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Orginal Research Article

HIV/AIDS Related Knowledge, Attitudes and Risk Perception among the Physiotherapist in Chennai and Suburban

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Abstract: The aims of the present investigation were to evaluate (1) HIV/AIDS related knowledge, attitudes and risk perception among the physiotherapist in Chennai, Tamilnadu, India (2) to identify predictors of willingness to provide care for patients with HIV infection. A cross sectional survey was done among 300 physiotherapists working in different hospitals, physiotherapy clinics and institutions offering physiotherapy services in Chennai, Tamilnadu, India. The internal constancy for HIV/AIDS related knowledge was found to be 0.717. The attitudes and risk perception among the participated physiotherapists was found to be 0.723. The results indicated that HIV/AIDS related knowledge, attitudes and risk perception among the physiotherapist in Chennai Tamilnadu, India was acceptable. From the present investigation it was also found that there was significant association between physiotherapist's attitude towards HIV/AIDS and their willingness to treat HIV/AIDS patients.
Keywords: HIV, Physiotherapists, attitude, risk perception, willingness

INTRODUCTION

Acquired immunodeficiency syndrome (AIDS) is a disease of human immune system caused by human immunodeficiency virus (HIV) [1-3]. The illness interferes with the immune system making people with AIDS much more likely to get opportunistic infections and tumors. HIV is transmitted through anal/vaginal sex, blood transfusion, contaminated hypodermic needles, between mother and baby during pregnancy, childbirth, and breastfeeding [4,5]. As per World Health Organization, UNAIDS, UNDP's report, India had 2.39 million people living with HIV at the end of 2009, up from 2.27 million (22.7 lakh) in 2008 [6-10].

The health service sector has a vital role to play in delivering prevention, diagnosis treatment as well as care to the population it serves and in combating stigma and discrimination. Developed countries have recognized the importance of knowledge, attitudes and safe practice among health care workers (HCWs). There are number of studies addressing the professional risk, knowledge, attitude and practice among other health care workers (HCWs) but such studies are lacking among the physiotherapist [11].

Physiotherapists are also seeing an increasing number of HIV/AIDS related conditions in their practice and they play a significant role in the management of people living with AIDS. They are part of the interdisciplinary team whose responsibilities include treatment planning and implementation and health promotion [12]. As a result of the possible exaggerated fear of HIV's transmissibility, and their own risk of contracting HIV/AIDS in the work place, there could be a tendency among physiotherapists, like other health workers, to be afraid of the infectious diseases associated with HIV/AIDS. This could lead to reluctance by physiotherapists to treat HIV/AIDS patients [13]. Physiotherapists usually work in close physical contact with patients when treating them for HIV/AIDS related chest complications like pneumonia, and neurological complications [14]. So, it is necessary to determine knowledge and perception of risks, fear of HIV transmission and their attitudes towards patients with the disease.

The impact of HIV/AIDS on health care workers has been a subject of recent research. It has been identified that there are three potential impacts of the HIV/AIDS pandemic on the health workforce. First, the health sector has lost some of its workers due to the HIV/AIDS pandemic. Second, healthcare workers are faced with extra workloads, as HIV/AIDS patients comprise a majority of the patients they attend to. Third, fear of exposure may be a source of attrition, especially in developing countries where universal precautionary measures are not strictly adhered to due to a shortage of protective clothing [15]. The aim of this study is to assess HIV/AIDS related knowledge, attitudes and risk perception among the physiotherapist in Chennai and to

identify predictors of willingness to provide care for patients with HIV infection.

EXPERIMENTAL

Inclusion Criteria

- Sex: Both male and female physiotherapists.
- Qualification: Minimum 3years diploma in physiotherapy and above.
- Experience: Minimum one year of experience in the field of Physiotherapy.

Exclusion Criteria

- Fresh physiotherapists with less than one year of experience in the field of physiotherapy.

