

Knowledge and Attitudes of the Radiographers on AIDS/HIV Patients Attending Radiology Units in Sri Lanka

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Abstract

The objective of this study was to determine level of knowledge and attitude towards HIV/AIDS among radiographers who were working in various hospitals and radiology clinics in both government and private sectors in Sri Lanka.

A cross-sectional study was conducted and a pre-designed, pre-tested, anonymous self-administered, structured questionnaire was circulated among available 562 radiographers. Data entry, management and analysis were carried out using MS excel and SPSS 17.0 statistical software package.

The response rate was 37.9 %. The mean overall age of the respondents was 30 to 39 years and males composed (72.3%) the majority of study population. 93.4% have never attended any occupational training program regarding prevention of AIDS or HIV. The total mean knowledge score was 66.41% (good knowledge), broken down as 66.17 % for males and 68.42% for females. Respondents exhibited a good knowledge regarding modes of transmission and 96.71 % of the participants recognized that sexual intercourse and blood contamination are the major transmission paths of the virus. However, certain misconceptions were noted. The overall mean attitude was neutral (66.8%) and only 23 % had professional (positive) attitudes. A significant number of respondents (37.56%) believed that if health professionals infected with HIV, they should not be allowed to work where patient contact is needed There was no significant difference between knowledge and attitude scores in terms of gender, the education levels or the years of practice ($p < 0.05$).

The study findings indicate that the good level of knowledge and neutral attitudes towards the patients with HIV/AIDS among radiographers employed in various hospitals and radiology clinics in Sri Lanka but some misconceptions can be observed in certain areas of transmission modes and attitude.

Key words: Awareness, HIV/ AIDS, Radiographers

Introduction

AIDS (acquired immunodeficiency syndrome) is the final fatal stage of an infectious disease transmitted by HIV (Human immunodeficiency virus). It is a serious, life-threatening, deadly disease that deteriorates the immune system and has variety of symptoms. Once body fluid from an infected person contacts with a healthy human, the virus can be transmitted (Stevens ,2010).

Over the last decades acquired immunodeficiency syndrome (AIDS) has emerged as one of the most concerned portentous public health problems in the world (UNAIDS, 2012) and it creates an increasing burden on the health of the population and causes further socioeconomic problems for individuals, families, communities, and governments in many countries (Walker *et al.*, 2004 ; Beck *et al.*, 2001) Since the first cases of acquired immunodeficiency syndrome (AIDS) were reported in 1981, infection with human immunodeficiency virus (HIV) has grown to pestilence proportions, resulting millions of deaths (UNAIDS ,2006). Currently more than 34 millions of people are living with HIV and in year 2011, 1.7 million AIDS-related deaths had reported (UNAIDS , 2012).

Although the official number of cases of Sri Lankans living with HIV is 4200 (National STD/ AIDS control programme, Sri Lanka), the actual figure is believed to be much higher as a result of the stigma, discrimination and fear associated with HIV/AIDS. Furthermore, there are probably countless others who are simply unaware that they are infected. Therefore, the actual number of people living with HIV/AIDS should be higher. UNAIDS/WHO has classified Sri Lanka as a low HIV prevalence country in the South Asia region, with an estimated adult prevalence rate of less than 0.1% (UNAIDS ,2003).

There is clear identification today that all persons living with HIV/AIDS should have medical treatment as part of programs to restrain the disease, therefore health workers face occupational risk of HIV infection during their course of work period (UNAIDS, 2003). The escalate of Acquired Immunodeficiency Syndrome (AIDS) pandemic has generated discrimination and perverseness towards HIV-infected individuals (Gomas, 1999) and stern concern among health professionals about the calamity of transmission of vectors from their patients. During studies undertaken in many developed countries identified lack of training, (Weinberger *et al.*, 1992) lack of adequate medical knowledge (Samuels *et al.* 1993; Weinberger *et al.*, 1992) and lack of experience in treating HIV infected patients as the main restriction to treat HIV-infected patients. With regards to health care it was found that HIV/AIDS patients face many difficulties when obtaining medical treatment due to discrimination against the patients and their families by the hospital staff and refusal to treat.

