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Original Research Article

Social determinants of health and well-being among municipal school children in Mumbai

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ABSTRACT

Background: HBSC seeks to identify and explore the extent of the inequalities related to socioeconomic status (SES), age and gender among the younger age group, and highlight the need for preventive action. Hence, this study was carried out, to find out the social context as a determinant of their health and well-being. The objectives of the study were to study the socio-demographic characteristics of the students; to find the social determinants and its association with their perceived health outcomes.
Methods: The study was carried out among 426 Municipal school students in Mumbai. They were enquired about their socio demographic characteristics, their personal habits and behaviour, relationship with their parents, siblings and friends, performance in school, academic pressures, and also about any health related complaints if they had.
Results: The study shows less communication of students with their parents, more so with their fathers'. Students were seen to have more friends and would also spend more time with them, especially boys. Academic achievement was better among girls and those from less affluent families and it also showed a dip in the higher age groups. Regular consumption of breakfast, fruits, vegetables was seen less among girls and older students. Boys and those from less affluent families were seen to be more involved in high risk behaviour.
Conclusions: All the factors mentioned in the study are shown to have adverse effects on the perceived health outcome of the students. These social factors need to be addressed to improve the health and well-being of the younger generations.

Keywords: Health, Well-being, Social determinants

INTRODUCTION

Health behaviour in school aged children study (HBSC) recognizes that poor health cannot be explained simply by germs and genes. It involves the circumstances in which young people live; their access to health care, schools and leisure opportunities; and their homes, communities, towns and cities. It also reflects individual and cultural characteristics such as social status, gender, age and ethnicity, values and discrimination. In short, individual and population health is heavily influenced by social determinants.[1] The World Health Organization (WHO) defines the social determinants of health as "the conditions in which people are born, grow, live, work and age".[2]

Evidence gathered over the last two decades shows that disadvantaged social circumstances are associated with increased health risks.[3-5] The WHO commission on social determinants of health claims that the vast majority of

inequalities in health between and within countries are avoidable, yet they continue to be experienced by young people.[6]

Young people are often neglected as a population group in health statistics, being either aggregated with younger children or with young adults. Little attention has been paid to inequalities related to socioeconomic status (SES), age and gender among this group. HBSC seeks to identify and explore the extent of these inequalities, and highlight the need for preventive action to "turn this vulnerable age into an age of opportunity".[7]

Hence, this study was carried out among the Municipal school going children, to find out the social context as a determinant of their health and well-being.

Aim

To study the social determinants of health and well-being in Municipal school children (11 – 15 years) in Mumbai.

Objectives

1. To study the socio-demographic characteristics of the Municipal school students (11–15 years).
2. To find the social determinants affecting their health and well-being.
3. To find out the association of social factors with their perceived health outcomes.
4. To suggest recommendation for the well-being of the youth based on the study findings.

METHODS

The study was carried out among the Municipal school students in a randomly selected ward in Mumbai during the period from June-December 2016. There are 49 Municipal schools in that particular ward. 5 schools (10% of these schools) were selected at random from the list available.

Inclusion criteria

Children in the age group from 11–15 (Std. V to IX) from these schools present at the time of the study were enrolled in the study.

Exclusion criteria

The students whose parents did not consent for the study were excluded from this study.

The students were approached during their school hours after obtaining the permission from the Institutional Ethics Committee, the Education department, the Medical Officer (I/c School), school authorities and informed consent from their parents. The questionnaire, a variable list for health behaviour of school going children (HBSC) mandatory questionnaire designed by WHO, was translated in the local language, which the students would understand.[8] The students were then briefed and told what is expected from them about each questions and asked to fill in the questionnaire, taking care of their confidentiality, which included questions on their socio demographic factors, their personal habits and behaviour, relationship with their parents, siblings and friends, their performance in school, academic pressures, and also about any health related complaints if they had. After this, the students also attended a health education session on Growing up changes, importance of nutrition, balanced diet, various lifestyle disorders, how to overcome them and life skill education. The data was analysed using the Chi Square tests in the statistical tool PSPP 1.0.1.