A cross sectional survey was conducted among 300 physiotherapists working in different hospitals, physiotherapy clinics and institutions offering physiotherapy services in Chennai, Tamilnadu, India. Physiotherapists were asked to complete an anonymous closed ended questionnaire.

Information was gathered from the participants regarding the demographic details (age, sex, duration of employment, job category),HIV-related knowledge and attitudes; risk perception; and previous experience caring for HIV-positive patients. Many of the questions invited the health care workers to indicate their response to 3-point Likert scale which consists of agree, not sure and disagree. The questionnaire was based on the WHO/AIDS program regarding knowledge, attitudes, beliefs and practices as well as other related literature [16-18]. The Questionnaire is divided into four broad sections.

I. Demographic characteristics including age, gender; qualification in physiotherapy; years of experience in physiotherapy; number of HIV/AIDS cases handled.
II. HIV/AIDS related general knowledge.
III. Mode of Transmission of HIV.
IV. HIV/AIDS related attitudes and risk perception.

The physiotherapists were asked to mark the correct answer with their own information.

Different hospitals with physiotherapy department, physiotherapy clinics and institutions offering physiotherapy services in Chennai, Tamilnadu, India were visited. The aim of my study was explained to the physiotherapists. The questionnaires with informed consent form was provided to them, they were asked to tick mark (√) and fill all the questionnaires without interacting among themselves with their own information within 10 minutes.

A pilot study was conducted prior to the actual data collection, among 30 physiotherapists selecting randomly. This was undertaken as a trial run to determine whether the questionnaires were clear and appropriate to the physiotherapist and its reliability.

After the collection of questionnaires, the answer for each questionnaire was numbered, for section II (HIV/AIDS related general knowledge), section III (Mode of transmission of HIV) and section IV (HIV/AIDS related attitudes and risk perception). 3 point Likert scale was used, in which, correct answer was marked by 3, not sure by 2 and incorrect answer by 1.

The collected data were tabulated and analyzed using frequency distribution and descriptive statistics. Person Chi square test was used to determine the association between Physiotherapist's attitude towards HIV/AIDS and their willingness to treat HIV/AIDS patients and Cronbach's α was used to find out the reliability of the study.

RESULTS

Pilot study

A pilot study was conducted before the data collection among 30 physiotherapists selected randomly. The results of pilot study were shown in Table 1. The cronbach's α was found to be 0.6231. Usually it should be greater than 0.70 [19] but in the present pilot study, it was less, which indicates that the physiotherapists are not having uniform answer to the questionnaires, in that case each and every question is assessed in the main study.

Table-1: Reliability analysis - scale (alpha) for pilot study

Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
II1	57.8333	24.6264	.2755	.6026
V13	57.4667	24.8782	.3749	.5926
V14	57.7333	25.7885	.1179	.6281
V15	57.4000	22.8690	.5577	.5619
V16	57.6667	24.7816	.2898	.6008
V17	57.1667	26.0747	.2697	.6070
III_1	57.0333	27.3437	.1096	.6209
V19	57.0333	27.3437	.1096	.6209
V20	57.2333	27.0816	.0608	.6275
V21	57.3000	28.9069	.1946	.6600
V22	57.9333	24.4092	.2863	.6009
V23	57.4000	25.6966	.2039	.6126
V24	57.2000	24.8552	.4242	.5891
V25	57.3667	24.9989	.2991	.6002
V26	57.4667	25.7747	.1924	.6141
V27	57.1000	25.2655	.4651	.5910
IV_1	57.8000	26.7862	.0135	.6448
V29	57.3333	26.2989	.1676	.6165
V30	57.2667	26.7540	.0892	.6256
V31	57.0667	26.5471	.2859	.6093
V32	57.3667	28.5161	-.1493	.6503
V33	57.0333	26.1023	.4448	.6006
V34	57.0667	25.3747	.5815	.5890

