Research Article

Assessment of the utilization of health services among urban slum population in Southern Rajasthan

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ABSTRACT

Background: Urban slums consist of the vulnerable population for whom the affordability and accessibility of health care is constrained due to various reasons. The occurrence of various diseases in slums can be prevented by increasing access as well as utilization of available health care services. **Objectives:** The aim of the study was to assess the sociodemographic profile of families residing in a selected urban slum area and to study the association between sociodemographic characteristics of families with utilization of available health services by them. **Materials and Methods:** A cross-sectional study was conducted from May 2013 to December 2013 among 300 families residing in selected urban slums. The information regarding sociodemographic factors and utilization of health services, causes of non-utilization of health services, and preferred mode of treatment during the past 6 months were collected from the head of the family. The association of sociodemographic factors with utilization of health services was tested using Chi-square test. **Results:** There were 898 (53.20%) males and 790 (46.80%) females in 300 selected families. It was found that 84 (28.00%) head of family were illiterate and 216 families (72.00%) belonged to lower socioeconomic status. The number of families not using any type of health facility was 82 (27.33%). **Conclusion:** The literacy level of the head of family and socioeconomic status of family was found significantly associated with utilization of health services. Hence, focus should be given to improve the education level and behavior of the persons to adopt the health services and increase the efficiency of the health system.

KEY WORDS: Urban Slum; Family; Health Services; Utilization

INTRODUCTION

Good health is a pre-requisite for the development of a country and welfare of its people. The people in most parts of the world have a choice between public and private health services. It is reported that private health services have grown at a faster rate compared to public health services in most part of the world.[1] Huge investment has been made to create public health infrastructure in India. By and large, the utilization of such facilities is far below its capacity due to many reasons including lack of adequate workforce, materials, and resources. Underutilization of health services is attributable to many reasons including distance, cost, quality, and stability of services as well as cultural beliefs, personal attitude, and socioeconomic factors of the people. For many sections in the society, such facilities are not even accessible.[2]

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The increased urbanization is a reality in most parts of India. People migrate from rural to urban areas in search of job and ensured livelihood. The rapid urbanization has posed severe problems of housing, especially for the rural poor migrating to urban areas. This phenomenon has paved the way for the development of slums in cities mostly in neglected common land where basic amenities of life are generally not available. Slums are those residential areas where dwellings for human

habitation are unfit due to various reasons. Over the years, such settlements initiated as a temporary arrangement for stay of few people which got enlarged in numbers due to ever-increasing migrating population from weaker sections from rural areas.[2] The basic service provisions are either absent or inadequate in almost all the slums in the country. Lack of potable drinking water, inadequate sanitary provisions, non-congenial environment, inadequate housing, and improper garbage disposal poses a series of threats for the health of slum dwellers.[3]

Over 65 million people live in slums in India based on census 2011.[4] By 2017, the slum population of India has increased to 104 million. The slum population in India increased from 27.9 million in 1981 to 61.8 million in 2001 and now 137 lakh households in 2011.[5] The National Health Mission (NHM) launched in 2005 includes a component for urban health and the health services for the slum dwellers, which has an important place in NHM. Despite the introduction of many schemes for the welfare of people living in urban slums, living condition in many slums is still unhygienic and unhealthy. The unhygienic condition of slums and lack of basic amenities of life causes poor health and chronic illness of slum dwellers. Therefore, it is important to assess the health-seeking practices of slum dwellers. It is equally important to identify the factors which influence the utilization pattern of available health services in slum area.[2]

The theme for the World Health Day 2019 was – "health for all – everyone, everywhere." The World Health Organization (WHO) observed the World Health Day with the focus on providing universal health coverage (UHC) everywhere and to everyone. It reiterated its pledge to provide health services to each and every citizen in the world. It aimed that every person should have the access to the quality health services all over the world whenever and wherever they need it.[6] Key to achieving it is ensuring that everyone gets the care they need, when they need it.[7] The nature of available health services and its extent of utilization are important in planning for health resource allocation to different levels of the health system and monitoring the achievement of UHC.The WHO also advocates the same as a means for ensuring equity in the use of health services.[8] In spite of all these, the health coverage facilities are not equally distributed all over. While one part of the urban population that has all the benefits of urban living, the other part, the slums and squatter settlements, where the poor often lives under conditions worse than those of their rural counterparts.[9]

In most developing countries such as India, utilization of basic health services has remained poor even though there has been increasing public and private expenditure on the provision of advanced health care.[10] Various studies have been made to assess the utilization of the public and private sector health services.[11,12] To assess the utilization of health services in urban slums population in Udaipur, this study was planned because less information was available in the study area. The aim of the present study is to assess the sociodemographic profile of families residing in the urban slum areas and to study the association between sociodemographic characteristics of such families with utilization of health services by them in Southern Rajasthan.

