Research Article

Comprehensive knowledge of HIV/AIDS among adults of reproductive age group in an urban slum of Bengaluru: A cross-sectional study

Ranganath T S, Shibi S, Nimra Shireen, Swetha N B

Department of Community Medicine, Bangalore Medical College and Research Institute, Bengaluru, Karnataka, India

Correspondence to: Shibi Selladurai, E-mail: ssibi.89@gmail.com

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ABSTRACT

Background: People living in slums are often deprived of health-care facilities, making them vulnerable to several health issues and infections. One of the most fatal infections is HIV/AIDS, and moreover, many are not even aware of available services for the treatment of such fatal diseases. HIV-related stigma and discrimination remain an important barrier in effectively fighting the HIV and AIDS epidemic. **Objectives:** To assess the comprehensive knowledge of HIV/AIDS among adults of reproductive age group in an urban slum in Bengaluru and to assess the attitude toward people living with HIV/AIDS (PLWHA)among the slum population. **Materials and Methods:** A community-based, cross-sectional study was carried out among adults of reproductive age group (15-49 years of age)in urban slums of Bengaluru. The study was conducted among 260 participants over a period of 3 months (July to September 2015). House to house survey was done and data were collected using a semi-structured questionnaire. Data were entered in Microsoft Excel sheet and analyzed using SPSS 21 software. Descriptive statistics such as frequency tables, pie diagrams, and bar charts were used wherever necessary. **Results:** Only 35.3% (92)of study participants were aware of the fact that HIV can be transmitted through breastfeeding, and 41.9% (109)knew about transmission from mother-to-child during delivery. Although the majority of the participants said they felt sympathetic toward PLWHA, 207 (79.6%)of them believed that PLWHA should not marry, and 114 (43.8%)thought that HIV positive women should not give birth to a child. **Conclusion:** Comprehensive knowledge of transmission and preventive methods of HIV/AIDS is still low among the slum population. Therefore, programs must focus on appropriate behavior change communication especially among women in the reproductive age group in slum areas.

KEY WORDS: Comprehensive Knowledge; HIV/AIDS; Reproductive age Group; Urban Slum

INTRODUCTION

India has the third-highest number of people living with HIV (PLWH) in the world after South Africa and Nigeria. As per the annual report of NACO 2014-2015, the number of PLWH/AIDS (PLWHA) in India is 20.89 lakh with an estimated adult (15-49 years) HIV prevalence of 0.27%.[1] Karnataka is one of the high HIV prevalence states in India. According to the HIV Sentinel Surveillance system data of 2014-2015, HIV prevalence among pregnant women receiving antenatal care in Karnataka was 0.36% which is higher than the national level of 0.29%.[2]

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The management of this epidemic is currently off human comprehension. With so much research already being done on the pathogenesis of this virus and most modes of transmission already being established, the increase in awareness of this disease is not on par with the spread of this disease. The lack of knowledge about the modes of transmission leads to stigma and discrimination against PLWHA. Stigmatization would

make people hesitant to get the test done, therefore, more PLWHA are unaware that they are suffering from HIV/AIDS and this, in turn, could further accelerate the spread of the virus. Furthermore, fear of stigma would cause PLWHA to conceal their status, thereby putting his/her sexual partners and/or needle sharers at risk of getting infected, due to lack of precautionary measures.

The situation is further worsened by epidemiological transition taking place in developing countries, which is characterized by urbanization and industrialization. Urbanization is a worldwide trend, but the increasing inability of developing countries to respond to this situation has been noted with the mushrooming of urban slums. As per 2011 census, 17.4% of the urban households are in slums in India.[3] Low literacy level, migration, poor quality housing, overcrowding, and inadequate sanitation are inherent attributes of slums, which makes them vulnerable for transmission of communicable diseases. People living in slums are deprived of access to health and other services, making them vulnerable to opportunistic infections.

United Nations Programme on HIV/AIDS (2008) had emphasized improving awareness and knowledge of prevention methods of HIV/AIDS as the first strategy in the battle against HIV/AIDS.[4] In India, the National AIDS Control Program (NACP) focuses on enhancing HIV/AIDS awareness and knowledge through behavior change preventive practices. Under NACP-IV (2012-2017), some key strategies are to intensify and consolidate preventive services and expanding Information, Education, and Communication services.[5] In India, studies on awareness and knowledge of HIV/AIDS and its transmission among the slum population indicate that slum population has limited knowledge, myths, and misconceptions about the modes of HIV transmission.

