

Awareness and Practice of Personal Hygiene and Sanitation: A Study in a Slum Dwelling in Jammu City, J&K, India

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Abstract: *Insufficient measures of sanitation have direct impact on the health of an individual, family, community and nation as a whole. In order to evaluate the personal hygiene and sanitary conditions of a slum dwelling in Jammu city, J&K, India, a cross sectional study was done with a total of 475 respondents through field work, surveys using questionnaire and by interviewing the people. The result emphasizes the need for measures to improve the physical environment of the area like basic amenities of toilets, proper drainage, sewerage system and adequate water supply. The people of the area were found to be living in pathetic unhygienic conditions with filthy community toilets, open defecation system, burning of wood, coal, dung cakes inside ill ventilated rooms, having various bad habits such as chewing of tobacco, smoking, drinking, least care about health, irregular use of soap before meals and after defecation and least care of other cleanliness measures that were considered as the major risk factors to the people of study area. This study was performed from August 2019 to January 2020, however, it has become more applicable and has gained even more relevance by this time as the results are compiled as it has become even more critical to practice measures of personal hygiene and maintain sanitation as per guidelines as today the whole world is in fight against the novel coronavirus disease (COVID-19), but millions of people have no ready access to clean water, safe surroundings and are ignorant about personal cleanliness and hygiene.*

Keywords: Slum, Hygiene, Sanitation, Health

1. Introduction

High population density and shared access to basic amenities make slums extremely vulnerable to the spread of many diseases. Amid fears of spread of infection after the novel coronavirus outbreak this study undertaken a few months back becomes even more pertinent.

“Hygiene” refers to conditions or practices by which people maintain or promote good health by keeping themselves and their surroundings clean. Even in our present-day society, good hygiene practices continue to be the primary disease-prevention approach. In the developed world, where public health standards are considered to be high, infectious diseases are still a part of everyday life. Exposure to disease-causing microorganisms can occur as a result of contact with an infected individual, consumption of contaminated food or water, contact with contaminated objects or surfaces, or inadequate personal care habits, all of which compromise the ‘Hygiene barrier’[1].

However, the worst affected are the poor populations in the developing world, especially in areas with low coverage of hygiene and sanitation. Knowledge and implementation of good hygienic cleaning practices in the home can help reduce the risk of illness by maintaining a ‘hygiene barrier’ that reduces these exposures.

The home is a dynamic environment where many different types of activities can be performed by wide range of individuals, all of whom can vary in age, health, and susceptibility.

The growth of urban slums has been one of the defining characteristics of the past decades in the developing world. Massive urbanisation, outpacing urban planning and infrastructure, within low-income and middle-income countries over the past 50 years has resulted in urban slums. Around 881 million people worldwide already live in slums according to UN Habitat, a number estimated to double to almost 2 billion within the next 30 years due to continuing urbanisation and natural population growth [2].

Each year there is an unprecedented rise in the inflow of people (both skilled and un-skilled labourers) from rural to urban areas in search of better income and well-being. Along with these migrants there is transfer of poverty from rural areas to urban areas. The prime concern of these unemployed poor people is of occupation. The chief basic amenity they seek is a place to sleep. They often select a place which is near to their job market and saves transport costs. Due to high cost of land in metropolitan cities they cannot afford a piece of land as a result of which they often select neglected areas or open spaces available along sewage drains, roadsides, railway tracks, unstable slopes and form colonies in the form of slums there[3]. Generally, these locations are in the areas which are unfit for human habitation. Residential structures they make are of insubstantial materials and are hence prone to easy ignition, recurrent breakdown, and offer limited protection, leaving their residents susceptible to injury, violence, illness, and death. Further, since many of these settlements are illegal, slum dwellers often have no official addresses and are commonly denied basic rights and entitlements, including the right to vote, public education and health care[4].

The main problem arises when the inhabitants of such areas produce different kinds of waste and have no means for its

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disposal which is often seen lying in their vicinity and in no time the situation turns hazardous. To live in a healthy manner basic sanitation and hygiene are the necessary requirements which are often ignored by the residents of slum habitations.

The present study was conducted in Kalka colony, a slum dwelling near Bahu Fort, Jammu, J&K. This area is located within the coordinates of latitude 32° 43' 33.96" N and longitude 74° 52' 49.08" E. There is one nallah in the vicinity which drains sewage from upper part of the area and the said colony comprising of around 1200 families has come up along the length of this nallah. Most of the slum dwellers are from outside the region and are living here for more than 30-40 years.

