

HIV AIDS A GROWING PANDEMIC KNOWLEDGE, ATTITUDES AND INFECTION CONTROL PRACTICES OF NURSES ABOUT HIV/AIDS IN A TERTIARY CARE HOSPITAL OF PESHAWAR

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ABSTRACT

Objective: To estimate the knowledge, attitudes and infection control practices of nurses about HIV/AIDS. **Study Design:** Cross Sectional Study **Setting:** Hayatabad Medical Complex, Peshawar, Pakistan **Period:** 6 months, from October, 2015 and March, 2016 **Material and Methods:** Nurses were interviewed using a semi-structured questionnaire. The sample was composed of 92 female nurses. Sample was selected randomly from the random numbers list using a computer sheet. Data collected were analyzed using SPSS version 16 for windows. **Results:** The subjects had fair level of knowledge regarding disease transmission, prevention and treatment, generally positive attitudes but deficient knowledge and poor practices about standard precautions and use of personal protective equipment (PPE). Most of the respondents reported course textbooks followed by television and radio as the source of knowledge about HIV/AIDS. **Conclusions:** The study showed lack in knowledge which can be addressed by revising the basic nursing curriculum to provide a sound and practical knowledge base to the nurses who are the first line and primary care providers. Furthermore the institutions/employers should feel their responsibility to provide PPE in adequate quantities to guarantee the safety of its employees.

Keywords: HIV/AIDS, Knowledge, Attitudes, Practices, Nurses.

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INTRODUCTION

Nearly three decades after its discovery; HIV/AIDS continues to affect people of all categories worldwide¹. In 1981, the first cases of AIDS (Acquired Immune Deficiency Syndrome) were detected among gay men in the United States, acquiring the designation GRID (Gay-Related Immune Deficiency); however scientists later found evidence that the disease existed in the world even before that, i.e., subsequent analysis of a blood sample of a Bantu man, who died of an unidentified illness in the Belgian Congo in 1959, made him the first confirmed case of an HIV infection.^{2,3}

The number of people living with HIV has risen from 8 million to 33 million. Women accounts for 50% of all adults living with HIV worldwide. About 2 million deaths from AIDS is recently reported, despite recent improvements in access to antiretroviral treatment⁴. HIV/AIDS has become a manageable disease instead of a death sentence due to the advent of new anti-viral drugs. But in the world's hardest hit places and poor countries, most AIDS patients do not have access to life-saving drugs.⁵

In recent history, HIV epidemic has evolved from an acute to chronic public health problem. Due to increased incidences of HIV diagnosed cases, the world should be alarmed before it feeds on public

health and becomes the major obstacle in its development.⁶

Pakistan has evolved from a 'low prevalence high risk country' to a 'concentrated phase' of the epidemic with HIV prevalence of more than 5% among injection drug users (IDUs) in at least eight major cities. However the country still has a window of opportunity as the current estimates indicate that the HIV prevalence among general adult population is still below 0.1%. According to

Table No. 01: Answers on HIV/AIDS knowledge questions asked from Nursing staff of Hayatabad Medical Complex, Peshawar, Pakistan (n = 92)

Sr.		Yes n (%)	No n (%)	Don't know n (%)
1	Ever heard of HCV	92 (100)	0	
2	Healthy looking person carrying HIV/AIDS	64 (69.6)	14 (15.2)	14 (15.2)
3	Modes of transmission	83(90.2)	9 (9.8)	
	1. sexual intercourse			
	2. Sharp instruments/syringes	80 (87)	12 (13)	
	3. Insect bites	42 (45.7)	49 (53.3)	1 (1.1)
	4. Kissing, touching, hugging	48 (52.2)	41 (44.6)	3 (3.3)
	5. Eating & drinking with patients	16 (17.4)	72 (78.3)	4 (4.3)
	6. Mother to child	71 (77.2)	20(21.7)	1 (1.1)
	7. Blood transfusion	87 (94.6)	5 (5.4)	
	8. Staying filthy	21(22.8)	64 (69.6)	7 (7.6)
	9. Through animals	43 (46.7)	45 (48.9)	4 (4.3)
4	Prevention methods			
	1) condom	62 (67.4)	25 (27.2)	5 (5.4)
	2) abstinence	60 (65.2)	30 (32.6)	2 (2.2)
	3) Staying away from patients	23 (25)	66 (71.7)	3 (3.3)
	4) Staying clean	40 (43.5)	46 (50)	6 (6.5)
	5) Screened blood transfusion	53(57.6)	39 (42.4)	
	6) Using clean syringes	76 (82.6)	15 (16.3)	1 (1.1)
5	Knowledge of VCT & PPTCT centers in HMC	43(46.7)	47 (51.1)	2 (2.2)
6	Think you are at risk of getting HIV	43 (46.7)	41 (44.6)	8 (8.7)
7	Heard of NACP	67 (72.8)	25 (27.2)	
8	Is there a successful Rx of AIDS?	22 (23.9)	61 (66.3)	9 (9.8)
9	Hospital policy for HIV screening	36 (39.1)	33 (35.9)	23 (25)

