ISSN: 0976-3325

Original article

SOCIO-DEMOGRAPHIC AND MORBIDITY PROFILE OF SLUM AREA IN AHMEDABAD, INDIA

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ABSTRACTS

Background: In cites of India, at least one fifth people live in slums and most of the health problems as well as environmental issues are generated from these slums only. **Objectives:** To study the socio-demographic and environmental profiles as well as magnitude of morbidity among urban slum dwellers. **Materials and Methods:** The cross sectional study had been carried out between January 2000 and December 2000 on non-randomly selected 1,389 slum dwellers of Ahmedabad. Information was obtained by interviewing the head and/or other family members. General physical examinations and history of illness present in previous two weeks were recorded. **Results:** There were no sanitary latrines and drainage facilities at studied slum. There were 987 females per thousand males and 903 females per thousand males in under five year age group. The literacy rate was 16.8 % and 5.6% among males and females respectively. Among five years above age males, 27%, 9.7% and 7.4% had a habit of smoking, tobacco chewing and alcohol intake respectively. Among five years above age females 4.36 %, 10.9% and 0.84 % had a habit of smoking, tobacco chewing and alcohol intake respectively. Out of 233 eligible couples, 11.16% and 24.46% were adopted spacing and permanent methods for contraception respectively. 28 % males and 33.7% females were either suffering from or have a history of one or more illness within previous two weeks. The morbidity rate for both sexes was 30.88%. Anemia was found in 19% of females of age group of 15-44 years. Respiratory tract infections and diarrhoea were present in7.4% and 3.7% of studied population respectively. The incidence rates for respiratory tract infections and diarrhoea were found higher among 0-4 year age group children (15% and 10.6% respectively). **Conclusions:** Slum clinic or mobile clinic van should be arranged for treatment of common morbidities and health promotional activities.

Keywords: urban slum, socio-demographic environments, morbidity

INTRODUCTION

Slums vary greatly from each other, but the universal characteristics refer to overcrowding and congestion, extremely poor sanitation, lack of civic amenities and deviant behavior. Overcrowding, poor housing, choked drains, high density of insects and rodents, lack of garbage disposal facilities, poor personal hygiene, and hygienic conditions are hall marks of urban slums in India. Unplanned and rapid urbanization put a strain on the already dwindling civic amenities. Under such conditions gastroenteritis and other infectious diseases are rampant. Initially, rural to urban migration is limited to males. A rural migrant is deprived of his membership of his kin group in the village, suffers from loneliness and faces problems of residential accommodation. A slum gives him shelter and anonymity in urban area. This often leads to alcoholism and prostitution. Many are exposed to new types of risks associated with industrial pollution, road accidents, air pollution, poisonings, threat to child adolescent health etc. There is constant deprivation, particularly of children among urban poor. Deteriorated houses crowded together, open sewer, uncollected garbage, poor sanitation, flies, stagnant water and poor lighting are common. People face threat of eviction if they are squatting on someone else's land. Joblessness and alcoholism make men angry or hopelessly drunk and lead to abandoned wives and children. Women must go to work to survive without a male breadwinner or to help him make both ends meet. For some of them, domestic service and prostitution are virtually the only options. Older children, some no more than 10 year old, take care of their younger siblings while the adults are away. India provides an excellent example of medical pluralism. People follow home remedies, spiritual remedies and treatment from various medical systems simultaneously or one after another. Urban poor whose hallmark in expenditure is cheapness get adulterated food and drugs.

Health and morbidity surveys give an integrated picture of health and related conditions of population studied. India being a vast country,

environmental living conditions, religion, customs and diseases differ from region to region in context to socio-demographic and environmental conditions. In present study, an attempt was made to find out the socio-demographic and morbidity profile of an urban slum (Sarania Vas), Ahmedabad.

The objectives of study were, to study the socio-demographic and environment profiles as well as magnitude of morbidity among urban slum dwellers.

MATERIALS AND METHODS

The present cross sectional study had been carried out between January 2000 and December 2000 at Sarania Vas, a slum area situated on bank of the Sabarmati river, Ahmedabad, India. The area was purposefully selected for ease of study. House to house survey was carried out and information was obtained on pre-designed and pre-tested pro-forma by interviewing the head and/or other members of family. For morbidity data, general physical-clinical examinations were done. Enquiry was made about history of any morbidity in previous two weeks and if present, recorded in pro-forma. Out of 1,539 inhabitants of slum residing in 282 households, 1,389(254 households) were included in the study as remaining subjects were not available/not co-operating to study. The data were analyzed manually.

RESULTS

Out of 254 surveyed households, 20.47%, 77.16% and 2.36% were katcha, semi-pucca and pucca type respectively. There was an intermittent drinking water supply through piped tap water at public place. An electric supply, motorable approach road and a system of garbage disposal facility were there. However, there were no internal motorable road, sanitary latrines and drainage facilities.