2. Materials and Methods

This cross sectional study was designed to assess the knowledge and practice of personal hygiene and sanitation conducted in purposively selected Kalka Colony slum of Jammu city during August 2019 to January 2020. A total of 475 slum dwellers were enrolled for the study. The samples were selected with simple random sampling, so that different income groups of people get represented in the surveyed area. A semi structured pre-tested questionnaire was used to collect data by face to face interview. Information regarding the type of house/room, source of drinking water, knowledge about activities of personal hygiene, ventilation and garbage disposal were discussed. The questionnaire contained both close ended and open ended questions. Verbal informed consent was taken from the respondents by explaining the purpose of the study. To analyze the data, collected information was classified. The classified data was tabulated and percentage was calculated for the same.

Data were collected from primary as well as secondary sources. The primary data were generated through field work. The secondary data were borrowed from the published records and reports released by different organizations both at national as well as at local levels. In the present study both primary as well as secondary data have been used, the nature of the problem was such that it required intensive and extensive field work. Since the slum of the study area has not been notified by Municipal Corporation of Jammu or any other concerned authority, very less information was available from Census Organization and other Government offices.

3. Results

In the present study of Kalka Colony, slum area in Jammu city, an attempt has been made to present a sketch on quality of life of these family respondents. The outline of the lifestyle of these slum dwellers presents a clear image of factors such as living environment of the family, size of the family, type of the house, occupation and annual income of the family besides their personal habits of hygiene and sanitation.

Residential facilities in slum area

Basic facilities available in the Colony reveal a grim picture of the living conditions of the slum dwellers. It was

measured through the availability of toilet/bathroom, drinking water facility, drainage, garbage disposal, electricity, cooking fuel etc. Type of accommodation constitutes the main aspect of the basic needs of man. Regarding housing conditions, more than thirty percent resided in tin shaded room/house, 198 (41.7%) in 'kacha' house and only 125 (26.3%) in 'pucca' houses.

In a similar study, Blinkhorn & Sen Gupta (2006) reported that there were enormous challenges in basic services like residences and infrastructures, especially for sanitary solutions in slum areas and almost everyone is dependent of public toilets. These are poorly maintained which contributes to health and environments risks [5].

Karandikar (2010) analysed the middle class housing type ('chawls') in Mumbai, India and found the similar conditions with respect to accommodation, toilet, drinking water facility, drainage, garbage disposal etc. [6].

Table I: Poor housing conditions in the study area

S. No	Observation/Response	Percentage
1	Type of house	(a) Kutchha (41.7%)
		(b) Pucca (26.3%)
		(c) Tin Shaded (32%)
2	Number of persons Per room	(a) 1 person/room (17.5%)
		(b) 2-3 persons/room (14.10%)
		(c) 3-5 persons/room (58.20)
		(d) More than 5 person/room (10.20)
3	Type of floor in the house	(a) Rough & damp 57%
		(b) Cemented 14%
		(c) Others 29%
4	Type of accommodation	(a) Single room accommodation 63%
		(b) Double room accommodation 23%
		(c) Three room accommodation 12%
		(d) More than three room accommodation 2%
5	Ventilation in the house	(a) Only main door 61%
		(b) Main Door and a small window 15%
		(c) More than one door and windows 24%
6	Drainage	(a) No drainage 52%
		(b) Open Drainage 48%
7	Garbage disposal	(a) Within the house 27%
		(b) Outside the house into the drain 42%
		(c) In the public area 31%
8	Kitchen fuel	(a) Chulah/Kerosene oil Stove 52.7%
		(b) LPG 47.3%
		(c) ±Electric Heater 17.31%
9	Source of water	(a) Municipal tap water 28%
		(b) Community taps or other sources 72%
10	Toilet	(a) Facility inside the House 38.6%
		(b) Community toilets or open defecation 61.4%

Accommodation of two or more than two rooms

Lesser accommodation leads to crowding of space and that reflects the dearth of resources at the disposal of household. Moreover there is lack of privacy and adverse impact on health. People in 58 percent of households were living in less than two rooms. Each house was observed to have just one entrance and most houses were either having a single ventilation window or no window at all. The families comprising of people of all the three generations were forced to live in that single congested accommodation making them susceptible to the infectious diseases. The situation due to

congestion was so acute that 58% of the respondents had single room accommodation, 22.50% had double room accommodation, and 19.50% had 3 room accommodations.