MATERIALS AND METHODS

A community-based, cross-sectional study was conducted from May 2013 to December 2013 among 300 families residing in an urban slum, which is also the field practice area of the urban health training center of Geetanjali Medical College and Hospital, Udaipur. Three urban slum areas, namely Shahid Bhagat Singh Nagar, Neemuch Kheda, and Jodabavji, were covered under the study. The total population of the selected slums was approximately 10,000. Around 1990 families were residing in these slum areas.

Of 1990 families, 300 sample families (15% of slum families) were selected for the survey. The systematic sampling procedure was followed to choose the sample by taking every K^{th} house where K refers to the sample interval, which is calculated by the formula.[13] In this present study, 15% of the sample is taken based on an arbitrary basis.

$$K = \frac{\text{Total population}}{\text{Sample size desired}}$$

$$K = \frac{1990}{15\% \text{ of } 1990} = 6.66$$

Hence, every 7^{th} house was selected for the study by systematic random sampling until the 300^{th} family is completely surveyed. After obtaining verbal informed consent, face-to-face interview was taken from the head of the family to collect all essential information.

After referring to the available literature, a questionnaire was designed for the study. The pre-testing of the designed format was done and necessary additions, alterations, and based on the responses corrections were made to finally prepare the questionnaire of the study. The information regarding various sociodemographic profiles such as age, sex, religion, family size, type of family, educational status, social class, and occupation of head of the family were collected using pre-tested semi-structured questionnaire. The various information regarding usage of the utilization of health services and preferred mode of treatment by the selected families during the past 6 months were collected. Additional information was also collected from those families who were not utilizing any type of health services and the various factors responsible for it.

Inclusion Criteria

Families residing in the slum areas attached to the urban field practice area of GMCH who were available and willing to spare time for the study were included in the study.

Exclusion Criteria

The following criteria were excluded from the study:
- Families who were not willing to participate in the study
- Families who were not available even after two visits
- Head of the family with critical illness/inability.

Ethical Clearance

Ethical clearance was obtained from the Institutional Ethical Committee of Geetanjali Medical College and Hospital, Udaipur.

Statistical Methods

The data were entered into MS Excel sheet and analysis was done using available options under MS Excel. The association of sociodemographic factors with utilization of health services was tested using Chi-square test. $P < 0.05$ was considered to be statistically significant.

RESULTS

Table 1 shows that of 300 families, majority of the families were of Hindu religion, i.e., 251 (83.67%), 33 (11.00%) were of Muslim religion, 11 (3.67%) were of Christian religion, and 5 (1.66%) belonged to other religious categories. The average family size of the selected households was 5.63. Family size of 5–8 was prevalent in the highest number of 144 (48.00%) families, while 84 (28.00%) of heads of family were illiterate, 90 (30%) were literate up to primary level, 64 (21.33%) were literate up to secondary, and the remaining were higher secondary and above. About 131 (43.67%) families belonged to Class-V, 85 (28.33%) families belonged to Class-IV, 58 (19.34%) families belonged to Class-III, 19 (6.33%) families belonged to Class-II, and the remaining 7 (2.33%) families belonged to Class-I as per modified BG Prasad's classification-2013. Thus, the majority of families were from lower socioeconomic status. In the present study, the majority of the head of the family members, i.e., 177 (59.00%) were daily laborers, followed by 53 (17.66%) were doing business, 47 (15.66%) were in service which included both government and private jobs, and the remaining 23 (7.66%) were unemployed, housewives, and retired individuals. Of 300 families studied, majority were nuclear families 203 (67.67%) followed by 50 (16.66%) three-generation families and 47 (15.67%) joint families.

Table 2 depicts that the total population of 300 studied families was 1688. Of them, 898 (53.20%) were male and 790 (46.80%) were female. The sex ratio was 880 females per 1000 males. While 880 persons (52.13%) were in the workforce age group of 20–60, 658 (38.98%) participants were in the age group of about 0–20 years and elderly people constituted 150 (8.89%) of the study population.

