Morbidity Status of Children Aged 7 to 13 Years in an Urban Slum

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ABSTRACT

Research Question: *What is the morbidity status of children aged 7 to 13 years in an urban slum, a typically underserved group?*

Objectives:

1. *To study some epidemiological factors like socio-economic status, education of parents, personal hygiene etc. related to the health of the children in the 7 to 13 years age group.*

2. *To identify the nature and magnitude of various morbid conditions prevalent among children aged 7 to 13 years in an urban slum and to study their association with epidemiological factors.*

Study design: *Population based descriptive cross sectional study.*

Participants: *Children aged from 7 to 13 years of aged in an urban slum*

Statistical Analysis: *Pearson's Chi-square Test of significance between proportions was used to evaluate associations.*

Results: *Diarrhoeal disease Skin disorders, Dental disorder Upper respiratory tract infection (URTI) and Worm infestation were commonly encountered morbid conditions Our study finding suggest a strong bond of association of parental factors such as fathers and mothers education and socio economic condition poor outcome in children.*

Key words: *morbidity, education, socio economic status*

Introduction

"…Nation's children are its supremely important asset and the nation's future lies in its proper development. An investment in children is indeed an investment in nation's future. A healthy and educated child of today is the active and investment citizen of tomorrow….."(Ravindranath Tagore)

In last few decades there has been a tremendous migration of the rural population to urban areas, particularly residing in urban slums. It is expected that the urban population is approximately 37 % of the total population and thus, the problems of health, education, housing, transport, communication, environment; crime etc. is expected to be very high.[1]

Educating the future parents and citizens of the country to adopt healthy life styles is of vital importance. Since morbidity among adolescents often originates in preadolescence age, it may have serious immediate and long term consequences. It is during these years that some persons adopt self-damaging behavior that can threaten or shorten life. These include-Poor health practices (Lack of nutrition and exercise, poor personal hygiene etc.); Alienation from school and family;use of tobacco; consumption disease, other communicable diseases and parasitic infestations are major causes of morbidity and mortality in adolescents and children.

Health department generally have been slower in developing services for children of school age than for mothers and preschool children. This has been due in part to the fact that the latter groups had greater needs for many decades and in part to lack of clear indicator as to what service are necessary and desirable for the school aged population and part to jurisdictional conflicts.[3] Therefore, the present study was planned with the principal objective to identify the prevailing morbidity profile of children aged 7 to 13 years in an slum.

Material and Methods

The present study was conducted to identify morbid conditions in children aged 7 to 13 years in an urban slum in an underserved group. Study was carried out in a typical urban slum in Mumbai city. The slum selected was "Dharavi". It enjoys the notoriety of being the largest slum in Asia.

Pilot Study: As the prevalence of the morbid condition showed a wide variation, a pilot study with 100 subjects was conducted to assess extend of the morbidity in the area under survey. These 100 subjects were discarded for use in the present study.

Sample Size: Preliminary estimates revealed 32% morbidity of general health problems. This was used to calculate sample size. By using standard sample size formula, sample size was worked out to be 850. A non-response rate of 15% was added to this which was approximately 128. Thus the sample size was 978. To round it off, a total of 1000 children in the 7 to 13 years of group were studied.

A population based descriptive cross sectional study was conducted by using pre-tested

questionnaire for quantitative data collection with the help of two interns who were trained regarding the filling up of the questionnaire and clinical assessment of the morbid conditions so as to minimize inter observer variation. The survey was conducted from 08.00am to 02.00 pm as the majority of schools in the area were in the afternoon. Locked houses were revisited at a different time than the first time.

Informed consent of either one parent was taken prior to inclusion of child in the study.Modified kuppuswamy classification was used for determining socio-economic status.

Statistical Analysis

Statistical analysis was carried out using Pearson's Chi squared test of significance between proportions.