Many countries in Asia and other borough report that negative attitudes on the health care workers often interfere people at high risk of HIV infection from awaiting treatment services (Rehle *et al.* ,2010). Fear and misconceptions for individuals with HIV/AIDS are found to be common among health professionals. Radiographers might also hold some of the negative attitudes towards HIV/AIDS and they play a significant role in caring for people undergoing imaging examinations. A radiographer's knowledge and attitude towards patients with HIV/AIDS can be affected for counterpart of department and the profession (Wai-kwong, 1999). A deficit of knowledge and attitude about HIV/AIDS etiology and the mode of transmission are the major challenges to cope with this pandemic (WHO & UNAIDS, 2002).

The study done by Okaro *et al.* (2010) clearly indicated that there should be a satisfactory level of knowledge about HIV/AIDS and positive attitude among radiographers, but the same study indicated a small segment whose attitudes were negative. Aghamolaei (2009) sought to examine AIDS related attitudes of healthcare providers in Bandar Abbas and the findings demonstrated an overall positive attitude towards people with HIV/AIDS. Another study which assessed HIV/AIDS-related attitudes on health workers in Kampala, Uganda (Mungherera *et al.*, 1997) concluded that hospital-based health workers had missed important opportunities for AIDS prevention education with their patients and there were gaps in their knowledge about HIV and related infection control practices.

A study in Nigeria indicated most health-care professionals being in compliance with their ethical obligations despite the lack of resources, discriminatory behavior and attitudes toward patients with HIV/AIDS exist (Reis *et al.* ,2005). Park *et al.*, (2011) in their study on the knowledge and attitudes of Korean dentists towards HIV/AIDS have reported similar results to Okaro's study (Okaro *et al.* ,2010). The general attitude of dentists toward HIV/AIDS is sufficiently positive to enable provision of the best treatment to the patients in need. Another study in Uganda pointed out most health-care professionals holding misconceptions and fear towards HIV/AIDS (Dieleman *et al.*, 2007).

The aim of this study was to assess the knowledge and attitude of radiographers in Sri Lanka towards HIV/AIDS. The results of this study will be helpful to increase the radiographers' awareness of HIV/AIDS and related patient care, to update and extend their professional knowledge, attitude, skills and the caring role required in radiography practice.

Methods and Materials

A cross-sectional prospective postal survey was conducted on all the registered radiographers who were working in various hospitals and radiology clinics in both government and private sectors in Sri Lanka. The survey instrument was a pre-designed, pre-tested, self-administered structured questionnaire designed according to the international standards on prevention of AIDS/HIV in line with the objectives of the study.

The questionnaire consisted of three major categories such as demographic factors of the participants, knowledge of AIDS/HIV and attitudes regarding treating HIV-positive patients. Six structured questions addressed about knowledge of HIV infection transmission patterns and the symptoms. All the questions were answered using the options “Agreed”, “Disagreed” and “Don’t Know “. The answers were scored and a total score was obtained by adding the points given for each answer. For each correct and incorrect or don’t know answer, two and zero points were assigned respectively. Hence, a radiographer’s total score was ranged from 0 percent (no answers correct) to 100 percent (all answers correct: $6 \times 2 = 12$). A higher score indicated a greater level of knowledge. Scores < 25 %, between 25% and 50 %, between 50.1% and 75 %, and >75 % were considered weak, moderate, good, and excellent knowledge, respectively.

Six questions were addressed concerning attitudes regarding treating HIV-positive patients, legal aspects, the right of HIV-positive health professional to practice, and willingness to treat. The answers to each question about attitude were rated on a five-point Likert scale (strongly agree, agree, neutral, disagree, and strongly disagree). The professional attitudes scores were computed from five to one and negative attitude, conversely. Scores of <50 %, between 50 % and 75 % and > 75 % were considered negative, neutral and positive attitudes respectively. The positive attitudes were considered as professional attitudes. A lower score reflects intolerance towards infected patients, and the maximal possible score was 30 (6x5).