Paul et al., (2015) quoted slums as notoriously parochial and picturesquely local places characterized by an amalgam of dilapidated housing, overcrowding, disease, poverty, and vice [7].

Sundari (2003) in a similar study observed that single room accommodation was very common among the slum dwellers of Coimbatore of Tamilnadu [8]. In another study performed by Ray (2002) in Calcutta, problems of congestion were found to be acute as near about 96% of slum dwellers had single room accommodation [9].

Nature of floor is a significant factor in the housing conditions as it defines the health of the dwellers when cracks and crevices serve as breeding place for large number of pathogens. In the present study, the condition of the floor was found to be wretched as more than forty percent dwellers had rough and damp type of floor where cracks and crevices were common. The condition of the floor was particularly important as it was used as sleeping platform by most of the dwellers. 42.16% of the respondents had the floor which was damp and rough while only 28.5% had well-maintained cemented floor and remaining 29.34% had sub-standard type of floor.

Poor drainage

During the visits in slum areas, the wastewater could be seen in gutters between the houses, where the people were walking, the situation worsened during rainy days. Standing water can be a breeding ground for mosquitoes and other insects which can carry diseases such as zika, dengue or chikungunya, and therefore puddles represent a serious threat to human health in much of the world.

Kumar and Joseph (2012) reported that as per the census 2011, at country level, there is no drainage facility in 48.9% households, while 33% households have only open drainage system which is a major factor in spread of waterborne diseases in slum areas [10].

Neil Armitage (2002-06) observed that in the absence of proper services, the (informal) drainage system quickly becomes the recipient of waste of all kinds including water, faeces and solid waste [11].

Households using gas/chulah for cooking

The use of chulah with firewood/dung cake and kerosene oil stove for cooking purposes is associated with economic backwardness and causes indoor pollution. On the other hand LPG is a modern cooking fuel that is time saving, clean and convenient to use. Despite Govt. of India's schemes and measures to provide LPG connections to all households, about 52.7% houses still use chulah/kerosene oil stove and others (17.34%) used electric heater on illegal electric connections besides other measures.

In terms of cooking space, our study results reveal that 38% households cooked either outdoors, or in tin sheds without ventilation and rest cooked inside their living spaces. In all

cases a higher incidence of exposure to indoor/outdoor air pollution was seen.

Exposure to IAP has been linked to a wide range of diseases in adults and children, such as Acute Lower Respiratory Infections (ALRI), chronic obstructive pulmonary disease (COPD), lung cancer, cardiovascular diseases (CVD), ischemic heart disease, stroke, cataract, and burns and poisonings. Moreover, emerging evidence increasingly links IAP with other conditions such as adverse pregnancy outcomes, low birth weight and perinatal mortality, asthma, otitis media and other acute upper respiratory infections, tuberculosis and nasopharyngeal, laryngeal and cervical cancer [12]-[15].

Households having toilet with/within the house

Lack of access to toilet in the house is indicator of poor living condition. Open defecation by children into the drains or on the sides of the colony is common in the area. Only 38.6% houses have toilet facility in the house while rest used community toilets or defecated in the open.

Regarding the houses having toilets, the main issues identified through observations during visits were that excrement were not flushed properly, rats were found in the toilet booth, water was not available inside the toilet booth, at some places there was no water available even outside the booth, no bins were installed inside or outside the booths, there was no place for washing hands, no soap, constant leaking pipes, bad lighting, door or lock often broken.

Tragically in India, a growing slum population and lack of adequate sanitation forces over 50 million men, women and children to defecate in the open every day, with little or no attention in most cities to the unbearable loss of lives and public health impact of open defecation and unsafe disposal of human waste [16].

Lack of safe drinking water

In the study area, water supply was found to be irregular and the problem aggravated during summer months. It was observed from the data that only 28% of the sample had drinking water facility within their house while the rest had it outside their house in the form of community taps. These people filled their buckets/tank from the common tap and stored water for their day to day purposes. The awareness regarding the causes and ill effects of the water pollution was reported to be negligible as only 18% of the sample population was observed to be aware of it. Even the quality of the drinking water was also found to be below optimal standards as the water pipes were found broken at several points which resulted into impairment of the water quality. People were often seen breaking water pipes at several points in order to meet their water requirements.