Table No. 02: Answers on Attitude questions asked from nursing staff of Hayatabad Medical Complex, Peshawar, Pakistan (n = 92)

Sr.		Yes n (%)	No /n (%)	Don't know n (%)
1	When bringing blood from blood bank, do you ensure that it is screened especially for HIV	77 (83.7)	8 (8.7)	7 (7.6)
2	Are you willing to care for an HIV/AIDS patient?	82 (89.1)	10 (10.9)	
3	Should PLWA have the social right to study and/or work?	81 (88)	9 (9.8)	
4	Do you consider treatment of AIDS patients a waste of resources?	37 (40.2)	51 (55.4)	

Table No. 03: Responses on Practice questions asked from nursing staff of Hayatabad Medical Complex, Peshawar, Pakistan (n = 92)

Sr.		No	%	Total n (%)
1	Wash hands before/after nursing procedures			
	1.Yes	92	100	92 (100)
	2. no	0		
2	Wear gloves when taking patient's blood			92 (100)
	Never	24	26.1	
	Occasionally	39	42.4	
	Always	29	31.5	
3	Reasons for never or occasional use			63 (68.5)
	Interrupted or short supplies	42	66.7	
	Don't consider important	12	19	
	Feel uncomfortable	9	14.2	
4	Needle recapping			90 (97.8)
	Bimanual	48	52.2	
	One-handed technique	42	45.7	
5	Needle pricks in past 1 year			92 (100)
	Yes	19	20.7	
	No	60	65.4	
	Don't remember	13	14.1	
6	If yes, how many pricks			19 (20.7)
	1 time	4	21	
	2 times	2	10.5	
	3-5 times	4	21	
	More than 6 times	9	47.4	
7	Ever been exposed to HIV/AIDS pt in career			92 (100)
	Yes	38	41.3	
	no	54	58.7	
8	If yes, how many pts			38 (41.3)
	1 patient	19	50	
	2-3 patients	13	34.2	
	4 or more patients	6	15.78	

Table No. 04: Association of qualification and experience to knowledge and gloving practices

Sr.		Knowledge score			p-value
		< 16	16 or >16	Total	
1	Qualification				.411
	Graduates	13	15	28	
	Post graduates	33	31	64	
2	Years of experience				.010
	Up to 5 years	19	15	42	
	>5 years	27	31	50	
3		Gloving practices			
		Never or occasionally	Always		
	Qualification				.385
	Graduates	18	10	28	
	Post graduates	45	19	64	
	Years of experience				.080
	Up to 5 years	25	17	42	
	>5 years	37	12	49	

the latest national HIV estimates there are approximately 97,400 cases of HIV/AIDS in Pakistan.⁷

Nurses provide life-saving and life-enriching care throughout the world. Often they are the first provider even the primary providers for all patients including HIV/AIDS patients⁸. Health care professionals, especially nurses constitute a vulnerable group because of their job nature. Proper knowledge and attitude will lead to healthy practices among nursing personnel and thereby controlling the spread of disease. This study can provide baseline information about their awareness level and possible policy recommendations for improvements where gaps exist. Having this scenario in mind, the present study is conducted to assess the awareness level of nursing staff about this deadly infection.

MATERIAL AND METHODS

A Cross Sectional Study was carried out in Hayatabad Medical Complex, Peshawar, Khyber Pukhtoon Khwa, from October, 2015 and March, 2016. For a descriptive study 25-30% of the population is an enough sample size⁹, but in order to bring precision to the results, a sample size of 92 nurses (which was 51.6% of the total population) was selected random. A questionnaire was constructed to meet the requirements of the study, based on similar studies in different countries. The questions were modified according to Pakistani culture and social norms. After obtaining permission from the relevant authorities of the institution (Chief Executive, Medical Superintendent and heads of the different Units of the hospital, a list of all the nursing personnel was acquired from the office of Chief Nursing Superintendent and an interview was conducted after acquiring written informed consent, with the help of a semi-structured, previously piloted questionnaire. Data was analyzed using SPSS version 16 for windows.

