

Original Research Article

Health profile of school dropout children in slums of the municipal corporation area of a city

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ABSTRACT

Background: Though the school health services cater to health needs to an extent, the children who drop out of schools lose on this count. These children never derive the attention for the reason of school dropouts nor are they covered under any major health programs pertaining to their health problems. The objective of the study were to study health profile of the school dropout children aged 7–16 years residing in the slums of municipal corporation area of Nanded city; to study socio-demographic factors of the families of these school dropout children.

Methods: It was a community based cross-sectional study carried out in urban slums of Municipal Corporation of the Nanded city in Maharashtra on the children of age group 7 to 16 who dropped out from the school. Total 455 study subjects were studied by using simple random sampling method. A pre-designed and pre-tested questionnaire was used to collect information on socio demographic variables. Thorough clinical examination of each subject was carried out.

Results: The mean age of study subjects was 14.2 (± 1.9 SD) years. Out of total 455 study subjects, 264 (58%) were boys and 191 (42%) were girls. 11.20% study subjects were having skin infections, 25.71% were having dental caries, 3.29% were having ear impairment, 9.89% were having visual impairment, and 1.31% was having stammering of speech.

Conclusions: Anaemia, skin infections, dental caries, visual impairment were major health problems noted in the school dropped out children. Poor socioeconomic status, religion, type of family, more number of children in the family was some sociodemographic factors responsible for school dropout.

Keywords: School dropout, Health profile, Slum area

INTRODUCTION

Dropout is a universal phenomenon of education system in India, spread over all levels of education, in all parts of the country. Many children, who enter school, are unable to complete secondary education. Even with the existence of number of educational programs and policies, dropout is still being a social evil that leads to educational backwardness.¹

The scheme of school health services is an economical and powerful means of raising the community health and more importantly the health of the future generations.² Though the school health services cater to health needs to an extent, the children who drop out of schools lose on this count. These children never derive the attention for the reason of school dropouts nor are they covered under any health programs pertaining to their health problem.³

A student who does not complete school severely restricts his adult earning potential. Failure to complete school not

only produces negative outcome for the individuals, but also widens the existing social and economic inequalities.⁴ The world map of illiteracy coincides with map of poverty, malnutrition, ill health, and high child mortality rates.⁵

METHODS

The present field based cross sectional study was carried out in urban slums of Municipal Corporation of Nanded city in Maharashtra during period December 2015 to November 2017. Study population were children in the age groups of 7–16 years who dropped out from schools for more than one year, residing in the urban slums of Municipal corporation area of Nanded city for more than six months. Permission from the Institutional Ethical Committee was taken before the start of the study.

Sample size was calculated by taking 47% as a prevalence of school dropout children from 1st to 10th Std. during year 2013-14 as stated by Department of Secondary and Higher Secondary Education, Government of India.⁶ Considering 95% confidence level and 10% allowable error with 5% population as non response/incomplete answers. The sample size came to be 455.

Simple random sampling method was used for inclusion of study samples. A city is having total 246 slum settlements.⁷ The list of school dropout was not available. So it was decided to do house to house survey for active search in all urban slums. The lottery method was used for selection of urban slums. 246 chits of urban slums were prepared and kept in a box. One chit of urban slum was selected from the box randomly. After reaching the chosen slum area, a central landmark was identified, then by rotating the bottle, the side which was pointed by mouth of the bottle was selected as a first household and presence of school dropout child was ascertained. If any house was having more than one school dropout children, all were included in study. The subsequent house was identified as that house which was geographically closest to the preceding house. In this fashion house to house survey continued till all the houses get covered in that urban slum.

Then the previously selected chit was put back in the box, mixed up with rest of the chits, then again next chit of urban slum was selected from the box randomly (sampling with replacement) and if the previously selected chit came again we have not included it and again put into the box mixed up with the chits and next chit was selected. Same procedure was followed till the inclusion of desired study samples. The investigator had to survey in 112 urban slums for getting 455 study samples.

