

## A Study on Nurses of New Delhi regarding Knowledge, Risk perception and Practice related to HIV Positive Patient Care

Arijit Dey<sup>1</sup>, Hemant Kanwar<sup>2</sup>

### How to cite this article:

ArijitDey, Hemant Kanwar. A Study on Nurses of New Delhi regarding Knowledge, Risk perception and Practice related to HIV Positive Patient Care. RFP Journal of Hospital Administration. 2020;4(1):19-23

### Abstract:

**Introduction:** Due to frequent and prolonged contact, Nursing staff are being identified as a potential risk group for the HIV/AIDS spread. To reduce the transmission, adequate knowledge about the disease and practice of safety measures are of great importance. **Objectives:** To assess the knowledge, risk perception and practice of nursing staff towards HIV/AIDS patients. **Methodology:** The study was conducted from November 2019 to January 2020 in three tertiary health care institute in New Delhi. A total of 250 nurses were included and provided with a predesigned pretested questionnaire. **Result:** 86% of respondents correctly know that HIV is the agent that causes AIDS. 94% of the respondents know about spread of HIV via different modes of sexual contact. 96% nurses know that an accidental needle stick injury in the workplace can also transmit AIDS. Only 6.8% of the nurses believed that the AIDS patients should be isolated from the community because of their illness. 97% of nurses believed that HIV patients have right to the same quality of care & respect as other patients. 53% of nurses never recap needle, 62% of nurses always wipe any blood spills, 8% of nurse never put used needle in sharp container. **Conclusion:** Periodic training for HIV/AIDS should be made compulsory for all nurses related to different aspects of HIV. Such training should include both theoretical knowledge & practical demonstration and should be followed by evaluation process. The study focuses on the need to train the nursing staff and ensure better patient care in the hospital.

**Key words:** HIV/AIDS; Nursing staff; Knowledge; Attitude; Risk Perception; Practice; Training.

### Introduction

In the present world, several patients are infected with Human Immunodeficiency Virus (HIV) and they require greater amount of specific care and empathy, due to the complexity of their disease. Every HIV positive patient is a potential candidate for disease transmission to the attending

### Authors' Affiliation

<sup>1</sup>Senior Resident, <sup>2</sup>Senior Resident, Department of Forensic Medicine, AIIMS, New Delhi

**Correspondence and Reprint Requests:** Hemant Kanwar, Senior Resident, Department of Forensic Medicine, AIIMS, New Delhi.

**E-mail:** arijit.forensic@gmail.com

**Received on 27.03.2020, Accepted on 17.06.2020**

health care workers. Amongst the health care professionals, nurses and nursing students are an important component of the health care delivery system. Since they are the one who are responsible for the constant care of in-patients and thus, they come in close contact with blood and other body fluids of patients and are a potential risk group for HIV spread. To reduce the transmission, adequate knowledge about the disease and practice of safety measures are of great importance.<sup>1</sup>

This can only be ensured if the hospital staff are well trained and fully updated about the recent treatment protocols to handle the complicated situation of the patients. HIV is the cause of the Acquired Immunodeficiency Syndrome (AIDS) where there is impairment of the immune system of the infected patient making him prone to other infections leading to death. Though the doctors bear the responsibility of managing the HIV patients based on the severity of their illness, but even in the ward services, they need co-operation of a dedicated well trained Nursing team 2. The present study focuses on this aspect of training of the nursing staff to ensure that they deliver better patient services.

### Material and Methods

The specific aim and objectives of this study are:

1. To assess nurses' knowledge of HIV/AIDS in different aspects.

2. To identify attitudes and risk perception of HIV infection.
3. To assess practices in taking universal protective measures and discrimination of service towards HIV positive patients.

This is a cross-sectional institution based study conducted in three tertiary care hospitals of New Delhi, for a period of three months (01-11-2019 to 31-01-2020). The sample size comprised of 250 nursing staffs from three hospitals, with a minimum 5 years work experience, who were selected by applying simple random sampling technique using computer generated random numbers after assigning all the eligible nurses a serial number. Each of them were provided with a pretested, predesigned close ended Questionnaire, which was pre-validated for this study to obtain quantitative data to identify predictive factors associated with patient care. At the start of the sessions participants were asked whether they approved to participate (in an anonymous manner) by completing the self-administered questionnaire. Subjects were fully informed about the purpose and design of the study and a written consent was taken. Knowledge component of Nurses was assessed under the following variables – Mode of transmission of HIV, Prevention of HIV, Risk of professional exposure, Use of disposable instruments, Transmission of HIV from mother to child and Exclusive breast feeding & weaning. Their attitudes and common beliefs towards HIV positive patient care was also assessed, along with their risk perception in various daily nursing activities. The variables to assess common practice included HIV testing in suspected cases, use of personal protective devices, proper disposal of hazardous and contaminated materials and discrimination between HIV positive cases with others.

