

Knowledge, Attitudes, and Practices Regarding HIV Among the Middle and Lower Socioeconomic Cohort in Karachi, Pakistan

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ABSTRACT

Introduction: Populations in third-world countries such as Pakistan are at higher risk of contracting human immunodeficiency virus (HIV) which may progress to acquired immune deficiency syndrome (AIDS). This is largely due to the public's gaps in knowledge regarding HIV infection along with fear and contradictory beliefs associated with the disease. This study aimed to assess the knowledge, attitude, and practices regarding HIV/AIDS of the middle and lower socioeconomic cohort in Karachi, Pakistan. **Method:** A descriptive cross-sectional survey included patients and their attendants in the Out patient clinic of Creek General Hospital Karachi, Pakistan from Oct 2022 to March 2023. After taking informed consent, the population involved 500 subjects who were surveyed on their knowledge of the HIV infection. Data was collected using convenient sampling, a structurally validated questionnaire to assess the individuals on their level of awareness, attitude, and practice about HIV infection was used. The frequency of responses in agreement, disagreement or otherwise is calculated in percentages by using Statistical Package for the Social Sciences) SPSS 22. **Results:** A total data of 500 subjects was collected. 18.2 % of the surveyed individuals were illiterate and the rest had received varying degrees of formal education. 75.8% of our participants were aware of HIV infection and over 60% of them believed unprotected sex and reusing contaminated syringes were the main causes of the spread of the infection. 46.8 % of them believed it was dangerous to be in close vicinity to HIV positive individuals while 35.6% held the opinion that infected individuals should be isolated to prevent future infection. **Conclusion:** While a majority of individuals seemed to possess a moderate level of understanding regarding HIV infection a high proportion of the population still suffered from gaps in knowledge about the disease, its spread, and prevention and held a discriminatory attitude towards individuals infected with

HIV. There is a need for mass education in high-risk lower socioeconomic areas to decrease the burden of the disease.**INTRODUCTION**

Acquired immunodeficiency syndrome (AIDS) is a chronic disease caused by the Human Immunodeficiency virus also known as HIV. HIV is a fatal retrovirus transmitted in the form of a sexually transmitted infection (STI), through contact with blood (transfusion, IV drug abuse), and perinatal transfer [1]. It causes progressive depletion of CD4 T Lymphocytes that coordinate the immune system's humoral and cellular responses, significantly increasing an individual's risk of morbidity and mortality. The initial HIV infection may present with moderate flu-like symptoms but if left untreated, it can develop into Acquired Immunodeficiency Syndrome (AIDS) the immune system gradually deteriorates making the individual vulnerable to many opportunistic infections. In the four decades following its emergence, HIV infection has become a major global public health issue, and according to WHO an estimated 39.9 million people are living with HIV by 2023 [2]. According to UNAIDS, the rate of new HIV infections has decreased from 2.1 million in 2010 to 1.3 million per year in 2023 [3]. However, while the new infections continue to decline, developing countries such as Pakistan are still vulnerable to potential disease outbreaks [4].

Due to the nature of the disease and its mode of transmission, HIV usually affects a country's young and economically productive population, a fact that can have long-term drastic social and economic consequences. This can be especially detrimental in a developing nation such as Pakistan where as of June 2019 an estimated 165,00 people are HIV positive [5].

The first known case of AIDS in Pakistan was diagnosed in 1987 [6] and ever since, the country has experienced multiple outbreaks one of which is the Larkana epidemic in 2019 [5].

Recent integrated biological and behavioural prevalence IBBS studies [7] indicate a high prevalence of HIV among people who inject drugs in several key cities of Pakistan e.g 52.5% in Faisalabad, 49.6% in Dera Ghazi Khan, 46.2% in Gujarat, 42.2% in Karachi and 31% in Lahore. According to the 2014 World Drug Report by the United Nations Office of Drugs and Crime (UNODC), it was estimated that 13.1% of people who inject drugs were living with HIV infection [8].

