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Psychometric Evaluation of Gender Parity in Health Risk Profile of Urban Indian Adolescents

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Abstract: Thiswork dealt with the evaluation of the role of gender in health risk profile of urban adolescents of Ranchi district of India. The study was in the form of a questionnaire-based survey which evaluated the food habits, physical, mental and moral health and the awareness regarding AIDS and addictions of the secondary school students.The responses were evaluated quantitatively and the scores thus obtained were put under a t-test to substantiate the significance of the difference in the health profile of the males and females. The results revealed that there is no gender-based difference in the food habits, while the emotional and moral health scores of the girls was found higher (7.06 and 5.41 respectively) than that of boys (6.53 and 5.3 respectively). Results revealed that boys are more aware regarding AIDS (6.42) than the girls (5.3).The physical health scores of girls (4.64) was found significantly lower (at 5% and 1% P) than that of boys (6.87). This ultimately led to a significantly lowered (at 5% P) health profile score of girls (30.14) as compared to the boys (31.71). The present findings indicate that in the urban adolescent population of India, girls suffer a higher health risk than boys.

Key words: Physicalhealth · Moralhealth · Addictions · Meaning of health · Health profile

INTRODUCTION

The term 'health' first appeared in literature in around 1000 A.D. [1] and finds its roots in old English [2], where it was used for the state of 'being sound'. This meaning of health has for long been misinterpreted by delimiting it to mere absence of diseases and deformities [3]. For this, the World Health Organization took initiative to formulate a comprehensive definition of health. The WHO defines health as 'a state of complete physical, mental and social wellbeing and not merely the absence of diseases or infirmity' [4].

Several health issues like vulnerability and specific metabolic impacts of diseases take depend upon the sex of the individuals [5]. In recent past however, several social scientists have established that biological differences alone do not underlie the differential health issues. These conditions take into account both sex as well as gender; sex being the biological difference, while gender the social disparities [6]. Gender affects health in form of social, economic, cultural and political factors which produce different impacts for males and females because of the different roles and statuses of men and women in households and community and the nature of care and support they receive therein [7].

In this regard, school education works as a catalyst to minimize these social differences between males and females [8, 9] whilst ensuring holistic development of the personality of all the children [10- 12]. It also is intricately associated with health [13]. Education promotes healthy lifestyle and ensures healthy individual, family and community living, while also ensuring overall wellbeing of individuals by making them competent to face the challenges of life and earn a decent livelihood [14] which would in turn provide them the access to quality health care services. There also are the school health programmes, to ensure that students get proper healthcare facilities and are made aware of the health practices and lifestyle [15].

However it is imperative to ensure intermittently, if or not all these measures are benefiting the target group. In the light of this, the present study was undertaken to evaluate the health risk profile of the secondary school students of urban regions of Ranchi district (India) while

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considering the role of gender on the health profile of the individuals. In urban sectors of Ranchi, the fair sex enjoys equal social opportunities in the field of education as boys. Thus, the study prospected that there is no significant difference in the health profile scores of girls and boys.

MATERIALS AND METHODS

To understand the students' conception regarding health, a mixed-method cross-sectional survey [16, 17] was designed. The participants were 325 adolescents (40% females) from eight secondary schools located in urban region of Ranchi district of Jharkhand state (India), with age rangingbetween 13 and 15 years (M = 14.2; S.D. = 1.00). In order to avoid potential biases, the schools were selected balancing the proportion of students according to the school types, i.e. boys' school (33.23% students), girls' school (26.76% students) and co-ed schools (40% students). Consent for the research was taken in the form of active approval from the schools and passive appreciation from the participating students.

The survey was based on a questionnaire with 25 closed ended study items to be answered along a three-point response scale. The questions were grouped into five sets of five questions each, which intended to test students' food habits, physical activities, mental health, moral health and awareness regarding drug and alcohol addictions and HIV/AIDS.

Although the qualitative data thus generated provides ample ground for critical evaluation of the students' health risk profile; however the study would prove helpful for the program planners and policy makers only if these qualitative data would reliably bequantified [18]. In light of this, to convert the qualitative data into quantifiable terms; the response scale was coded with scores +2, +1 and 0 [19, 20]. For statistical analysis, the quantitative data was put undera t-test [21] to compare the health status of girls against that of the boys.

RESULTS AND DISCUSSION

The results were depicted in Figures 1-5 and Table 1.

