



Original Research Article

Perceived Health among School Going Adolescents in Mumbai: Association with Background Characteristics and Nutrition Variables

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ABSTRACT

Background: Nutritional status of adolescents do not get much attention in social science research in India due to its inadequate recognition as a significant factor affecting health both in adolescence and at later life stages. Less is understood about the relationship of nutritional status with health among adolescents.

Objective: This paper aims to examine the association between selected background variables and nutrition related indicators with perceived health among school going adolescents in Mumbai.

Data and Methods: Data was collected from 540 adolescents from four schools (two government and two private) studying in 8th and 9th standards of Mumbai. Cross tabulations are used to examine the association between the relevant study variables.

Results: A majority of adolescents tend to perceive that they are healthy while their nutritional status is far below a desirable level. The analysis indicates that while some background variables show significant association with perceived health, others do not. More importantly most of the nutritional status and perception variables do not show significant association with perceived health.

Conclusion: The absence of relationship between nutritional variables and perceived health indicates inadequacies in understanding of the importance of nutrition for health improvement. It is necessary that awareness programmes aimed at improving the nutritional status should highlight the relationship between nutrition and health in adolescence and later life stages.

Key Words: Adolescents, Nutritional Status, Perceived health

INTRODUCTION

India has the largest population of adolescents with more than 225 million adolescents accounting for 21 percent of the country's population. Adolescence is acknowledged as a transition phase during which many physical, physiological and psychological changes occur. Most of the

children go through this age with little or no knowledge of the physical, psychological changes occurring to them. Despite adolescent population size being huge and are considered as the healthiest group in a population with low mortality and morbidity in comparison with other age groups the knowledge and awareness about

being healthy is much low among them. Some of the main health problems faced among the adolescents in India includes high fertility rates, teenage pregnancy, poor nutritional status, risk of STD and HIV. It is generally acknowledged that the nutritional status of adolescents is poor in most societies especially so in developing nations. Inadequate nutrition during adolescence can have serious consequences and therefore some attention has been given to researches on this aspect. Several factors are found to affect the nutritional status of adolescents. The nutritional status of an adolescent has important implications for their health status in adolescence and much beyond.

Socio-economic and demographic factors are associated with worldwide patterns of stunting and thinning. Body mass index is a major indicator of nutritional status which is also used in understanding health status of individuals and populations. Many studies have shown that in developing societies the BMI of adolescents is lower than the normal value in a large number of cases. [1] A study reveals that girls are not satisfied with their body image and that adolescent girls skip their meal rather than doing physical exercise. [2] In urban areas many adolescents engage in various dietary restriction activities to reduce body weight and this plays a role in development of malnutrition at later stages. Studies that reveal that adolescents consume inadequate diet, poor in quantity and quality and the nutrients are deficit and intake of calories, iron and vitamin A are highly unsatisfactory. [3] A study conducted in the three urban schools in South India reveals that the health and nutritional status of adolescents is low. [4]

The nutritional problems among adolescents include under nutrition in terms of stunting, thinness, lack of proper growth, intrauterine growth retardation in adolescent pregnant girls, iron deficiency, anaemia,

iodine, Vitamin A and calcium deficiencies. Anaemia is a widely prevalent health problem among adolescent girls. NFHS 3 (2005-06) shows that girls are more at risk of malnutrition than boys and 56 percent adolescent girls are anaemic as compared to 30 percent adolescent boys. As high as 47 percent of currently married adolescent girls aged 15-19 years suffer from chronic energy deficiency. A study conducted in rural Maharashtra found that 54 percent of the adolescents were thin and 2 per cent are overweight. [5]

Health behaviours are formulated throughout life with great emphasis on the earlier stages of life. Physiological and psychological factors in the environment may cause the onset of disordered eating which include identity and role changes, insufficient exercise, cafeteria food and the availability and the ease of snacking on junk food. Global School Based Student Health Survey revealed that about 2/5th of the students responded as not being physically active for 60 minutes per day at least three times a week. O'Dea and Abraham [6] found that 20 percent of females and 13 percent of males regularly skipped breakfast. It was found that they lacked knowledge about weight control, nutritional needs and held misconceptions about eating disorders. Adolescent girls need extra nutrient requirements but in many instances they hesitate to consume as much as required because of various pre conceived notions. Vitamin A and mineral rich food items like green leafy vegetables and fruits and protein rich food items like pulses, milk and milk product and non vegetarian food were not frequently consumed by adolescents and because of this they are prone to suffer from protein energy malnutrition as well as deficiency of various micronutrients including anaemia. [7] A large number of studies indicate that adolescents misperceive their body weight status. Overweight

