

Assessment of Knowledge, Attitude and Practice towards Post Exposure Prophylaxis for HIV among Health Care Professionals in Lahore

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Abstract

HIV infections in health care workers have become a major health problem especially in developing countries in these days. Most in poor resource setting HCWs dealing with large number of HIV infected patients. This situation raises the need for post exposure prophylaxis (PEP) for HIV exposed group really important. Considering this a cross sectional survey was conducted in general and governmental hospitals of district Lahore Pakistan to assess Knowledge, attitude and practice of HCWs regarding PEP for HIV. Response regarding Knowledge, attitude and practice of 609 HCWs were entered on a predesigned self explanatory questionnaire. Descriptive analysis of the data showed that almost half of the HCWs have never heard about PEP. 68% of HCWs were of the opinion that PEP guidelines should not be listed in the working area or they responded with no idea regarding PEP. A good number of HCWs almost 47.2% believed PEP non protective against HIV or either did not have knowledge about it. Significant proportion (>50%) of the respondents were found having in adequate knowledge and improper attitude towards PEP. 35.3% of the respondents were placed on PEP after exposure while rest of the HCWs were not or either did not have idea about PEP. It was concluded that knowledge and attitude of HCWs about HIV for PEP was just satisfactory, consequently formal training for HCWs about PEP for HIV is recommended.

Keywords: HIV; Health care workers; Post exposure prophylaxis; Respondents and descriptive

Introduction

HIV/AIDS (Acquired Immuno Deficiency Syndrome) a disease that damages person's facility to fight against diseases, exposing the body to various normally innocuous infections and a few forms of cancers. HIV (human Immuno deficiency virus) infects several types of leukocytes, primarily CD4 (helper cells) and macrophages/monocytes. These cells disruption are the core functionary components of immunodeficiency which characterizes AIDS (Anonymous). HIV is no more fatal in prompt treated cases; it has turn into a chronic controllable illness. But in developing and third world countries the situation is significantly different, where almost 95% cases of AIDS occurs [1]. As 33.2 million people throughout the world reported in 2007 infected with AIDS and HIV. Amongst which 2.1 million mortalities occurred due to AIDS and this number is increasing due to lack of effective therapy in these countries [2].

Health care workers (HCWs) form the foremost chunk of different cadres in most countries of the health care personnel. Their job demands a forefront caring role, bringing them in direct and close contact with the patients' other body fluids and blood. Which puts them at higher risk of the occupational exposure to HIV/AIDS and other infections? According to the World Health Organization (WHO) 2.5% of the total HIV global cases are due to occupational exposure among health care workers [3]. Considering this occupationally acquired HIV poses greater psychosocial challenges to the HCWs and other professional's due to associated discrimination and stigma. Such types of accidents are allied with a few, but pose momentous risk to the HCWs and professional's health, families, health and to the patients also under their care [4]. Avoidance of blood and other body fluids exposure through the safer practices, precautions, safer needle devices, barriers and supplementary innovations are the preeminent ways to avert HIV and additional blood borne pathogens [5,6]. Worldwide safety measures for all HCWs comprises using gloves and other safety barriers while touching blood or other body fluids, mucous membranes

or non intact skin of all the patients; evasion of injuries from needles, blades or other sharp instruments.

Pakistan being a developing country where the HCWs are the high risk groups exposed occupationally to HIV. Therefore an understanding of their professional performance is decisive to assess and minimize the risk of occupational exposure to HIV amongst them. Considering this the present study was undertaken to evaluate knowledge, attitude, and practice about HIV post exposure prophylaxis among HCWs of King Edward University Myo Hospital, Jinnah hospital, services hospital of Lahore, Pakistan.

Materials and Methods

Study design

A cross sectional descriptive study was conducted amongst 609 HIV care health professionals in different governmental hospitals in district Lahore Punjab province of Pakistan. Through simple random sampling technique study subjects were selected. These hospitals have hundreds of beds capacity with large number of health care professionals taking care of patients in the same time.

Study area

The present study was conducted in government hospitals of district

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Lahore from 25th April to 20th May 2015, Lying between 31°15'-31°45' N and 74°01'-74°39' E. it's the second largest city of Pakistan in terms of population (12.21 million).

Sample size and data collection

Using the Yamane formula the sample size was calculated,

$$n = N / 1 + (Ne^2)$$

Where n=sample size, N=Size of population, e=level of precision [7].