Results

A total of 868 households were surveyed to achieve a target of 1000 children aged 7 to 13 years. In Dharavi, out of 6 ICDS blocks, one was randomly chosen. A midpoint of that block was taken as the starting point and contiguous Houses were included till sample size was elicited. Households with no children in the 7 to 13 year age group were excluded.

As seen in Diagram 1, there were 519 (51.9%) boys and 481 (48.1%) girls. Age was determined

from interviewing the parents and using other corroborative evidence.

Table I shows the educational status of parents. 358 (35.8%) children's father s were illiterate. 246 (24.6%) had education till primary level. Only 22 (2.2%) were graduates. 456 (45.6%) children's mothers were illiterate. 216 (21.6%) children's mother had completed their primary education.

Table II shows the socio economic status of families. The majority i.e.498 (49.8%) children's were in the upper lower class. Upper middle class and upper class was observed in only 47 (4.7%) & 10 (1%) children respectively

It is clear from table III that Diarrheal diseases, Skin disorders, Dental disorders, Upper respiratory tract infections (URTI) and worm infestations were commonly encountered morbid conditions.

From the table IV it is evident that the parent's education, especially mother plays an important role in reducing the no of morbid conditions a child suffers.

The finding of table IVreveal that socio-economic status of the family played an important role in reducing the no. of morbid conditions. Though education is an integral part of Socio Economic Scale, its finding taken singly is important enough for it to be analyzed separately.

Table I: Education status of parents

EDUCATION STATUS	FATHER		MOTHER	
	NO	Percentage	NO	Percentage
a) Illiterate	358	35.8	456	45.6
b) Canread & write but no formal education	185	18.5	150	15
c) Primary	246	24.6	216	21.6
d) Middle	105	10.5	98	9.8
e) Secondary	76	7.6	58	5.8
f) Graduate	22	2.2	18	1.8
g) Professional	8	0.8	4	0.4
TOTAL	1000	100	1000	100

Table II Socio-economic status: (Modified Kuppuswamy classification)

Socio-economic class	Number	Percentage
Upper (U)	10	1
Upper Middle (UM)	47	4.7
Lower Middle (LM)	213	21.3
Upper Lower (UL)	498	49.8
Lower (L)	232	23.2
Total	1000	100

Table III: Morbid conditions

Morbid condition	Number	Percentage
Upper respiratory tract infection (URTI)	206	20.6
Diarrhoeal disease	290	29
Worm infestation	126	12.6
Measles	8	0.8
Mumps	28	2.8
Lower respiratory tract infection (LRTI)	52	5.2
Skin disorders	248	24.8
ENT disorders	90	9
Dental disorders	276	27.6
Vit 'A'	96	9.6
Fever	46	4.6
Eye disorders	42	4.2

Table IV: parent's education, SES and No. of morbid conditions in children

Father's Education	No. of Morbid Conditions		Total
	1	≥ 2	
Up to primary level	366 (53.2)	322 (46.8	688
Secondary level and above	116 (65.2)	62 (34.8)	178
Total	482 (55.7)	384 (44.3)	866

$X^2 = 8.211$, df=1, p=0.00416 (Very highly significant)