## Results and Discussion

Among the 250 respondents, 62% received training on HIV/AIDS & 38% did not receive any training, during their Nursing academic course. In our study, regarding knowledge about HIV, as observed in Table 1, it was found that 79.6% were aware of the fact that HIV/AIDS is caused by a virus. 86% of respondents correctly know that HIV is the agent that causes AIDS. 65% of respondents correctly answered that later stage of HIV is known as AIDS. These findings were quite similar to the findings of previous studies of several research workers like a study by Sachdeva et al. 3 revealed that a majority of nurses were able to correctly write the full form

of AIDS (95.8%) in comparison to HIV (72.6%) and the difference between two terminologies were known to 81.1%. It was observed that most of the respondents (94%) have good knowledge about spread of HIV via different modes of sexual contact. The fact that AIDS can be transmitted through blood in various ways is also known to most of nurses e.g. receiving blood from HIV + patients (86%) & exposure to blood when taking care of patients (86.8%). A study by Bhat et al. 4 revealed only 63(25%) subjects had the correct information of the 0.3% risk of infection through needle stick injury. Another study conducted among nurses in Turkey 5 revealed that 88.65% knew that HIV/AIDS was caused by a virus and 80% knew the definition of AIDS. 96% nurses know that an accidental needle stick injury in the workplace can also transmit AIDS. In contrast, a study conducted among in China 6 revealed that all knew of transmission through infected blood and needle stick injuries. AIDS is transmitted from mother to child – this is well known to respondents, as 76.8% of them know it spreads while breast feeding & 96% nurse know that it is transmitted while delivery of the baby. Regarding knowledge on different preventive strategies 90.8% nurses know that instruments & equipment should be properly sterilized to prevent HIV transmission, 94.4% respondents know that Personal Protective Devices must be used during invasive procedures & 94% knew that AIDS can be prevented by using condom during intercourse. However only 68.8% of the respondents are correctly aware of the fact that ‘Not recapping of needle’ is an important preventive strategy, which is not a good response. This was similar to the findings of the study by I Manzoor et al. 7 in Abbottabad, Pakistan. Knowledge regarding Infant Feeding Practices was also poor among nurses, as only 50.4% knew that Exclusive Breast Feeding should be done, while 56.7% believe that the infant should be Formula fed and 59.6% responded that mixed feeding of infant should be practiced.

Table 2 summarizes the attitude of the respondents, which shows that 72% of them correctly believed that HIV positive patients should be put in same room with other patients, while 78.4% of them believed that Children should not be removed from the home of HIV patients. Only 6.8% of the nurses believed that the AIDS patients should be isolated from the community because of their illness. Overall, 97% of nurses believed that HIV patients have right to the same quality of care & respect as other patients and 84% believed that the status of HIV infected person must be kept confidential. These findings were consistent with

those observed by R Magazine et al. 8 in Karnataka, India. Regarding Perceived risk of infection, as observed in Table 3 of our study, it is seen that only 26% nurses think that touching HIV positive patients when assessing them is associated with risk. 89% respondent feel that lack of knowledge about HIV status of patient is of some risk to them. It shows that most of the nurses have an overestimated risk perception regarding the spread of HIV during casual contact. Regarding perceived risk during medical procedure our study reveals that 99% of the nurses can correctly perceive the high amount of risk involved in cleaning & dressing a wound without protection in a HIV positive person. About recapping needle after withdrawing blood from HIV positive patient only 9.6% nurses perceive this to be of no risk at all. It shows that most of the nurses have a correct risk perception regarding spread of HIV during

medical procedure. These findings were similar to those observed by Fortenberry J et al.<sup>9</sup> In our study regarding practice, summarized in Table 4, it is observed that 53% of nurses never recap needle, 62% of nurses always wipe any blood spills, 88% of nurse always covers any broken skin during practice, 8% of nurse never put used needle in sharp container. 89.6% of nurse thinks that HIV testing is mandatory before any surgery. In other studies, like a study of nurses in Zambia 10, it was found that 76.1% practiced universal precaution. Overall, considering all the different variables in the three different domains of Knowledge, Risk perception and practice of nurses regarding HIV positive patient care, it can be concluded that there is significant difference between trained and untrained nurses regarding the above facts. The results of this study can be utilized in planning educational training interventions.

**Table 1:** Assessment of Knowledge Regarding HIV/AIDS Among Nurses

Knowledge variables	Received HIV training (n = 155)	Received No training (n = 95)	Total (n=250)
HIV is a different disease from AIDS	140 (90.3%)	59 (62.1%)	199 (79.6%)
HIV is the virus that causes AIDS	129 (83.2%)	86 (90.5%)	215 (86.0%)
The later stage of HIV is known as AIDS	111 (71.6%)	45 (47.3%)	156 (65.0%)
STD increase the risk of HIV infection	155 (100%)	93 (98%)	248 (99.2%)
Transmitted by Vaginal and anal intercourse	143 (92.3%)	92 (96%)	235 (94%)
Transmitted by Blood transfusion	150 (96.7%)	65 (68.4%)	215 (86%)
Transmitted by needle stick injury	150 (96.7%)	90 (94.7%)	240 (96%)
Transmitted From mother to child	150 (96.7%)	90 (94.7%)	240 (96%)
Exposure while caring for patients	137 (88.4%)	80 (84.2%)	217 (86.8%)
Transmitted by Breast feeding	122 (78.7%)	70 (73.6%)	192 (76.8%)
Prevented by using Personal Protection	146 (94.2%)	90 (94.7%)	236 (94.4%)
Prevented by condom during intercourse	145 (93.5%)	90 (94.7%)	235 (94%)
Prevented by using separate equipment for HIV positive patients	83 (53.5%)	30 (31.5%)	113 (45.2%)
HIV positive mother should Exclusively breast feed infant	83 (53.5%)	43 (45.2%)	126 (50.4%)
HIV positive mother should Formula feed infant	90 (58.1%)	52 (54.7%)	142 (56.8%)
HIV positive mother should Mixed feed infant	97 (62.6%)	52 (54.7%)	149 (59.6%)