The objective of this study is to assess the comprehensive knowledge of HIV/AIDS and the attitude toward PLWHA among adults of reproductive age group in an urban slum in Bengaluru.

MATERIALS AND METHODS

A community-based, cross-sectional study, was carried out among adults of reproductive age group (15-49 years of age), which happens to be sexually and economically the most productive age group. The study area consisted of slums in urban field practice area of Bengaluru Medical College and Research Institute Ethical Clearance was obtained for conducting the study from the Institutional Ethical Committee. Based on the National Family Health Survey-3 Karnataka data for comprehensive knowledge of HIV/AIDS among adults, the sample size of 260 was calculated using the formula 4pq/L2, with 15% permissible error.[6] The study was conducted among 260 participants over a period of three months (July to September 2015). A 4-part, 32-item semi-structured questionnaire was used for eliciting information about the knowledge of HIV/AIDS (6 items), modes of transmission (10 items), ways of prevention (8 items), and attitude toward PLWHA (8 items).

House to house survey was done using convenient and systematic random sampling (every 5th house considered). During house visits, the purpose and nature of the study were explained to the people, and informed consent was obtained. Data were collected by interviewing, only one member from each house (considered as representative of the family). If the number of eligible respondents was more than one in a household, any one person was selected randomly. Data were entered into Microsoft Excel sheet and analyzed using SPSS 21 software. Descriptive statistics such as frequency tables, pie diagrams, and bar charts were used wherever necessary.

RESULTS

The demographic profile of the study population is as shown in Table 1. A total of 260 persons belonging to 15-49 years of age were interviewed, which comprised 107 (41.1%) males and 153 (58.8%) females. The majority (60.3%) of the participants were aged between 25 and 34 years while the age group of 15-24 years contributed least with only 41 (15.7%) participants belonging to this group. Overall, 73.8% of the participants had an education of primary school and above while 26.1% were illiterates.

Although overall, 91.9% (239) of the study participants have heard of HIV/AIDS, more than one-third of them thought

Table 1: Sociodemographic profile of participants (n=260)

Parameter	Variable	*n* (%)
Sex		
	Male	107 (41.1)
	Female	153 (58.8)
Age in years		
	15-24	41 (15.7)
	25-34	157 (60.3
	35-49	62 (23.8)
Education		
	Illiterate	68 (26.1)
	Primary	23 (8.8)
	Middle	49 (18.8)
	High school	57 (21.9)
	Intermediate	46 (17.6)
	Graduates	17 (6.5)
Marital status		
	Married	235 (90.3)
	Unmarried	21 (8.0)
	Widow	04 (1.5)

that an individual cannot have AIDS without knowing it. The various sources of information as said by the participants are shown in Figure 1. Surprisingly, among the people who have heard of HIV/AIDS, 74.6% (194) think that people with HIV infection look very weak and may die within a few years. The majority of them said loss of weight (78.4%) while about 58% said prolonged fever and only 36% said continuous diarrhea when asked about the common symptoms of HIV/AIDS.

The awareness of modes of transmission of HIV/AIDS is displayed in Figure 2. Even though the majority of participants were aware of the link between high-risk behavior and HIV and blood and HIV, only 35.3% (92) were aware of the fact that HIV can be transmitted through breastfeeding, and only 41.9% (109) knew about transmission from mother-to-child during delivery. While it is reassuring to note that only a minority incorrectly stated as the disease spreads through mosquito bites (8.8%), about 21% felt that disease can be transmitted by sharing common toilets. 214 (82.3%) participants were aware that diagnosis of HIV/AIDS was carried out by blood examination as compared to 97 (37.3%)