children who perceived their weight status correctly were more likely to exercise or eat less for weight control. [8] In India it is often believed that an overweight person is wealthier and happier and reflects social mobility to a higher status as compared to an underweight person. [9] Children who were actually overweight as well as those who perceived themselves or by others to be overweight or obese were highly likely to try to lose weight. [10]

MATERIALS AND METHODS

The present study was conducted in Mumbai metropolitan area. From the list of schools, two government schools and two private schools were randomly selected for the study. Students who were studying in the 8th and 9th standards and who were willing to participate were the study respondents. They were administered a questionnaire which was explained to them beforehand. Data was collected from 540 adolescents on background characteristics, eating habits, perceptions about nutrition, nutritional deficiency diseases, and perceived health. Height and weight of all the study participants were taken.

For the purpose of this paper, in addition to the individual and household

characteristics, information on perceived health, selected variables on nutritional status including BMI, and understanding of nutritional diet are used for the analysis. BMI is classified into three categories: 'lower than normal' (below 18.5), 'normal' (18.5 to 24.99) and 'obese/overweight' (above 25). Understanding of nutritional diet was constructed from the responses to a set of questions related to the nutritional content of various types of foods. Chi square test is used to examine the association between variables of interest.

RESULTS AND DISCUSSION

Out of the 540 adolescents selected for the study, only 515 responded to the question on perceived health which required the respondents to rate their health status on a four point scale from not health to very healthy and they form the effective sample in this paper. The profile of the adolescents who responded to the question on perceived health can be computed from the 'total' column of Tables 1 and 2. Among the 515 adolescents, 296 (57.5 percent) were boys, 451 (87.6 percent) were less than 15 years old, 251 (55.7 percent) were studying in 8th standard, and 371 (73 percent) were of birth order of 2 or less.

Table 1: Individual Characteristics and Perceived Health

Characteristics	Perceived Health			Chi square Significance
	Healthy	Not Healthy	Total	
Sex (n==515)				
Male	227 (76.7)	69 (23.3)	296 (100.0)	0.198
Female	157 (71.7)	62 (28.3)	219 (100.0)	
Age (n==515)				
<15 Years	334 (74.1)	117 (25.9)	451 (100.0)	0.484
15 Years and above	50 (78.1)	14 (22.7)	64 (100.0)	
Class Studying (n==515)				
8 th Standard	196 (78.1)	55 (21.9)	251 (100.0)	0.073
9 th Standard	188 (71.2)	76 (28.8)	264 (100.0)	
Birth Order (n==509)				
1-2	280 (75.5)	91 (24.5)	371 (100.0)	0.328
>2	91 (71.1)	37 (28.9)	128 (100.0)	
Total	384(74.6)	131 (25.4)	515 (100.0)	

Note: Figures in brackets are row percentages.

A majority of the respondents are from nuclear families (61 percent), have 5 or

less members in the household (54 percent) and do not know the caste category they

belong to (52 percent). Among those who know their caste (246 adolescents), 42 percent are from forward caste group, 32 percent are from other backward castes (OBC) and 26 percent are from scheduled caste. Of the 459 adolescents who said that they know the educational attainment of their mother, 18.3 percent reported that their mother is illiterate while 49 percent said that their mother has completed secondary education and the remaining reported higher educational attainment of mother. Regarding father's education, 9 percent did know their father's educational status. Of those who

knew the status (469), 5.7 percent said that their father is illiterate, 46.7 percent said that their father has secondary education and the rest reported higher secondary and above educational status of father. A wealth index was constructed using ownership of selected household items; among the respondents 20.2 percent belonged to the lowest wealth category, a majority (65 percent) belongs to middle wealth category and about 15 percent belong to rich households. Only 12 respondents (2.3 percent) said that they were very little exposed to media (computed from Table 3).