Lack of knowledge and awareness regarding HIV along with engaging in unsafe or risky sexual behaviour are some of the main factors seen in individuals prone to infection by HIV and as there is no definitive cure for HIV-infected individuals requiring lifelong antiretroviral treatment, it is essential to prevent the population from contracting the disease through preventable and modifiable behaviour. Enhancing the knowledge about HIV will create a sense of responsibility and safe practice of sexual intercourse with regular screening and treatment of HIV. This study has been carried out among the residents of Karachi to understand the awareness among people regarding HIV, the type of relation they possess with the affected patient, and the extent of knowledge they have regarding the spread of HIV.

MATERIALS & METHODS

This cross-sectional study was conducted among adult patients and their attendants of 18 to 60 years presenting at the Outpatient department of Creek General Hospital in Korangi,

Karachi, Pakistan. The hospital was chosen because of its geographical location, which allowed people of various cultural and socio-economic backgrounds to access it.

Data was collected using a convenience sampling technique in which 500 individuals were surveyed between Oct 2022 and March 2023 after informed consent.

A structural questionnaire was constructed which was used to interview the participants and judge their knowledge and practices regarding HIV infection. The questionnaire in its first section collected data regarding the participant's demographic characteristics while in the latter half, they were asked about general perceptions of HIV. The survey took place in a 10-15-minute interview which was carried out by doctors. All data was collected in a calm environment while maintaining the participant's confidentiality and privacy.

The study is approved by the research and ethics committee of United Medical and Dental College Karachi. After an explanation of the research and its purpose written consent was obtained from the study participants. The survey was designed to maintain the participants' privacy during each interview. The participants had the option to withdraw from the study at any time and all those individuals who were unaware or had misconceptions were educated regarding the disease and the safe practices that can help them avoid infection. Individuals with unsafe practices were referred to tertiary care hospitals for screening of the disease.

The collected data was analysed in SPSS-24 (the Statistical Package for Social Sciences version 24) and all of the categorical variables along with their results were converted and presented in the form of percentages. Descriptive statistics were calculated which included variables such as the participant's age, gender, ethnicity and education.

RESULTS

In this study, a total of 500 people were surveyed, out of which 64 % (320) were women and 36% (180) were men with a ratio of 1.7:1. They were between the ages of 18 to 60 years including young adults, middle-aged and elderly. The most common age group is 18-30 yrs of age most of whom (64.6%) were married. The demographic characteristics of the study sample are presented in Table 1. 18.2% of our participants were illiterate while the remaining 81.8% were literate and had received formal education.

Table 1: Demographic Characteristics of The Study Participants

Gender	Males	180(36%)
	Females	320(64%)
Age	18-30 yrs	280 (56%)
	31-40 yrs	80 (16%)
	41-50 Yrs	64 (12.8%)
	51-60 Yrs	66 (13.2%)
	>61 yrs	10(2%)
Marital Status	Married	323 (64.6%)
	Unmarried	177 (35.4%)
Education	Illiterate	91 (18.2%)
	Literate	36 (7.2%)
	Primary	40 (8.0%)

	Secondary	64 (12.8%)
	Intermediate	99 (19.8%)
	Professional	170 (34.0%)

As regards to their perceptions of the disease 46.8 % (n=234) of people believed it to be dangerous to be in contact with HIV-infected patients while 32.6% believed close contact to be insignificant in the transmission of the disease. 64 % of people were aware the disease could spread to infants during childbirth. While 63.4% thought that HIV was a preventable disease (Table 2) 301 individuals (60.2%) believed that a healthy-appearing individual could not be a carrier of HIV while 39.4 % either disagreed or were unsure. When judging participants' perceptions on the most frequent modes of transmission of HIV, 67.2% of individuals were aware that it spread through sexual intercourse, while 61 % believed reusing and syringes were the cause of its spread, and 46.4% and 35.4% of the interviewed believed visiting barber shops and getting tattoos could also lead to infection (table 2)

Table 2: Frequency of Distribution of Knowledge, Attitude, and Practice Regarding Aids Awareness in the Cohort