Reliability Coefficients: Number of Cases = 30, Number of Items = 23, Alpha = 0.6231

Demographic section

Out of 300 physiotherapists only 291 physiotherapists completed the questionnaires, as 4 physiotherapists were unwilling to participate, questionnaires of 3 physiotherapists were incomplete and questionnaires of 2 physiotherapists were over marked. Among the 291 physiotherapists, 139 (47.8%) were male and 152 (52.2%) were female. Majority of physiotherapists 171 (58.8%) are in the age group of 22-27 years, 76 (26.1%) were between 28-33 years and only 4 (1.4%) of them are ≥50 years. Maximum number of physiotherapists 291(75.3%) have degree qualification, 70 (24.1%) have master and above and very few 2 (0.7%) were having diploma. Regarding total experience, 210 (72.2%) physiotherapists have experience of 1-5 years, 48 (16.5%) have 6-10 years and 33 (11.3%) have 11 and above. Regarding the primary area of practice, 178 (61.2%), 158 (54.3%) and 68 (23.4%) of physiotherapists are working in hospital, physiotherapy clinics and in institutions offering physiotherapy services, respectively. Only 191(65.6%) physiotherapists treated HIV/AIDS patients and 273 (93.8%) physiotherapists follows the rules of precautions. The details are summarized in Table 2.

Table- 2: Demographic features of the participants

Character	Frequency	Percent	Valid Percent	Cumulative Percent
Gender				
Male	139	47.8	47.8	47.8
Female	152	52.2	52.2	100.0
Age				
22-27	171	58.8	58.8	58.8
28-33	76	26.1	26.1	84.9
34-39	20	6.9	6.9	91.8
40-45	13	4.5	4.5	96.2
46-50	7	2.4	2.4	98.6
≥ 50	4	1.4	1.4	100.0
Qualification				
Diploma	2	.7	.7	.7
Degree	219	75.3	75.3	75.9
≥ Master	70	24.1	24.1	100.0
Experience				
1-5	210	72.2	72.2	72.2
6-10	48	16.5	16.5	88.7
≥ 11	33	11.3	11.3	100.0
Practice at hospital				
Yes	178	61.2	61.2	61.2
No	112	38.5	38.5	99.7
Practice at clinics				
Yes	158	54.3	54.3	54.3
No	133	45.7	45.7	100.0
Practice at institutions				
Yes	68	23.4	23.4	23.4
No	223	76.6	76.6	100.0
Treated HIV patients				
Yes	191	65.6	65.6	65.6
No	100	34.4	34.4	100.0
Following rules of precautions				
Yes	273	93.8	93.8	93.8
No	18	6.2	6.2	100.0

General knowledge about AIDS

Majority of physiotherapists have adequate knowledge about HIV/AIDS. 261(74.2%) physiotherapists agree that AIDS is a contagious disease. 209 (71.8%) disagree with the availability of vaccine for AIDS. 200 (68.7%) participants agree that a person infected with HIV does not usually show any symptoms of the disease. 264 (90.7%) agree that resistance to other disease in an individual with AIDS is rather low. 207 (71.1%) did not agree with the appearance of HIV carriers is different from normal population. 273 (93.8%) agree that universal protection is must while treating patients. The results are summarized in Table 3.

Table-3: General knowledge about AIDS among the participants

Feature	Frequency	Percent	Valid Percent	Cumulative Percent
AIDS is a contagious disease				
Disagree	62	21.3	21.3	21.3
Not Sure	13	4.5	4.5	25.8
Agree	216	74.2	74.2	100.0
Availability of vaccine for HIV				
Agree	14	4.8	4.8	4.8
Not Sure	68	23.4	23.4	28.2
Disagree	209	71.8	71.8	100.0
A person infected with HIV does not usually show any symptoms of the disease				
Disagree	68	23.4	23.4	23.4
Not Sure	23	7.9	7.9	31.3
Agree	200	68.7	68.7	100.0
Resistance to other disease in an individual with AIDS is rather low				
Disagree	18	6.2	6.2	6.2
Not Sure	9	3.1	3.1	9.3
Agree	264	90.7	90.7	100.0
Appearance of HIV carriers is different from normal population				
Agree	54	18.6	18.6	18.6
Not Sure	30	10.3	10.3	28.9
Disagree	207	71.1	71.1	100.0
Universal protection is must while treating patients				
Disagree	7	2.4	2.4	2.4
Not Sure	11	3.8	3.8	6.2
Agree	273	93.8	93.8	100.0