Table 1: Habit of tobacco and alcohol intake among males (age > 5 years)

Age group in years	No. of respondents	Tobacco smoking present (%)	Tobacco chewing present (%)	Alcohol intake present (%)
5-14	198	04(02.02)	14(07.07)	00
15-44	311	102(32.80)	40(12.86)	20(06.43)
45-60	79	50(63.29)	04(05.06)	22(27.85)
60+	07	05(71.43)	00(00.00)	02(28.57)
Total	595	161(27.06)	58(09.75)	44(07.39)

The under-fives and school going age (5-14 years) population were 198 (14.25%) and 420(30.2%) respectively. The females in reproductive age group were 303 (20.2%). There were 987 females per thousand males, however only 903 females per thousand males in under five years age group. The literacy rate was 16.8 % and 5.6% for males and females respectively. The observed difference between literate male and females was statistically significant ($p< 0.001$). All members were Hindu by religion. Majority of family were nuclear type (80.7%). About 45% and 41% families were belongs to socio-economic status class III and class IV according to modified Prasad's social classification. About 20% of head of family were worked as skilled labors and remaining 80% were unskilled labors.

Table 2: Habit of tobacco and alcohol intake among females (age > 5 years).

Age group in years	No. of respondents	Tobacco smoking present (%)	Tobacco chewing present (%)	Alcohol intake present (%)
5-14	222	00	03(01.35)	00
15-44	303	16(05.28)	50(16.50)	02(00.66)
45-60	61	09(14.75)	11(18.03)	03(04.92)
60+	10	01(10.00)	01(10.00)	00
Total	596	26(04.36)	65(10.91)	05(00.84)

Among five years above age males, 27%, 9.7% and 7.4% had a habit of smoking, tobacco chewing and alcohol intake respectively. Among five years above age females 4.36 %, 10.9% and 0.84 % had a habit of smoking, tobacco chewing and alcohol intake respectively. Among 233 eligible couples, 11.16% and 24.46% were adopted temporary and permanent methods of contraception respectively. 29% of couples, who have two living children, were effectively protected by contraceptive measures.

Table 3: Contraceptive measures adopted by eligible couples

Number of living children	Number of eligible couples	Temporary Methods (%)	Permanent sterilization (%)	Total (%)
0	40	0	0	0
1	38	9(23.68)	0	9(23.68)
2	24	7(29.17)	0	7(29.17)
3	43	4(09.30)	8(18.60)	12(27.90)
4	41	4(09.76)	20(48.78)	24(58.54)
5	28	2(07.14)	16(57.14)	18(64.28)
6	14	0	9(64.28)	9(64.28)
7	03	0	2(66.66)	2(66.66)
8	02	0	2(100)	2(100)
Total	233	26(11.16)	57(24.46)	83(35.62)

It was observed that 28 % males and 33.7% females were either suffering from or had a history of one or more illness within previous two weeks. The observed difference between male and female morbidity was statistically significant ($p<0.05$). The morbidity rate for both sexes was 30.88%. Anemia was found in 19% of females of age group of 15-44 years. Respiratory tract infections and diarrhoea were present in 7.4% and 3.7% of studied population respectively. The incidence rates for respiratory tract infections and diarrhoea were found higher among 0-4 year age group children (15% and 10.6% respectively).

Table 4: Morbidity found among inhabitants of Sarania Vas slum, Ahmedabad.

Disease	No. of male suffered (n=699) (%)	No. of female suffered (n=690) (%)	Total (n=1389) (%)
Acute diarrhea	19(2.7)	33(4.8)	52(3.7)
Acute respiratory infections	58(8.3)	45(6.5)	103(7.4)
Fever	39(5.6)	31(4.5)	70(5.0)
Anaemia	35(5.0)	92(13.3)	127(9.1)
Worm infestation	25(3.6)	17(2.5)	42(3.0)
Skin conditions	30(4.3)	24(3.5)	54(3.9)
Ear discharge	19(2.7)	22(3.2)	41(3.0)
Vaginal discharge	NA	16(2.3)	16(1.2)
Measles	6(0.9)	18(2.6)	24(1.7)
Night blindness	3(0.4)	4(0.6)	7(0.5)
Pulmonary Tuberculosis	8(1.1)	5(0.7)	13(0.9)
Conjunctivitis	2(0.3)	2(0.3)	4(0.3)
Cataract	10(1.4)	6(0.9)	16(1.2)
Physically handicapped	6(0.9)	9(1.3)	15(1.1)
Others	6(0.9)	7(1.0)	13(0.9)

DISCUSSION

In present study, 20.47%, 77.16% and 2.36% households were katcha, semi-pucca and pucca type respectively. The distribution of urban slums by structure in Gujarat state, 57% katcha, 37% semi-pucca and 6% pucca[1], whereas in urban slums of India, katcha, semi-pucca and pucca structure accounted for 35%, 34% and 31% respectively[2].