RESULTS

Total number of students in the study was 426. Table 1 shows the socio-demographic factors of these students. Out of the total students, 159 (37.3%) were 11 years old, 217 (50.9%) were females, 310 (72.8%) of them were Hindus, 115 (27.0%) were in VI standard and 275 (64.6%) belonged to nuclear family. 252 (59.2%) were from lower affluent families.

Table 1: Socio-demographic characteristics of the students (n=426).

Socio demographic characteristics		
Age (in years)	**No.**	**Percentage (%)**
11	159	37.3
12	94	22.1
13	76	17.8
14	51	12.0
15	46	10.8
Sex		
Male	209	49.1
Female	217	50.9
Religion		
Hindu	310	72.8
Muslim	109	25.6
Others†	7	1.7
Family affluence scale (FAS)		
Low	252	59.2
Medium	170	39.9
High	4	0.9
Standard		
V	97	22.8
VI	115	27.0
VII	95	22.3
VIII	76	17.8
IX	43	10.1
Family type‡		
Nuclear	275	64.6
Joint	92	21.6
3 generation	56	13.1

†Others included Christians and Buddhist. ‡3 of the students were living in an ashram.

Table 2: Social Factors associated with health.

		Social factors		
		Communicate easily with[†]		
		Mother[‡] 384 (90.2)	**Father [§] 238 (55.86)**	**Friends 398 (93.43)**
Sex	Male	186 (91.63)	133 (66.83)	195 (93.30)
	Female	198 (92.09)	105 (49.76)	203 (93.55)
			0.0005*	
Self-rated health	Good and above	267 (69.53)	162 (68.07)	272 (68.34)
	Not Good	117 (30.47)	76 (31.93)	126 (31.66)
		<0.0001*		
Multiple health problems	Yes	150 (39.06)	78 (48.75)	158 (39.70)
	No	234 (60.94)	160 (67.23)	240 (60.30)
			<0.0001*	
Satisfied with life	Yes	325 (84.64)	203 (85.29)	329 (82.66)
	No	59 (15.36)	35 (14.71)	69 (17.34)
		0.0007*		
		Information about friends		
		Having >3 friends 367 (86.15)	**Friends of opp. sex 206 (48.35)**	**Spend time with friends after school 242 (56.80)**
Age (in years)	11	140 (38.15)	61 (38.36)	96 (60.38)
	12	81 (22.07)	47 (50.00)	55 (58.51)
	13	64 (17.44)	46 (60.53)	39 (51.32)
	14	45 (12.26)	32 (62.75)	34 (66.67)
	15	37 (10.08)	20 (43.48)	18 (39.13)
			< 0.01*	
Sex	Male	184 (50.1)	113 (52.07)	131 (62.68)
	Female	183 (49.9)	93 (44.50)	111 (51.15)
				0.016*
Body image	Average and above	211 (57.49)	121 (58.74)	133 (54.96)
	Below average	156 (42.51)	85 (41.26)	109 (45.04)
				0.0327*
		Factors associated with school		
		Academic achievement 307 (72.06)	**Like school 364 (85.45)**	**Classmate support 367 (86.15)**
Sex	Male	149 (71.29)	170 (81.34)	166 (79.43)
	Female	158 (72.81)	194 (89.40)	201 (92.63)
			0.0183*	<0.0001*
Self-rated health	Good and above	229 (74.59)	247 (67.86)	251 (68.39)
	Not good	78 (25.41)	117 (32.14)	116 (31.61)
		<0.0001*		
Multiple health problems	Yes	114 (37.13)	152 (41.76)	149 (40.60)
	No	193 (62.87)	212 (58.24)	218 (59.40)
		0.0285*		
Satisfied with life	Yes	258 (84.04)	305 (83.79)	310 (84.47)
	No	49 (15.96)	59 (16.21)	57 (15.53)
				0.0284*

*Significant p value; [†]Students were asked about how easy it is for them to communicate with their parents & friends about 'things that really bother you'; [‡]8 students did not have mothers; [§]16 students did not have father.

Table 3: Health behaviour and high risk behaviour.