Knowledge about the mode of transmission

The results about the knowledge among the physiotherapist about the mode of transmission of HIC are given in Table 4. Majority of the participants agree that HIV was transmitted by sharing needles with HIV infected person (98.3%), transfusion of HIV- infected blood or receiving HIV-infected organ (97.9%), from an HIV-positive mother to her fetus (89.7%), through breast-feeding from an HIV-infected mother (64.3%), by sharing personal items such as shaving blades (79.4%) and having tattoo or body piercing (77%). Most of the participants disagree with the transmission of HIV by sharing a meal with an HIV-infected person (84.5%), using public swimming pool or public toilet (81.4%) and casual contacts such as hugging or touching with an HIV- infected person (93.8%).

Table-4: General knowledge about the mode of transmission of HIV among the participants

Feature	Frequency	Percent	Valid Percent	Cumulative Percent
Sharing needles with HIV – infected person				
Disagree	4	1.4	1.4	1.4
Not Sure	1	0.3	0.3	1.7
Agree	286	98.3	98.3	100.0
Transfusion of HIV- infected blood or receiving HIV-infected organ				
Disagree	4	1.4	1.4	1.4
Not Sure	2	.7	.7	2.1
Agree	285	97.9	97.9	100.0
Sharing a meal with an HIV-infected person				
Agree	24	8.2	8.2	8.2
Not Sure	21	7.2	7.2	15.5
Disagree	246	84.5	84.5	100.0
From an HIV positive mother to her fetus				
Disagree	16	5.5	5.5	5.5
Not Sure	14	4.8	4.8	10.3
Agree	261	89.7	89.7	100.0
Breast feeding from an HIV infected mother				
Disagree	55	18.9	18.9	18.9
Not Sure	49	16.8	16.8	35.7
Agree	187	64.3	64.3	100.0
Using a public swimming pool or public toilet				
Agree	24	8.2	8.2	8.2
Not Sure	30	10.3	10.3	18.6
Disagree	237	81.4	81.4	100.0
Sharing personal items such as shaving blades				
Disagree	25	8.6	8.6	8.6
Not Sure	35	12.0	12.0	20.6
Agree	231	79.4	79.4	100.0
Having tattoo or body piercing				
Disagree	40	13.7	13.7	13.7
Not Sure	27	9.3	9.3	23.0
Agree	224	77.0	77.0	100.0
Dentistry				
Disagree	31	10.7	10.7	10.7
Not Sure	57	19.6	19.6	30.2
Agree	203	69.8	69.8	100.0
Casual contacts with an HIV- infected person				
Agree	7	2.4	2.4	2.4
Not Sure	11	3.8	3.8	6.2
Disagree	273	93.8	93.8	100.0

Attitudes and risk perceptions

68.4%, 83.2% and 91.4% of participants disagree that they feel worried about caring for HIV pateients, refuse to care for patients with HIV or AIDS and preferring not to care for patients with HIV or AIDS, respectively. 257(88.3%) agree that it is necessary to take extra infection control precautions for patients with HIV or AIDS. 191 (65.6%) said that patients with HIV/AIDS need to be nursed separately from other patients. 289 (99.3%) agree that people with AIDS must be supported, treated and helped. 286 (98.3%) participants are in agreement that people with AIDS should have social right to study or work.