There was no sanitary latrine facility or underground drainage systems resulting in all inhabitants of studied slum were compelled to defecate on open land around bank of Sabarmati river. Even though, unauthorized settlements on public land, local government should provide facility of public latrines. If not, it results in water and land pollution, which is ultimately threat to all citizens. About 54% of urban slums of India have no latrine facilities.[2]

There were 987 females per thousand males, however only 903 females per thousand males in under five years age group. The negative sex ratio is a feature of current scenario in majority parts of India. In year 1991, there were 927, 934, 899 and 889 females per thousand males in India, Gujarat state, Ahmedabad district and Ahmedabad city respectively.[3] A study by Marimuthu P et al. had

reported sex ratio at 789 females per 1000 males in Delhi slums.[4]

In current study, only 16.8% males and 5.6% females were literate. The observed difference between literate males and females was statistically significant (p< 0.001). However, comparatively higher literacy rate was found by Marimuthu P et al. at Delhi slums. They had reported 73.8% and 49.5% literacy rate among males and females respectively. A study in year 2006 by Viswanathan V et al. had reported 51.8% and 26.1% literacy rate among males and females respectively at slums of Chennai.[5]

It was found that 27% and 9.7% of males aged five years and above had a habit of smoking and tobacco chewing respectively, where as 4.36 % and 10.9% females aged five years and above had a habit of smoking and tobacco chewing respectively. It was seen that smoking habit increased as age advanced in both sexes. However, tobacco chewing declines as age advanced in case of males and remained somewhat constant in females. Tobacco chewing was significantly higher than tobacco smoking among males in 5-14 years age group (p<0.02) and in case of females of 5 years and above ages, tobacco chewing was significantly higher than smoking(p=0000). A study by Gupta V et al. had found self-reported tobacco smoking among males was 48.3% and self-reported tobacco smoking among females was 11.9% in 15 to 64 years age group at urban slums of Haryana in year 2003-2004.[6] According to World Health Organization report (2009), current tobacco users in India in the age group 15-49 years is 57% and 10.8% in males and females respectively whereas current cigarette or bidi smokers is 32.7% and 1.4% respectively.[7]

In current study, only 11.16% and 24.46% of eligible couples were adopted spacing and permanent methods of contraception respectively. Only 29% of couples, who have two living children, were effectively protected by contraceptive measures. According to National Family Health Survey-3 on women's reproductive health in the slum population in India, surveyed 4,827 women in the age group of 15-49 years found that less than half of the women from the slum areas were currently using any contraceptive methods and sterilization was the most common method of contraception (25%) [8]. A study by P. Jayarani Reddy on 240 couples having two or more living children among slum dwellers at Hyderabad city had shown only 32 per cent of the slum dwellers currently using one or the other methods of contraception.[9] R. Biswas found in his study among eligible couples at urban slums of Culcutta that permanent contraceptive acceptors (42.4%) were significantly higher than use of spacing methods(9.5%).[10] The contraceptive prevalence rate of India and Gujarat state was 43.5% and 57.2% respectively(1991).[11]

Present study found that 28 % males and 33.7% females were either suffering from or have a history of one or more illness within previous two weeks. The observed difference between male and female morbidity was statistically significant (p<0.05). However, study by Marimuthu P et al. at Delhi slums reported overall morbidity prevalence per month was 14.7 and 16.3% for males and females, respectively but the differences were not statistically significant.[4]

Anemia was found in 19% of females of age group of 15-44 years in present study. Such a comparatively low prevalence of anemia might be due to observation variation as clinical examination has high variation in term of sensitivity and specificity. Various studies shown that the sensitivity and specificity of clinical examinations for anemia detection ranging from 19 to 70 percent and 70 to 100 percent respectively.[12,13,14,15] Respiratory tract infections and diarrhoea were present in 7.4% and 3.7% of studied population respectively. The incidence rates for respiratory tract infections and diarrhoea were found higher among 0-4 year age group children (15% and 10.6% respectively). A study in year 2006 by Viswanathan V et al. had reported that respiratory illness was present in 17.2% of the studied population at slums of Chennai. In same study, 30% of females (20 years and above) were found anemic. [5] National Family Health Survey conducted at slums of Delhi during the period from April 1992 to September 1993 had found two week incidence of diarrhoea and acute respiratory infection accompanied by fast breathing among children less than four years has been reported to be 9.8% and 4.8% respectively.[16] Ram Kishore Gupta et al in his study at Delhi slums during year 1995-1996 had reported one month period prevalence of acute respiratory infections among underfives was about 4.5%.[17]

CONCLUSION

Even if slums are unauthorized settlements on public land, local government should provide facility of public latrines for prevention of water and land pollution. Emphasis should be put towards school enrolment and lowering school dropout to increase literacy rate. Packaged tobacco chewing product should banned as females and children can consume it secretly. It helps in postponement of unhealthy habit. Strengthening of health education and family planning services are

required for unmet need of contraception. Health care should provide through mobile health van or slum clinic which could tackle common ailments like acute respiratory infections, diarrhea, anemia, worm infestation etc.

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