

# Awareness Regarding the Care of Patients with HIV/AIDS among the Nurses Working at BPKIHS, Nepal

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## ABSTRACT

**Background:** Nurses play a critical role in caring the HIV positive patient. A knowledge deficit about HIV/AIDS nursing care could logically affect outcomes of care for these patients. Negative attitudes and behaviors related to HIV/AIDS might deter those in particular risk groups, the individuals with the disease, their family members and the society from providing support and treatment.

**Objective:** This study attempts to determine the knowledge and attitude regarding the care of HIV/AIDS patient, to find out the association between knowledge and practice with the selected variables and to find the correlation of knowledge with practice.

**Method:** A descriptive cross-sectional study was conducted among 207 nurses working at BPKIHS, Dharan. Stratified random sampling based on population proportionate method was adopted. Data were collected using a semi-structured self-administered questionnaire. Data were analyzed using descriptive and inferential statistics at level of significance 0.05.

**Result:** The study showed moderately adequate knowledge among majority (92.3%) of the nurses. More than half (50.7%) of the nurses had favorable attitude towards the care of patient with HIV/AIDS. There was no significant association between the knowledge and attitude with the socio-demographic variable, training and experience of care of HIV/AIDS patient. Knowledge regarding the care of patient with HIV/AIDS has significant positive correlation with attitude.

**Conclusion:** The study revealed that the majority of the nurses have moderately adequate knowledge regarding the care of patient with HIV/AIDS and most of the nurses have favorable attitude towards the care of patient with HIV/AIDS. It is therefore pertinent that all health care providers have access to up-to-date information on all aspects of HIV/AIDS so that they can provide quality care and services without stigmatizing and without being judgmental.

**Key words:** Attitude, awareness, HIV/AIDS, knowledge, nurses.

## INTRODUCTION

Since the first case of HIV recognized in the United States in 1981, HIV has spread rapidly throughout the world. [1] Today, more than 30 years later, there are approximately 35 million people currently living with HIV and nearly 39 million people have died of AIDS related causes since the beginning of the epidemic. [2]

Increasing number of people suffering from HIV/AIDS has influenced healthcare sectors. [3] With a sudden rise in the HIV infection, especially in the economically productive age groups, the health care system has been confronted with the challenging and complex task of taking care of these patients. HIV has created its own emotional stresses for the health care sector. [4]

Health care providers, who are also members of the general community, are likely to elicit similar prejudicial and fearful reactions to HIV/AIDS infected persons. [5] Health professionals refuse to care for the HIV/AIDS patient because they have fear of contagion at workplaces. Irrational and discriminatory treatment of HIV/AIDS patient is the result of health professional's fear. [3] Unfortunately, most of health professionals have this kind of perspective and practice about PLWHA. The resultant effects of such negative attitudes include poor patient management, with people being denied most needed treatment, care and support. This in turn could affect their morale, self-esteem and self-determination to live quality lives devoid of stigma, fear, repression and discrimination. [6]

### Objective

To assess the knowledge and attitude regarding care of patients with HIV/AIDS among the nurses working at BPKIHS, to find the association of knowledge and practice with selected variables and to find the correlation of knowledge with practice.

### Significance of the study:

Infectious diseases like HIV/AIDS are on the rise in developing countries like Nepal which has influenced the health care sectors. Nurses, who are the largest frontline health care professionals, play a critical role in caring the HIV positive patient. [7] Maintaining the desired quality of life of people with HIV/AIDS is possible mainly through extensive, competent and compassionate nursing care. [5] A knowledge deficit about HIV/AIDS nursing care and negative attitudes and behaviors related to HIV/AIDS might deter those in particular risk groups, the individuals with the disease, their family members and the society from providing support and treatment. [7]

## MATERIALS AND METHODS

**Research design:** Descriptive cross sectional study design was adopted for the study.

**Research Setting/Sample Area:** The study was conducted among the nurses working in BPKIHS, a tertiary level medical institute in Nepal.

**Sample:** Nurses including senior staff nurse, staff nurse and ANM working in BPKIHS who fulfill the inclusion criteria.

**Sample size:** The sample size was calculated at the level of significance 95% and power 90% with the prevalence of attitude 47%. [3] The sample size formula used in this study was  $n=4pq/l^2$  and it was corrected for finite population. Thus the final sample size was 207.