Table- 5: Attitudes and risk perceptions of participants in treating the HIV patients

Feature	Frequency	Percent	Valid Percent	Cumulative Percent
Worried about caring for people with HIV				
Agree	83	28.5	28.5	28.5
Not Sure	9	3.1	3.1	31.6
Disagree	199	68.4	68.4	100.0
Refuse to care for people with HIV				
Agree	29	10.0	10.0	10.0
Not Sure	20	6.9	6.9	16.8
Disagree	242	83.2	83.2	100.0
prefer not to care for patients with HIV				
Agree	19	6.5	6.5	6.5
Not Sure	6	2.1	2.1	8.6
Disagree	266	91.4	91.4	100.0
Necessary to take extra infection control precautions for patients with HIV				
Disagree	23	7.9	7.9	7.9
Not Sure	11	3.8	3.8	11.7
Agree	257	88.3	88.3	100.0
Patients with HIVneed to be nursed separately from other patients				
Disagree	64	22.0	22.0	22.0
Not Sure	36	12.4	12.4	34.4
Agree	191	65.6	65.6	100.0
People with AIDS must be supported, treated and helped				
Disagree	2	.7	.7	.7
Agree	289	99.3	99.3	100.0
People with AIDS should have social right to study or work				
Disagree	2	.7	.7	.7
Not Sure	3	1.0	1.0	1.7
Agree	286	98.3	98.3	100.0

Reliability study

Table 6 shows the reliability statistics of the present study. Reliability analysis was done by using Cronbach's alpha. The alpha value was found to be 0.733. Therefore, the study is acceptable.

Table-6: Reliability analysis - scale (alpha)

No	Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
II. 1.	AIDS is a contagious disease	60.1615	24.584	.310	.717
2.	There is a vaccine for AIDS	60.0206	25.586	.331	.715
3.	A person infected with HIV does not usually show any symptoms of the disease	60.2371	23.809	.395	.708
4.	Resistance to other disease in an individual with AIDS is rather low	59.8454	25.855	.328	.716
5.	The appearance of HIV carriers is different from normal population	60.1649	24.855	.294	.719
6.	Universal protection is must while treating patients	59.7766	27.153	.138	.727
III. 1.	Sharing needles with HIV infected person	59.7216	27.167	.227	.725
2.	Transfusion of HIV- infected blood or receiving HIV-infected organ	59.7251	27.069	.259	.724
3.	Sharing a meal with a HIV infected person.	59.9278	25.488	.329	.715
4.	From an HIV- positive mother to her fetus	59.8488	26.694	.168	.726
5.	Breast-feeding from an HIV infected mother	60.2371	24.285	.369	.711
6.	Using a public swimming pool or public toilet	59.9588	25.681	.287	.719
7.	Sharing personal items such as shaving blades	59.9828	24.900	.409	.709
8.	Having tattoo or body piercing	60.0584	24.814	.348	.713
9.	Dentistry	60.0997	24.876	.365	.712
10.	Casual contacts such as hugging or touching with an HIV-infected person	59.7766	26.884	.212	.724
IV. 1.	I feel worried about caring for people with HIV	60.2921	24.442	.285	.721
2.	Doctors, nurses and other HCWs should be allowed to refuse to care for people	59.9588	25.509	.297	.718
3.	I would prefer not to care for patients with HIV	59.8419	26.271	.242	.722
4.	It is necessary to take extra infection control precautions for patients with HIV	59.8866	26.770	.121	.730
5.	Patients with HIV need to be nursed separately from other patients	60.2543	24.397	.330	.715
6.	People with AIDS must be supported, treated and helped	59.7045	27.485	.162	.727
7.	People with AIDS should have social right to study or work	59.7148	27.522	.116	.728