Face to face interview was carried out in local language (Marathi/Hindi). At the time of visit, the family head and family members were informed about the survey and its

purpose and informed consent was taken from the parent/guardian of the children. Those houses locked at the time of survey were revisited. If they were still locked were excluded from the study and further houses selected.

Data was collected using predesigned, pre-tested, semi-structured questionnaire. Information regarding demographic factors such as name, age, gender, educational status, residence, religion, occupation of mother and father of study subject and also of study subject (if any) was obtained from the study population as per the predesigned proforma. Age was recorded to the nearest completed year as per information given by the parents of the study subjects and validated from the available records.

Thorough clinical examination and Anthropometric measurements of each subject was carried out by maintaining the privacy in a separate room in their own house after the permission of their parents. Clinical examination of female child was done in the presence of any other female personnel from family or guardian.

If a child found to have minor illness after doing thorough clinical and physical examination was sent to Urban Health Training Centre running under Department of Community Medicine of Govt. Medical College, Nanded for treatment and those children requiring further referral services were referred to Government Medical College of the Nanded city. Data analysis was done using SPSS trial version 20.0.

RESULTS

The mean age of study subjects was 14.2 (± 1.9 SD) years. Out of total 455 study subjects, 264 (58%) were boys and 191 (42%) were girls. Out of total, most of the study subjects i.e. 300 (65.9%) were in age group of 14–16 years followed by 118 (25.9%) in 11–13 years of age group (Table 1).

Out of 138 Hindu study subjects, 72 (52.2%) were boys and 66 (47.8%) were girls. Among 174 Muslims, 82 (47.1%) were boys and 92 (52.9%) were girls (Table 1).

Most of i.e. 243 (53.4%) were educated up to middle school and then dropped out followed by 109 (24%) educated up to primary school and 103 (22.6%) educated up to secondary school. The association between education of study subject and gender was found to be statistically significant ($p < 0.05$) (Table 1).

In present study it was found that more than half i.e. 254 (55.8%) were from nuclear family followed by 111 (24.4%) from joint and 90 (19.8%) from three generation family. The association between type of family and school dropout was found to be statistically significant ($p = 0.025$) (Table 1).

Table 1: Sociodemographic profile of study subjects.

	Sex		Total No. (n=455)	P value
	Male (n=264)	Female (n=191)		
	N (%)	N (%)	N (%)	
Age in years				
07–10	9 (24.3)	28 (75.7)	37 (100)	X ² =22.69; df= 2; p<0.05
11–13	63 (53.4)	55 (46.6)	118 (100)	
14–16	192 (64)	108 (36)	300 (100)	
Religion				
Hindu	72 (52.2)	66 (47.8)	138 (100)	X ² =33.55; df= 2; p<0.05
Muslim	82 (47.1)	92 (52.9)	174 (100)	
Buddhist	101(78.9)	27 (21.1)	128 (100)	
Sikh	5 (55.6)	4 (44.4)	9 (100)	
Others*	4 (66.7)	2 (33.3)	6 (100)	
Education of participant				
Primary	45 (41.3)	64 (58.7)	109 (100)	X ² =16.568; df= 2; p<0.05
Upper primary / Middle	155 (63.8)	88 (36.2)	243 (100)	
Secondary	64 (62.1)	39 (37.9)	103 (100)	
Type of family				
Nuclear	136 (53.5)	118 (46.5)	254 (100.0)	X ² =7.406; df=2; p=0.025
Joint	65 (58.6)	46 (41.4)	111 (100.0)	
Three generation	63 (70)	27 (30)	90 (100.0)	
Family size				
≤2	36 (44.4)	47 (56.6)	83 (100)	X ² =25.379; df=3; p<0.05
3	64 (64.0)	36 (36.0)	100 (100)	
4	55 (46.6)	63 (53.4)	118 (100)	
≥5	109 (70.8)	45 (29.2)	154 (100)	
Socio – economic class				
Class I	0 (0.0)	0 (0.0)	0 (0.0)	X ² =4.152; df=3; p=0.245
Class II	28 (60.9)	18 (39.1)	46 (100.0)	
Class III	96 (60.4)	63 (39.6)	159 (100.0)	
Class IV	104 (53.1)	92 (46.9)	196 (100.0)	
Class V	36 (66.7)	18 (33.3)	54 (100.0)	

(*Others- Jain, Christian).

