HIV-Related Knowledge, Attitude and Practice among Healthcare Workers (HCW) in Governmental Healthcare Facilities in Malaysia

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Abstract

Background: Caring for human immunodeficiency virus and acquired immunodeficiency syndrome (HIV/AIDS) requires healthcare workers (HCW) to have good knowledge of the issues. Cultural differences in HCW, combined with professional ethics and personal beliefs, could also result in conflicting attitudes, leading to challenges related to caring for people living with HIV (PLHIV).

Objective: The objective of this study was to assess HIV-related knowledge, attitude and practice (KAP) of healthcare workers (HCW) in nine selected governmental healthcare facilities in Malaysia.

Methods: A cross-sectional study was undertaken in four government hospitals and five government clinics in Malaysia. A validated self-administered questionnaire encompassing socio-demographic (6 items), knowledge (14 items), attitude (13 items) and practice (9 items) about HIV was used to assess the KAP of HCW. This survey was conducted via web-based platform. The overall KAP was analysed using the sum score of each outcome based on Bloom's cut-off point.

Results: Majority of HCW had a high level of HIV-related knowledge (55%). In spite of the high knowledge on HIV, HCW still displayed neutral to negative attitudes (70.8%) and fair to poor practices (82.8%) probably due to fear of contracting HIV.

Conclusion: The study found a high level of HIV-related knowledge, neutral attitude and fair practice among HCW towards PLHIV with significant differences among professions. These findings highlight the need of continuous training and educational opportunities to equip HCW with the right information needed to provide effective and appropriate care to PLHIV and at the same protect themselves against infection.

Keywords: Human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS), Health knowledge, Attitude, Practice, Healthcare workers (HCW)

Introduction

Human immunodeficiency virus and acquired immunodeficiency syndrome (HIV/AIDS) is a global health problem. Despite global progress in the treatment and care of HIV/AIDS, PLHIV still continue to report experiencing HIV-related stigma and discrimination within the healthcare setting. Malaysia commits to reduce HIV-related stigma and discrimination in healthcare setting because they are the first line of care, treatment and support services that PLHIV can access to help them manage their response to HIV [1].

HCW are key players in the efforts of ending HIV/AIDS as a global health problem. The Joint United Nations Programme on HIV/AIDS (UNAIDS) coordinates many efforts and resources in cooperation with governments and non-governmental organizations throughout the world to help minimize the spread of the infection, as well as provide medication for PLHIV. In this context, HCW have been encouraged to care for HIV/AIDS patients and conduct counselling on safety measures that minimize the rate of infection. This involvement also has compelled HCW to scrutinize their own practice for ways to keep up-to-date with current knowledge of prevention and treatment modifications of HIV. However, feelings of fear and avoidance of PLHIV still prevailed among HCW. These negative attitudes or prejudice, as perceived by PLHIV are associated with a low utilization of HIV care services, poorer ART adherence and thus poorer treatment outcomes [2-4].

Research has shown that negative attitudes in HCW towards PLHIV manifested through practices, including: denial of care to a PLHIV [5], verbal abuse to a PLHIV [6,7], lower standards of care to a PLHIV [8,9], placement of a PLHIV at the end of a queue [5], disclosure of a patient's HIV status to colleagues/family members without consent, irrespective of when PLHIV arrived at the facility and gossiping about the patient [6]. Very often, attitudes are generally associated with the level of knowledge and those who hold negative attitudes are often those with lower levels of knowledge regarding HIV. However, people may have knowledge, but the knowledge itself does not necessarily translate into their attitudes or practices [10]. It is not unusual to find that even highly educated people have genuine fears of HIV and act negatively towards PLHIV.

In this context, the HIV-related knowledge and perception among HCW from the perspective of Malaysia healthcare setting are unknown and required investigation. Hence, this study investigated HIV-related KAP of HCW in four government hospitals and five government clinics in Malaysia.

Methods

Study design and sampling

This study was a cross-sectional study using a validated self-administered questionnaire survey which was conducted from August to September 2020 via online. Four government hospitals and five government clinics were selected from five states; Penang, Selangor, Kuala Lumpur, Johor and Pahang. The five states were selected as 70% of the 2019 reported new HIV cases were contributed from these states (Unpublished, Malaysia GAM 2020 Report). All the nine selected study sites provided HIV/AIDS care services to the public.