The minimum sample size was 531 HCWs. After informed consent was obtained, the researchers distributed questionnaires to 700 HCWs, and got completed 609 questionnaires back, which was a 87% response rate. A self-administered questionnaire was used to collect data. The questionnaire was design and developed based on literature review with four major parts: socio demographic characteristics, Knowledge, attitude and practice towards post exposure prophylaxis for HIV.

Statistical analysis

The statistical analysis was performed by using SPSS programme Version 22. Descriptive analysis of the data was performed. Data was represented in the form frequencies and percentage in tables.

Results

The present study was conducted in government hospitals of district Lahore of province Punjab Pakistan. Data regarding demography of respondents, knowledge, attitude and practices towards post exposure prophylaxis (PEP) were obtained on a predesigned self administered questionnaire from 25th April- 25th May 2015. The results showed that most health care workers (HCWs) were female 312(51.2%), between 31 to 45 years old (38.0%). Regarding professional rank, 26.3% were MBBS doctors, 23.3% nurses, 24.0% lab technician and Health technicians (26.4%) having 6-10 years of work experience as professionals. Most of the HCWs enrolled were diploma holders 208(34.2%), details given in Table 1.

HIV Knowledge in HCWs

Analysis of data regarding Knowledge towards PEP amongst HCWs showed that large portion of HCWs were of the opinion that they never heard about PEP though 53.4% replied that they have heard about PEP. In which most of them got information about PEP through friends. Significant numbers of HCWs (27.6%) were of the belief that PEP must be indicated after any needle prick or injury. 27.3% HCWs suggested that after 12 hours of exposure PEP must be taken and 28.1% recommended PEP 48 hours delay after exposure. 22.0% HCWs thinks for PEP with 100% effectiveness while 18.1% were having believe of 20-30% effectiveness regarding PEP. Most of the HCWs (34.8) did not have any idea regarding PEP training as shown in Table 2.

Attitude towards PEP

Result analyses of attitude questions asked from HCWs showed that small portion of the professional were of the opinion that PEP is needed and its role. While rest of them either did not considers it important or did not have any idea of it. 35.0% agreed that PEP guidelines must be there in working areas while other disagreed or did not have any knowledge of it. 35.0% HCWs agreed on the effectiveness of the PEP in HIV prevention while the other HCWs were of the belief that PEP is not effective in HIV prevention as given in Table 3, 25.9% HCWs agreed on that PEP must be indicated on any kind of sharp injuries

regardless of source. Most of the HCWs belief that PEP is not important if the patient exposed with is not truly positive for HIV infection and the remaining either disagreed or responded having no idea regarding PEP (Table 3).

Preventive practices to avoid PEP

The majority of nurses, doctors and other health care professionals provided the information that their health departments and organization have not yet developed any policies in neither vocal nor written form. 31.0% professionals use their personnel safety materials while dealing with patients blood or other body fluids while rest of the included subjects are not using any safety equipments or either did not know about it. A good number (34.2%) of HCWs did not practice hand washing after coming in contact with patients. 37.1% HCWs did not knew about the proper handling of equipments after and before use of the HIV potential risk associated sharp equipments.

Discussion

The results of the present study revealed that HCWs have the in adequate knowledge about post exposure prophylaxis (PEP) for HIV. These results concords with the study [8] conducted in Vietnam, demonstrating the same situation. The lack of awareness and having less knowledge regarding PEP for HIV in Pakistan due to the lack of proper protocols and guidelines addressed ever in these institutions. Little portion of the HCWs in our study showed proper attitude towards PEP for HIV that is accordance with the results of ref. [9] this is may be attributed to the fact that most of them used their own equipments to protect themselves from getting HIV infections as a precautionary measure (Table 3). Proper disposal of used needles and other equipments capable of HIV transmission as risk factors unfortunately were not practiced at the most. More than half of the HCWs suggested use of PEP as soon as after 12 hours (Table 2) while others affirmed initiating PEP with delayed timing as protective. Half of the HCWs would start PEP after exposure while the remaining responded, having no idea regarding PEP for HIV [10,11].