Table 2: Association between Household Characteristics and Perceived Health

Characteristics	Perceived Health			Chi square Significance
	Healthy	Not Healthy	Total	
Type of Household (n==515)				
Nuclear	246 (78.6)	67 (21.4)	313 (100.0)	0.009
Joint/Extended	138 (68.3)	64 (31.7)	202 (100.0)	
Number of Household Members (n==507)				
≤ 5	206 (74.4)	71 (25.6)	277 (100.0)	0.656
> 5	175 (76.1)	55 (23.9)	230 (100.0)	
Caste (n==515)				
SC/ST	55 (87.3)	8 (12.7)	63 (100.0)	0.071
OBC	61 (77.2)	18 (22.8)	79 (100.0)	
Others	76 (73.1)	28 (26.9)	104 (100.0)	
Don't know	192 (71.4)	77 (28.6)	269 (100.0)	
Mother's Education (n==515)				
Illiterate	69 (82.1)	15 (17.9)	84 (100.0)	0.073
Up to Secondary	173 (76.9)	52 (23.1)	225 (100.0)	
Higher Secondary and above	105 (70.0)	45 (30.0)	150 (100.0)	
Don't know	37 (66.1)	19 (33.9)	56 (100.0)	
Father's Education (n==515)				
Illiterate	22 (81.5)	5 (18.5)	27 (100.0)	0.001
Up to Secondary	180 (82.2)	39 (17.8)	219 (100.0)	
Higher Secondary and above	154 (69.1)	69 (30.9)	223 (100.0)	
Don't know	28 (60.9)	18 (39.1)	46 (100.0)	
Standard of Living (n==515)				
Low	88 (84.6)	16 (15.4)	104 (100.0)	0.031
Medium	241 (71.9)	94 (28.1)	335 (100.0)	
High	55 (72.4)	21 (27.6)	76 (100.0)	
Total	384(74.6)	131 (25.4)	515 (100.0)	

Note: Figures in brackets are row percentages.

Information on nutrition related aspects can be derived from Table 3 ('total' column).A large majority (82 percent) reported that they follow a regular meal pattern, and a similar proportion (83.3 percent) perceived that their nutritional intake is adequate. Understanding of nutritional diet that was computed from selected variables also shows that about

three fourth of the adolescents have low or moderate level of understanding. More than two thirds of the adolescents (68.8 percent) have a body mass index that is lower than the suggested normal level of 18.5, indicating an inconsistency between perceptions and actual nutritional level. While 26.7 percent have normal BMI level, the remaining (4.5 percent) are overweight

or obese. A little above one fifth (20.2 percent) reported that they were suffering from at least one of the four nutritional deficiency diseases considered in the study (scurvy, anaemia, rickets, night blindness). And, 71.2 percent of the adolescents reported that they have suffered from some illness during the six months preceding the interview date.

Association of selected factors with perceived health

Overall, close to three fourth (74.6 percent) of the respondents perceive their health status as 'healthy' or 'very healthy'. Others rated their health status as 'moderately healthy' or 'unhealthy'. From Table 1 it can be seen that out of the four individual level variables considered only the standard in which adolescents are studying has significant association with perceived health status. Adolescents who are in lower standard tend to perceive their health status as 'healthy' or 'very healthy' compared to those studying in higher classes.

However the household characteristics considered in most cases (exception being the number of household members) has shown a significant association with perceived health status (see Table 2). Those belonging to a nuclear family, those from SC/ST or OBC households, whose parents are not educated, and those from low economic status are more likely to perceive that they are in good health as compared to others.

In Table 3, the association of some of the more proximal nutrition related variables with perceived health is examined. One would expect that perceived nutrition or actual status will be highly associated with health status perceptions. But as can be seen from the Table, the association is not significant in most of the cases except body mass index. Nutritional deficiency diseases or any illness do not much affect health status perceptions. However, the finding that measured body mass index which is a better indicator of nutrition shows a statistically significant association is of importance.