The study population was all HCW employed to work in the selected study sites and met the inclusion criteria. The inclusion criteria included; HCW who were directly involved in care of PLHIV; HCW who have worked for at least six months and above and HCW who agreed to participate in the study voluntarily. However, in hospital setting, HCW were selected only from following departments; medical department, obstetrics and gynecology department and pharmacy department.

Sample size was calculated to be 1042 assuming 95% confidence level with 5% margin error and 50% response rate. The study received ethical approval and was registered with the Medical Research and Ethics Committee, Ministry of Health, Malaysia.

Study questionnaire

The instrument used in this study was a self-administered online questionnaire survey through Survey Monkey platform. The questions in the questionnaire were constructed from the literature reviews [11-14] and expert's opinions from the field of public health. The questionnaire was then validated for its contents and relevance by public health subject experts. The overall questionnaire consisted of two main sections with four domains namely socio-demographic domain, knowledge domain, attitude domain and practice domain. The first section consisted of socio-demographic domain which intended to discover the demographic namely gender, age, occupation, work experience, HIV/AIDS training and experience of working with PLHIV. The second section consisted of knowledge domain, attitude domain and practice domain.

The knowledge domain measured the level of HIV-related knowledge using 14-item of HIV knowledge questionnaire that assesses respondents' knowledge of disease transmissions and preventions. Items adopted a 'True', 'False' or 'Do not know' scale and were marked as correct or incorrect. 'Do not know' responses to an item were marked as incorrect. The attitude domain consisted of 13 questions that measure the attitudes toward and beliefs about HIV infection and PLHIV using 'Yes' or 'No'. Positive attitude statements were coded with 'Yes' and negative attitude statements were 'No'. The practice domain of the questionnaire comprised a statement that assessed acceptable

and unacceptable clinical practice when caring for PLHIV that was measured on 'Yes', 'No' and 'Not applicable'. Good practice statements were coded with 'Yes' and poor practice statements were 'No'.

Statistical analysis

Statistical analysis was done using the Statistical Package for Social Sciences (SPSS 26.0) software. Data was entered, cleaned and checked before data analysis. The scores for KAP were transformed into percentage scores and the sum score of each outcome was then assessed based on Bloom's cut off point [15]. Based on the sum scores, level of knowledge was classified into low level knowledge (less than 60%; 0-8 scores), moderate level knowledge (60-79%; 9-11 scores) and high level knowledge (80-100%; 12-14 scores). Meanwhile, the scores were classified into positive attitude (80-100%; 11-13 scores), neutral attitude (60-79%; 8-10 scores) and negative attitude (less than 60%; 0-7) scores. Subsequently, level of practice was classified into poor level (less than 60%; 0-5 scores), fair level (60-79%; 6-7 scores) and good level (80-100%; 8-9 scores). P-value less than 0.05 were taken as the significance level for all analyses.

Results

Socio-demographic information of the respondents

The socio-demographic information of the respondents is summarized in Table 1. Of the 1313 respondents, majority were female (90.0%) with 1: 9.02 male and female sex ratio. The majority of respondent 662 (50.4%) were between the ages of 26 and 35 years old. Mean age of the respondents was, 35.3 ± 7.5 years with minimum age of 22 years and maximum age of 59 years. Most of the respondents were nurses with percentage of 71.2%, followed with doctors (15.4%) and others (13.4%). More than half of the respondents (54.5%) had work experience of 10 years or more. It was found that out of total 1313 respondents, 747 (56.9%) have attended training on HIV/AIDS and 1066 (81.2%) respondents claimed having experience in working with PLHIV.

HIV-related knowledge of respondents

There was a statistically significant difference between HIV-related knowledge and professions, with a significantly high proportion (74.8%) of doctors having high knowledge (Table 2). Prior work experience of 10 years or more, attended HIV/AIDS training and experience of working with PLHIV were significantly difference with HIV-related knowledge of respondents (Table 3).

