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Drinking Water and Sanitation Facilities among Slum Dwellers in a South Indian City

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ABSTRACT

There is a great thrust for improving water and sanitation facilities in the community since 2014. The present study was aimed at assessing the water and sanitation facilities among slum households in an urban area. The design was a cross-sectional study covering 750 households in an urban area in South India. Data were gathered using a structured questionnaire on the source of drinking water and sanitary facility in the households. Out of all households surveyed, 743(99.1%) were using an improved source of water for drinking and 742(98.9%) were using septic tank as their main sanitation facility. Our study concludes that most of the household in the urban slum have improved the water and sanitation facility.

Key words: sanitation, water supply, urban, slums

Main Text

As per National Family Health Survey (NFHS)-4conducted in 2015-16, in Andhra Pradesh, 70.7% urban household have improved drinking water source and 77.4% urban household were using improved sanitation facility.[1] These statistics combines both slum and non-slum areas, thereby masking the differences in both areas. Swachh Bharat Mission (Clean India Campaign) – Urban was launched on 2nd October 2014. This aims at making urban India free from open defecation. [2] As per the Ministry of Housing and Urban affairs, Srikakulam town achieved open defecation free (ODF) status on 20th July 2017. [3] The present study was undertaken to measure the source of drinking and sanitation facilities of the households living in slums of an urban municipal area, in the backdrop of achievements claimed through the Swachh Bharat Mission.

This cross-sectional study was conducted in the households residing in slums of Srikakulam Municipal Corporation in the state of Andhra Pradesh in October 2018.The sample size was calculated using the formula $Z^2\alpha P\ (1\text{-}P)/d^2$, taking proportion of improved drinking water source in urban households in Andhra Pradesh, (P)as 70%, 95% level of confidence, 5% absolute precision and design effect of two. [4] Considering 10% non-response rate, total sample size finally became 732. Thirty slums out of 63 total slums were selected according to probability proportion to size method. Considering each slum as a cluster, from each of the identified slums, 25 households were selected randomly. A predesigned, pretested questionnaire based on the WHO/UNICEF Joint Monitoring Program core questions on drinking water and sanitation for household surveys was used as a data collection tool. [5] Proportion of households using improved drinking water source and improved sanitary facility were measured.

Out of 750 households surveyed, 743 (99.1%) household in the slums were using an improved source of water. The commonest source of drinking water was piped water supply to the house (477, 63.6%) followed by water from the nearby public tap (222, 29.6%). Most (742, 98.9%) household were using a septic tank (an improved one) as their sanita-

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tion facility. Only few (08, 1.1%) household were still dependent on open defecation as shown in Table I.

Table 1: Drinking water sources and sanitation facilities in the households in the slums of Srikakulam, Andhra Pradesh (n= 750)

Variables	No. of Households (%)
Drinking water source	
Improved	
Piped water in premises	477(63.6)
Public tap	222(29.6)
Bottled Water/water can	30(04.0)
Tube well/Bore well	14(01.9)
Unimproved	
Dug well	7(0.9)
Sanitation facilities	
Improved	
Septic Tank	742 (98.9)
Unimproved	
Open field/Outside/Bush	08 (01.1)

As per WHO, drinking water source was defined as "improved" if it includes a piped water supply into the dwelling or yard, a public tap, a tube well or bore well or a protected dug well. [5] In our study 99.1% of the slum households were using improved drinking water source; out of them the most common being piped water supply to their homes which is the most ideal one. This is almost comparable to the findings in another study done in slums of Siliguri in West Bengal, where 92.1% slum households were found to be using improved water source for drinking. [6] Sanitary facility was considered "improved" if it includes flush to piped sewer system, flush/pour flush to septic tank, flush/pour flush to pit, composting toilet, ventilated improved pit latrine and pit latrine with a slab. [5] Almost all, 98.9% of the households surveyed have a septic tank facility. Our study almost agreed to the claims of Srikalulam being a "open-defecation" free city s far as the slum population is concerned.

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