**Sampling Technique:** Stratified random sampling method was adopted to collect the data. A list of the wards was obtained with the total number of working staffs of each category. The number of sample was taken from each strata of nurses based on population proportionate random sampling method.

**Research instrument:** A semi-structured self-administered questionnaire was developed based on the objectives of the research. It consisted of three sections: Section A consisted of questions related to demographic factors and training and experience of care of HIV/AIDS patient. Section B consisted of knowledge regarding the care of patients with HIV/AIDS based on literature review and tool used by Hasani. [8] It consisted of 34 true/false questionnaire and each statement answered as true, false or don't know. Each correct answer was scored 1 and each incorrect answer was scored 0 (don't know answers were treated as 0)

Section C consisted of HIV attitude items used by Zadeh [3] consisting of five point Likert scale items that address the attitude of nurses towards the care of patient with HIV/AIDS. These items include five scales as emotions toward people with HIV/AIDS (6 items), caring of patients with HIV (5 items), effectiveness of care (3 items), fear of contagion (3 items) and readiness to care (3 items). Each item had a 5 point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) and negative

attitude scored reversely. The items on attitude for each part had Cronbach's alpha coefficient of 0.68, 0.69, 0.73, 0.88 and 0.87 respectively. The reliability was tested among the Iranian nurses.

**Validity of the tool:** Content validity of the tool was established by the experts in related fields. Based on their suggestions necessary modifications were made. Pre-testing of the tool was done among 10 % of total subjects.

**Procedure for data collection:** Permission from the concerned authority was obtained to conduct the study. Informed verbal consent was obtained from respondents prior to the data collection. The respondents were reassured that confidentiality will be maintained throughout the study. Data was collected by self-administered questionnaire. The questionnaire was distributed to the respondents by the researcher herself and they were asked to fill the questionnaire in the presence of the researcher. The filled questionnaire was collected after its completion. The respondents were assured that confidentiality of their information would be maintained while reporting the data.

**Statistical Analysis:** Descriptive statistics (mean, median, percentage, range, standard deviation and interquartile range) was used to describe the demographic and other related variables. One way 'ANOVA' and Independent 't'-test were used to find out the association between the knowledge and attitude score towards the care of patient with HIV/AIDS and the selected variables. Correlation was used to find out the association between the attitude and its domain with the knowledge.

## RESULTS

More than three-fourth (76.8%) of the respondents belonged to the age group 20-29 years. The age of the respondents ranged from 20 to 50 years with the mean age of 25.81 years and standard deviation of 4.77. More than half (51.2%) of the respondents were working in the general unit. Around 51% of the respondents were

unmarried, followed by married respondents of 49.3%. Majority (80.6%) of the respondents were educated up to the certificate level and 9.7% each studied up to the ANM level and the bachelor level. Majority (82.1%) of the respondents was designated as staff nurse and minimal respondents (8.2%) were working as senior staff nurse. Significant percentage (72.8%) of the respondents had less than 5 years of nursing experience. The experience of the respondents ranged from 9 months to 25 years. The median duration of the nursing experience of the respondents was 2.5 years with the IQR of 2- 5 years.

Minimal percentage (6%) of the respondents had received training in aspects of HIV/AIDS, among which 25% of the respondents had received training on VCT and PMTCT. Significant percentage (78.3%) of the respondents claimed that they had previous experience of caring the patients with HIV/AIDS. Among these respondents more than one third (41.5%) of the nurses had taken care of more than one HIV/AIDS patient per month.

The study showed that the majority (98.1%) of the respondents knew that HIV/AIDS is caused by a Retro Virus. Almost all (98.6%) of the respondents were acquainted that intravenous drug abusers are at risk for contracting HIV/AIDS. Significant number (98.1%) of the respondents knew that the sexual partners of a person with HIV/AIDS should be blood precautioned if hospitalized. Almost 90% of the respondents denied that HIV can be easily transmitted through saliva, sweat and tears. Minimal percent (10.6%) of the respondents knew that the risk of infection with the HIV/AIDS virus after an accidental needle stick is low. Less than one third (23.7%) of the respondents denied that to prevent accidental injury, contaminated needles should be recapped immediately after use on patients with HIV/AIDS. Only around 25% of the respondents knew that one should suspect the diagnosis of HIV/AIDS in young persons who present with Kaposi's sarcoma.