Table 3: Association of Proximal Factors with Perceived Health

Characteristics	Perceived Health			Chi square Significance
	Healthy	Not Healthy	Total	
Exposure to Media (n==515)				
Not exposed	11 (91.7)	1 (8.3)	12 (100.0)	0.169
Exposed	373 (74.2)	130 (25.8)	503 (100.0)	
Meal Pattern (n==515)				
Regular	320 (76.0)	101 (24.0)	421 (100.0)	0.111
Irregular	64 (68.1)	30 (31.9)	94 (100.0)	
Perceived adequacy of Nutritional Intake (n==515)				
Adequate	314 (73.2)	115 (26.8)	429 (100.0)	0.111
Inadequate	70 (81.4)	16 (18.6)	86 (100.0)	
Understanding of Nutritious Diet (n==514)				
Completely Correct	209 (73.1)	77 (26.9)	286 (100.0)	0.231
Moderately Correct	174 (76.3)	54 (23.7)	228 (100.0)	
Body Mass Index (n==513)				
Lower than normal	254 (72.0)	99 (28.0)	353 (100.0)	0.027
Normal	106 (77.4)	31 (22.6)	137 (100.0)	
Obese/Overweight	22 (95.7)	1 (4.3)	23 (100.0)	
Nutritional Deficiency Diseases (n==515)				
Yes	72 (69.2)	32 (30.8)	104 (100.0)	0.162
No	312 (75.9)	99 (24.1)	411 (100.0)	
Any Illness During the Last 6 Months (n==515)				
Yes	274 (74.7)	93 (25.3)	367 (100.0)	0.937
No	110 (74.3)	38 (25.7)	148 (100.0)	
Total	384(74.6)	131 (25.4)	515 (100.0)	

Note: Figures in brackets are row percentages.

CONCLUSION

Though there is a limitation of sample size and low extent of variability in terms of perceived health status, the findings from the above analysis is suggestive. It is clear that most of the adolescents tend to perceive their health status as good irrespective of their nutritional situation. While individual characteristics have little influence, household background appears important in health status perceptions. Except for body mass index, other nutrition related variables are not associated with perceived health. It is important to emphasize the relationship between nutrition and health (both in adolescence and at later life stages) in adolescent nutrition interventions. This can lead to a change in eating habits and health promotion behaviour among adolescents.

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REFERENCES

1. Anil Kumar K, Ramakrishnan S and Hemalatha N (2013): Nutritional Status, Eating Habit and Dietary/Health Perceptions among School Going Adolescents in Mumbai, India, International Journal of Physical and Social Sciences, Vol 3 No 3, pp 205-221
2. Hasmukh SD, Wasim S and Singh SK (2012) Are Indian Adolescent Girl Students more Conscious about their Body Image than their Colleague Boys? National Journal of Community Medicine Vol 3 Issue 2 April-June 2012 , pp 344-347
3. World Health Organisation (2002) Improvement of Nutritional Status of Adolescents, Report of the Regional Meeting, Chandigarh 17-19 September 2002, India, WHO Regional Office for South East Asia, New Delhi
4. Yerpude PN, Jagdand KS and Jagdand M (2013) A Study of Health Status of School Going Adolescents in South India, IJHSR Vol 3 No 11, pp 8-12
5. Deshmukh PR, Gupta SS, Bharambe MS et al (2006) Nutritional Status of Adolescents in Rural Wardha, Indian Journal of Paediatrics, Vol 73, No 2, pp 139-141
6. Dea JA and Abraham S (2001) Knowledge, Beliefs, Attitudes and Behaviour related to Weight Control, Eating Disorders and Body Image in Australian Trainers, economics and Physical Education Teachers, Journal of Nutritional Education and Behaviour, Vol 33 No 6, pp 332-40
7. Rajaretnam T and Hallad JS (2012) Nutritional Status of Adolescents in Northern Karnataka, Journal of Family Welfare, Vol 58, No 1
8. Yan AF, Zhang, G Wang MQ et al (2009) Weight Perception and Weight Control Practice in a Multiethnic Sample of US Adolescents, Southern Medical Journal, Vol 102, pp 354-360
9. Swaminathan S, Selvam S, Pauline M et al (2013) Association between Body Weight Perception and Perception of Weight Control Behaviour in South Indian Children: A Cross Sectional Study, BMJ Open, e002239. doi:10.1136/bmjopen-2012-002239, Vol 3, No 3, pp 1-8
10. Haff HR (2009) Racial/Ethnic Differences in Weight Perceptions and Weight Control among Adolescent Females, Youth and Society Vol 41, pp 278-301.

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