Eating behaviour		Breakfast 251 (58.92)	Fruits 116 (27.23)	Vegetables 338 (79.34)
Age (in years)	11	115 (45.82)	60 (51.72)	135 (39.34)
	12	62 (24.70)	25 (21.55)	73 (21.60)
	13	40 (15.94)	17 (14.66)	56 (16.57)
	14	23 (9.16)	10 (8.62)	40 (11.83)
	15	11 (4.38)	4 (3.45)	34 (10.06)
		<0.0001*	< 0.0001*	
Fas	Low	136 (54.18)	65 (56.03)	194 (57.40)
	Medium and above	115 (45.82)	51 (43.97)	144 (42.60)
		0.01*		
Self-rated health	Good and above	166 (66.14)	87 (75)	226 (66.86)
	Not Good	85 (33.86)	29 (25)	112 (33.14)
			0.0345*	
Multiple health problems	Yes	99 (39.44)	50 (43.01)	147 (43.49)
	No	152 (60.56)	66 (56.90)	191 (56.51)
				0.0102*
Energy expenditure		**Physical activity[†] 262 (61.50)**	**Exercise 342 (80.28)**	**Watching TV and playing games on mobile[‡] 143 (33.56)**
Age (in years)	11	103 (39.31)	140 (40.94)	63 (44.06)
	12	64 (24.43)	79 (23.10)	35 (24.48)
	13	48 (18.32)	58 (16.96)	23 (16.08)
	14	29 (11.07)	41 (11.99)	9 (6.29)
	15	18 (6.87)	24 (7.02)	13 (9.09)
		<0.005*	<0.0001*	<0.005*
Sex	Male	123 (46.95)	150 (43.86)	61 (42.66)
	Female	139 (53.05)	192 (56.14)	32 (57.34)
			0.0001*	
Self-rated health	Good and above	175 (66.79)	245 (71.64)	103 (72.03)
	Not good	87 (33.21)	97 (28.36)	40 (27.97)
			0.0001*	
Body image	Yes	154 (58.78)	202 (59.06)	74 (51.75)
	No	108 (41.22)	140 (40.94)	69 (48.25)
				<0.01
High risk behaviour		**Fought with Someone[§] 73 (17.13)**	**Injured[‖] 102 (23.94)**	**Bullied by others 141 (33.09)**
Sex	Male	50 (68.49)	69 (67.65)	82 (58.16)
	Female	23 (31.51)	33 (32.35)	59 (41.84)
		0.0003*	0.0001*	0.0083*
Fas	Low	44 (60.27)	57 (55.88)	73 (51.77)
	Medium and above	29 (39.73)	45 (44.12)	68 (48.23)
				0.0292*
Self-rated health	Good and above	42 (57.53)	67 (65.69)	66 (46.81)
	Not Good	31 (42.47)	35 (34.31)	75 (53.19)
				0.0001*
Multiple health problems	Yes	35 (47.95)	37 (36.27)	74 (52.48)
	No	38 (52.05)	65 (63.73)	67 (47.52)
				0.0003*
Body image	Average and above	34 (46.58)	64 (62.75)	84 (59.57)
	Below average	39 (53.42)	38 (37.25)	57 (4.043)
		0.0143*		
Satisfied with life	Yes	52 (71.23)	85 (83.33)	117 (82.98)
	No	21 (28.77)	17 (16.67)	24 (17.02)
		0.0039*		

*Significant p value; [†]Energy Expenditure was taken by checking the physical activity of the students and the number of hours spent watching television or playing games on mobiles. Any activity done for a period of at least 60 minutes/ day, which increased their heart rate or got them out of breath was taken as having done physical activity; [‡]Those who reported as watching T.Vs, DVDs or mobile games for more than 2 hours a day on weekdays; [§] History of fight with someone for 3 or more times in the past 12 months, indicating a habitual behaviour; [‖] being injured sometime in the past 3 months.

Table 4: Health outcomes.