DISCUSSION

From the present study it was observed that only 65.65% physiotherapists have treated HIV patients. This may be due to less number of physiotherapists working in major hospitals, providing services to HIV patients. 68.4% of physiotherapists

were completely at ease when treating HIV patients, which shows better knowledge and positive attitude towards HIV patients. In a similar study conducted by Puckree *et al*. [20] in 2002 among the South African physiotherapists, 56% of the respondent had treated the HIV patient and only 38% of physiotherapists were completely at ease while treating HIV patients. They also concluded that the perceptions of South African physiotherapists about their knowledge about HIV/AIDS do not stand up to scrutiny and significantly more attention should be paid to the development, implementation and evaluation of the effectiveness of educational programmes on HIV/AIDS for physiotherapists in the workplace [20].

According to the present investigation, 13.7% disagree and 9.3% were not sure that tattoo was a risk factor for HIV transmission. 18.9% disagree and 16.8% were not sure that HIV/AIDS could be transmitted through breast feeding. In a study conducted by Shaikh *et al*. [21] in 2010 among the medical students in Surat, India, 36% were unaware that tattooing was a risk factor for HIV transmission and 29% were unaware that HIV/AIDS could be transmitted through breast feeding [21]. This indicates that medical professionals require more training regarding the ways by which HIV/AIDS is and is not transmitted.

In a study conducted by Michelle *et al*. [22] in 2005 among nurses, doctors and other health workers in rural India, 78% believed that they should be nursed separately from other patient. In this study majority of physiotherapist (88.3%) believed that it is necessary to take universal precautions while caring for people with HIV/AIDS and 65.6% believed that they should be nursed separately from other patients. This in contrast to the belief of a majority of participants that HIV/AIDS cannot be spread by casual social contact with infected persons including within households [23]. These findings highlight a lack of understanding regarding the primary principle underlying universal precautions. When 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) and identification of infected patients for the protection of patients and health care workers is not required.

In a study conducted by Shaikh *et al*. [21] in 2010 among the medical students in Surat, India, 15% believed that doctors, nurses and other health care workers should be allowed to refuse care for HIV-positive patients. This is in contrast with another study where 10% of physiotherapists believe that doctors, nurses and other health care workers should be allowed to refuse care for HIV-positive patients [23]. This indicates that there is potential for discrimination against HIV positive patients when seeking and receiving health care services. These concerns could be ameliorated if standard/universal precautions were more effectively implemented and medical professionals receive accurate information regarding the risk of occupational infection with HIV/AIDS.

In a study conducted by Heidi *et al*. [24] in 2008 among the Australian physiotherapy students, they found negative attitudes regarding AIDS and treating people living with AIDS were common. While in present study there was acceptable knowledge and positive attitude among the physiotherapist in Chennai, Tamilnadu, India towards the HIV patients.

LIMITATIONS OF THE PRESENT STUDY

- The convenience sample was not representative of all physiotherapists in Chennai, Tamilnadu, India (selection bias).
- When responding to question regarding patient care, many physiotherapist may have felt the need to give responses that were socially acceptable or within hospital guidelines (social desirability bias).
- Regarding attitude and risk perception, data are based on the self- reports and perception of physiotherapists. Perception, compared with facts, can be very time sensitive.

CONCLUSION

The internal consistency for HIV/AIDS related knowledge was found to be 0.717. The attitudes and risk perception was found to be 0.723. Thus this study concludes that HIV/AIDS related knowledge, attitudes and risk perception among the physiotherapist in Chennai was acceptable. This study also found that there was significant association between physiotherapist's attitude towards HIV/AIDS and their willingness to treat HIV/AIDS patients.

RECOMMENDATIONS

- In order to minimize the discrimination experienced by people with HIV/AIDS, it is important that there should be programmes and special sessions regarding accurate knowledge of HIV/AIDS transmission and promotion of universal precautions.
- There should be a formation of core interdisciplinary teams with in physiotherapy colleges for providing relevant training and adequate clinical exposure of physiotherapy students with HIV/AIDS patients.

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