In the present study the attitude and knowledge about PEP for HIV in adequate fully in agreement as previously reported in studies [12] this may be due to the agedness of the HCWs having no interest and in younger HCWs the improper attitude towards PEP for HIV reported is due to the lack of interest from the organization and health care centers for having no planned policy concerning PEP for HIV up to date. The higher prevalence of HCWs of getting occupational HIV (Table 4) in Pakistan may be attributed to the lack of knowledge, stigmatizing attitude and improper practice amongst the HCWs. In this study we assessed the knowledge, attitude and practice of PEP for HIV in health care workers. In conclusion, the results indicated no satisfactory to satisfactory knowledge, attitude and practice concerning PEP for HIV in general hospitals amongst HCWs. Therefore need of more educational initiatives explaining PEP for HIV for HCWs as an important strategy in preventing occupational HIV infections transmission.

Conclusion

It was concluded that most of the HCWs at the general and governmental hospitals have inadequate knowledge regarding PEP for HIV and having improper attitude towards PEP. Mass media can play major rule in highlighting of this issue as well as developing awareness in HCWs relating PEP for HIV.

Variables	Details	N (%)
Age of respondent(Years)	20-30	179(29.3)
	31-45	232(38.0)
	>46	198(32.5)
Sex	Male	297(48.8)
	Female	312(51.2)
Occupation	Doctors	160(26.3)
	Nurse	142(23.3)
	Laboratory Technician	146(24.0)
	Health Technician	161(26.4)
Educational Status	MBBS	205(33.7)
	Diploma	208(34.2)
	Inter	196(32.2)
Work Experience	1-5	270(44.3)
	6-10	242(39.3)
	11-12	96(15.7)

Table 1: Sociodemographic description of HCWs in government hospitals at Lahore, Pakistan 2015.

Knowledge questions	Response	Frequency (%)	Standard deviation
Have you heard of PEP?	Yes	325(53.4)	0.499
	No	284(46.6)	
From what source you get the information?	Training	125(20.5)	1.406
	Mass media	103(16.9)	
	friends	142(23.3)	
	journals	119(19.5)	
	others	120(19.7)	
When you would think PEP should indicate	Patient at high risk	157(25.8)	1.149
	Patient known with HIV	146(24.0)	
	HIV with unknown	138(22.7)	
	Any needle stick injury during work	168(27.6)	
What is the maximum time to delay the PEP	24 hours	141(23.2)	1.100
	48hours	171(28.1)	
	72 hours	146(24.0)	
	12 hours	15 1(24.8)	
What is preferable time to take PEP?	Within hour	152(25.0)	1.119
	After 6 hour of exposure	138(22.7)	
	After 12 hour of exposure	166(27.3)	
	After 72 hour of exposure	153(25.1)	
What is the effectiveness of PEP	100%	134(22.0)	1.420
	80%-100%	117(19.2)	
	60-70%	114(18.7)	
	30-50%	134(22.0)	
	10%-30%	110(18.1)	
What is the length of time to take PEP	28 days	157(25.8)	1.11
	40 days	149(24.5)	
	6month	161(26.4)	
	Life time	142(23.3)	
Have you attend any training about PEP?	yes	307(50.4)	0.500
	no	302(49.6)	
Do you know about the PEP guide lines	yes	201(33.0)	0.818
	No	202(33.2)	
	I don't know	206(34.8)	

Table 2: HCWs response to various questions regarding knowledge about PEP in governmental Hospitals, Lahore, Pakistan 2015.

Attitude questions	Response	Frequency (%)	Standard deviation
Do you think PEP is important?	yes	216(35.5)	0.815
	no	204(33.5)	
	I don't know	189(31.0)	
Do you believe that training of PEP is important for behavioral change?	agree	213(35.0)	0.826
	disagree	194(31.9)	
	I am not sure	202(33.2)	
Do you think there should be PEP guidelines in work areas?	disagree	194(31.9)	1.131
	I am not sure	202(33.2)	
	agree	213(35.0)	
	disagree	194(31.9)	
	I am not sure	202(33.2)	
Do you believe PEP reduce like hood of being HIV positive	Yes	158(25.9)	0.816
	no	132(21.7)	
	I don't know	155(25.5)	
Do you believe PEP to prevent further infection?	agree	217(35.6)	1.114
	Disagree	203(33.3)	
	I am not sure	189(31.0)	
How do you see that PEP is indicated for any type of sharp injuries	agree	147(24.1)	0.805
	disagree	158(25.9)	
	Partially agree	150(24.6)	
	I am not sure	154(25.3)	
What is your opinion on the believe that PEP is not important if the exposure is not with patient of known HIV positive	agree	203(33.3)	0.810
	disagree	215(35.3)	
	I am not sure	191(31.4)	

Table 3: Attitude about post exposure prophylaxis in HCWs in Lahore government hospitals Pakistan 2015.