Food Habits: Food habit of the students was scored on the basic of their responses for taking fruits, milk, soft drinks, fast food and hygienic food practices. Data analysis revealed that the girls were more aware of and practiced healthy food habits as compared to the boys. It was found that only 22.15% of the respondents ate fruit every day, while only 1.5% of them stated that they never ate fruits in the past month. Likewise, 53.5% students drank milk everyday and only around 13% students did not drink milk even once in past month.About 84.46% of the students stated that they had eaten from the fast food vendors only few times, while 9.5% students admitted that they ate fast food every day.

In past decades, peculiar change has been observed in the dietary pattern of the developing nations in terms of increasing consumption of fat-rich diet. Much of this calorie-dense trans-fat comes from snacks and fast food [22] and is strongly associated with diabetes, cancer and obesity [23, 24]. Consuming high amount of salt and trans fats in fast food leads to heart diseases, hypertension and several types of cancer [23- 26]. WHO has stated that nearly 63% of all the deaths in a year are due to non-communicable diseases and 80% of these non-communicable diseases are the lifestyle diseases like diabetes, cardiovascular dysfunctions, cancer and respiratory problems [25, 27]. It is said that every time we eat or drink, we are either fighting disease or feeding it. For this, adequate consumption of fruits, vegetables and milk reduces significantly the risk of these lifestyle diseases by the virtue of their nutraceutical properties [28].

It has been reported that food habits are directly linked with the academic performance of the students. It was seen that lack of adequate consumption of fruits, vegetables, or dairy products, was associated with lower grades in schools [29- 31].

In the present study, the girls lead with a score of 7.71out of 10 as against 6.57 of the boys for theirhealthy food habits.

Emotional Health: Emotional health is a complex concept and all aspects of its construct lack a discrete definition [4]. It may be conceptualized as the capacity to achieve and maintain optimal psychological functioning and well being and this capacity shares a direct relation to the competence achieved in psychological and social functioning [32]. It is evident from the recent researches that students' emotions are an integral part of educational settings [33]. There exists an inverse relationship between classroom achievement and negative emotions [34]. It was thus found essential to understand the emotional integrity of the students in social context. In the current study,

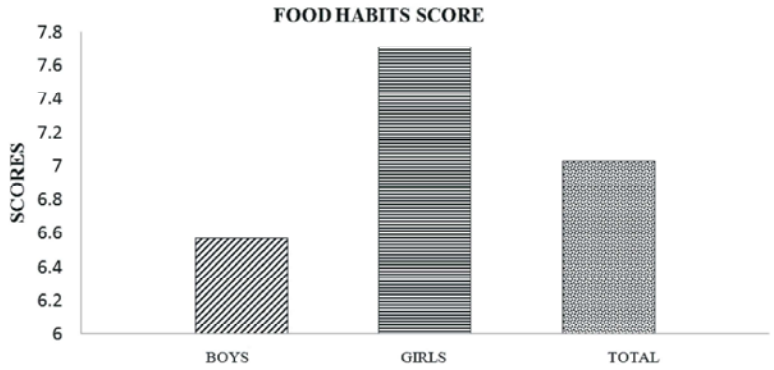

Fig. 1: Food habit scores of adolescent girls and boys

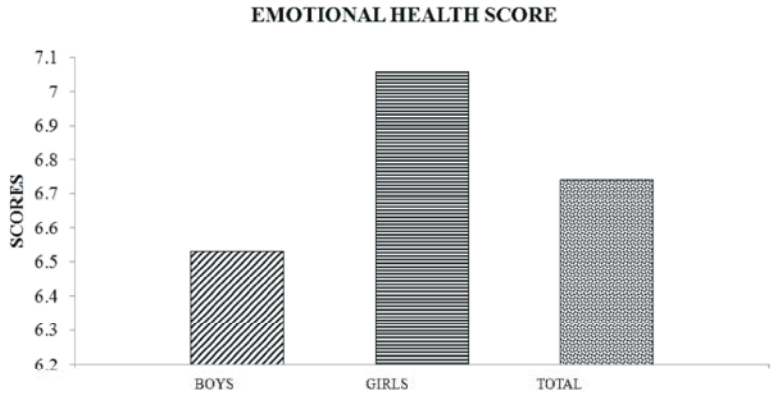

Fig. 2: Emotional health scores of adolescent girls and boys

emotional health score was computed on the basis of students' feelings of loneliness, anxiety, friendship, relationships and sharing of problems with elders. It was found that 55.38% of the respondents often felt lonely in past month and as many as 56.61% them even lost sleep over the worries that they were facing. About 26.76% of the students reported that they never shared their problems with their guardians and teachers and 56.36% of these respondents were girls. In spite of this, it is explicit from the fig. 2 that in the present study girls scored higher (7.06) than the boys (6.53) for emotional health.