The study reported that the respondents had positive emotion towards the people with HIV/AIDS. Majority (94.6%) of the respondents disagreed that the patients with HIV/AIDS should be isolated from the society. Majority (90%) agreed that they should be admitted to the hospital. Majority of the respondents showed positive attitude towards working with the HIV/AIDS patient. Around 60% of the respondents disagreed that the beds of the HIV/AIDS patients should be marked. Around 50% of the respondents disagreed

that that the patient status to be notified without his/her consent. Majority of the respondents had positive attitude towards the effectiveness of care for HIV/AIDS patient. Most of the respondents believed that caring, educating, counseling and treatment of patients with HIV may result in improving own quality of life. There was less fear of contagion among the respondents. Majority of the respondents were ready to take care of the HIV/AIDS patient.

**Table 1: Socio-demographic Characteristics of the Respondents** n=207

| Characteristics                                    | Category           | Frequency | Percentage (%) |
|--|--------------------|-----------|----------------|
| Age (in years)                                     | 20-29              | 159       | 76.8           |
|  | 30-39              | 46        | 22.2           |
|  | ≥40                | 2         | 1.0            |
| Mean ±SD = 25.81±4.77 (Range 20-50 years)          |                    |           |                |
| Working unit                                       | General            | 106       | 51.2           |
|  | Critical           | 101       | 48.8           |
| Marital status                                     | Unmarried          | 105       | 50.7           |
|  | Married            | 102       | 49.3           |
| Level of education                                 | Bachelor           |           | 9.7            |
|  | PCL                |           | 80.6           |
|  | ANM                |           | 9.7            |
| Designation  | ANM                | 20        | 9.7            |
|  | Staff nurse        | 170       | 82.1           |
|  | Senior staff nurse | 17        | 8.2            |
| Years of Nursing experience                        | <5                 | 150       | 72.8           |
|  | 5 -10              | 24        | 11.7           |
|  | >10                | 32        | 15.5           |
| Median years of experience(IQR) = 2.5 years (2- 5) |                    |           |                |

**Table 2: Training and Experience of Care of HIV/AIDS Patient** n=207

| Characteristics                                 | Category              | Frequency | Percentage |
|---|-----------------------|-----------|------------|
| Training received in aspects of HIV/AIDS        | Yes                   |           | 6          |
|   | No                    |           | 94         |
| *Type of training (n=12)                        | VCT                   | 3         | 25         |
|   | PMTCT                 | 3         | 25         |
|   | STI                   | 2         | 16.6       |
|   | TB/HIV                | 2         | 16.6       |
|   | ART                   | 2         | 16.6       |
|   | Infection prevention  | 1         | 8.3        |
|   | Stigma                | 1         | 8.3        |
| Previous experience of care of HIV/AIDS patient | No                    | 45        | 21.7       |
|   | Yes                   | 162       | 78.3       |
| Frequency of care (n=162)                       | Rarely (≤1/ month)    | 56        | 27.1       |
|   | Sometimes (>1/ month) | 86        | 41.5       |
|   | Often (>1/week)       | 10        | 4.8        |
|   | Very often (>5/week)  | 10        | 4.8        |

\*Multiple Responses

In the present study the mean percent score of the knowledge was 64.71. Majority (92.3%) of the respondents had moderately adequate knowledge regarding the care of patient with HIV/AIDS.

The present study showed that the mean percent score of the attitude was 75.84%. Majority of the respondents

showed favorable attitude towards the care of patient with HIV/AIDS.

The study reported that the knowledge was not significantly associated with any of the socio-demographic variable and the training received and the previous experience of care of HIV/AIDS patient. Attitude also had no significant association

with the socio-demographic variables and the training received and the previous experience of care. Emotion towards HIV/AIDS patient was significantly associated with age, working unit, marital status, education, designation, nursing experience. Fear of contagion among the

respondents had significant association with the age, working unit, designation and nursing experience. Respondent's willingness to care was significantly associated with the previous experience of the care of HIV/AIDS patient.