Table 2: Distribution of the school dropout children according to presence of general physical signs.

General physical signs	Male (n=264)		Female (n=191)		Total (n=455)	X ² (p value)
	N (%)	N (%)	N (%)	N (%)		
Pallor						
Yes	36 (28.3)	91 (71.7)	127 (100)		63.698 (<0.05)	
No	228 (69.5)	100 (30.5)	328 (100)			
Icterus						
Yes	08 (36.4)	14 (63.6)	22 (100)		4.452 (0.045)	
No	256 (59.1)	177 (40.9)	433 (100)			
Clubbing						
Yes	07 (70)	03 (30)	10 (100)		0.602 (0.531)	
No	257 (57.8)	188 (42.2)	445 (100)			
Oedema						
Yes	08 (66.7)	04 (33.3)	12 (100)		0.378 (0.768)	
No	256 (57.8)	187 (42.2)	443 (100)			
Lymphadenopathy						
Yes	14 (63.6)	8 (36.4)	22 (100)		0.299 (0.662)	
No	250 (57.7)	183 (42.3)	433 (100)			

Table 3: Distribution of the study subjects according to the presence of signs of vitamin deficiency.

Vitamin deficiency signs	Male (n=264)	Female (n=191)	Total (n=455)	X ² (p value)
	N (%)	N (%)	N (%)	
Vitamin A				
Yes	12 (60)	08 (40)	20 (100)	0.034 (0.855)
No	252 (57.9)	183 (42.1)	435 (100)	
Vitamin B				
Yes	08 (61.5)	05 (38.5)	13 (100)	0.068 (0.794)
No	256 (57.9)	186 (42.1)	442 (100)	
Vitamin C				
Yes	08 (57.1)	06 (42.9)	14 (100)	0.005 (0.946)
No	256 (58)	185 (42)	441 (100)	
Vitamin D				
Yes	06 (85.7)	01 (14.3)	7 (100)	1.233 (0.2669)
No	258 (57.6)	190 (42.4)	448 (100)	

Table 4: Anaemic status among study subjects.

Anaemia	Male no.	Female no.	Total no.
	N (%)	N (%)	N (%)
Normal	174 (38.3)	100 (22)	274 (60.3)
Mild	63 (13.8)	27 (5.9)	90 (19.7)
Moderate	27 (6)	55 (12.1)	82 (18.1)
Severe	0 (0.0)	9 (1.9)	9 (1.9)
Total	264 (58)	191 (42)	455 (100.0)

(X²=42.32, df=3, p<0.05).

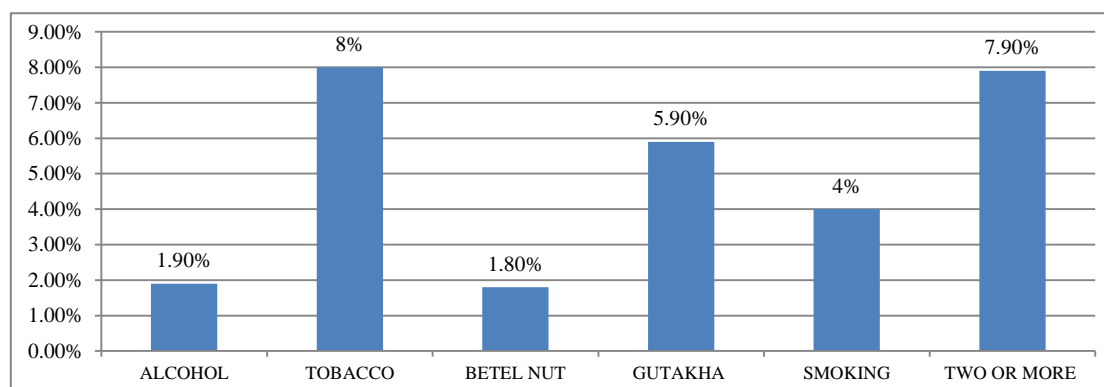


Figure 1: Personal habits of study subjects.