These results affirm thenotion of concern put forward byanother studythat depression is turning epidemic in school children [35]. The cases and severity of depression has been found more in girls [36] owing to the fact thatgirlshesitate in sharing their problems with elders [37]. The same is evident from the present study as well. It is thus suggested that teachers and guardians encourage their children, especially the girl child to interact and share their problems, which would help in venting off of the negative emotions and they would gain insights in solutions to their problems.

Physical Health: There is an explicit link between healthy diet, balanced physical activities and enhanced academic achievement in children [38, 39]. There is an increasing trend of physical inactivity in the students, which coupled with change in eating behavior leads to obesity and several related consequences, thus declining the general health condition and academic performance of the students [40]. In the present study the physical health was scored on the basis of students' outdoor and indoor activities, attendance and diseases.

Our results indicate that as many as 13.8% of the respondents did not involve in any outdoor physical activities and 53.34% of this reply came from the girls. 50% students answered that they spent around 1 h in physical activities daily. About 47.69% of the boys stated that they spent more than 1 h daily playing mobile and computer games, while 56.92% girls came up with the same response. Pertaining to the aforesaid responses, there is a clear gap between the physical health scores of the girls and boys, which is evident in Fig. 3.

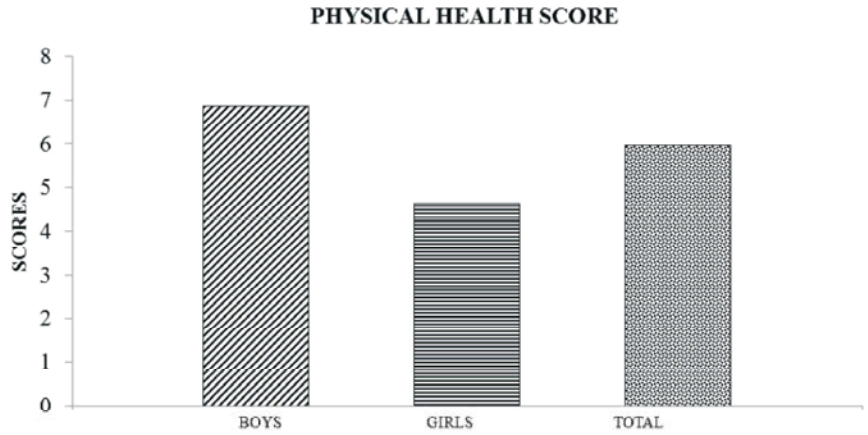

Fig. 3: Physical health scores of adolescent girls and boys

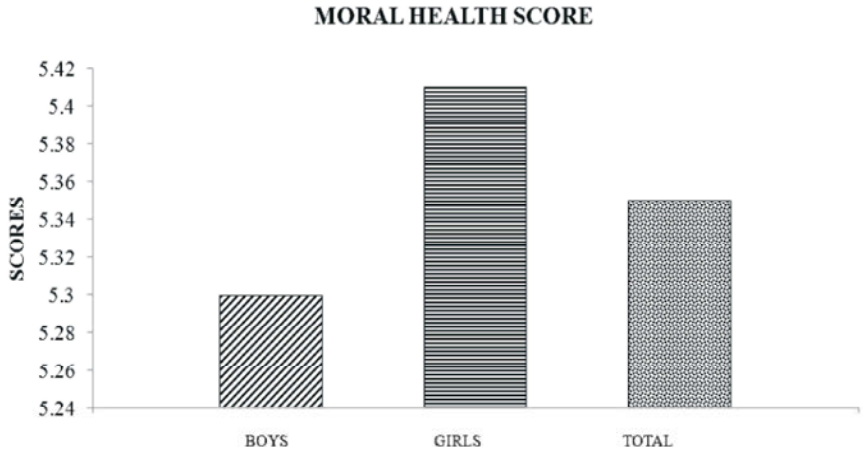

Fig. 4: Moral health scores of adolescent girls and boys

It has been suggested that this gap is due to the disparity in gender-based attitude for the girls [41]. They get limited opportunities in physical activities, sports and games, which deprive them of the social and health benefits of the physically active lifestyle. This physical inactivity of girls may also be related to the mental health problems in girls, like depression, anxiety and low self esteem to name a few.

