

ARE WE PROGRESSING TOWARDS ACHIEVING HEALTHY URBAN AREAS? A STUDY OF SLUM DEMOGRAPHICS AND HEALTH STATUS

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ABSTRACT

Background- The large and continuous increase in India's urban population and the concomitant growth of the population residing in slums has resulted in overstraining of infrastructure and deterioration in public health. **Methods-** The present cross-sectional descriptive study was carried out in Wanowrie Bazaar, Distt Pune from Jan to Aug 2012 covering the entire population of the slum. A pre validated questionnaire and assessment sheet were used for data collection. **Results-** Urban slum under this demographic study comprised of 56% males and 44% females with 38% being in the age group of 26 to 45 yrs. The dependant population was 40%. Amongst households, almost 70% were in class I and II of socioeconomic status as per Kuppuswamy urban SES scale, 57% had unsatisfactory ventilation and 77% were using municipality water source. Illiterates were 23% among females as compared to 9% among males. 45% families were found to be using one or the other family planning methods. 20% of the population suffered from at least one episode of communicable disease during the study month. Among more than 45 yrs age, prevalence of hypertension and diabetes mellitus was 10.89% and 6.85%, respectively. **Conclusions-** The morbidity profile in this study is very similar to that of most developing countries in the region. Building inclusive cities that are accessible and age-friendly will benefit all urban residents. Such actions do not necessarily require additional funding, but commitment to redirect resources to priority interventions, thereby achieving greater efficiency.

Keywords: Urban Slum, Demography, Ventilation, life style diseases

INTRODUCTION

World Health Day 2010 focused on urbanization and health. The theme was

selected in recognition of the effect urbanization has on our collective health globally and for us all individually.¹ The large and continuous increase in India's urban population and the concomitant growth of the population residing in slums has resulted in overstraining of infrastructure and deterioration in public

health. Majority of world's biggest cities are in the developing countries and 60%

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of their population live in the urban slums.² In India out of the total population of 1027 million as on 1 March, 2001, about 742 million live in rural areas and 285 million in urban areas. Thirty eight per cent of urban population was living in poverty in 1990, mostly in slums.³

The link between urbanization, a degraded environment, inaccessibility to healthcare and a deteriorating quality of life is significant and particularly evident in the sharp inequities in IMR if one looks at urban specific studies. It is hence, germane to address the appalling inequalities in the distribution and access to basic amenities and health services with a focus on enhanced service coverage, improved sanitation and water supplies and mobilization of community action for effectively mitigating the childhood death and disease burden in urban slums.

A slum is defined as “any predominantly residential area where the dwellings which by reasons of dilapidation, overcrowding, faulty arrangement of design, lack of ventilation, light or sanitary facilities or any combination of these factors detrimental to safety, health or morals”.⁴

Studies have found morbidity to be influenced by family size, socio-economic status, mother's educational level, hygiene practices, and environmental sanitation and water availability. Provision of adequate and safe water for the underprivileged population is the most urgent need in community health interventions. Access to a flush or pit toilet is a very important determinant of

infant and child mortality in developing countries. Factors found to be significantly associated with an increased risk of death from diarrhoea include the non availability of piped water and the absence of a flush toilet.⁵

The unadjusted figures for neonatal, infant and childhood mortality are higher for children in households that do not have access to a flush or pit toilet, both in India as a whole and in all states.⁶ National Sample Survey Organisation (NSSO) data for urban Delhi reported a hospitalization rate of 13 per 1000 population, but for poorest 40% it was 7 per 1000; thus showing that hospitalization may be effected by income.⁷ It has been shown that despite high immunization coverage, socio-economic and environmental factors must be controlled to reduce morbidity and mortality.⁸

Pune City has experienced a steady growth of population and reached 2.5 million in 2001.⁹ There has been a concurrent increase in slum settlements. In 2001 there were 503 slums pockets in Pune City, 40 percent of the total population of Pune City was living in slums, 340 were declared or recognised slums and 132 were undeclared or unrecognised slums.¹⁰

Unlike rural areas, the health infrastructure in Pune slums is weak and non-existent in certain slums. The utilization and coverage of RCH services are lower as compared to rural Maharashtra. There is greater dependence on institutional services and on private sector resulting in a very large expenditure for even the poorest families

living in urban slums.¹¹ There are clear differences with respect to provision and utilization of maternal and child health care services between recognised and non-recognised slums in Pune City.²

Therefore keeping above facts in mind, the present study was carried out to assess the present state of the community and compare certain indices with few slums in Pune with a view to obtain data for planning the services to be provided.