**Table 2:** Attitude & Belief of Nurses Towards Care of HIV Positive Patients

Attitude & Belief Variables	Trained (n = 155)		Not trained(n =95)		Total (n= 250)	
	Agree	Disagree	Agree	Disagree	Agree	Disagree
HIV patients should be put in same room with other patients	123(79.3%)	26 (16.7%)	57 (60%)	31 (32.6%)	180 (72%)	57 (22.8%)
Children should be removed from the home of HIV patients	23 (14.8%)	119 (76.7%)	11(11%)	77(81%)	34 (13%)	196 (78.4%)
HIV patients should be isolated from the community	12 (7.7%)	121 (78%)	5 (5.2%)	77(81%)	17 (6.8%)	198 (79.2%)
HIV patients have right to the same quality of care & respect as others	152 (98%)	0	92 (97%)	3 (3%)	244 (97%)	3 (1%)
Status of HIV+ person must be kept confidential	132 (85%)	8 (5%)	77 (81%)	9 (9.4%)	209 (84%)	17(7%)

**Table 3:** Statement Related to Risk Perception of Nurses Towards HIV Positive Patients

Risk Perception Variables	Trained (n=155)		Not Trained (n=95)		Total (n=250)	
	Risk	No risk	Risk	No risk	Risk	No risk
Touching HIV+ patient when assessing them	39 (25%)	116 (75%)	25 (26.3%)	70 (73.7%)	64 (26%)	186 (74%)
Not knowing a patient's HIV status while providing care	137 (88%)	18 (12%)	87 (91.5%)	8 (8.4%)	224 (89%)	26 (11%)
Wound Dressing without protection in HIV+ patient	153 (98%)	2 (2%)	94 (99%)	1 (1%)	247 (99%)	3 (1%)
Delivering babies of HIV+ mother without protection	155 (100%)	0 (0%)	94 (99%)	1 (1%)	249 (99%)	1 (1%)
Recapping needles after using them on HIV+ patient	138 (89%)	17 (11%)	88 (93%)	7 (7%)	226 (90%)	24 (10%)

**Table 4:** Protective Practice of Nurse Towards HIV Positive Patients

Protective Practice of Nurse	Trained (n=155)		Not Trained (n=95)		Total (n=250)	
	Always	Never	Always	Never	Always	Never
Wearing Gloves	122(78.7%)	7(4.5%)	81(85.3%)	3(5.2%)	209(83.6%)	10(4%)
Hand washing	150(96.7%)	2(3.3%)	94(99%)	1(1%)	244(98%)	3(2%)
Wearing Aprons	74(47.7%)	13(8.4%)	54(56.8%)	9(9.5%)	128(51%)	22(9%)
Using Eye protection	53(34.2%)	20(13%)	31(32.6%)	19(20%)	84(33.6%)	39(16%)
Wearing Mask	61(39.3%)	20(12.9%)	44(46.3%)	10(10.5%)	105(42%)	30(12%)
Needle recapping	62(40%)	82(52.3%)	34(35.8%)	50(52.6%)	96(38.4%)	132(53%)
Wiping blood spills	96(61.9%)	46(29.7%)	59(62.1%)	24(25.3%)	155(62%)	70(28%)
Covering broken skin	132(85.2%)	6(3.8%)	88(92.6%)	7(7.4%)	220(88%)	13(5%)
Putting used needle in sharps container	122(78.7%)	14(9%)	83(87.4%)	7(7.4%)	205(82%)	21(8%)
Mandatory testing all patients before surgery	134(86.4%)	2(1.2%)	90(94.7%)	5(5.3%)	224(89.6%)	7(3%)

## Conclusion

It is evident from the results obtained that special training among nurses regarding care of HIV positive patient leads to an improvement in their knowledge of this disease, which is reflected in their change in attitude towards these patients and also in their practice involving them. Hence, periodic training for HIV/AIDS should be made compulsory for all nurses related to epidemiology, clinical features of HIV and maintenance of Universal precautions and the importance of a humanitarian approach towards patient. Such training should include both theoretical & practical aspects and assessed by regular evaluation. The present study focuses on periodic training to ensure continued and updated knowledge of the nursing staff. The hospital administrator is responsible for ensuring that healthcare worker is dedicated, motivated and updated with recent international treatment protocol, to ensure efficient patient care service.

**Funding:** None

**Conflict of Interest:** None declared

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