Moral Health: Morality is the ability to differentiate between the correct and incorrect behavior in a given situation [42]. The determinants of moral health are difficult to define as they are abstract guides which help an individual to judge and justifyher/his/others' behavior [43] and are greatly influenced by the child's environment and in turn manipulate their physical, emotional, cognitive and social skills [44]. In the present study, moral health was evaluated on the basis of students' involvement in physical fight, seeking and extending help, following rules and valuing of ethics.

Of the total, 131 students responded that in the past month they had involved in physical fight once or more and among them, 61.83% were boys. About 26.15% girls stated that they had ignored people in want at least one time, while the same response came from 30.76% boys. A total of 33.53% students stated negative for the statement that following the rules was more important than winning games for them.About 69.23% students responded that following the rules was more important, while for the girls the same response came from 63.07% students. Pertaining to this, the average moral health score of the girls was found higher than that of the boys.

Lower moral health score relates to lower moral sensitiveness and compassion [45]. However, morality and hence the moral health scores depend on the value system of the child and children differ greatly in this respect [46]. They often misjudge the right and wrong behavior as they are driven by ego-centric reasoning [47] and low levels of moral motivations [48].

This situation leads to problems such as bullying [47]. They aim at self-enhancement instead of relationship-enhancement [49] because they aim at controlling power and resources and gaining success [50]. Healthy competitionsare good for maintaining fluidity in society. However amidst the increasing trend of aggression, non-adjustment and moral disengagements in present day society, it is suggested that the students should undergo frequent sensitization and orientation programs on moral values and ethics [47].

AIDS and Addiction Awareness: School children are quite vulnerable to HIV infection, while school educationacts as a powerful preventive tool, thus gaining the status of a'social vaccine' against AIDS [51]. School curriculum is responsible for dispensing information and awareness regarding this dreaded pandemy. However there is a wide gap between the curriculum inputs and the actual education imparted about AIDS in the school [52]. The results of ourstudy put forth an explicit evidence of the aforesaid gap. About 28% of the respondents stated that they either had never heard, or did not remember hearing the word 'AIDS'. Total percent of 68.2% of the boys and 45.38% of the girls were not taught about AIDS in any of their classes. Total of 77.94% boys and 48.46% of the girls stated that their guardians or teachers never discussed anything regarding AIDS with them. As children are valuable assets of the society, it is imperative that they be well informed about AIDS, so they can keep themselves and their acquaintances safe from this dreaded ailment. The results from the survey present before us a very grave condition where the teenagers from urban areas of a state capital, pursuing studies in good schools are not informed about AIDS. One possible reason can be the tendency of stigmatizing AIDS by the society [51]. There is an urgent need to rethink, re-plan and reinforce the awareness programs regarding HIV/AIDS in order to safeguard our future generation against this pandemy.

Apart from HIV/AIDS, adolescence is the age where many addictions take roots [53]. Familial and peer modeling, peer pressure, curiosity and the influence of advertising have been named as the causes for initiating addictive habits [54] which start in early teens and stabilize in adults [53]. It is rightly said that the best prevention is awareness. Considering this, the students were asked their opinion regarding what was the cause for which people take drugs, alcohol or smoke cigarette. About 43.69% of the students responded that they do not know why people take alcohol and drugs and 39.69% students stated the same regarding smoking cigarette. Total of 42.15% students were of the view that people take drugs and alcohol to enjoy, while 14.15% held the notion that people under stress start taking drugs and alcohol. About 45.23% students stated that people smoke cigarette to enjoy, while 10.15% stated that smoking was a way to look smart. It is evident from fig. 4 that boys scored higher than girls for their awareness regarding AIDS and addictions.

There are multiple factors which determine such practices leading to addiction: psychological, demographic, cognitive abilities, socio-cultural, economic factors and a few other concurrent habits of caffeine, nicotine, or narcotics [55]. Government of India has taken a commendable measure of including a statutory warning on all cigarette packets and a censorship on advertisements of all such harmful products. However, these advertisements may have both positive and negative effects. While making people aware of harmful effects of these products, advertisements may also provoke them to use these through arousing curiosity or with the intent of self-harm [56]. It is thus imperative to conduct a detailed socio-psychological research and develop an efficient program to educate the youth against such addictions.