The knowledge items with percentage of correct answers in accordance with profession of respondents are displayed in Table 4. Regarding knowledge the correct answers ranges from 31.2% to 98.6%. There was a significant difference among professions about question K1 as only 31.2% knew that the HIV virus can easily be killed with disinfectant in the environment. Medical assistants gave more correct answer with percentage of 51.6% than other professions. While in accordance to the risk of occupational HIV infection and transmission among HCW (K5), only 50.3% of respondents realized the correct answer, doctors scored the highest correct answer rate (72.8%) with a significantly difference in comparison to other professions. There were no statistically significant differences between professions in answers regarding transmission of HIV from transfusion of unscreened blood or blood product (K6), and from hugging and shaking with an HIV infected person (K9). There were also no statistically significant differences between professions in answer regarding prevention of HIV by having sex with only one uninfected partner (K13) and by using a condom every time having sex (K14).

HIV-related attitude of respondents

The HIV-related attitude was generally neutral as 54.0% of the respondents scored 8-10 and high proportion (55.3%) of nurses showing neutral attitude with a significantly difference in comparison to other professions (Table 2). A neutral attitude was found in 56.0% and 52.3% of respondents with work experience of less than 10 years and work experience of 10 years or more respectively, however, the difference is not significant. There were statistically significant differences between experience of working with PLHIV and attended HIV/AIDS training with HIV-related attitude of respondents (Table 3).

The attitude items with percentage of positive attitude in accordance with profession of respondents are presented in Table 5. With regards to attitude, 57.8% of respondents opined that people get infected with HIV because they engage in irresponsible behaviours with significant differences among professions (A5). Only 42.2% of respondents showed a positive attitude. Doctors have more positive attitude with percentage of 51.0% than other professions. Likewise, there is a significant difference among professions about question A9 as only 47.4% of the respondents indicated that they did not mind buying food items from a food seller who has been diagnosed with HIV, with the nurses scored the highest percentage of positive attitude (53.9%) in comparison to other professions. In accordance with question A10, 48.4% of the respondents indicated that they were afraid of contracting HIV through clinical practice while working with significant differences among professions. On the other hand, 65.8% of respondents have negative belief that sex workers, youth and other key population groups are responsible for spreading HIV (A11), however, the difference is not significant. There was also no statistically significant difference between professions when they were asked whether they will end the relationship with HIV infected friend (A8).

HIV-related practice of respondents

The HIV-related practice of respondents was generally fair with percentage of 59.2% with a significantly high proportion (65.6%) of medical assistants having fair practice (Table 2). There were statistically significant differences

Table 1. Socio-demographic information of respondents (n=1313).

Variables	n	(%)
Gender		
Male	131	(10.0)
Female	1182	(90.0)
Age		
20-25	78	(5.9)
26-35	662	(50.4)
36-45	431	(32.8)
46-55	127	(9.7)
>55	15	(1.1)
Professions		
Doctors	202	(15.4)
Nurses	935	(71.2)
Pharmacists	88	(6.7)
Medical assistants	64	(4.9)
Pharmacist assistants	24	(1.8)
Work experience		
< 10 years	598	(45.5)
≥ 10 years	715	(54.5)
HIV/AIDS training		
Yes	747	(56.9)
No	566	(43.1)
Experience of working with PLHIV		
Yes	1066	(81.2)
No	247	(18.8)

Table 2. HIV-related knowledge, attitude and practice of respondents by professions.