MATERIAL AND METHODS

The basic demographic data was collected in 1998 and is regularly being updated by the residents, medico social workers, interns and undergraduate students of the college. A cross-sectional study was carried out in Wanowrie Bazaar, Pune from Jan to Aug 2012 covering the entire population. Tools used in the study were mercury sphygmomanometer, weighing machine, stethoscope, measuring tape and a pre validated questionnaire. The institutional ethical clearance obtained and verbal consent of all participants was obtained during the study.

Data were also obtained from BJ Medical College Pune regarding the UHC area of their Dept of Community Medicine. Kuppuswamy scale for urban areas, as modified^{12,13} was used for categorizing the community members in different social classes. Ventilation of the houses was assessed using established criteria.^{14,15}

RESULTS

The urban slum under study had 34% population under 15 yrs of age. The Sex ratio in our study was 781.5 per 1000

males. The dependent population, taking a cut off of 56 yrs of age, was 39.5%. The slum comprised of a mixed population with about 58% Hindus and 35 % Muslims, the remaining mainly Christians. Table-1 shows that a large proportion (65%) could be categorised as of upper and lower middle socio economic status, based on the Kuppuswamy scale for urban population. More than 96% of houses in the study area were Pucca. Out of those eligible for marriage, 58% were married and 35% single with a small percentage (2%) divorced. Only 30% of the families were following small family norm with less than or equal to a family size of four. Only 45% of the eligible couples were using any of the recommended methods of contraception. Table-2 shows that literacy rate was around 85% in this slum with a large proportion with primary and middle class education (59.28%).

Majority of the population was dependent on municipality for water (77%) and about 80% of the population used a cover for the water container. Satisfactory ventilation was present only in 43% of the households. All households dump their garbage into the two co-located community bins. Only minority (5%) of the households have their own Sanitary Latrines, the rest (95%) use community latrines.

Table-3 shows that 20% of the entire population suffered from an episode of communicable disease morbidity during one of the monsoon months with confirmed Respiratory infections as 60% of total with no H1N1 positive case (study was conducted during H1N1 pandemic period). Diarrhoea, and Otitis Media (Acute & Chronic) was seen among 23% of

under fives. Age group wise distribution of communicable diseases showed that three-fourth of OPD load was contributed by 5-15 yr (52%) and 25-44 yr age group (23%). One fourth of the 45-65 yr age group and 32% of 0-15 yr age group were found to be suffering from one of these communicable diseases. Common skin ailments (10%) e.g. Acne, Dermatitis, Dermatophytosis, etc. were seen among all irrespective of age groups. Among skin diseases, Acne vulgaris were common in adolescents and adults. Onychomycosis were common in >45 yrs and Paronychia found more amongst 26-45 yr age group females.

Among more than 45 yrs age, hypertension (10.89%) and diabetes mellitus (6.85%) were the most prevalent. A small number of Hypothyroidism (04 cases) was seen with majority being in 45-65 yr age group. Among more than 45yr population 31.05% suffered from NCDs and chronic diseases and the most affected age group was 45-65yr. (Table-4)

DISCUSSION

The large dependent population in our study area poses a substantial burden on the community in terms of the hazards these groups face and also the lack of substantial contribution from them in terms of utilizable resources. The proportion is slightly more than that found in the previous studies done in other slums in Pune (35%) but much more when compared to UHC BJMC which has a dependant population of 26.12%.²

The high literacy rate is almost similar to that seen in other slums in Pune (80%).¹⁶

The adverse sex ratio seen in our study is comparable with the country in general and also similar to the results of other studies in Pune and across the country though the UHC of BJ medical college has a favourable ratio of 1003 females /1000 males.¹⁷ The poor usage of family planning methods (45%) in our study is lower than results of surveys done in the UHC of BJ medical college (62%).