A covering letter describing the purpose of the study with the questionnaire was sent to all the registered radiographers together with a stamped self addressed envelope. Voluntary participation and confidentiality of responders were also emphasized in the mail. To maximize the response rate, monthly reminder (total of 4) mails were sent to those who have not responded. Ethical clearance was obtained from the Research and Ethical Review committee of the Faculty Allied Health Sciences, University of Peradeniya, and all the other ethical aspects were concerned. Data and other information of the study were only accessible to the researcher and the supervisor and the participation was anonymous. Data editing was carried out along with the process of data collection. The data received was analyzed using SPSS statistical software in a quantitative manner after entered to a Microsoft Excel sheet.

Results

A total of 213 questionnaires were returned out of 562, giving a total response rate of 37.9 %.

The demographic characteristics of respondents who returned duly completed questionnaires are shown in table 1 and 2.

The mean overall age of the respondents was 30 to 39 years and males composed (72.3%) majority of study population. Most of the respondents (84.98 %) were qualified as diploma radiographers and 78.87 % of the respondents were practicing at government (with teaching hospitals) hospitals . Duration of work experience was identified to be less than 10 years in most (51.22%) of the respondents and 93.4% have never attended any occupational training program regarding AIDS or HIV prevention.

The total mean knowledge score was 66.41% (good knowledge), broken down as 66.17 % for males and 68.42% for females. A majority of respondents had accurate knowledge regarding modes of transmission

and symptoms with the total rate of correct responses ranged from 29.17% to 100% . The knowledge scores of 40.85 %, 35.21%, 23.94% and 0% of the respondents were excellent, good, moderate and weak, respectively. This value was not significantly different between male and female respondents ($p < 0.05$).

96.71 % of the participants recognized that sexual intercourse and blood contamination are major transmission paths of AIDS and it was the maximum reported correct response rate. The minimum reported score for the question “The negative HIV test surely indicate that the person is free of HIV virus. ” and it was 31.46%. Knowledge regarding the modes of transmission did not differ significantly between male and female subjects ($p < 0.05$).

Only 46.95% of the respondents recognized that they can act as an intermediary source for HIV transmission and substantial proportion (91.08%) disagreed with the statement of “a person who has AIDS always shows the symptoms”. Usually HIV can be destroyed by the bodys’ natural immunization system and this was aware by majority (92.02%) of the participatory subjects. Regarding the manifestation of disease, 59.62% correctly identified that a person can be infected with HIV but always it will not end up with AIDS. No significant association was found between the knowledge and the education level or knowledge between the years of practice ($p < 0.05$).

According to the the results of the study the overall mean attitude score was 66.81% (neutral attitudes; 67.83 % for males and 66.67 %for females), with the following distribution: 23% respondents were having positive, 70% were neutral, and 7% were having passive attitudes. In other words, only 23 % had professional attitudes. The attitudes score ranged from 4 (33.33 %) to 26 (86.67%). The statement “As a health care professional you have a right to refuse the treatment to an AIDS/HIV infected person” obtained the higher positive attitude score and the statement “Staff and health care professionals have a right to know if the patients are HIV-positive” obtained the higher negative attitude score. Considering positive attitude towards HIV/AIDS, a significant number of respondents (37.56%) believed that if health professionals infected with HIV, they shouldn’t be allowed to work where patient contact is needed. Only 11.28% agreed with the statement AIDS/HIV patients are entitled to the same care as any other patients and 80.28% disagreed. There were no significant differences between attitude scores in terms of gender, the education levels or the years of practice ($p < 0.05$).

Discussion

Contamination of HIV/AIDS is a critical occupational cogitate for healthcare workers and the radiographers also have the great tendency for contamination during their course of duties. It is believed that a paucity of knowledge and attitude about HIV/AIDS etiology and mode of the transmission constitutes a major challenge to control this scourge. Dissemination of proper knowledge to protect themselves is particularly important in the battle against HIV/AIDS (UNAIDS, 2002). As a radiographer it is important to be well equipped with knowledge, current facts , and treatment options about HIV/AIDS. With the risk of the contacting HIV/AIDS in the work place , there could be a tendency among radiographers to discriminate the HIV infected patients.