RESULTS

The mean age of the participants was 31.51 (SD=8.055) with a median of 29 years. Most of the nursing staff was in the young age group i.e. 64.1% were under the age of 30 years, while only 3.3% were more than 50 years.

Knowledge

Regarding the knowledge of the signs and symptoms of the disease, 69.6% (n=64) of the nurses knew that a healthy looking person can be a carrier of HIV, while 15.2% (n=14) said no and the same number of respondents replied with don't know. Knowledge regarding transmission modes was fairly good for some of the routes, while some modes were wrongly answered by most of the nurses. Most were also aware that HIV was transmitted by sharp instruments/syringes and blood transfusion (87 and 94.6% respectively). Still, there were some misconceptions regarding non-transmittable routes. Modes like insect bites, kissing-touching-hugging and through animals were wrongly answered as yes by 45.7%, 52.2% and 46.7% respectively. Eating and drinking with patients was correctly answered as no by 78.3%. While 77.2% of the nurses knew that HIV can be transmitted from mother to child. As evident from the table 01, knowledge of the prevention was fair for some methods, while misconceptions existed regarding staying clean as a method of HIV prevention.

Attitudes

Generally the attitudes of nurses towards people living with HIV and AIDS (PLWA) were found to be accepting and positive as shown in table 02. 89% of the nursing staff showed their willingness to provide nursing care for HIV/AIDS patients and 88% (n=81) responded that people living with HIV and AIDS (PLWA) should be given the social rights to study and/or work. Regarding the question whether they consider treatment of AIDS patients a waste of resources, 55.4% disagreed while 40.2% said that it is a waste of resources because they are not going to get cured anyway.

Practices

As shown in the table 03, all respondents reported washing their hands with whatever available i.e. soap, antiseptic or just water before and after nursing procedures. Plain water was reported 13% of the times, soap/water 65.2% and the use of antiseptic solution 56.5%. This shows good hand

washing practices of the nursing personnel.

When also analyzed the relationship between qualification and knowledge scores or gloving practices and years of experience to knowledge scores or gloving practices. There were 18 items in the knowledge section. Each correct response was scored as (1), while incorrect answer was assigned (0). A total of 18 points were used to assess knowledge. The knowledge score was divided into (< 16) and (16 or > 16). Table 4 shows no association between qualification and knowledge scores (p-value= .411), while there is association between years of experience and knowledge scores (p-value= .010).

As shown in table 04, gloving practices of nurses were divided in to two groups. Those included in group 1 were those who never or occasionally used gloves; group 2 included nurses who always used gloves. There was no association between gloving practices and qualification (p-value= .385) as well as between gloving practices and experience (p-value= .080).

DISCUSSIONS

According to our study the respondents had fair level of knowledge about the modes of transmission, prevention and treatment. All respondents knew about the existence of AIDS which is similar to a study done on health care professionals in India¹⁰. Our study found that course textbook, followed by television and radio were the most common means of information for the participants. As these methods were frequently reported, assuring affective HIV messages through print and electronic media and strengthening the course curriculum of nursing schools should be promoted. This outcome is similar to a study done on health care professionals in Southern Nigeria and another study on medical students in Karachi, Pakistan^{11, 12}.

In our study about 47% of nurses considered themselves at risk of acquiring AIDS through occupational exposure. This is much lower than a study done in Tamatave (Madagascar) in which

79% feared this risk¹³ Regarding the availability of a successful treatment of AIDS, 66.3% were aware that no such treatment exists. This is much better than a study done among nurses in a maternity hospital in Calcutta, India, whose response was 32%.¹⁴ Knowledge of preventive methods was fragmented. Staying away from patients as a preventive measure was wrongly reported by 25% as opposed to 53% in a study done on health professionals in India.¹⁵ Screening blood for transfusion and using clean syringes was correctly reported by 57.6% and 82.6% respectively whereas in the study done on 1st year medical students in India, the figures were 87.72% and 76.6%.¹⁶ This shows lack of knowledge of our respondents regarding transmission of HIV through unscreened blood transfusion.

There was strong misconception about staying clean as a preventive measure (44%) based on the assumption that HIV is an infection and staying clean could prevent it. Despite the fact that Voluntary counseling and testing (VCT) and prevention of parent to child transmission (PPTCT) centers were located in the said hospital, only 46.7% knew about them. This could adversely affect the nurses' role as a health educator and promoter and a guide for the patients in taking timely decisions about screening and testing services. Of the 72.8% who had heard about the National AIDS control program (NACP), majority were not sure. They based it on the fact that if the government is running Hepatitis control program, it must be having an AIDS control program.