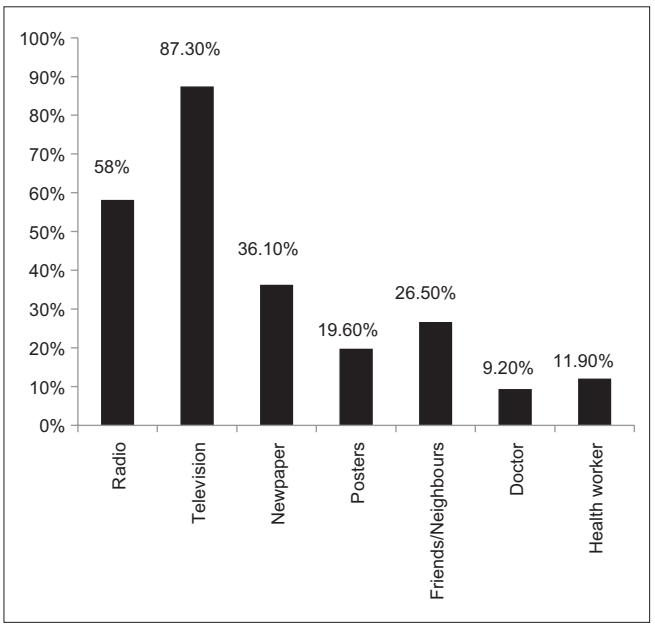

Figure 1: Source of information (*n* = 260)

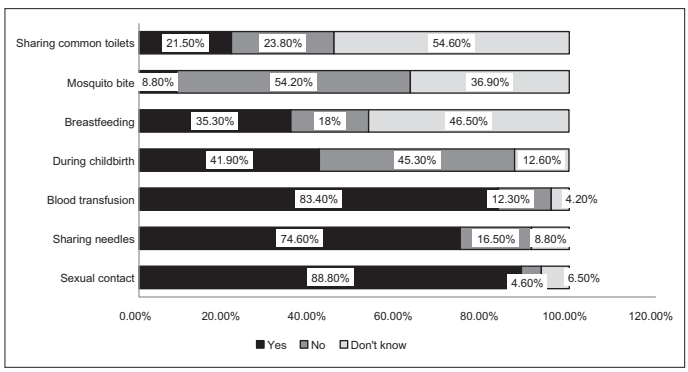

Figure 2: Awareness of HIV transmission (*n* = 260)

participants, who thought that urine could also be a source to diagnose the disease in an individual**.** About 35.7% (93) were of the idea that healthy looking HIV reactive person cannot transmit the infection to others.

Knowledge regarding various methods of HIV prevention among the study participants is shown in Table 2. Among the 260 participants, 89 (34.2%) thought that HIV/AIDS could not be prevented, while 50 (19.2%) did not know about its prevention. About 45.7% (119) were aware that there is no vaccine available for AIDS and 97 (37.3%) opined that early therapy can absolutely cure AIDS. Only 21.5% (56) knew about medicines that can be given to HIV-infected ante-natal mothers for preventing the child from getting infected.

The attitude among the study population toward HIV/AIDS patients is explained in Table 3. Although the majority of the participants said they felt sympathetic toward PLWHA, about 74% were of the opinion that HIV positive patients should not be allowed to attend social functions and only 21.9% of them stated that they will not hesitate to sit next to or talk to a known HIV patient. Moreover, 207 (79.6%) of them believed that PLWHA should not marry, while 114 (43.8%) thought that HIV positive women should not give birth to a child. Even though 65% of the participants stated that

Table 2: Awareness of HIV prevention (*n*=260)

Can HIV/AIDS be prevented by	Yes *n* (%)	No *n* (%)	Don't know *n* (%)
Using condom	229 (88)	13 (5)	18 (6.9)
Having only one sex partner	219 (84.2)	19 (7.3)	22 (8.4)
Screening of blood before transfusion	207 (79.6)	32 (12.3)	21 (8)
Avoiding used needles/ syringes	173 (66.5)	48 (18.4)	39 (15)
Avoiding breastfeeding	89 (34.2)	54 (20.7)	117 (45)

Table 3: Attitude toward PLWHA (*n*=260)

Questions	Yes *n* (%)	No *n* (%)
Do you sympathize for PLWHA?	229 (88)	31 (11.9)
Should HIV positive people be allowed to attend social functions?	66 (25.3)	194 (74.6)
Will you hesitate to talk/sit next to HIV positive person?	203 (78)	57 (21.9)
Should HIV-infected children be allowed in regular schools?	171 (65.7)	89 (34.2)
Will you allow your child to play with HIV positive child?	67 (25.7)	193 (74.2)
Do you think an HIV positive person should marry?	53 (20.3)	207 (79.6)
Do you think HIV positive women should give birth to a child?	146 (56.1)	114 (43.8)

PLWHA: People living with HIV/AIDS

infected children should be allowed in regular schools, only 67 (25.7%) of them are willing to allow their child to play with HIV positive children.