This study was carried out to assess the knowledge and attitude of the radiographers working in various hospitals and radiology clinics towards AIDS/HIV patients. In the study, every effort was taken to reach all the radiographers working in both government and private sectors in Sri Lanka, however the response could be elicited from only 37.9 %. No other similar studies was conducted regarding

the knowledge and attitudes of HIV/AIDS among radiographers in Sri Lanka thus making comparisons is difficult but comparable to the studies (Okaro *et al*, 2010 ; Çekin *et al*, 2013) done in various other countries the response rate of the present study is very low. As the response rate was low in this study, non respondent bias cannot be completely eliminated from the results obtained.

The current study findings revealed that most of the respondents had the good knowledge (Mean score - 66.41%) which reflects an accurate understanding of the mechanisms of HIV infection , with neutral attitude (66.81%) towards HIV/AIDS patients regardless of their place of work or duration of experience . A study done by Okaro *et al* (2010) among healthcare professionals in another developing country pointed out the similar observation in the aspect of knowledge but not the aspect of attitudes. They had found positive attitude towards HIV/AIDS patients. The same results can also be observed in Park's study (Park *et al*, 2011) . Very few studies indicate moderate degree of knowledge ratings. Çekin's study (Çekin *et al*, 2013) on ' knowledge and attitude towards HIV among healthcare professionals ' has reported moderate level of knowledge with positive attitude. Pilyugina *et. al* (2000) in Ukraine had conducted a similar study among a sample of 321 health care workers and had concluded as moderate degree of knowledge (48%) level and Ugochukwu (2003) also stated the same results .

The participants in the present study were good at giving the correct answers to the routes of HIV transmission except certain modes. Having in mind the fact that the participants in this study are health professionals, it was no surprise that they had a good level of knowledge. Almost all the respondents (96.71 %) have recognized that sexual intercourse and blood contamination as modes of transmission of HIV/AIDS which is similar to the study done in Sudan (Elwalid *et al* , 2008). Though there is no written evidence to prove saliva as a mode of transmission, there were 24% of the respondents incorrectly identified it as a mode and 17.37 % of them were not aware about it. A study was done among Korean dentists revealed that 63% of participants identified as one could get infection by contamination of saliva (Park *et al* , 2011). The previous research studies have proven evidence that HIV can be spread from an infected mother to her child through her breast milk. HIV causes a gradual breakdown of the immune system and the virus may eventually lead to AIDS. As a result of that, the World Health Organization, advise against nursing if mother is HIV-positive. In the current study only 38% of radiographers knew breast milk is a causative agent for AIDS infection which is again a slightly lower percentage than the study in Korea (Park *et al* , 2011).

Many studies pointed out that hospital workers were at the risk of contacting AIDS as an occupational hazards (Ugochukwu ,2003 ; Çekin *et al*, 2013) which is also a similar trend for this study (46.95%). More than half of the respondents (59.62%) thought if a person had contacted the virus it must necessarily manifest physically but some of the previous study results were not in the agreement with this (Ugochukwu ,2003). In the current study there were 93.4% who have never attended any occupational training program regarding AIDS or HIV prevention. The findings compare favorably with those reported from other countries (Adelekan *et al*, 1995; Ugochukwu ,2003; Lui *et al* ,2012) . They had also found that important knowledge gaps and appreciation of occupational training programs in all health categories which they considered.

So many studies have been done which were aimed to assess the attitude towards HIV/AIDS . Most of the literature indicated negative findings (Lui *et al* ,2012 ; Dieleman *et al*, 2007) and few others gave the positive findings. Klimes (1989) concluded that 24% of health care workers expressed anxiety about being infected and another similar study done by Awusabo-Asare and Marfo (1997) concluded that the presence

of fear among health care workers was due to working environment such as inadequate information on the status of patients sent to them and insufficient supply of protective items .There were 23% positive and 7% negative attitudes observed in the current study.