Although most of the nurses had not cared for an HIV/AIDS patient, their attitudes were generally positive except for the question on the 'use of resources on its treatment'. Majority (89.1%) showed willingness for providing nursing care to AIDS patients, 88% said that PLWA should have the social rights to study or work while 40.2% considered the treatment of AIDS a waste of resources. In the study on nurses in Calcutta 66% would avoid or deny looking after HIV positive and AIDS patients.¹⁴

In the practices section, all nurses said they would wash hands with whatever available before/after nursing procedures. Plain water was reported 13% of the times, soap/water 65.2% and the use of antiseptic solution 56.5%. This is in contrast with a study done on health care workers (HCWs) in Chile which showed neglect in hand washing.¹⁷ Gloves were never used by 26% whereas occasionally used by 42.4% while taking patients' blood. Short supplies were reported by 67% which is comparable to a couple of studies done in different developing countries where resource shortage is always a problem.^{18,19,23}

Needles should not be recapped, but in resource poor settings where there is a need for needle recapping it should be done with the one-handed technique. In our study more than half (52.2%) of the respondents reported bimanual recapping of needles, which is a risky act and can result in accidental exposure to infected blood. In a study done on health care staff (doctors, nurses, laboratory technicians, morgue attendants and hospital orderlies) in Cameroon, 75.7% usually recapped needles. Of those responded, more than 90% were nurses. Needle recapping (specifically bimanual) is a major source of needle-prick injuries.¹ Nineteen (20.7%) nurses said they were exposed to needle pricks during the past one year. Of them 9 (47.4%) had more than 6 pricks. This is a very risky exposure especially when the patients are not screened for blood borne viral infections (BBV) including HIV and the needles are large bore containing blood and directly out of the blood vessels.²³ Quite a big percentage (41.3) of our respondents was exposed to HIV/AIDS patient/s in their professional career. The use of barrier methods during nursing care of HIV positive patients was not always respected and practiced. 34.2% used nothing, another 34.2% used only gloves, 21% used masks and gloves, while the rest of the 10% used different combinations of whatever barrier methods available to them. Reasons reported were stock-outs and restrictive accessibility specifically in cases of goggles and rubber boots. Similar

findings have been reported in a study on risk factors for transmission of HIV in a hospital environment in Cameroon and another study done on the knowledge, attitude and practices towards HIV among nurses in a tertiary care teaching hospital in India.^{19,23}

Only 11 (12%) nurses had received some form of formal or informal training about HIV/AIDS as opposed to the study done on risk factors for transmission of HIV in a hospital environment in Cameroon in which 73.1% of the staff had attended lectures and instructions on safety within the hospital. The findings were similar to a study done on Taiwanese nurses,²⁰ and the use of standard precautions in Chilean Community Clinics.¹⁸

Majority of the staff were post graduate (n= 64, 69.6%). This may be because it was a tertiary care teaching hospital and the post-graduate college of nursing was also in close vicinity, but neither the knowledge nor the gloving practices were associated with qualification (p-values = .411, .385 respectively). Knowledge had an association with years of experience (p-value = .010) which may be due to the fact that all nurses study the same under graduate nursing curriculum that covers HIV/AIDS very superficially and whatever they learn is through their experience. Gloving practices also were not associated with either qualification or experience (p-value = .385, .080 respectively).²¹ But still graduate and junior nurses showed a comparatively higher percentage that used gloves regularly, which shows that they practically use their theoretical knowledge when they enter the job but with the passage of time they tend to become relaxed or careless.

The findings in another study revealed a higher proportion of respondents (52.7%) who use gloves.²³ Another study in Nigeria on student nurses showed that an extensive educational program which covers detailed description of the disease, AIDS patient care and compliance with universal precautions brought positive change in the group.²² This means that refresher

courses and on job trainings should be offered periodically from the institutions/employers to enhance compliance to universal precautions.

CONCLUSION

The study showed lack in knowledge which can be addressed by revising the basic nursing curriculum to provide a sound and practical knowledge base to the nurses who are the first line and primary care providers. Furthermore the institutions/employers should feel their responsibility to provide PPE in adequate quantities to guarantee the safety of its employees.

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2	Kashif -ur-Rehman Khalil	Statistical Analysis	
3	Shafqat Ullah	Man	