**Table 3: Knowledge Regarding Agent and Immunology of HIV/AIDS** n=207

| SN. | Statement  | Correct response | Frequency of Correct response | Percentage |
|-----|--|------------------|-------------------------------|------------|
| 1   | HIV/AIDS is caused by a retrovirus.  | T                | 203                           | 98.1       |
| 2   | Pneumocystiscarinii can cause HIV/AIDS.  | F                | 90                            | 43.5       |
| 3   | A person with antibody to the virus is protected against HIV/AIDS.   | F                | 148                           | 71.5       |
| 4   | The HIV/AIDS virus is very difficult to kill with disinfectant in the environment.   | F                | 126                           | 60.9       |
| 5   | Members of the high-risk groups for HIV/AIDS are permitted to donate blood if they test negative for the antibody to the virus.                      | F                | 125                           | 60.4       |
| 6   | The incubation period for HIV/AIDS is 2-5 weeks.   | T                | 141                           | 68.1       |
| 7   | HIV/AIDS is characterized by a decrease in T4 lymphocytes, causing impaired cell immunity.   | T                | 142                           | 68.6       |
| 8   | The average length of time from the diagnosis of HIV/AIDS until death in 5 years.  | F                | 152                           | 73.4       |
| 9   | Persons with HIV can be asymptomatic but still infectious.   | T                | 198                           | 95.7       |
| 10  | Opportunistic infection (such as Candida esophagitis) in a previously healthy person is suggestive of HIV/AIDS.                                      | T                | 88                            | 42.5       |
| 11  | One should suspect the diagnosis of HIV/AIDS in young persons who present with Kaposi's sarcoma.   | T                | 53                            | 25.6       |
| 12  | The incubation period for HIV/AIDS is 2-5 weeks.   | T                | 141                           | 68.1       |
| 13  | HIV/AIDS can be transmitted by casual contact.   | F                | 180                           | 87         |
| 14  | HIV/AIDS has been transmitted to people receiving blood transfusion.   | T                | 177                           | 85.5       |
| 15  | HIV can be easily transmitted through saliva, sweat and tears.   | F                | 185                           | 89.4       |
| 16  | Following an accidental needle stick, there is a greater likelihood of infection with hepatitis B virus than with HIV/AIDS.                          | T                | 116                           | 56         |
| 17  | It is possible to transmit the virus to family members of a nurse providing care for patients with HIV/AIDS, even though the nurse is not infected.  | F                | 138                           | 66.7       |
| 18  | The risk of transmission of the HIV/AIDS virus during mouth to mouth resuscitation is extremely low.   | T                | 131                           | 63.3       |
| 19  | HIV/AIDS can be transmitted by casual contact.   | F                | 180                           | 87         |
| 20  | Heterosexual women do not get HIV/AIDS.  | F                | 172                           | 83.1       |
| 21  | Intravenous drug abusers are considered to be at risk for contracting HIV/AIDS.  | T                | 204                           | 98.6       |
| 22  | The greatest risk of exposure to HIV/AIDS is caring for an incontinent patient with HIV/AIDS.  | F                | 164                           | 79.2       |
| 23  | The risk of infection with the HIV/AIDS virus after an accidental needle stick is high.  | F                | 22                            | 10.6       |
| 24  | The risk of infection with HIV/AIDS among nurses is high.  | F                | 49                            | 23.7       |
| 25  | Numerous cases of HIV/AIDS have been reported among nurses and midwives.   | F                | 77                            | 37.2       |
| 26  | An individual may be infected with HIV/AIDS virus even if he/she tests negative for HIV/AIDS antibodies.   | T                | 146                           | 70.5       |
| 27  | People with HIV/AIDS should have separate bathroom/toilet facilities.  | F                | 184                           | 88.9       |
| 28  | The sexual partners of a person with HIV/AIDS should be blood precaution if hospitalized.  | T                | 203                           | 98.1       |
| 29  | Gloves are not necessary when handling the specimen of a patient with HIV/AIDS.  | F                | 155                           | 74.9       |
| 30  | There are many more people infected with HIV than actual AIDS.   | T                | 157                           | 75.8       |
| 31  | Gloves and gowns are required for any contact with patients with HIV/AIDS.   | F                | 60                            | 29         |
| 32  | People with HIV/AIDS should have different waiting rooms before admission to the ward.   | F                | 115                           | 55.6       |
| 33  | It is appropriate to use blood precautions on anyone known to be from HIV/AIDS high risk groups even though they do not have a diagnosis of HIV/AIDS | T                | 201                           | 97.1       |
| 34  | To prevent accidental injury, contaminated needles should be recapped immediately after use on patients with HIV/AIDS.                               | F                | 49                            | 23.7       |
| 35  | HIV-positive patients with a CD4 count <200 should be assessed for antiretroviral treatment.   | T                | 116                           | 56         |
| 36  | Adherence to antiretroviral treatment is essential to avoid the development of drug resistance.  | T                | 87                            | 42         |