Lack of satisfactory ventilation in 57% houses may be an important reason for increased susceptibility to respiratory tract infections and other diseases seen in this community as it is a constant and considerable hazard especially for RTIs and many other communicable diseases. Our study area is better than other slums in Pune with around 97% of the total houses as pucca as against only 26% in other slums.¹⁸⁻²⁰

The morbidity profile is very similar to that of most developing countries in the region where the shift is occurring from a high load of communicable diseases to non communicable diseases with the highest percentage of cases being shared by life style diseases. The opportunity was utilized to treat all the household members along with health education drive of their families.

Unplanned urbanization is often accompanied by continued growth of slums and shantytowns. One in three urban dwellers lives in slums i.e. a total of 1 billion people worldwide. If these underlying factors are not addressed, this could result in spiraling health costs, as well as potential security issues for underserved populations in all cities. Slum population bears dual burden of

diseases – diseases due to life style, urban living and diseases due to poor economic status and living conditions. Improving urban living conditions in the areas of housing, water and sanitation will go a long way to mitigating health risks. Building inclusive cities that are accessible and age-friendly will benefit all urban residents. Such actions do not necessarily require additional funding, but commitment to redirect resources to priority interventions, thereby achieving greater efficiency. Hence it is necessary to understand the impact of slum environment on the lives of its residents as also on their health through associated factors.¹

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TABLE 1: SOCIO ECONOMIC PROFILE (BASED ON HOUSEHOLDS) IN WANOWRIE URBAN SLUM

Socio Economic Status*	Total No of Households	Percentage
Class I	79	30.50
Class II	102	39.38
Class III	67	25.86
Class IV	11	04.24
*Kuppuswamy Scale		

TABLE 2: EDUCATION WISE DISTRIBUTION IN WANOWRIE URBAN SLUM*

EDUCATION STATUS	Males N (%)	Females N (%)	Total N (%)
ILLITERATE	53 (8.7)	124 (22.7)	177 (15.29)
PRIMARY	196 (32)	169 (31)	365 (31.54)
MIDDLE	176 (28.7)	145 (26.6)	321(27.74)
HIGHER	102 (16.7)	83 (15.2)	185 (15.98)
GRADUATE	64(10.4)	22 (4)	86 (7.43)
POST GRADUATE	05 (0.8)	02 (0.4)	07 (0.6)
PROFESSIONAL	16 (2.6)	00	16 (1.4)
TOTAL	612 (53)	545 (47)	1157 (100)

*Only above 05 yrs included in this; 03 did not answer

TABLE 3: MORBIDITY DUE TO COMMON COMMUNICABLE DISEASE: PROFILE DURING ONE OF THE MONSOON MONTHS

Age gp (yr)	Fever	Ac Enteritis	Other GI Ds incl Worm Inf	Resp dis	Eye and ENT	Skin Dis	Others	Total (CD) (%of total OPD)	Total popn in this age group	As % of total popn in this age group
0-5	7	7	2	42	9	1	1	69 (27)	112	61.6
6-15	6	2	4	45	2	3	3	65 (25)	302	21.5
16-25	0	1	0	15	1	3	0	20 (20)	118	17
26-44	7	4	2	27	1	15	3	59 (23)	492	12
45-65	4	3	2	21	2	4	2	38 (15)	154	24.6
>65	1	0	0	5	1	0	1	8 (3)	94	8.5
Total (%)	25 (10)	17 (7)	10 (4)	155 (60)	16 (6)	26 (10)	10 (4)	259 (100)	1272	20.3
All numbers pertain to individuals (any individual with more than one episode was counted only once for this study).										

TABLE 4: NCDs* AND OTHER CHRONIC AILMENTS IN STUDY POPULATION

Age group (yr)	DM	HTN	Psychiatric Diseases	Hypothyroidism	Musculo Skeletal disorders	Others#	Total cases	Total population in this age group	As % of total population in this age group
0-5	-	-	-	-	-	-	-	112	00
6-15	-	-	02	-	03	01	06	302	1.99
16-25	-	-	06	-	05	01	12	118	10.17
26-44	-	-	01	01	17	02	21	492	4.27
45-65	13	21	01	03	27	01	66	154	42.86
>65	04	06	-	-	01	-	11	94	11.70
Total	17	27	10	04	53	05	116	1272	9.12

*Non Communicable Diseases, # **Others:** Night Blindness 01, Chronic Alcoholic 02, Poliomyelitis02.