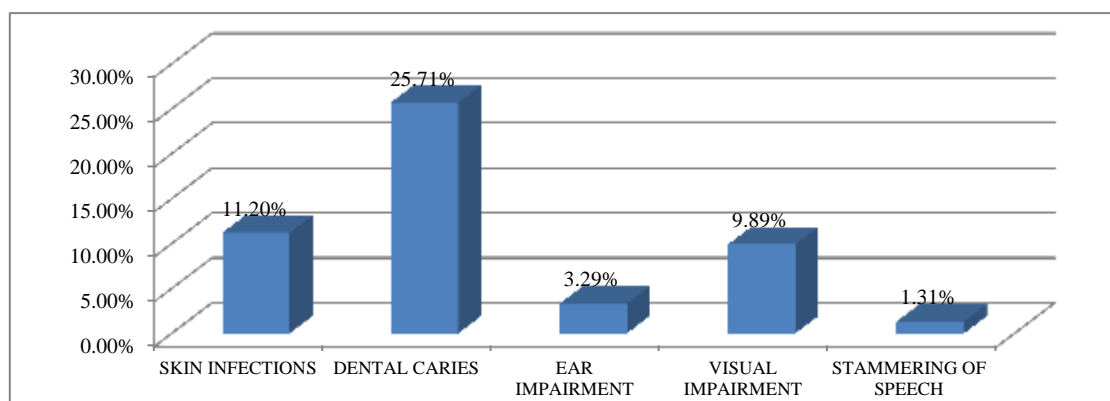


Figure 2: Presence of various diseases among study participants.

Among all study subjects most of the study subjects i.e. 154 (33.9%) were having 5 or more children in their family, followed by 118 (25.9%) having 4 children and 83 (18.2%) were having 2 or less children in the family. The association between number of children in the family and school dropout was found to be statistically significant ($p < 0.05$) (Table 1).

Out of total 455 study subjects, most of 196 (43.1%) were from socio-economic class IV followed by 159 (34.9%) from class III, 54 (11.9%) from class V. No one belonged to class I socio-economic status (Table 1).

It is observed that 321 (70.5%) were not having any personal habits. 36 (8%) study subjects were having habit of tobacco chewing, 27 (5.9%) were having habit of gutakha chewing, 18 (4%) were having habit of smoking, 9 (1.9%) were habit of alcohol consumption. 36 (7.9%) were having two or more habits. Not a single girl was found to be having any habit as like that of boys (Figure 1)

11.20% study subjects were having skin infections. Common skin problems noted were dermatitis, rash, eczema, scabies, warts, and fungal infections etc. 25.71% were having dental caries, 3.29% were having ear impairment, 9.89% were having visual impairment, and 1.31% was having stammering of speech (Figure 2).

More than half i.e. 274 (60.3%) study subjects were having normal haemoglobin level while 90 (19.7%) were having mild anaemia followed by 82 (18.1%) moderate anaemia and 9 (1.9%) were having severe anaemia. The association between anaemia and gender of school dropout was found to be statistically significant ($p < 0.05$) (Table 4).

DISCUSSION

School going age is the phase of turbulence where a child goes through many physical, psychological, and emotional changes. If the child is attending the school during this phase, it is not only good for educational attainments but also for getting opportunity for sharing many turbulent thoughts with their peers and sometime with teachers also.