**Table 4: Knowledge Regarding the Care of Patients with HIV/AIDS n=207**

| Knowledge Category            |   | Based on exact score | Based on percentage score | Frequency | Percentage |
|-------------------------------|---|----------------------|---------------------------|-----------|------------|
| Category                      |   |                      |                           |           |            |
| Inadequate knowledge          | Below than mean-1.96SD                  | <14.13               | <41.55                    | 13        | 6.3        |
| Moderately adequate knowledge | Between (mean-1.96SD) and (mean+1.96SD) | 14.13-29.87          | 41.55-87.87               | 191       | 92.3       |
| Adequate knowledge            | Above than mean+1.96SD                  | >29.87               | >87.87                    | 3         | 1.4        |

The study revealed the significantly positive correlation of the knowledge regarding the care of patient with HIV/AIDS with the attitude towards the care of patient with HIV/AIDS ( $p < 0.001$ ). Knowledge also had significant positive correlation with the emotion towards HIV/AIDS patient ( $p = 0.003$ ), working with HIV/AIDS patient ( $p = 0.042$ ), effectiveness of care ( $p = 0.010$ ) and readiness to care ( $p < 0.001$ ).

The study showed that the majority of the respondents had moderately adequate

knowledge regarding the care of patients with HIV/AIDS. More than half of the respondents also had the positive attitude towards the care of patient with HIV/AIDS. Knowledge and Attitude was not associated with any of the socio-demographic variables. However, knowledge had the significant positive correlation with the attitude and the domains of the attitude as emotion towards HIV/AIDS patient, working with HIV/AIDS patient, effectiveness of care and readiness to care.

**Table 5: Attitude towards the Care of Patients with HIV/AIDS n=207**

| Character   | Category             | Frequency | Percentage (%) | Mean± SD   |
|---|----------------------|-----------|----------------|------------|
| Attitude towards the care of patients with HIV/AIDS | Favorable attitude   | 105       | 50.7           | 75.84±8.18 |
|   | Unfavorable attitude | 102       | 49.3           |            |

**Table 6: Correlation between Knowledge Regarding the Care of Patients with HIV/AIDS and Attitude towards the Care of Patients with HIV/AIDS and its Domain n= 207**

| Knowledge regarding the care of patients with HIV/AIDS* | Domains of the attitude towards the care of patient with HIV/AIDS |         |                               |         |                       |         |                   |         |                   |         | Attitude towards the care of patient with HIV/AIDS |         |
|---|---|---------|-------------------------------|---------|-----------------------|---------|-------------------|---------|-------------------|---------|--|---------|
|   | Emotion towards HIV/AIDS patient                                  |         | Working with HIV/AIDS patient |         | Effectiveness of care |         | Fear of contagion |         | Readiness to care |         | r value  | P-value |
|   | r value   | P-value | r value                       | P-value | r value               | P-value | r value           | P-value | r value           | P-value |  |         |
|   | 0.206   | 0.003   | 0.142                         | 0.042   | 0.178                 | 0.010   | 0.119             | 0.087   | 0.264             | <0.001  | 0.329  | <0.001  |

Note: \*Pearson correlation

## DISCUSSION AND CONCLUSION

While assessing the knowledge majority of the respondents (98.1%) could identify the causative agent of HIV/AIDS as Retro Virus but only 43.5% i.e. less than half of the respondents denied that Pneumocystic carinii can cause HIV/AIDS. Worse scenario was found in a study done by Mulaudzi [9] where only 21% of the respondents knew that HIV is caused by retro virus. Infections can be transmitted by the infected individuals even when symptoms of AIDS are not present. More than 95% of the respondents in this study were acquainted with this fact. However, in a study conducted by Marranzano [10] only 65% of the respondents accepted that persons with HIV can be asymptomatic but still infectious. Respondents in this study