	Oral health* 117 (27.46)	Self-rated health good/ very good 264 (61.97)	Multiple health problems † 172 (40.38)	Body image‡ average & above 253 (59.38)	Satisfied with life§ 353 (82.86)
Age (in years)					
11	58 (49.57)	110 (69.18)	76 (47.80)	86 (54.09)	132 (83.02)
12	27 (23.08)	61 (64.89)	34 (36.17)	50 (53.19)	83 (88.30)
13	12 (10.26)	47 (61.84)	21 (27.63)	51 (67.11)	64 (84.21)
14	12 (10.26)	24 (47.06)	18 (35.29)	34 (66.67)	40 (78.43)
15	8 (6.84)	22 (47.83)	23 (50.00)	32 (69.57)	34 (73.91)
	10.67, 1 < 0.001 Significant	11.47, 1 < 0.0005 Significant	0.9366,1 0.3332 Not Significant	6.667,1 <0.005 Significant	2.295,1 0.1298 Not Significant
Sex					
Male	55 (47.01)	122 (58.37)	83 (39.71)	126 (60.29)	178 (85.17)
Female	62 (52.99)	142 (65.44)	89 (41.01)	127 (58.53)	175 (80.65)
	0.2719, 1 0.6021 Not Significant	"2.255, 1" 0.1332 Not Significant	0.07484,1 0.7844 Not Significant	0.1370, 1 0.7113 Not Significant	1.533,1 0.2156 Not Significant
FAS					
Low	56 (47.86)	156 (61.90)	99 (39.29)	148 (58.73)	196 (77.78)
Medium	61 (52.14)	108 (62.07)	73 (41.95)	105 (60.34)	157 (90.23)
	8.512, 1 0.0035 Significant	"0.001178, 1" 0.9726 Not significant	0.3044,1 0.5811 Not significant	0.1113, 1 0.7387 Not significant	11.24,1 0.0008 Significant

*Good oral health was taken for those who brushed their teeth more than once a day; †Health complaints included somatic and psychological symptoms, such as headache, body ache, stomach ache, irritability, bad temper, feeling dizzy, feeling nervous, difficulty in speaking as important indicators of well-being. The table shows students who reported multiple (two or more) health complaints more than once a week in the past six months; ‡Body image, a psychological construct is taken as a part of self-image. Students were enquired into if they perceived their weight as average, below or above normal; §Life satisfaction, an evaluation of an individual's quality of life, is an important aspect of well-being that is closely linked to subjective health.

Table 2 shows the social factors and its relation with health. These factors were communication of students with their parents and friends, information about their friends and factors associated with School.

Students were seen to communicate more with their friends in 398 (93.43%) of them. 367 (86.15%) of them had more than 3 friends, 307 (72.06%) had above average academic achievement.

These factors were further differentiated according to the age, sex and family affluence status. Family affluence scale (FAS) was used, based on the material conditions of the households in which they live, including car ownership, bedroom occupancy, holidays and home computers. Young people are classified on the summed score of the items, with the overall score being recoded to give values of low, middle and high family affluence.[9]

Age

Communication with parents and students was almost equal in all the ages from 11 to 15 years. Older students had less number of friends and would spend less time with their friends after school. They also had more friends of the opposite sex and would communicate with friends more through electronic media. Academic performance among students saw a dip in higher age group. The older students also liked their school, got support from their classmates and were less pressured by school work.

Sex

Communication with their mothers and friends did not show any gender preference, but it was easier for 66.83% (133) boys to communicate with their fathers. Boys were seen to have more number of friends in 50.1% (184), more friends of opposite sex in 52.07% (113). They would also spend time with friends after school in 62.68% (131) and would also communicate more with them through electronic media in 23.44% (49). Girls, though had better academic achievement in 72.81% (158), liked their school in 89.40% (194), had greater support from their classmate in 92.63% (201). There was however, not much difference in being pressured from school related work in either sex.

Family affluence scale

Students from higher affluent families, reported ease of communication more often, would spend more time with

friends in 59.77% (104) and were also seen to be more pressured with school related work among 43.10% (75). Having more number of friends and friends of opposite sex was seen in 58.86% (216) and 49.21% (124) respectively of students from lower affluent families. Better academic achievement was seen in students with lower family affluence in 75.40% (190) and they also reported liking their school a lot among 85.71% (216) students.

Relation with health

Communication with mothers' showed significant association with self-rated health in 69.53% (267) students and satisfaction in life was seen among 84.64% (325) students. Students who communicated easily with their fathers' reported significantly less number of health problems in 67.23% (160).