Still there is no cure for HIV, treatment is now effective at allowing people with HIV to live their lives as normally as possible. Since the introduction of medicines to treat HIV, the death rate from AIDS has reduced dramatically. With effective treatment, very few people go on to develop AIDS. So the attitude of health care workers who will be involved with the treatment process is really important. Even though the respondents of some studies (Okaro *et al* ,2010) acknowledged that they were obliged to offer the service to HIV/AIDS patients just like other patients ,in the current study only a small percentage (11.28%) was desired to treat AIDS/HIV patients with the same care as any other patients .

Conclusion

The study findings indicate the good level of knowledge and neutral attitudes towards the patients with HIV/AIDS among radiographers employed in various hospitals and radiology clinics in Sri Lanka but some misconceptions can be observed in certain areas of transmission modes and attitude. So the study still indicates the need of a comprehensive HIV/AIDS occupational training program to improve the knowledge and attitude towards HIV/AIDS patients.

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Gender/Age					
	20-29 Years	30-39 Years	40-49 Years	50 Years <	Total
Male	21.13% (45)	23.94% (51)	7.98%(17)	19.25%(41)	72.3%(154)
Female	10.33%(22)	7.98%(17)	4.69%(10)	4.69%(10)	27.7%(59)
Qualification and Work place					
	Diploma	BSc	MSc	Other	Total
Teaching Hospital	44.60% (95)	1.41% (3)	0.47 % (1)	0 %(0)	46.48 % (99)
Government (Other than teaching) Hospitals	31.46%(67)	0.94% (2)	0%(0)	0%(0)	32.4%(69)
University	0%(0)	2.35% (5)	0%(0)	0%(0)	2.35% (5)
Private Hospitals/ Clinics	8.92%(19)	9.86%(21)	0%(0)	0%(0)	18.79% (40)

Table 1

Work Experience and Participation of Training Programs				
	<1year	1-5 Years	6-10 Years	>10 years
Participated	0.99%	0.94%	0.94%	3.76%
Not Participated	5.63%	33.33%	9.39%	44.13%

