of individualised therapies, the enhancement of athletic performance, and the promotion of general well-being among athletes (Malm et al., 2019).

Male and female athletes both participate in physical training, there are intrinsic physiological and anatomical distinctions between the genders that might result in disparities in the physical health qualities that each gender has. To provide just one example, males typically have more muscular mass and strength than women do, although women might have different body compositions and hormone profiles. These gender-specific variables may have an effect on aspects of a person's physical health such as endurance, power, agility, and recuperation, which in turn can have an effect on a person's sporting performance and susceptibility to injury.

In addition to physical health, mental health plays a key role in the total well-being of athletes. Competitive sports settings, training demands, performance expectations, and social pressures may greatly impact the mental health of athletes. Gender-specific variables, including societal standards, body image concerns, and coping techniques, may lead to disparities in mental health features between male and female athletes. Understanding these distinctions is crucial for establishing effective interventions to improve mental well-being, reduce psychological discomfort, and maximise performance results.

Research in psychology has long been interested in exploring whether or not there are gender variations in a variety of psychological factors. It is necessary to have an understanding of the ways in which different genders feel and express emotions in order to design more tailored therapies and improve mental health. The objective of this research is to investigate whether or not there are significant gender disparities in the aspects of physical and mental health that are shown by athletes. Using the Cornell Medical Index, our goal is to provide a comprehensive understanding of how gender impacts physical and psychological health outcomes in sports by reviewing the existing literature, analysing relevant data, and taking into consideration factors such as physiological differences, training approaches, psychological factors, and sociocultural influences. This will allow us to provide a more accurate assessment of the relationship between gender and health outcomes.

METHODOLOGY

For the present study four hundred players pertaining to different part of Tripura, India were selected. Ages of all the players were ranging from 14 years to 18 years. Both male and female subjects were selected for the present study. All the players were the participant of national level tournaments. Prior consent was taken from respective coaches and players were informed precisely regarding the purpose and procedure of the data collection. Simple Random Sampling Procedure was employed for the selection of subjects. All subjects were selected from district coaching centre, state coaching centre and state schools. The physical health and psychological health were selected as variables for the present study. The gender (female and male) were considered as independent variable while physical and psychological health retrieved from Cornell Medical Index (CMI) having 18 sub variables were considered as dependent variables. In the current study, an investigation was conducted to learn more about the effects of gender on physical and psychological health of sports participants.

The Cornell Medical Index (1949) is used to assess the physical and psychological health. The physical and psychological health is evaluated using the cornell medical index. The survey consists of 195 open-ended questions written in informal language that people with reading comprehension can understand. The subjects only had to circle one to indicate Yes or No to each question, making administration simple. A to L section of the questions showed physical distress, while M to R segment showed psychological distress. The questions were divided into different categories. The distribution of all the 'Yeses' could also be noted which makes us possible to localize the medical problem of the subject for example: If Yeses are scattered throughout all sections then medical problem is likely to be diffused. It more than two or three yes answers on the second section. It suggests psychological disturbance. Moreover, this CMI Questionnaire measures both physical and psychological health simultaneously, so the researcher selected this scale.

STATISTICAL ANALYSIS

The SPSS (statistical package for social science - IBM, USA) was used to analyze the data using a general model. Every fixed effect's statistical significance was assessed using the F-test. The statistical significance was assessed with alpha set at 0.05. One-Way ANOVA was calculated.

FINDINGS

Table 1: Showing the comparison in the characteristics of Cornell Medical Index between female and male groups.