Students showed good self-rated health, less number of health problems, good body image and were satisfied in life in relation with all the factors associated with their friends, but statistical significance was seen with spending time with friends and better body image in 54.96% (133) of them.

Students with better academic achievement showed better Self-rated health in 74.59% (229) and less number of health problems in 62.87% (193), with statistical significance. Those having support from their classmates also reported greater satisfaction in life among 84.47% (310).

Table 3 shows health behaviour and high risk behaviour and its relation with health.

Only 251 (58.92%) students, would have daily breakfast, 262 (61.50%) of them did some physical activity. History of tobacco chewing, cigarette smoking, alcohol intake, or sexual contact was not given by any student in this study. Students reported having fight with someone in 73 (17.13%), being bullied by others in 141 (33.09%).

Age

Consumption of daily breakfast, fruits and vegetables was significantly less among the higher age students. The amount of physical activity and doing regular exercise was also seen to be reduced among the older students. Involvement of students in high risk behaviour such as fighting, getting injured, bullying or being bullied decreased with age, but statistical association was seen only in those who gave history of having any injury.

Sex

Boys reported taking breakfast daily in 53.39% (134), while girls reported more consumption of fruits in 57.76% (67) and vegetables in 51.78% (175). Girls were seen to be doing regular physical activity in 53.05% (139) and also regular exercise among 56.14% (192). Boys were seen to be showing dominance in all the factors like fighting in 68.49% (50), being injured in 67.65% (69), bullying others in 58.97% (69) and being bullied in 58.16% (82), with statistical significance.

Family affluence scale

Students from lesser affluent families, reported daily consumption of breakfast in 54.18% (136) with statistical significance. They were also reported to going hungry to bed among 59.90% (115) students. They also reported doing regular physical activity and exercise among 59.92% (157) and 56.43% (193) respectively. Students from lower affluent families were also more involved in fighting in 60.27% (44), being injured in 55.88% (57), bullying others in 61.54% (72) and being bullied in 51.77 (73). Association was only seen in those who had bullied others.

Relation with health

Students who ate fruits in 75% (87) reported higher rates of self-rated health. Those who consumed vegetables regularly in 56.51% (191) and 85.21% (288) had less number of health problems and satisfaction in life respectively. Doing exercise regularly was reported significantly with better self-rated health in 71.64% (245). Regular physical activity and exercise regularly was also seen to have better self-rated health, less health problems, better body image and satisfaction in life. Having high risk behaviour also had adverse effects on health. Those who reported having fought with someone were shown to have a statistically significant negative body image in 53.42% (39) and those who were bullied by others had a poorer self-rated health in 53.19% (75) and reported multiple health problems in 47.52% (67), with statistical significance. Table 4 shows various health outcomes of the students.

Age

Good oral health and self-rated health was significantly seen less in older age group. Having multiple health problems did not show any specific pattern with age. Those in the higher age group reported better body image, and decreased satisfaction in life.

Sex

Girls reported better oral health among 52.99% (62), better self-rated health in 65.44% (142). They also reported more health problems in 41.01% (89), while boys reported better body image in 60.29% (126) and greater satisfaction in life among 85.17% (178).

Family affluence scale

Students from higher affluent families reported better oral health among 52.14% (61). Not much difference was reported in self-rated health with family affluence. Those from higher affluent families reported more health

problems in 41.95% (73). Better body image was reported among 60.34% (105) from the higher affluent families and they also reported significantly greater satisfaction in life among 90.23% (157).

DISCUSSION

Adolescents enjoy better health and development opportunities than ever before, but many are involved in behaviours that compromise their health. They are therefore failing to achieve their full health potential.

Age

Findings in Table 2 shows increase in peer influence, with students communicating more with their friends.[10] As mothers are easily available and is easier to share feelings and worries with them, they were the next best person the students communicated with.[11] Having less number of friends in older students, may be attributed to an increase in friendship intimacy in later years at the expense of having a large number of friends. With increase in age, there could be increased restrictions, which may be the reason for spending less time with their friends after school. Communication via media and having more friends of opposite sex increased in higher age group, but they also showed a dip in their academic performance.[12] But, they were less pressured by school work, got greater support from their classmates and also liked their school.

