

Original Article

A Study on Perception of Health Care Workers In Relation To HIV/AIDS in Jamnagar District

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ABSTRACT

Background: The World Health Organization (WHO) estimates that about 2.5% of HIV cases among healthcare workers worldwide are due to result of such exposures. While treating HIV positive patients or persons with unknown status and with high risk behavior, health professionals are at risk of getting HIV/AIDS at every stage as one of the occupational hazards.

Aim: The perceptions in relation with prevention of HIV/AIDS amongst health care workers.

Materials and Methods: A hospital based cross-sectional observational study carried out among 100 PG students, 50 medical officers, 210 nurses, 40 lab technicians and 100 primary health workers from district hospital as well as from peripheral CHCs and PHCs. Multistage stratified random sampling was done. Data was analyzed by Epi Info software.

Results: The overall percentage of health functionaries having faith in Universal Precautions as a preventive tool in present study was 75%. Of those who had knowledge about Universal Precautions; only 49.45% of the PG students, 22% of the Medical officers, 28.3% of the Nurses, 17.40% of the Lab. technicians and 33.3% of the Health workers had favored using Universal Precautions with each patient.

Conclusion: At the end of the study we can be able to find out various false perceptions and beliefs amongst health care worker in relation to prevention of HIV/AIDS at day to day work. Supportive supervision and onsite training and corrections are needed. Periodic Joint Training particularly in practical aspect for all level of health care workers is need of hour.

Key words: perception, HIV, AIDS, Doctors, Nurses, lab technicians, universal work precaution

INTRODUCTION

In India, surveillance was started before detection of the first case at two sentinel sites (1) National AIDS Research Institute, Pune (1985) and (2) Christian Medical College, Vellore (1986). First case was detected by CMC, Vellore from the sample taken from a commercial sex worker of Madras [1]. The World Health Organization (WHO) estimates that about 2.5% of HIV cases among healthcare workers worldwide are due to result of such exposures [2] which suggests a need for safe working environment and adherence to Universal Precautions in both government and private hospitals for the safety of healthcare workers (HCWs). While treating HIV positive patients or persons with unknown status and with high risk behaviour, health professionals are at risk of getting HIV/AIDS at every stage as one of the occupational hazards [3]. The perceptions in relation with prevention of HIV/AIDS amongst health care workers –doctors, primary level health care workers

and technicians serving in tertiary healthcare facility i.e. Guru Gobindsingh Hospital, Jamnagar as well as Community Health Centres (CHCs) and Primary Health Centres (PHCs) across Jamnagar district were assessed.

MATERIAL AND METHODS

Study design: it was a descriptive cross sectional study

Study population: Doctors, laboratory technicians and paramedical staff.

Study period: during January, 2007- December 2008

Sample size: For estimating a population proportion with specified relation precision, formula is $n = \frac{Z^2_{1-\alpha/2} (1-P)}{\epsilon^2 P}$. In this, n=Sample size, 1- α = confidence level, $Z_{1-\alpha/2}$ = Represent the number of standard errors from the mean ($Z_{1-\alpha/2}$ is function of confidence level). P= anticipated population proportion, ϵ = Relating precision. Since p value from previous studies on the topic of present study is not available

an anticipated P value is taken which should be taken as 50% as per given in WHO practical manual on sample size determination in health studies by S.K. Lwanga and Lemenshaw (1991) [4]. At $p=0.50$ (50%) & $\epsilon = 10\%$, a sample size of 384 would be needed according to table given in WHO practical manual on sample size determination in health studies (1991). Keeping in mind the study sample loss of about 15% of this sample size (384) gives 440 study subjects for the study. To improve the precision further, sample size was taken 500 instead of 440.

Sampling: primary data of study subjects was collected from the hospital and district administration departments. To meet the sample size and to get the representation proportionately from all levels of health workers multistage stratified random sampling technique was adopted.

Analysis: Microsoft Excel 2007 and Epi Info statistical software were used for data analysis.

Inclusion criteria: 1.minimum of one year of work. 2. Those subjects who have potential harm of exposure to HIV/AIDS.