might not have the knowledge about the complications of the disease as only 25.6% of the respondents answered correctly that one should suspect the diagnosis of HIV/AIDS in young persons who present with Kaposi's sarcoma. Casual contact such as touching, hugging and kissing an infected person with HIV/AIDS do not result in HIV transmission. [5,11] Supporting the fact, in the present study 87% of the respondents identified the statement that HIV/AIDS can be transmitted by casual contact as the false statement. Similar to the present study, Sadon [11] reported that 97% of the respondents had knowledge that casual contact would not transmit HIV. In a study conducted by Achappa, [4] very large population of nurses believed that HIV could be transmitted by sharing plates,

contact with urine and feces, saliva and tears and sputum of the HIV positive patient. Much better scenario was seen in the present study where around 90% of the respondents denied that HIV can be easily transmitted through saliva, sweat and tears. Despite the fact that the risk of a health care provider contracting HIV is believed to be almost zero when proper precautions are used, studies showed that the nurses continue to be concerned about the risk of caring for patient with HIV/AIDS. [4] In the present study 80% of the respondents believed that the greatest risk of exposure to HIV/AIDS is caring for an incontinent patient with HIV/AIDS. Although the overall risk of occupational infection after a needle stick injury with a needle containing HIV infected blood is estimated to be 0.3%, [13] the respondents in the present study were likely to be overestimating their risk of occupational infection with HIV as the majority (89.4%) had wrong belief that the risk of infection with the HIV/AIDS virus after an accidental needle stick is high.

More than three-fourth (76.3%) of the respondents agreed that to prevent accidental injury, contaminated needles should be recapped immediately after use on patients with HIV/AIDS which is consistent with finding of the study done by Dellobelle [14] and Ehler. [15] This shows the lack of injection safety in developing countries. An unsafe injection practice put not only patients but also healthcare workers at risk; attention should be given to the occupational safety of health care workers. [14]

With the mean score of 22 and SD 4.02, out of possible score of 34 (mean percent score $\pm$ SD = 64.71 $\pm$ 11.82), nurses in this study demonstrated a good knowledge regarding the care of patient with HIV/AIDS.

Around 67% of the respondents disagreed that the patients with HIV/AIDS are responsible for their illness. Similar to the present finding a study conducted by Mulaudzi [9] reported that only 12.1% of the

respondents blamed the patient for their status.

In the present study around 45% of the respondents agreed that the people with HIV/AIDS should be in separate ward in a hospital. Similar finding was seen in the study conducted by Achappa [4] and Reis [16] which showed that 46.1% and 59% of the respondents respectively agreed that the HIV positive needed to be nursed separately. These findings highlight a lack of understanding regarding the primary principle underlying standard/universal precautions i.e. the precautions to be applied universally and not selectively. When standard/universal precautions are applied appropriately it is not necessary to isolate HIV positive patients unless they have tuberculosis or other opportunistic infections that require isolation. [17]

More than half (59%) of the respondents disagreed that the beds of patients with HIV/AIDS be marked. A study done by Achappa [4] in India showed that 80.5% of the respondents thought that it was appropriate to disclose the HIV status of the patient to his relatives/sexual partner without his/her consent. However in the present study more than half (55%) of the respondents disagreed that relatives/sexual partner of patients with HIV/AIDS should be notified of the patient's status without his/her consent. Around 65% of the respondents agreed that medications to treat opportunistic infections may prolong the life of patient with HIV. This result is supported by the study conducted by Aghamolaei [6] in which most of the participants believed that caring, educating, counseling and treatment of patients with HIV may result in improving own quality of life. The present study shows that more than three fourth (76.9%) of the respondents were willing to take care of patients with HIV/AIDS. Similar finding was seen in a study conducted by Achappa [4] which reported that only 5.4% of the respondents did not prefer to care for the HIV positive patients.

The mean scores of attitude in dimensions including emotion towards the

people with HIV/AIDS, working with HIV/AIDS patient, effectiveness of care, fear of contagion and readiness to care were 24.08, 17.90, 11.86, 10.87 and 11.13 respectively. The study reveals favorable attitude among the respondents showing 50.7% of the respondents scoring more than 60 percent. The mean score of attitude was found to be 75.84 with standard deviation of 8.18. This result is supported by a study conducted by Achappa<sup>[4]</sup> which showed positive attitude in caring the HIV patients. Several other studies conducted among the nurses showed the similar result.<sup>[4-6,9,14]</sup> However a study conducted by Mo,<sup>[18]</sup> Zadeh,<sup>[3]</sup> Oyeyemi,<sup>[19]</sup> Mahat<sup>[20]</sup> and Hassan<sup>[21]</sup> had revealed the negative attitude among the nurses.