From Table 3 it is seen that not eating breakfast is common among young people, particularly in the teenage years.[13] The findings also suggest that, it is more common for younger children to play outdoor games, while older groups tend to participate in more structured activities, as physical activity was seen to be reduced among older students. Children get engaged in emotional and verbal violence, rather than physical violence, as they grow older, which explains the decrease in involvement of students in high risk behaviour with age.

Good oral health and self-rated health was significantly seen less in older age group. Those in the higher age group reported better body image, and decreased satisfaction in life.

Sex

There was no gender preference seen in communication of students, with either their mothers or friends, but boys showed ease of communication with their fathers. Girls tend to be more relationship oriented, forming closer relationships with a small select group of friends, while boys are in general more group-oriented and are therefore more likely to report greater numbers of friends. [14] Boys have increased social mobility, which could explain their spending more time with friends after school, also their communicating via electronic media and having more friends of opposite sex.

Regular consumption of breakfast by boys, may be attributed to gendered views of body weight.[15] Boys also showed dominance in reporting of all the high risk factors like fighting, being injured, bullying others and being bullied, while girls were seen to be less involved in physical violence.[16–19] Bullying victimization and perpetration are prevalent behaviours among young people, with boys displaying more obvious physical expressions. They also perceived to have better body image.

The school environment is generally gender biased in favour of girls, which was reflected by their better academic school performance, liking school and getting support from classmates.[20] Girls being more weight conscious, were reported to skip breakfast more often as a common weight-control strategy.[21] However, since they focus more on health and fitness, they were seen to have vegetables and fruits more regularly and also more involved in physical activity. [22]

Girls face more hormonal changes between ages 11 and 15, tend to be more willing to express their feelings and emotions and are more prone to worry about their health, hence they were seen to report multiple health problems.[23]

Girls generally show greater dissatisfaction with their body image, which specifically affects their self-esteem, life satisfaction and mental health.[24] Lower life satisfaction in girls may reflect changing interpersonal relationships as they grow older, which may be mainly related to family relationships rather than those with friends.[25]

Family affluence scale

Students from higher affluent families reported better communication with parents and friends.[26] They also spent more time with friends after school, could be because, those from more affluent families find it easier to absorb the costs involved in frequent evenings out.[27] They also reported more pressure from school work. They also reported more prevalence of multiple health problems, but were also seen to perceive a better body image.

Lesser opportunities at home, for those from less affluent families leads them to find more no. of friends. Having better academic performance, suggests that young people with high self-efficacy are more willing to invest in learning to overcome difficulties.[28] Less entertainment opportunities available at their homes could be suggestive of their more involvement in physical activity. They were also seen to be more involved in fighting, being injured, bullying others and being bullied. The non-availability of materials for maintaining a particular level of hygiene, could be the reason for their poor oral hygiene.[29] Cross-cultural data suggest that life satisfaction is associated with financial satisfaction.[30]

CONCLUSION

The study shows less communication of students with their parents, more so with their fathers'. Students were seen to have more friends and would also spend more time with them. They also liked their school and had support from their classmates. Regular consumption of breakfast, fruits, vegetables and regular physical activity was seen less among older students. Boys were seen to be more involved in high risk behaviour. All these factors have shown to have adverse effects on their perceived health outcome.

Various differences related to age, gender and socioeconomic status across health, health behaviour outcomes and experiences in different life settings produce inequalities in health that needs to be addressed early in life so that all the young people have the opportunity to maximize their current and future health and well-being and make sure that these inequalities do not extend into adulthood with all its negative consequences.

Young people can accumulate various protective factors, such as positive communication with parents, positive, high quality peer relationship, supportive school environment to increase the likelihood of coping with adverse situations. These protective mechanisms and assets available within the immediate social context of young people can effect some determinants of health inequalities.

Health promotion programmes planned should be sensitive to age, gender and socioeconomic differences among adolescents, with equal opportunities for all. These should not only address health and health behaviour outcomes, but also the social context in which they live. Such actions may also stimulate positive development for the young people in spite of the inequalities they have.

Limitations

Height and weight was not included in the present study. Information about addictions could not be elicited. May require more interactions with the students to extract this from them.

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