Preventive practices Questions	Response	Frequency (%)	Standard Deviation
Does your organization developed and distributed written policies for the management of occupational exposure?	Yes	187(30.7)	0.812
	no	208(34.2)	
Have you use personal protective equipments when anticipating contact with patient blood and body fluid?	I don't know	214(35.1)	0.812
	Yes	189(31.0)	
	no	207(34.0)	
Is hand washing in your practice routine after contact with infected patients	I don't know	213(35.0)	0.825
	Yes	193(31.7)	
	no	208(34.2)	
Is there proper handling and disposing of sharp instrument after and before use?	I don't know	208(34.2)	0.815
	Yes	190(31.2)	
	no	193(31.7)	
Have you ever been placed on HIV PEP after needle stick injury?	I don't know	226(37.1)	0.82
	Yes	203(35.3)	
	no	205(33.7)	
	I don't know	201(33.0)	

Table 4: Preventive practices to avoid post exposure prophylaxis.

Recommendations

Recommendations for preventing the transmission of the human immunodeficiency virus (HIV) in health care settings emphasis those workers should regard all patients as potentially infected and adhere rigorously to infection control procedures for minimizing the risk of exposure to blood and body fluids. The following points are recommended

1. Training on risk management and individual responsibilities regarding safety can improve infection control.

2. There must be proper and adequate policies for PEP for HIV planned by the organizations and health centers.
3. Electronic media can play a vital role in the awareness and importance of PEP for HIV among the HCWs as well as general population.
4. Adequate resources and facilities must be assured at hospitals to the HCWs.

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Ethical Considerations

All prospective respondents were evidently advised that participation in the study was voluntary. The study secured ethical clearance from Department of Epidemiology and Public Health (EPH). The HCWs were registered to participate after they obtained explanation about the objectives of the study and a written consent was signed at the same time from them. Confidentiality of the study subjects was maintained.

Study Limitations

This study was based on a sample of HCWs in a single District Hospitals in Punjab Province, Pakistan, which limits the generalization of the results. Despite the consequences, these findings raise concerns about HCWs' knowledge, attitudes and Knowledge in providing care to the HIV patients.

References

1. UNAIDS. Report on the Global HIV/AIDS Epidemic; June 1999.
2. UNAIDS. 2007 AIDS Epidemic Update; December 2007.
3. The World Health Report 2002: Reducing Risks, Promoting Healthy Life, World Health Organization, Geneva, Switzerland, 2002.
4. Wig N (2003) HIV: awareness of management of occupational exposure in health care workers. *Indian Journal of Medical Sciences* 57: 192-198.
5. Updated U.S. (2001) Public Health Service guidelines for the management of occupational exposures to HBV, HCV, and HIV and recommendations for post exposure prophylaxis. *Morbidity and Mortality Weekly Report* 50: 1-52.
6. NIOSH Alert (1999) Preventing Needle Stick Injuries in Health Care Settings, DHHS Publication no. (NIOSH) 2000-108, National Institute for Occupational Safety and Health, Cincinnati, Ohio USA.
7. Reid NG, Boore JRP (1991) *Research Method and Statistics in Health Care*. London: Edwards Arnold.
8. Asia Pacific Network of People Living with HIV/AIDS (2004). AIDS discrimination in Asia.
9. Lal P, Kumar A, Ingle GK, Gulati N (1998) Some AIDS-related policy issues and nursing students' willingness to provide AIDS care. *J Commun Dis* 30: 38-43.
10. World Bank (2003) Issue Brief HIV/AIDS: SouthAsiaRegion (SAR) India.
11. Kumar A, Lal P, Ingle GK, Gulati N (1999) AIDS-related apprehensions among nursing students of Delhi. *J Commun Dis* 31: 217-221.
12. Delobelle P, Rawlinson JL, Ntuli S, Malatsi I, Decock R, et al. (2009) HIV/AIDS knowledge, attitudes, practices and perceptions of rural nurses in South Africa. *J Adv Nurs* 65: 1061-1073.