Variables	Professions												*P*-value
	Doctors		Nurses		Pharmacists		Medical assistants		Pharmacist assistants		Total		
	n = 202		n = 935		n = 88		n = 64		n = 24		n = 1313		
	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)	
Knowledge													0.000*
High (Scores 12-14)	151	(74.8)	475	(50.8)	59	(67.0)	29	(45.3)	8	(33.3)	722	(55.0)	
Moderate (Scores 9-11)	51	(25.2)	390	(41.7)	23	(26.1)	31	(48.4)	15	(62.5)	510	(38.8)	
Low (Scores 0-8)	0	(0.0)	70	(7.5)	6	(6.8)	4	(6.3)	1	(4.2)	81	(6.2)	
Attitude													0.000*
Positive (Scores 11-13)	86	(42.6)	235	(25.1)	38	(43.2)	16	(25.0)	9	(37.5)	384	(29.2)	
Neutral (Scores 8-10)	106	(52.5)	517	(55.3)	42	(47.7)	31	(48.4)	13	(54.2)	709	(54.0)	
Negative (Scores 0-7)	10	(5.0)	183	(19.6)	8	(9.1)	17	(26.6)	2	(8.3)	220	(16.8)	
Practice													0.000*
Good (Scores 8-9)	66	(32.7)	148	(15.8)	4	(4.5)	7	(10.9)	1	(4.2)	226	(17.2)	
Fair (Scores 6-7)	111	(55.0)	584	(62.5)	37	(42.0)	42	(65.6)	3	(12.5)	777	(59.2)	
Poor (Scores 0-5)	25	(12.4)	203	(21.7)	47	(53.4)	15	(23.4)	20	(83.3)	310	(23.6)	

Table 3. Association of knowledge, attitude and practice with work experience, HIV/AIDS training and experience of working with PLHIV.

Variables	Work experience				*P*-value	Training				*P*-value	Experience of working with PLHIV				*P*-value
	< 10 n = 598		≥ 10 n = 715			Yes n = 747		No n = 566			Yes n = 1066		No n = 247		
	n	(%)	n	(%)		n	(%)	n	(%)		n	(%)	n	(%)	
Knowledge					0.000*					0.000*					0.018*
High (Scores 12-14)	297	(49.7)	425	(59.4)		454	(60.8)	268	(47.3)		606	(56.8)	116	(47.0)	
Moderate (Scores 9-11)	247	(41.3)	263	(36.8)		264	(35.3)	246	(43.5)		398	(37.3)	112	(45.3)	
Low (Scores 0-8)	54	(9.0)	27	(3.8)		29	(3.9)	52	(9.2)		62	(5.8)	19	(7.7)	
Attitude					0.154					0.037*					0.000*
Positive (Scores 11-13)	159	(26.6)	225	(31.5)		236	(31.6)	148	(26.1)		331	(31.1)	53	(21.5)	
Neutral (Scores 8-10)	335	(56.0)	374	(52.3)		399	(53.4)	310	(54.8)		580	(54.4)	129	(52.2)	
Negative (Scores 0-7)	104	(17.4)	116	(16.2)		112	(15.0)	108	(19.1)		155	(14.5)	65	(26.3)	
Practice					0.000*					0.000*					0.000*
Good (Scores 8-9)	58	(9.7)	168	(23.5)		166	(22.2)	60	(10.6)		205	(19.2)	21	(8.5)	
Fair (Scores 6-7)	352	(58.9)	425	(59.4)		456	(61.0)	321	(56.7)		644	(60.4)	133	(53.8)	
Poor (Scores 0-5)	188	(31.4)	122	(17.1)		125	(16.7)	185	(32.7)		217	(20.4)	93	(37.7)	

Table 4. Knowledge items with percentage of correct answer in accordance with profession of respondents (n=1313).

No	Knowledge items	Professions												*P*-value
		Doctors n = 202		Nurses n = 935		Pharmacists n = 88		Medical assistants n = 64		Pharmacist assistants n = 24		Total n = 1313		
		n	(%)	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)	
K1	The HIV virus can easily be killed with disinfectant in the environment	61	(30.2)	279	(29.8)	33	(37.5)	33	(51.6)	4	(16.7)	410	(31.2)	0.002*
K2	All pregnant women infected with HIV will have babies born with AIDS	182	(90.1)	712	(76.1)	73	(83.0)	31	(48.4)	15	(62.5)	1013	(77.2)	0.000*
K3	A HIV infected person can look healthy	200	(99.0)	875	(93.6)	88	(100.0)	63	(98.4)	22	(91.7)	1248	(95.0)	0.001*
K4	It is possible to transmit the virus to family members of an HCW providing care for PLHIV, even though the HCW is not infected	188	(93.1)	658	(70.4)	74	(84.1)	47	(73.4)	13	(54.2)	980	(74.6)	0.000*
K5	The risk of occupational HIV infection and transmission among HCW is high	147	(72.8)	412	(44.1)	58	(65.9)	31	(48.4)	13	(54.2)	661	(50.3)	0.000*
K6	A person can get HIV from transfusion of unscreened blood and blood products	201	(99.5)	923	(98.7)	85	(96.6)	62	(96.9)	24	(100.0)	1295	(98.6)	0.223
K7	A person can get HIV from sexual intercourse with an HIV infected person	191	(94.6)	926	(99.0)	88	(100.0)	63	(98.4)	24	(100.0)	1292	(98.4)	0.000*