Ethics: informed consent was obtained from the study participant before enrolment and after explaining the aims and objectives of the study.

RESULTS AND DISCUSSION

Table 1: Of the 500 study subjects, all the PG students belonged to GG hospital as they were doing residency there. 60% Medical officers were from CHCs and 10% each from GG hospital and PHCs. 71.43% of the Nurses belonged to GG hospital and 25.71% from CHCs and 2.86% from PHCs. 20% of the Lab. technician were form GG hospital and 10% each from CHCs and PHCs. All the health workers (75 female health workers-FHWs and 25 multi-purpose workers-MPWs-male) belonged to PHCs.

Table 1: Facility wise distribution of study subjects

STUDY SUBJECTS	HEALTH FACILITIES			TOTAL
	Dist. hospital	CHCs (10)	PHCs (10)	
PG students	100 (100)	00 (00)	00 (00)	100 (100)
Medical Officers	10 (20)	30 (60)	10 (20.00)	50 (100)
Nurses	150 (71.43)	54 (25)	6 (2.86)	210 (100)
Lab. Technicians	20 (50)	10 (25)	10 (25)	40 (100)
Health Workers	0 (00)	0 (00)	100 (100)	100 (100)
Total (n=500)	280 (56)	94 (18.8)	126 (25.2)	500 (100)

Mean age = 34.07 ± 8.51 years, Range= 18.5-57.5 years and 70.20% of the respondents were female and 29.80% of the respondents were male.

Table 2: Of those study subjects who had knowledge regarding Universal Precautions; 83.36% of the Nurses, 78.04% of the Medical officers, 75.86% of the PG students, 56.52% of the Lab. technicians and 51.22% of the health workers believed that HIV infection transmission can be prevented by observing Universal Precautions. The overall percentage of health functionaries having faith in Universal Precautions as a preventive tool in present study was 75%.

Table 2: prevention of transmission of HIV infection by following universal-precautions (among those who knew about universal precautions)

Study Subjects	Prevention of Transmission of HIV Infection By Following Universal Precautions			Total (n=345)
	AGRE E	DOES NOT AGREE	Can't Say	
PG students	66 (75.86)	12 (13.79)	9 (10.34)	87 (100)
Medical officers	32 (78.04)	3 (7.31)	6 (14.63)	41 (100)
Nurses	127 (83.36)	17 (11.18)	8 (5.26)	152 (100)
Lab. Technicians	13 (56.52)	4 (17.39)	6 (26.09)	23 (100)
Health workers	21 (51.22)	12 (29.27)	9 (21.42)	42 (100)
Total	259 (75.07)	48 (13.91)	38 (11.01)	345* (100)

(Figures in parenthesis are percentages) (*these figures exclude the subjects who had no knowledge regarding Universal Work Precautions)

Table 3: attitude of the study subjects about observing universal precautions(among those who knew about universal precautions)

Study subjects	Attitude Of Observing Universal Precaution With.			Total
	Each Pt.	Only HIV Positive Pt.	Not Sure	
PG students (n=87)	43 (49.45)	32 (36.78)	12 (13.80)	87 (100)
Medical officers (n=41)	11 (22.00)	28 (56.00)	2 (40)	41 (100)
Nurses (n=152)	43 (28.30)	96 (63.20)	13 (8.60)	152 (100)
Lab. Technicians (23)	4 (17.40)	13 (56.50)	6 (26.10)	23 (100)
Health workers (n=42)	14 (33.30)	23 (54.80)	5 (11.90)	42 (100)
Total (n=345)	115 (33.30)	192 (55.70)	38 (11.00)	345 (100)

(Figures in parenthesis are percentages)

Of those who had knowledge about Universal Precautions; only 49.45% of the PG students, 22% of the Medical officers, 28.3% of the Nurses, 17.40% of the Lab. technicians and 33.3% of the Health

workers had favored using Universal Precautions with each patient. Majority of them favored practice of using Universal Precaution with only HIV Positive patients; these observations are quite revealing and matter of serious concern.