In the present study respondents with bachelor level of education had higher mean percent knowledge score of 69.85. Higher mean knowledge score was found among the respondents those who had received training (67.64) than those who hadn't received training (62.87). Knowledge regarding the care of patient with HIV/AIDS was not associated with the age, working unit, marital status, level of education, designation of the respondent, nursing experience. Similar result was seen in a study conducted by Dellobelle.<sup>[14]</sup> Gulifeiya<sup>[22]</sup> conducted a study in Malaysia which showed no significant association of the knowledge with the respondent's socio-demographic characteristics.

The present study shows no statistically significant association of the knowledge level of the nurses with previous training and previous experience of care of HIV/AIDS patient. However in a study conducted by Zadeh<sup>[3]</sup> significant association of the level of knowledge with the training program related to HIV/AIDS and the previous experience of caring for HIV/AIDS patients was found. A study by Hasani<sup>[8]</sup> showed that the respondents participating in educational program had over all higher scores of knowledge than the nonparticipants. However the same study

revealed that knowledge was not associated with the years of HIV patient caring.

In the present study no statistically significant association was found between the attitude towards the care of patient with HIV/AIDS and age, working unit, marital status, level of education, designation of the respondent, nursing experience. The finding was supported by a study conducted by Zadeh<sup>[3]</sup> which found no significant association between the socio-demographic variables and the attitude of the nurses.

In the present study, no statistically significant association was found among the attitude and the previous training in aspects of HIV/AIDS and previous experience of caring the HIV/AIDS patient. Contrary to the present findings, a comparative study done by Suominen<sup>[23]</sup> explored that the level of attitude was positively influenced by the previous experience of providing care to HIV/AIDS patient. A study conducted by Oyeyemi<sup>[19]</sup> showed that the attitude was influenced by the prior education and experience of taking care for HIV/AIDS patient. Other studies by Gulifeiya<sup>[22]</sup> and Dellobelle<sup>[14]</sup> showed that attitude of the nurses towards HIV/AIDS patients was significantly related to their training status.

The present study shows that emotion towards HIV/AIDS patient was significantly associated with age, working unit, marital status, education, designation and nursing experience. In this study fear of contagion was associated with the age, working unit, designation and nursing experience. Respondents in the age group of more than 40 years, designated as senior staff nurse and more than 10 years of experience had less fear of contagion. This may be due to the maturity in their work and experience of working which has led to less fear of contagion. The present study reveals that the respondent's readiness to care was significantly associated with their previous experience of caring the HIV/AIDS patient.

The study reveals that knowledge regarding the care of patient with HIV/AIDS had significant positive relationship with the attitude towards the

care of patient with HIV/AIDS. ( $r= 0.329$ ,  $p= <0.001$ ). The positive linear correlation affirms that better knowledge can lead to positive attitude.

Similar finding was seen in a study conducted by Zadeh [3] in which the knowledge score was significantly positively correlated with attitude ( $r =0.0253$ ,  $p<0.05$ ). However a study by Oyeyemi [19] showed no significant correlation between scores on knowledge and attitude.

The present study reported that the knowledge score was significantly positively correlated with domain emotion ( $r= 0.206$ ,  $p= 0.003$ ), caring the HIV/AIDS patient ( $r= 0.142$ ,  $p= 0.042$ ), effectiveness of care ( $r= 0.178$ ,  $p= 0.010$ ) and readiness to care ( $r= 0.264$ ,  $p<0.001$ ). The present study showed no significant correlation of the knowledge score with fear of contagion. It reveals that there exist the fear of contagion among the nurses regardless their level of knowledge.

## CONCLUSION

The study revealed that the majority of the nurses have moderately adequate knowledge regarding the care of patient with HIV/AIDS and more than half of the nurses have favorable attitude towards the care of patient with HIV/AIDS. Knowledge regarding the care of patient with HIV/AIDS has significant positive correlation with attitude and the domains emotion towards HIV/AIDS patient, working with HIV/AIDS patient, effectiveness of care and readiness to care. Knowledge, however, has no correlation with the fear of contagion. It is concluded from the study that the increase in knowledge of the nurses leads to the favorable attitude. It is therefore important that all the nurses have access to up-to-date information on all aspects of HIV/AIDS.

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