Table 1: Distribution of families according to sociodemographic characteristics (n=300)

Characteristics	Frequency (%)
Religion	
Hindu	251 (83.67)
Muslim	33 (11.00)
Christian	11 (3.67)
Others	5 (1.66)
Family size	
1–4	84 (28.00)
5–8	144 (48.00)
>9	72 (24.00)
Educational status of head of the family	
Illiterate	84 (28.00)
Primary	90 (30.00)
Secondary	64 (21.33)
Higher secondary	43 (14.33)
Graduate and above	19 (6.34)
Social class of head of the family	
Class I	7 (2.33)
Class II	19 (6.33)
Class III	58 (19.34)
Class IV	85 (28.33)
Class V	131 (43.67)
Occupation of head of the family	
Service	47 (15.67)
Business	53 (17.67)
Laborer	177 (59.00)
Others	23 (7.66)
Type of family	
Nuclear	203 (67.67)
Joint	47 (15.67)
Third generation	50 (16.66)

Table 3 shows that of 300 families, 218 (72.66%) families were found using the available facilities of health services in the surrounding area while 82 (27.33%) families were found not using any type of health facility during the period of study.

Figure 1 depicts that most of the families preferred 131 (60.10%) allopathy as the preferred mode of treatment, followed by 44 (20.18%) Ayurveda, 27 (12.38%) homeopathy, and the remaining families 16 (7.34%) preferred Unani and home remedies for their treatment.

Table 4 shows that of 218 families which availed health facility, 149 (68.35%) families utilized the government hospitals for

Table 2: Distribution of persons according to age and sex (*n*=1688)

Age groups (years)	Male – number (%)	Female – number (%)	Total – number (%)
0–20	348 (38.75)	310 (39.24)	658 (38.98)
21–40	300 (33.40)	271 (34.30)	571 (33.83)
41–60	169 (18.81)	140 (17.72)	309 (18.30)
>60	81 (9.02)	69 (8.74)	150 (8.89)
Total	898 (100.00)	790 (100.00)	1688 (100.00)

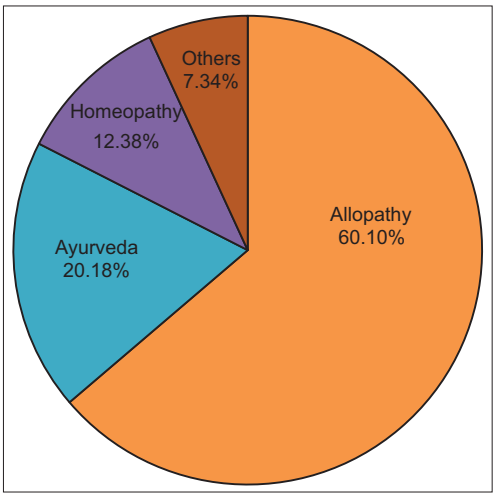

Figure 1: Distribution of families according to their preferred modes of treatment (*n* = 218)

Table 3: Frequency of the use of health services by families (*n*=300)

Use of health services	Frequency (%)
Yes (utilization)	218 (72.66)
No (non-utilization)	82 (27.33)
Total	300 (100.00)

Table 4: Distribution of preferred health facility by the families (*n*=218)

Health facility	Utilized by the families
	Frequency (%)
Government sectors	149 (68.35)
Private sectors	69 (31.65)
Total	218 (100.00)

Table 5: Factors responsible for non-utilization of health services (*n*=82)

Factors*	Frequency (%)
Distance to avail health facility	9 (10.97)
Transport facilities	13 (15.85)
Lack of knowledge/ignorance	49 (59.76)
Self-medication/home remedies	28 (34.15)
Services of ritualistic healer	37 (43.53)
Expensive	19 (23.17)

*Multiple responses

all type of health problems while 69 (31.64%) families got treatment from private sectors. Of 300 families, 82 (27.33%) families were not utilizing any type of health-care facility.

Table 5 depicts that multiple factors were responsible for non-utilization of health services by 82 (27.33%) families. The most important reason for non-utilization of health services was found to be illiteracy (59.76%). The other factors responsible included visiting of ritualistic healers for treatment, self-medication for illness, expensiveness of medical treatment, lack of transport facility, and availability of health facility at distant places.

Table 6 showed that the religion and type of family were not associated with the utilization of health services as the association was not statistically significant. The literacy level of the head of family was associated with utilization of health services and the association was statistically significant (χ^2–9.32, $P = 0.0022$). The statistically significant association was also found between socioeconomic status of family and utilization of health services (χ^2–4.87, $P = 0.0273$).

