Original Research Article

Knowledge and awareness among nurses in tertiary care hospitals of Kolkata regarding HIV positive patient care: a cross-sectional study

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ABSTRACT

Background: Nursing staff have immense contribution in the generation of healthcare and medical care services and act as pillars on which the entire hospital care facility is dependent. 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. Objectives of the study was to assess provider’s knowledge of HIV/AIDS, misconceptions and practices in the areas of virology, mode of transmission, prevention.

Methods: This was a cross-sectional study conducted in five tertiary care hospitals of Kolkata, for a period of three months. The sample size of 250 nursing staffs from 5 hospitals were selected by applying simple random sampling technique. The data was collected by oral questionnaire method and results were analysed by appropriate statistical methods.

Results: Among the 250 respondents, 62% received training on HIV/AIDS, 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 and 65% of respondents correctly answered that later stage of HIV is known as AIDS. 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.

Conclusions: The results of this study can be utilized in stressing on the importance of imparting training to the nurses and other healthcare workers related to HIV/AIDS patient care.

Keywords: Awareness, HIV/AIDS, Knowledge, Nurses

INTRODUCTION

Nursing staff have immense contribution in the generation of healthcare and medical care services and act as pillars on which the entire hospital care facility is dependent. The line and functional organization in a hospital is the process of managing and controlling the nursing services in a hospital. In line organization, the Nursing Superintendent determines the number and types of nurses in the hospital, makes provisions for their recruitments, trains them, directs them, controls them and makes efforts to motivate them continuously. In functional organization, the doctors prescribe a course of treatment for the patients, which are carried out by the nurses. The hospital administrator focuses on the instrumentality in controlling and supervising the nursing staff, so that they offer the best possible services to the patients. As the nurses play an essential role in improving
the quality of healthcare services in a hospital, it is the responsibility of a hospital manager to ensure that they are constantly trained and supervised. In-patient services in a hospital are related to the services provided to the patients after they are admitted to the hospital and it focuses on ward management where the patients are admitted and the nursing staff offers to them different services with the support of doctors and the paramedical staff.1

In the present world, several patients are infected with Human Immunodeficiency Virus and they require greater amount of care and empathy, due to the complexity of their disease. 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 or AIDS where there is impairment of the immune system of the infected patient making him prone to other infections which ultimately cause 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 cooperation of a fully dedicated team and the supporting infrastructural facilities.2 The present study was focused to assess provider’s knowledge of HIV/AIDS in the areas of virology, mode of transmission, prevention, to identify fears and misconceptions about perceived risk of HIV infection and to assess practices in taking universal protective measures.

METHODS

This was a cross-sectional institution based study conducted in five tertiary care hospitals of Kolkata, for a period of three months (01 December 2019 to 29 February 2020). The awareness and knowledge of the nurses were assessed and analysed by suitable and appropriate statistical techniques.

The results reflected that, among the 250 respondents, 62% received training on HIV/AIDS, 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. 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%) and exposure to blood when taking care of patients (86.8%).

| Training          | Total | Percentage |
|-------------------|-------|------------|
| Received          | 155   | 62         |
| Not received      | 95    | 38         |
| Total             | 250   | 100        |

96% nurses know that an accidental needle stick injury in the workplace can also transmit AIDS. AIDS is transmitted from mother to child, this is well known to respondents, as 76.8% of them know it spreads while breast feeding and 96% nurse know that it is transmitted while delivery of the baby.

Regarding knowledge on different preventive strategies 90.8% nurses know that instruments and equipment should be properly sterilized to prevent HIV transmission, 94.4% respondents know that personal protective devices must be used during invasive procedures and 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.
Table 2: Assessment of knowledge regarding HIV/AIDS among nurses (n=250).

| 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 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)    |
| Prevented by using separate equipment for HIV positive patients | 83 (53.5)                   | 30 (31.5)                   | 113 (45.2)    |
| Nevirapine is the treatment of choice                        | 133 (85.8)                   | 71 (74.7)                   | 204 (81.6)    |
| HIV positive mother should exclusively breast 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)    |
| Nevirapine is the treatment of choice                        | 133 (85.8)                   | 71 (74.7)                   | 204 (81.6)    |

Table 3: Attitude and belief of nurses towards care of HIV positive patients (n=250).

| Attitude and belief variables                                 | Trained | Not trained | Total |
|---------------------------------------------------------------|---------|-------------|-------|
|                                                              | Agree   | Disagree    | Agree | Disagree | Agree | Disagree |
| HIV patients should be put in same room with other patients   | 123 (79.30) | 26 (16.70) | 57 (60) | 31 (32.60) | 180 (72) | 57 (22.80) |
| 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 and respect as other patient | 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 4: 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 (8.40) | 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) |
It was observed 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 and respect as other patients and 84% believed that the status of HIV infected person must be kept confidential. 26% nurses think that touching HIV positive patients when assessing them is associated with risk.

It showed 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 revealed that 99% of the nurses can correctly perceive the high amount of risk involved in cleaning and 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 showed that most of the nurses have a correct risk perception regarding spread of HIV during medical procedure.

It is also 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 and 89.6% of nurse thinks that HIV testing is mandatory before any surgery.

**DISCUSSION**

The analysed results were obtained and they were being compared to some national and international studies. The comparisons show among the 250 respondents, 62% received training on HIV/AIDS and 38% did not receive any training, as observed in Table 1. In present study, regarding knowledge about HIV, as observed in Table 2, 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 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%) and exposure to blood when taking care of patients (86.8%). A study by Bhat et al revealed only 63 (25%) subjects had the correct information of the 0.3% risk of infection through needle stick injury but majority of them were First year Nursing students. Another study conducted among nurses in Turkey 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 experienced nurses in China 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 and 96% nurse know that it is transmitted while delivery of the baby. Regarding knowledge on different preventive strategies 90.8% nurses know that instruments and equipment should be properly sterilized to prevent HIV transmission, 94.4% respondents know that personal protective devices must be used during invasive procedures and 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
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 of HIV, clinical features of the disease, its diagnosis and management, maintenance of Universal precautions, Post-exposure prophylaxis measures, importance of a humanitarian and supportive approach towards the patient. Such training should include both theoretical knowledge and practical demonstration in the ward and operating room and should be followed by an evaluation process through written and practical examination. Training should be repeated after a specific time period regularly to ensure continued and updated knowledge. The study focuses on the need to train the nursing staff and ensure better patient care in the hospital. The hospital administrator has the responsibility to ensure that the healthcare worker is dedicated, motivated and updated with the recent international treatment protocol, to ensure that the hospital can provide efficient patient care services.

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