DISCUSSION

The mean age of our study participants was found to be 32.3 years. Of the total 260 study participants, 41.1% were males and 58.8% were females. The number of female participants were more in our study because during house to house survey, more females were available and the males had gone to work. The number of illiterates in our study group was 26.1%, which was similar to a study done in Hyderabad by Sudha et al.[7] Overall, 73.8% of the participants had an education of primary school and above which was higher compared to a literacy level of 64% found in a similar study done in slums of Chennai by Kalasagar et al.[8]

It is encouraging to see that majority of the participants have heard of HIV/AIDS and television (87.3%) followed by radio (58%) constitute the most common sources of information, which is similar to that seen in the study done in the slums of Vadodara by Kotecha and Patel.[9] More than one-third (35.7%) of them are of the opinion that an individual cannot have HIV infection without knowing it, and 109 (41.9%) thought that a healthy looking HIV reactive person cannot transmit the infection to others. Both these findings clearly show the misconceptions that people have regarding HIV/AIDS patients. Loss of weight was the most common symptom known to 204 (78.4%) participants, while prolonged fever and continuous diarrhea were other common symptoms cited by 152 (58.4%) and 96 (36.9%) of the participants respectively, which is high when compared to a similar study done by Kalasagar et al.[8]

Regarding the knowledge about the various modes of transmission, it can be seen that even though majority of participants were aware of the link between high-risk behavior and HIV and blood and HIV, only 35.3% (92) were aware of the fact that HIV can be transmitted through breastfeeding, which is even less compared to 43.2% found in a study by Sudha et al.[7] This clearly shows that breastfeeding as a route of transmission has received less publicity compared to other modes. This could be because the benefits of breastfeeding outweigh the risk of transmission through breast milk in a developing nation like ours with high infant mortality rate and malnutrition among children. Furthermore, only 41.9% (109) knew about transmission from mother-to-child during delivery which also shows poor awareness among people. 214 (82.3%) participants were aware that diagnosis of HIV/AIDS was carried out by blood examination as compared to 97 (37.3%) participants, who thought that urine could also be a source to diagnose the disease in an individual.

Awareness regarding the prevention of HIV/AIDS was found to be similar to a study by Kotecha and Patel.[9] It is noteworthy that only 34% of our study population felt breastfeeding should be avoided compared to condom usage (88%) and avoidance of shared needles (66%) as means of prevention of HIV/AIDS infection. When it comes to the attitude of the people toward PLWHA, many misconceptions and stigma were documented, with 207 (79.6%) of them believing that PLWHA should not marry, and 114 (43.8%) thought that HIV positive women should not give birth to a child. Furthermore, it is interesting to note that although 65% have stated that infected children should be allowed in regular schools, 25% said they will not allow their children to play with an HIV positive child. This clearly shows their practical concerns even though 88% of the participants feel sympathetic toward PLWHA.

The study was a survey at one period, so it has the limitations of a cross-sectional study. However, the findings of the study are very relevant to people in urban slums. Slum dwellers are more vulnerable and are less covered by HIV/AIDS prevention programs. These study results can be useful in directing future efforts at creating awareness about HIV/AIDS, particularly in slum areas. The study reported here has few limitations. First, the sample size is limited. Second, restriction in asking questions concerning sexual beliefs and behaviors as was observed in the pilot study, made us slightly change the questionnaire. Third, because of the nature of the questionnaire, the honesty of individuals' responses may be questioned.

CONCLUSION

The study findings highlight that while awareness of HIV/AIDS is near-universal, comprehensive knowledge of transmission and preventive methods of HIV/AIDS is still low among the slum population. Although HIV prevention programs in India have been making extensive use of the mass media, especially the electronic media, to build awareness of HIV/AIDS prevention methods, low levels of HIV/AIDS awareness suggests a lapse in educational campaigns in building knowledge of HIV prevention. Therefore, programs must focus on appropriate behavior change communication especially among women in the reproductive age group in slum areas.

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