	Female		Male		ANOVA	
Variables	Mean ± SE	SD	Mean ± SE	SD	F-Value	p-Value
A	0.02 ± 0.01	0.18	0.02 ± 0.01	0.16	0.01	NS
B	0.02 ± 0.01	0.17	0.03 ± 0.01	0.17	0.15	NS
C	0.04 ± 0.01	0.21	0.02 ± 0.01	0.14	2.25	NS
D	0.10 ± 0.02	0.31	0.13 ± 0.02	0.4	1.17	NS
E	0.04 ± 0.01	0.2	0.04 ± 0.01	0.2	0.01	NS
F	0.02 ± 0.01	0.15	0.04 ± 0.02	0.21	1.49	NS
G	0.02 ± 0.01	0.15	0.01 ± 0.00	0.12	0.38	NS
H Female	0.13 ± 0.03	0.44	0.00 ± 0.00	0	18.08	NA
H Male	0.00 ± 0.00	0	0.13 ± 0.03	0.44	16.32	NA
I	0.06 ± 0.01	0.24	0.08 ± 0.02	0.28	0.91	NS
J	0.0 ± 0.0	0	0.0 ± 0.0	0	0	NS
K	0.03 ± 0.01	0.18	0.02 ± 0.01	0.14	0.63	NS
L	0.09 ± 0.02	0.29	0.06 ± 0.01	0.25	0.8	NS
M	0.99 ± 0.05	0.82	0.97 ± 0.06	0.9	0.02	NS
N	0.41 ± 0.03	0.25	0.06 ± 0.01	0.25	70.42	p<0.05
O	0.12 ± 0.02	0.33	0.22 ± 0.03	0.41	6.68	p<0.05
P	0.50 ± 0.04	0.66	0.34 ± 0.03	0.54	7.27	p<0.05
Q	0.56 ± 0.04	0.68	0.25 ± 0.03	0.47	27.14	p<0.05
R	0.56 ± 0.04	0.67	0.23 ± 0.03	0.48	29.44	p<0.05
CMI	3.91 ± 0.14	2.1	2.60 ± 0.1	1.5	50.49	p<0.05

The alphabets in the variable column denote A = eye and ear, B = respiratory system, C = cardiovascular system, D = digestive tract, E = musculoskeletal system, F = skin, G = nervous system, H = female genital system, male genital system, I = fatigability, J = frequency of illness, K = miscellaneous disease, L = habit, M = inadequacy, N = depression, O = anxiety, P = sensitivity, Q = anger, R = tension, and Cornell medical index

The table 1 demonstrated the comparison of cornell medical index and its sub variables namely eye and ear, respiratory system, cardiovascular system, digestive tract, musculoskeletal system, skin, nervous system, genitourinary system female, genitourinary system male, futigaility, frequency of illness, miscellaneous disease, inadequacy, depression, anxiety, sensitivity, anger, tension, and cornell medical index between female and male groups. The inferential analysis (ANOVA) revealed statistically (p<0.05) significant difference in depression, anxiety, sensitivity, anger, tension and CMI variable of cornell medical index. Statistically high level of depression (0.41 ± 0.03) is seen in female as compare to that of male (0.06 ± 0.01) groups. The anxiety showed that the male (0.22 ± 0.03) group has significantly (p<0.05) higher anxiety as compare to female groups. The sensitivity of female (0.50 ± 0.04) showed significantly (p<0.05) higher value than male (0.34 ± 0.03) groups. The anger of female group is showing significantly (p<0.05) higher than male group. The tension of female group depicted higher value (0.56 ± 0.04) than male (0.23 ± 0.03) group. Statistically higher CMI (3.91 ± 0.14) is seen in female group as compare to that of male (2.60 ± 0.10) groups. In contrast, rest variables of the cornell medical index did not show significant (p>0.05) difference between female and male.

Table 2: Showing the comparison physical health and psychological health aspect of Cornell Medical Index female and male groups.

Variables	Female		Male		ANOVA	
	Mean ± SE	SD	Mean ± SE	SD	F-Value	p-Value
Physical Health	0.75 ± 0.07	1.15	0.50 ± 0.05	0.7	6.794	p<0.05
Psychological Health	7.07 ± 0.24	3.56	4.70 ± 0.20	2.77	54.336	p<0.05

The table 2 demonstrated the comparison of physical health and psychological health aspects of cornell medical index between female and male sports persons. The inferential analysis (ANOVA) revealed statistically (p<0.05) significant difference in physical and psychological health aspect of cornell medical index. Both physical health and psychological health diseasse depicted statistically (p<0.05) significantly difference between the groups. The physical health of female (0.75 ± 0.07) is significantly higher than male (0.50 ± 0.05) group. Similarly, psychological health of female (7.07 ± 0.24) group is found to be significantly higher as compare to that of male (4.70 ± 0.20) groups.