DISCUSSION

The present study was done to know the pattern of the utilization of available health-care facilities in and around urban slums. The present study showed that the sex ratio was 880 females per 1000 males while according to the annual health survey in Rajasthan, the sex ratio at all ages is 932 females per 1000 males.[14] The present study showed that 898 (53.20%) were male and 790 (46.80%) were female while a study done at an urban slum of Calcutta by Biswas *et al.* found that the proportion of males and females was 52.6% and 47.4%, respectively.[15] In another study conducted by Das at slums of Surat city, it was observed that 58% of the population were male and 42% were female.[16] The 2011 census also revealed similar results consisting of 51.88% of males and 48.12% of females in slums.[5] The average family size in the present study was 5.63. The study done by Singhal, in Rajasthan, revealed that the average household size was 4.49 persons per household.[2] Similar findings were reported by Prasad and Somarjaulu, in Karad, Maharashtra, in which mean household size was five.[17] The present study showed that the majority belonged to nuclear families 67.67% while Prasad and Somarjaulu reported that 88% belonged to nuclear family in urban slums.[17]

Table 6: Association of religion, economic status of head of the family, and education of head of the family with the utilization of health services (*n*=300)

Indicators (*n*)	Use of health services		Chi-square	*P*-value
	Yes (utilization) (*n*=218)	No (non-utilization) (*n*=82)		
Religion				
Hindu (251)	185	66	χ^2=1.12	0.288
Muslim (33)	23	10		
Christians (11)	7	4		
Others (05)	3	2		
Economic status of the head of family				
Class I (7)	2	5	χ^2=4.87	0.027*
Class II (19)	11	8		
Class III (58)	42	16		
Class IV (85)	65	20		
Class V (131)	98	33		
Education of the head of family			χ^2=9.32	0.002*
Illiterate (84)	46	38		
Primary (90)	73	17		
Secondary (64)	49	15		
Higher secondary (43)	35	8		
Graduate and above (19)	15	4		
Type of family				
Nuclear (203)	155	48	χ^2=2.23	0.135
Joint (47)	28	19		
Three generation (50)	35	15		

*Significant at $P<0.05$ level

The present study showed that majority of the families followed Hindu religion, i.e., 251 (83.67%). The study by Singhal showed that 89.92% of the household population belonged to the Hindu religion.[2] The present study revealed that 84 (28.00%) of the head of family were illiterate. The total literacy rate of Rajasthan state is 74.2% according to annual health survey.[14] The study by Singhal showed that 23.53% of the head of the households were educated up to middle level.[2] While in the present study, the education up to middle level was found to be 21.33%. The total literacy rate of Udaipur district is 67.8%. The decreased literacy rate in the study area could be due to lack of awareness and interest regarding the importance of education among the slum people.

The present study showed that 216 families (72.00%) belonged to lower socioeconomic status. Prasad and Somarjaulu showed that 96% of the residents in urban slum area belonged to lower socioeconomic class (Class V and Class IV).[17] The study by Singhal found that 68.63% of families belonged to the Class III group.[2] Since the person residing in the slum areas belonged to the lower socioeconomic groups, they mostly depend on the government hospitals for their major and minor health problems. The present study showed that 177 (59.00%) were daily laborers while the study done by Singhal showed that 85.99% of households earn through daily wages.[2]

During the study period, only 218 households (72.66%) availed one or the other type of health services. Out of those availed 68.35% reported to government sources and 31.65% availed private health facility while the study done by Prasad and Somarjaulu conducted at Indore showed that 43.00% were preferring government facility and 68.00% were preferring private facility.[18] The preference in utilization of health facility in the present study in government sector could be due to free consultation and medicine in government centers and higher expenditure at a private facility. The non-utilization of available health services is attributable to multiple factors, of which the lack of knowledge contributes to about 59.76%. Furthermore, it was found that nearly 10.97% of populations were not utilizing the health services due to availability of health facility at far away distances. Similar findings were observed by Kapil *et al.* in an urban slum area of Delhi, in which long distance 15.49% was one of key factor for poor utilization of health services.[19]

Strength and Limitation

The strength of the study was obtaining all the essential information including utilization of health services from the head of the family. The non-inclusion of other factors responsible for non-utilization of health services such as

fear of drugs/injections,waiting time to avail services and behavior of medical staff were the limitation of the present study.