The number of people without access to safe water in urban areas increases sharply in developing countries as a result of rapid urbanization, much of which occurred in peri-urban and slum areas since the last decade [17].

Fecal contamination in water sources, an indicator for poor sanitation and hygiene, is still found around the world, especially in slum areas of mid-low income countries [18].

Diarrhoea or gastroenteritis is among the main causes of health problems; 1.5 million deaths were caused by diarrhoea in 2012 and 280,000 were caused by poor sanitation [19].

Prevalence of unhealthy habits

Regarding personal hygiene 48% had satisfactory habits and 52% did not have good personal hygiene. About 67% slum dwellers practiced hand washing before taking meal and about 59% respondents washed hand with soap after defecation. It was found that near fifty percent respondents brushed their teeth regularly with tooth paste and the rest used tooth powder, ash, neem stick, etc. 81% subjects took bath regularly and 78% washed cloths irregularly. 34% of the respondents reported poor bathing practices and 21% reported poor hair washing practices. In this study we found that education and knowledge about hygiene is intimately and significantly associated with practice of personal hygiene.

Due to lack of education, knowledge and basic awareness, people often have a poor understanding of the relationship between health, water, sanitation and hygiene. In some instances, people may still practice unhygienic habits even though this understanding does exist [20].

Also, the personal habits such as alcohol consumption, smoking and chewing of tobacco were highly prevalent among these slum dwellers.

Table II: Respondents' personal hygiene practices

Personal hygiene habits Percentage

Hand washing before taking meal
Use of soap 36%
Using water only 30.5%
Irregular using of soap water 33.5%

Hand washing after defecation

Use of soap 59%
Using water only 28%
Irregular using of soap water 13%

Tooth brushing habit

Tooth paste 50%
Tooth powder 9%
Ash 22%
Neem stick 17%
Irregular 2%

Bathing

Regular 81%
Irregular 19%

Washing of clothes

Irregular 79%
Regular 21%

4. Conclusion

The unabated rise of slum areas is common in the developing world. Poverty, unemployment, landlessness, inequality in economic development, low wages, etc. in the rural areas are factors that fascinate people towards cities.

The increase in urbanization and urban poverty in India is a cautionary indicator for the Government and other concerned authorities to focus attention on provision of basic amenities for the dwellers. Constant community hygiene education along with physical access to water supply and sanitation shall definitely impact change in the hygiene behaviour of people residing in these areas.

Government of India has started many initiatives for solving slum problems. With passage of time government policies have undergone paradigm shifts from forceful eviction to provision of dwelling units to the urban poor [21] with the launch of Slum Improvement Program (SIP) and Slum Upgrading Programs (SUP) for improving the conditions and environment of slums. In the past a number of schemes have been launched by the Govt. of India such as National Slum Development Program (NSDP), Valmiki Ambedakar Awas Yojna (VAMBAY), Basic Services For Urban Poor (BSUP), Integrated Housing and Slum Development (IHSDP), Scheme For Urban Infrastructure and Governance (UIG), Urban Infrastructure Development Scheme for Small and Medium Towns (UIDSSMT) and Rajiv Awas Yojna (RAY) for the improvement of conditions of the urban-poor population [22], [23].

Indian urban scapes certainly need a drastic overhaul of infrastructure and services if they want to bring the poor slum dwellers on board for an inclusive urban growth. The cities need to invest in behavioural changes, infrastructure building, service provisioning and monitoring. The women, adolescent girls and children, need special emphasis in all these. Hand washing, sanitary napkins, women and child friendly toilets, toilets in schools and Anganwadi Centres, quality monitoring of sources, piped water supply to each household, well maintained community toilets, proper garbage and septage management, abating pollution of water bodies and rivers are just some of the many tasks that are at hand. The country has already started facilitating the involvement of a cross section of stakeholders in the programmes for the urban poor. The need of the hour is to bring in more partnerships from government departments, municipalities, private agencies, civil societies, user groups, citizen committees, and above all, the poor families themselves. A real Swachh Bharat can be achieved when programmes for the urban poor can provide good health, hygiene, nutrition and environment (Water, Sanitation And Hygiene of the Indian Urban Poor, 2015).

All this becomes even more important in today's times when Novel Corona Virus has spread its tentacles across the globe. There is intense need to educate such masses on the issues of health, sanitation and personal hygiene.

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