Question regarding awareness of AIDS	Yes	No	Don't know	
Have you ever contacted or known someone with an HIV infection?	2 (0.4%)	498 (99.6%)		
Have you ever heard of HIV?	379 (75.8%)	121 (24.2%)		
Dining or working with HIV-infected people is dangerous behavior.	234 (46.8%)	163 (32.6%)	103 (20.6%)	
If a person looks healthy, could he or she be an HIV carrier?	301 (60.2%)	70 (14.0%)	129 (25.8%)	
If the mother is infected with HIV, could it be transmitted to the baby during childbirth?	320 (64.0%)	73 (14.6%)	107 (21.4%)	
Can HIV infection be prevented?	317 (63.4%)	77 (15.4%)	106 (21.2%)	
Should a person with HIV be isolated?	178 (35.6%)	223 (44.6%)	99 (19.8%)	
What is the mode of transmission of HIV?	Barber's shop-232 (46.4%)	Syringe-305 (61.0%)	Sexual Intercourse-336 (67.2%)	Tattoo-177 (35.4%)

During the interview, it was also found that a huge proportion of individuals (44.6%) thought that social and physical isolation of people with HIV was not a proper or effective way of containing the disease while 35.6% were in favour of isolating infected individuals. (Table 2). Almost 22% of the individuals were unsure or didn't have any definitive opinion while answering the survey questions, the percentage is close to the illiterate population included in the survey which is 18%.

DISCUSSION

This study provides a snapshot of knowledge, attitudes, and practices among the general population about HIV infection including low socioeconomic and middle-class

populations regarding the human immunodeficiency virus in the city of Karachi, Pakistan. We explored the perception of Pakistani adults regarding transmission, prevention, and factors predisposing to infection with HIV. We also took into account the education level of our participants while assessing their awareness regarding the various ways in which an HIV infection can spread. Additionally, our research also examined the attitudes and perceptions of healthy individuals towards people infected and living with HIV.

During this survey, we found that a surprisingly low number of individuals (0.4%) reported having directly known someone living with HIV. These findings are the same as the HIV prevalence in the general population of Pakistan estimated by UNAIDS, in 2018 of the same age (15-49) which was 0.1 % (0.1 - 0.2) suggesting that the recorded HIV burden in Pakistan has remained relatively constant through the years [9].

We conducted a comparative analysis of our study, which included a lower socioeconomic demographic with moderate to low levels of education, against similar research involving a more educated population in Pakistan. Our findings indicated a direct correlation between higher education levels and increased awareness, leading to improved avoidance practices within the community. Research conducted at Islamabad and Rawalpindi University by Rehan and Waheed [10] found that 71.9% of participants demonstrated adequate knowledge about HIV. Additionally, a study at the Combined Military Hospital Lahore Medical College and the Institute of Dentistry (CMH LMC) in Lahore found that most participants exhibited moderate knowledge regarding HIV [11]. This study also found that an average of 1.93 (\pm 0.75) out of 4 individuals, regardless of their status as medical students, held negative perceptions towards individuals living with HIV. This suggests that enhanced educational attainment still does not automatically result in a more accepting attitude towards stigmatized conditions such as HIV emphasizing the need to formulate an effective strategy on a mass scale.

In regards to the general population's awareness of HIV, we found that the vast majority of our respondents had heard of the disease and held a strong, often negative opinion towards the disease with 46.8% (234) of people preferring to avoid working or dining with HIV positive individuals believing it is dangerous which is a misconception and needs to be clarified whereas 32.6 % (163) seemed to disagree. This finding is in line with prior research carried out in the teaching hospital of Dera Ghazi Khan Pakistan among the non-medical staff members in Pakistan in which it was found that while the vast majority of individuals 82.68% considered it best to isolate individuals harbouring HIV, only 18.4% of people agreed to interact with such patients [12]. In other developing nations with similar traditional backgrounds such as India, a meta-analysis of 43 studies was done which concluded that 40% of the population held negative perceptions regarding HIV [13].