CONCLUSION

In spite of huge investment for creating health facilities for the welfare of urban slums dwellers, it is not utilized optimally. The various factors responsible for the non-utilization of health services included distance to avail health facility, poor literacy level of slum dwellers, transport facility, self-medication practices, services of ritualistic healers, and expensive treatment.

Although the health facilities are adequate in number around urban slum areas, the non-utilization of health services can be brought down by educating people, creating awareness regarding the availability of health services and its benefits. The introduction of mobile health services and its regular visits to urban slums can make a change in the approach of the people coupled with health status of the slum dwellers.

REFERENCES

1. Basu S, Andrews J, Kishore S, Panjabi R, Stuckler D. Comparative performance of private and public healthcare systems in low-and middle-income countries: A systematic review. PLoS Med 2012;9:e1001244.
2. Singhal A. Utilization of maternal health services in slums of Rajasthan. Int J New Technol Res 2015;1:76-81.
3. Pande S. Background Note on Health in Urban Slums in Delhi. New Delhi: Institute of Social Studies Trust; 2005.
4. Slums in India Statistical Compendium. Government of India Ministry of Housing and Urban Poverty Alleviation National Buildings Organization; 2015 Available from: http://www.nbo.nic.in/Images/Pdf/Slums_In_India_Slum_Compendium_2015_English.pdf. [Last accessed on 2019 Jan 02].
5. Dilip KL, Mathur HN, Sharma SK. Assessment of morbidity profile in urban slum community of Udaipur (Rajasthan). Int J Community Med Public Health 2015;2:127-9.
6. World Health Day; 2019. Available from: https://www.indiacelebrating.com/events/world-health-day. [Last accessed on 2019 Jun 05].
7. World Health Day. Available from: https://www.who.int/campaigns/world-health-day/world-health-day-2019. [Last accessed on 2019 Apr 29].
8. Jacobs B, Ir P, Bigdeli M, Annear PL, Van Damme W. Addressing access barriers to health services: An analytical framework for selecting appropriate interventions in low-income Asian countries. Health Policy Plan 2012;27:288-300.
9. Tibaijuka AK. United Nations Human Settlements Programme (UN-HABITAT). State of the World's Cities Report 2006/7. UN-HABITAT and Earthscan, Nairobi and London; 2006. Available from: https://www.sustainabledevelopment.un.org/content/documents/11292101_alt.pdf. [Last accessed on 2019 May 20].
10. Majumder A. Utilization of health care in North Bengal: A study of health seeking patterns in an interdisciplinary framework. J Soc Sci 2006;13:43-51.
11. Pati S, Agrawal S, Swain S, Lee JT, Vellakkal S, Hussain MA, *et al.* Non communicable disease multimorbidity and associated health care utilization and expenditures in India: Cross-sectional study. BMC Health Serv Res 2014;14:1-9.
12. Nair VM, Thankappan KR, Vasan RS, Sarma PS. Community utilisation of subcentres in primary health care-an analysis of determinants in Kerala. Indian J Public Health 2004;48:17-20.
13. Khanal BA. Mahajan's Methods in Biostatistics for Medical Students and Research Workers. 8th ed. New Delhi: Jaypee Brothers Medical Publishers Ltd.; 2016.
14. Annual Health Survey Fact Sheet (2012-2013), Vital Statistics Division Office of the Registrar General and Census Commissioner, India New Delhi, Rajasthan. p. 8-10. Available from: http://www.censusindia.gov.in/vital_statistics/AHSBulletins/AHS_Factsheets_2012-13/factsheet-Rajasthan.pdf. [Last accessed on 2019 May 14].
15. Biswas R, Biswas AB, Chatterjee S, Chowdhury G, Bhandari A. Study of the health status of an urban slum community at Calcutta. Indian J Community Med 1991;16:126-9.
16. Das B. Slum-dwellers in Surat city: A socio-demographic profile. Indian J Soc Work 1997;58:35-55.
17. Prasad CV, Somarjaulu UV. A comparative study of the accessibility of health and family welfare services among slum dwellers. J Fam Welf 1992;38:8-15.
18. Vargese S, Mathew P, Mathew E. Utilization of public health services in a rural area and an urban slum in Western Maharashtra, India. Int J Med Sci Public Health 2013;2:646-9.
19. Kapil U, Bharel SM, Sood AK. Utilisation of health care services by mothers in an urban slum community of Delhi. Indian J Public Health 1989;33:79.

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