DISCUSSION

The outcomes of this research provide significant new perspectives on how males and females vary along a variety of psychological dimensions. According to the findings, women are more likely to suffer from clinical depression, sensitivity, anger, stress, and CMI than men. These results are similar to those of prior research (Gao et al., 2020), which has repeatedly demonstrated that women have greater rates of depression (Ford et al., 2004) and anxiety than men do. Hormonal influences, societal expectations, and socialisation processes all have the potential to alter the way people perceive and express their emotions (Liu et al., 2019). These are all possible reasons for the gender disparities that have been seen.

It's possible that a mix of biological, psychological, and sociocultural variables are to blame for the greater rates of depression that have been reported in females (Cyranowski et al., 2000). There is some evidence that hormone shifts, which occur during a woman's menstrual cycle and throughout the postpartum period, may be one of the biological reasons that lead to an increased risk of depression in women (Albert, 2015). In addition, the higher degrees of sensitivity and anger reported in females may be the result of cultural expectations and gender roles that put a larger focus on emotional expression and caring behaviours for females.

On the other hand, the much greater anxiety levels reported in males defy established gender preconceptions that claim women are more prone to worry (McLean et al., 2011). These assumptions suggest that women are more likely to suffer from anxiety (Bruce et.al., 2005; Angst & Dobler-Mikola, 1985). These results call into question the idea that gender disparities in mental health are entirely the result of biological differences and underscore the significance of taking into account the variety that exists within gender groupings.

When compared to male athletes, female athletes seem to have a substantially greater level of psychological health issues, as shown by the significantly higher ratings that were recorded for female athletes. This conclusion is in line with findings from other studies which indicated that engaging in sports and other forms of physical exercise may have beneficial impacts on mental health, including the reduction of symptoms associated with anxiety and depression (MacIntyre et al., 2017). As a result of their participation in sports, male athletes could enjoy advantages such as enhanced self-esteem, decreased levels of stress, and greater levels of social support.

The results of present study, there are considerable gender variations in the various elements of physical and mental health among athletes, as evaluated by the Cornell Medical Index. When compared to their male counterparts, female athletes demonstrated a greater prevalence of both physical and mental health disorders. These results highlight how important it is to take gender-specific characteristics into consideration when determining the health requirements of athletes and developing strategies to satisfy those needs. There is a need for more study to examine the underlying processes and identify possible solutions in order to maximise the health and wellbeing of male and female athletes.

The differences in physical health that were discovered between the sexes in athletes imply that female athletes may have distinctive physical well-being profiles in comparison to their male counterparts (Santisteban et al., 2022). These gender disparities in physical health among athletes may be attributable, at least in part, to a variety of factors, including hormonal variances, physiological adaptations, and training regimes. It is essential to have an understanding of these differences in order to develop appropriate training regimens, techniques for injury prevention, and general care for male and female athletes.

Additionally, the research showed gender variations in mental health among sports participants. Female athletes revealed unique patterns of mental well-being compared to male athletes, presumably reflecting variances in stress coping mechanisms, emotional control, and psychological resilience. These results have substantial implications for boosting mental well-being, minimising psychological discomfort, and enhancing performance among sports people (Schaal et al., 2011).

In conclusion, researching gender variations in the parameters of the CMI among sports persons might provide very helpful insights into the distinct health profiles and requirements of male and female athletes. When these differences in physical health, psychological health, and maybe even other aspects of well-being are understood, it is possible to devise individualised tactics that will improve the overall health of athletes and their performance in athletic endeavours. In the future, research should continue to investigate gender-specific elements, such as social expectations, cultural influences, and individual variations, in order to gain a thorough knowledge of the features of the CMI among male and female sports individuals.

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