T-Test Statistics: A t-test was carried out to calculate the significance level of the difference in the mean scores of girls and boys. The results are summarized in Table 1.

The results of the t-test reveal that there is no significant difference in the food habits of girls and boys, which does not comply with the findings of Hart *et al.* [57] who had stated that gender does play a significant role in choice of food. Likewise, there was no significant difference in the mean scores for emotional and moral health of the boys and the girls. However, the scores of physical health for boys was found significantly high (at 5% and 1% P) as compared to that of the girls; and pertaining to this, the total health profile score of girls was lowered significantly (at 5% P) as compared to that of the boys. Thus we see that at present, the girls are still not at par with the boys in terms of their health, accounting for their low physical health scores. This difference in physical health conditions of girls and boys is probably

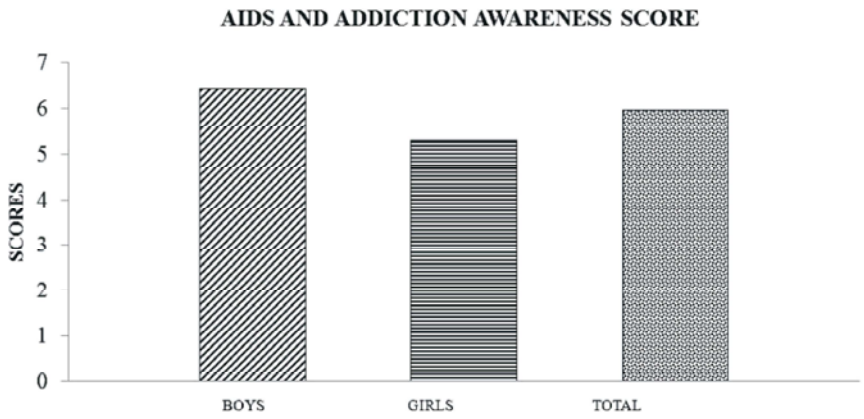

Fig. 5: AIDS and addiction awareness scores of adolescent girls and boys

Table 1: Computed t values for different aspects of health profile

							Table vales of t	
Dimension	Category	Mean (M)	M1-M2	N	Computed value of t	df	0.05	0.01
Food habit	Boys	6.57	0.6	195	0.06	323	1.97	2.60
	Girls	7.17		130				
Emotional Health	Boys	6.53	0.53	195	0.0002	323	1.97	2.60
	Girls	7.06		130				
Physical Health	Boys	6.87	2.23	195	5.02*	323	1.97	2.60
	Girls	4.64		130				
Moral Health	Boys	5.3	0.11	195	0.014	323	1.97	2.60
	Girls	5.41		130				
AIDS and addiction	Boys	6.42	1.12	195	0.168	323	1.97	2.60
	Girls	5.3		130				
Health profile score	Boys	31.71	1.57	195	0.226#	323	1.97	2.60
	Girls	30.14		130				

*Means the computed value of t is significant at both levels of probability; # Means the computed value of t is significant only at the level of 5% probability.

due to the gender-based disparity in attitudes and opportunities for girls in sports, games and physically active lifestyle [58, 59] in the form of dissatisfaction with schools' physical education programs, which are potential motivators against sedentary lifestyle [60]; pressure from peer group to engage in activities associated with their preferred perceptions of feminity and masculinity [61]; and cultural beliefs which encourage girls and boys to engage in gender-stereotyped activities and skills, commonly by providing gender-based toysto children [62, 41].

In light of this, it is suggested that the need of interaction of fun, health and social relations in physical activities must be recognized for raising participation of girls. Sports provisions need to be improvised to encourage and accommodate all young people, while ensuring that activities and facilities are safe and easily accessible to all. Pursuits beyond mainstream sports, like dance, yoga and other non-competitive and co-operative activities need to gain prevalence. All such programs should relate to local cultural needs to sustain girls' participation. Inclusion of women drawn from local communities at key roles like coaches and mentors in sports groups, programs and organization would open prospects for women and encourage others to join in as well. Researches and contemplations are needed to explore the diversity of experiences in sports and physical activities around the globe. Providing more opportunities for physical activities would certainly eradicate the gender-based disproportion in health profile of the adolescents.

CONCLUSION

From the study we infer that the girls of the urban Indian adolescent population suffer a higher health risk as compared to the boys and this situation can be mitigated only when the former's engagement in physical activities is increased.

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