Mother's Education

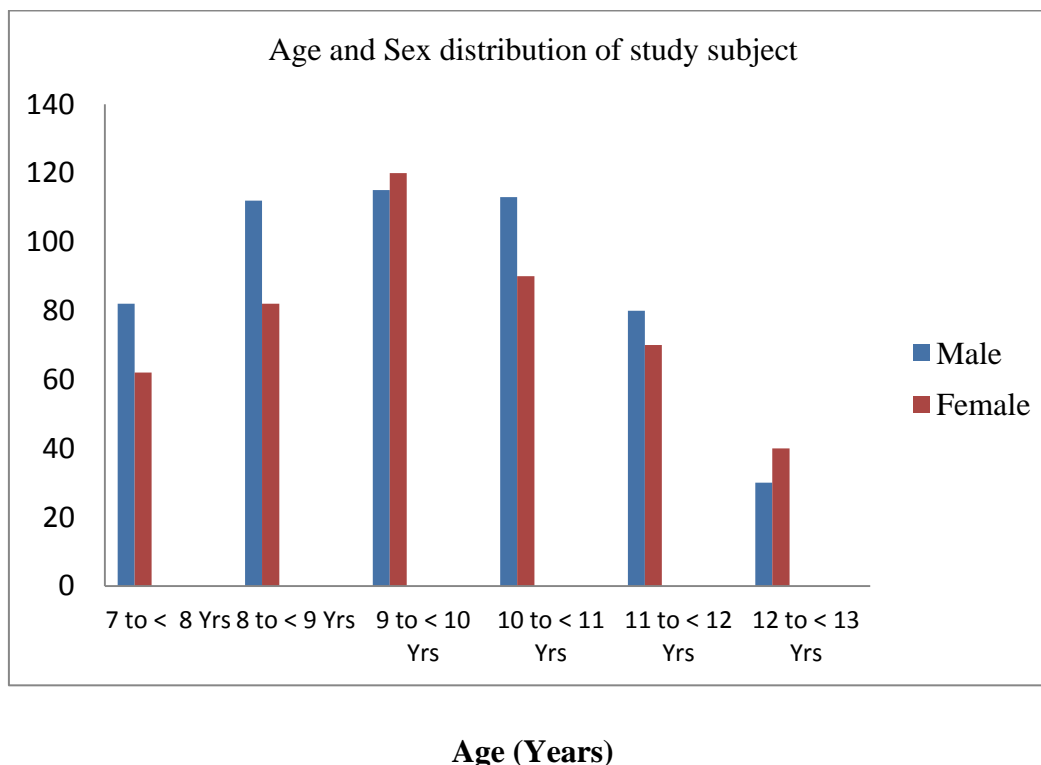| Up to primary level	386 (52.2)	353 (47.8)	739
Secondary level and above	96 (75.6)	31 (24.4)	127
Total	482	384	866

$X^2 = 23,958$, df=1, p<0.00001 (Very highly significant)

Socio economic Status:

U+UM+LM	104 (68.4)	48 (31.6)	152
UL + L	378 (52.9)	336 (47.1)	714
Total	482	336 (47.1)	714

$X^2 = 12.168$, df=1, p=0.0049 (Very highly significant)

Note: Figures in parenthesis indicate percentages.

Diagram: 1

Age and Sex distribution of study subject

Age (Years)

Discussion

This study reveals that the majority of parents were illiterate and belonged to the upper lower socio economic group. Diarrhoeal diseases were seen in 29% children, closely followed by dental disorders which were seen in 27.6% of children. Skin disorders were seen in 24.8% of children. Upper respiratory tract infection, worm infestation, Vit.A deficiency and ENT disorders were the other major morbidities encountered.

Studies [13-14] on health status of children in an urban community revealed a higher incidence of morbidities in the low-income group. It was also reported by some authors [15-16] that infections were more common in those children that belonged in low socio economic conditions.

This study also reports significant association of increased no. of morbid conditions in those parents who were poorly educated and those who belonged to lower socio economic groups. Education of parents is a very important single determinant of children's morbidity status. This coupled with the obvious additive effect of low income increases the vulnerability of children for morbidities.

Conclusions

The study finding suggest an association of parental factors such as father's and mothers' education and socio economic condition with poor outcome in children. The chi square values and odds ratios and 95% Confidence limits bear this out. Education is a major determinant of the type of job that parents do and the income they earn is often a direct consequence of that. As a majority of parents had low paying, unskilled, menial jobs, their socio economic condition was poor. This had a direct on school enrolment of children. Many children dropped out of school to be "wage earners" so as supplement family income. The vast majority of parents were poorly educated and this played an important part in the overall poor quality of hygiene and health in their children.

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