Table 2

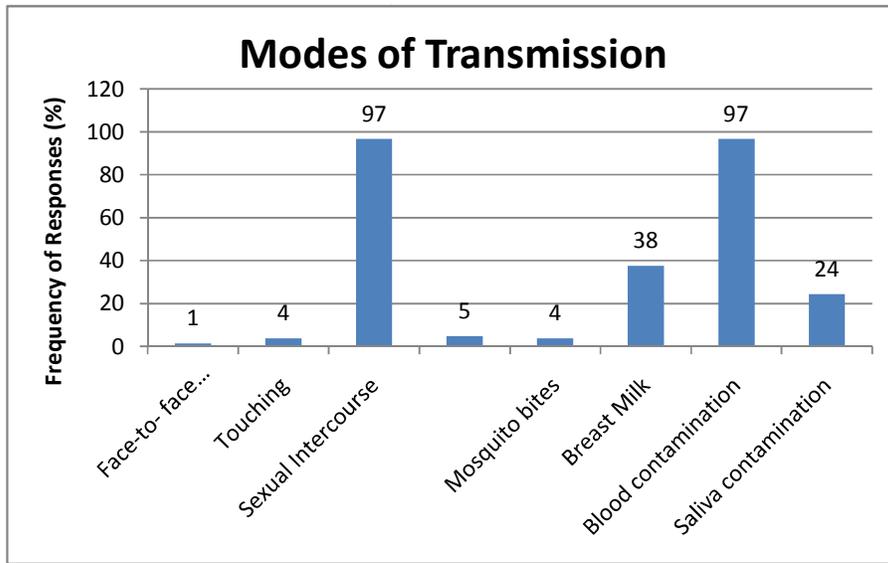


Figure 1

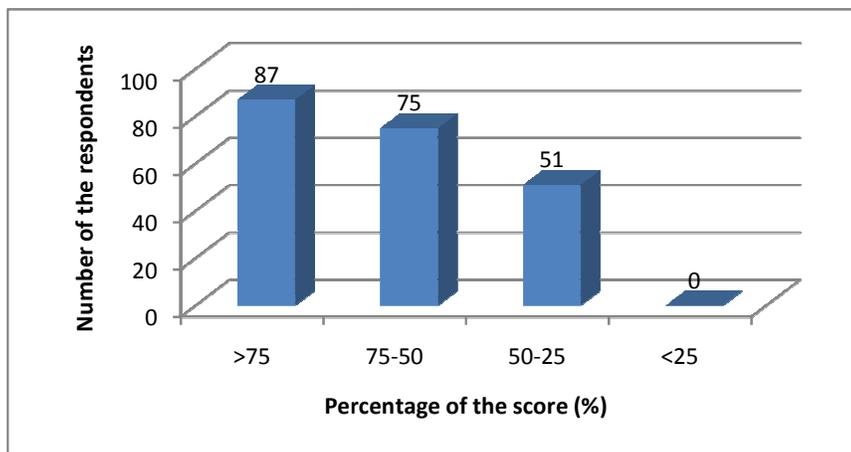


Figure 2

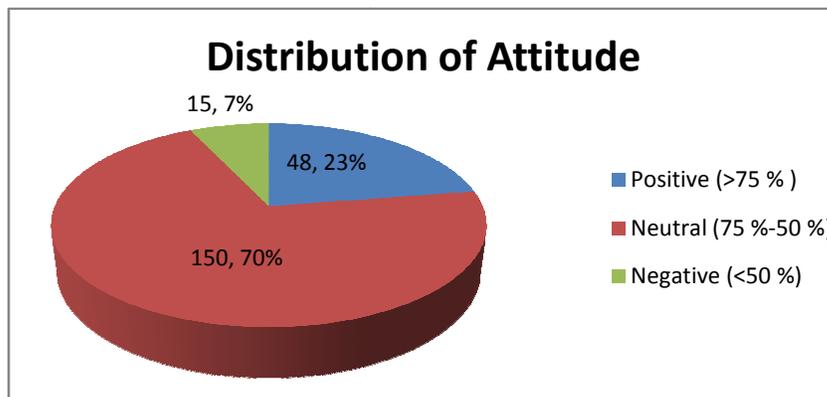


Figure 3

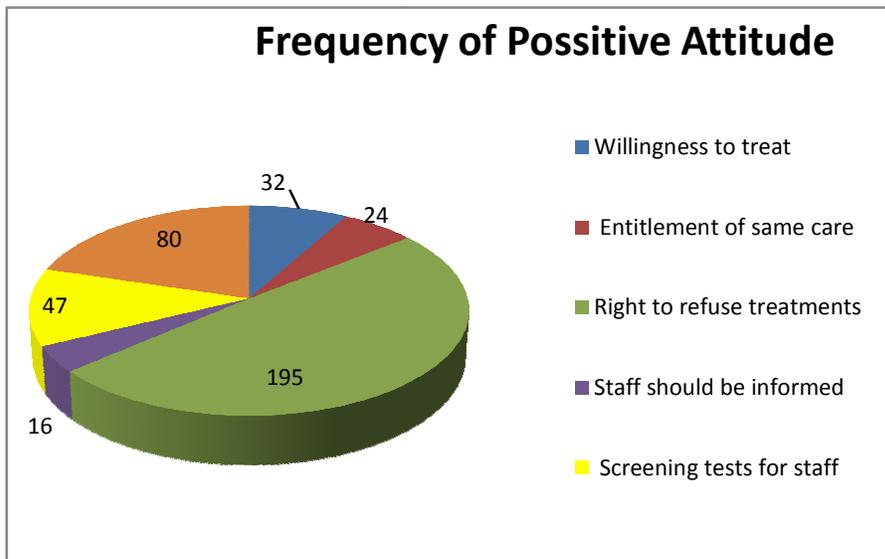


Figure 4