In the present study the dropout rate among boys was higher than girls, this may be because boys are burdened with the responsibility of earning & supporting the family & hence education does not receive its due share of importance. Similar findings were reported in a cross sectional study by Priyadarshini et al on determinants of reasons for school drop-outs in urban areas of Belagavi showing majority of boys (52%) who were dropped out than girls (48%).⁸ Similarly Khokhar et al in their study of determinants of reasons of school drop-outs among dwellers of an urban slum of Delhi observed 346 (54.23%) boys and 292 (45.76%) girls as a school dropout.⁹

On other side some study shows girls have more dropout rate than boys. Umadevi et al on their cross sectional study on profile of out of school children in Telangana found that more number of girls (54.9%) were dropped out than boys (45.1%).¹⁰ Also a study on school dropout children living in slums of Delhi by Chugh observed that the number of school dropout girl students (57.6%) was more than that of boys.¹¹ An Analysis of National Family Health Survey-3 data by Gouda et al found that the dropout among girls was higher (15.2%) in comparison to boys (11.3%).²

This gender disparity and higher school dropout rate among girls may be due to the attitude of the parents. India's patriarchal society gives less importance to girl's education due to the socio-cultural and economic barriers prevailing in the society. If poor households cannot send all the children to school, then they will most likely give boys precedence over girls. Girls discouraged to attend schools especially from the onset of puberty and early marriage. Added to this, some other factors may be presence of exclusively male teachers, distance and not-so-safe road to school and no separate toilet for girls, etc. These are considered as potential factors for high dropout rate for girls.

Family size influences children's schooling cycle greatly. With larger family size, the financial burden/potential workload is greater; children are less likely to attend school and often dropout. In present study, most of the study subjects i.e. 154 (33.9%) were having 5 or more than 5 children in the family & the association was statistically significant. Similar finding were found in an analysis of National Family Health Survey-3 data by Gouda et al where they found that the number of living children was a significant factor which determines the school dropout.²

In present study, out of total 455 study participants, majority i.e. 274 (60.3%) study subjects were not having mild anaemia while 90 (19.7%) were having mild anaemia followed by 82 (18.1%) were having moderate anaemia and 9 (1.9%) were having severe anaemia. The association between anaemia and gender of school dropout was found to be statistically significant ($p < 0.05$)

Similar results were found in a study conducted in an urban area of Guntur by Madhavi and Kumar on morbidity pattern of school children aged 5-15yrs showing that about 28.92% of the school children had anaemia.^{11,12} The prevalence of anaemia was significantly higher in girls (65.35%) than in boys (34.65%). Similarly, Srivastava et al in their study on nutritional status of school-age children of urban slums in India found that the most common illness in study subjects was anaemia with prevalence of 37.5%.¹³ Kakkar et al in their study on health status of children under school health services in Doiwala block, Dehradun observed that clinical anaemia was higher in girls (46.7%) as compared to boys (34.1%).¹⁴

In present study, 45 (9.9%) were having visual impairment, similar results were found by Kakkar et al in their study on health status of children under school health services in Doiwala block, Dehradun showing overall abnormal visual acuity in 8.5% study subjects which was almost equally distributed in both sexes.¹⁴

In present study out of total 455 study subjects, 117 (25.7%) were having dental caries, Similarly in a cross sectional study conducted on children of Tadikonda area of Guntur district by Sivaiah et al (2014)¹⁵ showing the dental caries among 30.8% of study subjects.

In present study, 55 (11.2%) were having skin infections, similar finding were observed in a cross sectional study on children attending Municipal Corporation primary schools in Visakhapatnam city of Andhra Pradesh by Devi et al on morbidity profile of school children showing 13.41% skin infection among study subjects.¹⁶

CONCLUSION

Poor socioeconomic status, religion, type of family, more number of children in the family, was some socio-demographic factors responsible for school dropout. Anaemia, skin infections, dental caries, visual impairment were major health problems noted in the school dropped out children.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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