Danchaivijitr S et al (1995) In their study, observed that 47.1% of the Doctors and 27.9% of the Nurses reported observing Universal Precautions with all patients, the observations are quite similar to the present study (42.19% of the Doctors and 28.30% of the Nurses.) [5]

In the study carried out by Chan et al (1997), 71.8% of the study subjects reported use of Universal Precautions with all patients against 36% (54/150) in the present study. Thus in present study, the right practice of Universal Precautions is observed by only one third of the health functionaries [6].

CDC MMWR (August 21, 1987) also reiterates that the increasing prevalence of HIV increases the risk that healthcare workers will be exposed to blood from patients infected with HIV, especially when Universal Work Precautions are not followed for all patients. Thus, healthcare workers must consider ALL patients as potentially infected with HIV /AIDS and to adhere rigorously to infection-control precautions for minimizing the risk of exposure to blood and body fluids of all patients [7].

Table 4: isolation of the patient with HIV/AIDS in separate ward

Study Subjects	Opinion on isolation of the Patients with HIV/AIDS in separate HIV/AIDS ward			Total
	should be isolated	should Not be isolated	Can't Say	
PG students	46 (46.00)	37 (37.00)	17 (17.00)	100 (100)
Medical officers	21 (42.00)	25 (50.00)	4 (8.00)	50 (100)
Nurses	130 (61.90)	74 (35.20)	6 (2.86)	210 (100)
Total	197 (54.72)	136 (37.78)	27 (7.50)	360 (100)

(Figures in parenthesis are percentages)(Participants-PG students, Medical officers and Nurses)

Of the 360 study subjects, 54.72% of the study subjects favored isolation of the patients in the special isolation wards, highest percentage was among Nurses (61.9%). 44.66% (67/150) of the doctors favored isolation of the HIV Positive patients in separate ward.

Hossini CH et al (2000) and Mahfouz et al (1995) found in their studies that 50% and 49% of the study subjects respectively favored isolation of the patient of HIV/AIDS in comparison to 54.72% of the

respondents in the present study and the results were largely similar [8]. Hentgen V et al (2002) noted twenty per cent of the study subjects favored isolation of HIV/AIDS patients which is almost one third than the present study [9]. In study by Davidson and Gillies (1993), 17% of doctors and 19% of nurses thought HIV Positive patients should be isolated while 44.67% of the doctors and 61.9% of the nurses had same opinion in the present study [10]. The bias in discriminatory attitude of healthcare workers in the present study was much higher as compared to the observations of Davidson and Gillies (1993) and Hentgen V et al (2002).

Table 5: Attitude towards HIV testing following needle-stick injury or fluid exposure

Study Subjects	Attitude Towards HIV Testing Following NSI			Total
	One Should Undergo HIV Testing	Not Required	Can't Say	
PG Students	86 (86)	13 (13)	1 (1)	100 (100)
Medical Officers	33 (66)	13 (22)	4 (8)	50 (100)
Nurses	177 (84.28)	27 (12.85)	6 (2.8)	210 (100)
Lab. Technicians	0 (00)	34 (85)	6 (15)	40 (100)
Health Workers	9 (9)	65 (65)	26 (26)	100 (100)
Total	305 (61)	152 (30.4)	43 (8.6)	500 (100)

(Figures in parenthesis are percentages)

61% of the total study subjects were in favor of getting HIV testing done following needle-stick injuries. 86% of the PG students, 84.28% of the Nurses, 66% of the Medical officers, none of the Lab Technician and only 9% of the Health workers favored HIV testing following needle-stick injuries.

Lab. technicians who are directly dealing with blood and blood products and at more risk of needle-stick injuries have denied their readiness for HIV testing post-needle-stick injuries. The observations further point towards urgent need for training of various categories of healthcare workers on this aspect.

CONCLUSION AND RECOMMENDATIONS

At the end of the study we can be able to find out various false perceptions and beliefs amongst health care worker in relation to prevention of HIV/AIDS at day to day work. Supportive supervision and onsite training and corrections are needed. Periodic Joint Training particularly in practical aspect for all level of health care workers is need of hour.

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