Our study also found that 44.6 % of the subjects disagreed with isolating PLWHA believing it to be inhumane and unethical whereas 35.6 (178) preferred to isolate PLWHA. Another study conducted among the young people of Iran seemed to contradict this finding as, 70.1 % of people showed a positive attitude towards sharing meals, water, and utensils with HIV-compromised individuals whereas only 38.4 % declared intolerance for working or studying with people living with HIV (PLWHA) [14].

There is a need to educate people regarding HIV and its modes of transmission as individuals detected positive for HIV are often faced with social stigma and a threat of isolation which pushes them to keep their infection status hidden. Studies conducted in Sucre, Bolivia [15], and Sudan revealed that almost 60% of individuals denied the idea of being friends with an HIV-positive person [16]. This study also revealed that a large number of the surveyed were also unaware of how preventable HIV was which further added to their false perceptions towards the disease. This negative attitude often leads to a delay in approaching relevant healthcare facilities in a state where quick intervention is crucial in limiting the spread of the disease. The social stigma and subsequent isolation faced by PLWHA is a major contributing factor to the high rates of anxiety and depression faced by patients. A cross-sectional research conducted at the ART centre of PIMS institute in Islamabad, Pakistan, found that 80 % of PLWHA had co-occurring anxiety and depression and that patients with HIV-associated stigma were 2.48 times more likely to experience anxiety and depression [17].

Our study also observed that regardless of the education level and socioeconomic status the majority of the surveyed (60.2%) were aware of the fact that a healthy working person can be HIV positive, a finding supported by Nubed and Akoachere [18] in their study conducted in Cameroon. Knowledge among the subjects about how HIV is transmitted is fair as more than half knew the main routes of HIV transmission from mother to neonate (64%) by sexual intercourse (67.2%) and through syringes (61%) while less than half of the participants had awareness of transmission from the Barbers shop (46.4 %) and tattooing (35.4%). This observation is an eye-opener as most of the population in rural areas are in the habit of going to barbers frequently for their daily shaves and thus are unknowingly at risk of getting infected with unsterilized blades. Although the community has a general understanding of HIV still some misconceptions need to be cleared and education should be provided to all. Batra and Memon et al [19] in their study have found a significant gap even in the knowledge among medical students regarding the spread and treatment of HIV. It has been universally accepted that screening knowledge, positive attitude, and healthy practice would reduce the incidence of HIV and also result in early detection.

HIV remains one of the world's most significant public health challenges, particularly in low- and middle-income countries because of the level of education and limitation of awareness as well as resources to screen the population. In 2011, a comprehensive review was conducted by Yousef et al [20] which included the virology, genotype, diagnostics, and the reasons for vulnerability in Pakistan, the study identified several factors such as poverty, education, and high unemployment rates which lead to the prevalence of HIV in Pakistan. It also identified 11 epidemic groups that were highly susceptible to HIV infection including male sex workers and intravenous drug users as the most at risk. This suggests that the actual prevalence of HIV infection in Pakistan might be much higher than the official report suggested as there is a lack of reported cases. Most infected individuals do not register themselves due to the threat of stigmatization and social isolation, and many of them are not aware that they are living with this disease. While the number of HIV seropositive individuals is still low in Pakistan as compared to the neighbouring countries, data regarding the prevalence of HIV in Pakistan is scarce and the reliability of available data is limited, therefore, aggressive measures are needed to avert a much larger epidemic in the future.

There is a desperate need to change the behaviour of people regarding this disturbing issue by spreading information via regular organized health awareness and feedback sessions to notice and reinforce the behavioural change. The government and private sector should take responsibility to ensure safe public healthcare practices by creating awareness. Above all, the stigmatization barrier has to be removed between the exposed individuals and the public so the spread of this deadly infection can be controlled by screening volunteering individuals in high-risk populations.

CONCLUSIONS

This study highlights some of the misconceptions of the general public regarding HIV infection and reveals that a high portion of the population still holds a discriminatory attitude and suffers from significant gaps in knowledge regarding the disease. Hence, targeted health campaigns should be provided to high prevalence areas for the control of this deadly infection.

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