K8	HIV can be transmitted through mother to the baby through breast milk or placenta	188	(93.1)	826	(88.3)	74	(84.1)	48	(75.0)	16	(66.7)	1152	(87.7)	0.000*
K9	A person can get HIV from hugging and handshaking with an HIV infected person	200	(99.0)	896	(95.8)	87	(98.9)	62	(96.9)	23	(95.8)	1268	(96.6)	0.156
K10	A person can get HIV from sharing toilets and bathroom with an HIV infected person	154	(76.2)	805	(86.1)	82	(93.2)	61	(95.3)	23	(95.8)	1125	(85.7)	0.000*
K11	A person can get HIV from mosquito bites	193	(95.5)	786	(84.1)	72	(81.8)	59	(92.2)	22	(91.7)	1132	(86.2)	0.000*
K12	HIV can be transmitted through sharing utensils and food with an infected person	190	(94.1)	711	(76.0)	80	(90.9)	53	(82.8)	20	(83.3)	1054	(80.3)	0.000*
K13	The risk of HIV transmission can be reduced by having sex with only one uninfected partner who has no other partners	183	(90.6)	828	(88.6)	79	(89.8)	53	(82.8)	21	(87.5)	1164	(88.7)	0.545
K14	A person can reduce the risk of getting HIV by using a condom every time they have sex	196	(97.0)	867	(92.7)	82	(93.2)	59	(92.2)	23	(95.8)	1227	(93.5)	0.246

Table 5. Attitude items with percentage of positive attitude in accordance with profession of respondents (n=1313).

No	Attitude items	Professions												*P*-value
		Doctors		Nurses		Pharmacists		Medical assistants		Pharmacist assistants		Total		
		n = 202		n = 935		n = 88		n = 64		n = 24		n = 1313		
		n	(%)	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)	
A1	Most people with HIV/AIDS only have themselves to blame	176	(87.1)	567	(60.6)	70	(79.5)	36	(56.3)	15	(62.5)	864	(65.8)	0.000*
A2	When admitted to hospital, patients who are HIV-positive should not be put in rooms with other patients	156	(77.2)	612	(65.5)	79	(89.8)	45	(70.3)	14	(58.3)	906	(69.0)	0.000*
A3	Patients with HIV/AIDS have the right to the same quality of care as any other patient	201	(99.5)	887	(94.9)	86	(97.7)	62	(96.9)	24	(100.0)	1260	(96.0)	0.023*
A4	Most PLHIV do not care if they infect others	178	(88.1)	644	(68.9)	66	(75.0)	38	(59.4)	18	(75.0)	944	(71.9)	0.000*
A5	People get infected with HIV because they engage in irresponsible behaviours	103	(51.0)	370	(39.6)	43	(48.9)	26	(40.6)	12	(50.0)	554	(42.2)	0.023*
A6	Women living with HIV should be allowed to have children if they wish	188	(93.1)	714	(76.4)	78	(88.6)	49	(76.6)	20	(83.3)	1049	(79.9)	0.000*
A7	Will you treat a patient who is HIV positive?	198	(98.0)	866	(92.6)	85	(96.6)	61	(95.3)	21	(87.5)	1231	(93.8)	0.022*
A8	If I know that my friend has HIV infection, I will end the relationship	201	(99.5)	907	(97.0)	86	(97.7)	60	(93.8)	24	(100.0)	1278	(97.3)	0.094
A9	Would you mind buying food items from a food seller who has been diagnosed with HIV?	61	(30.2)	504	(53.9)	20	(22.7)	27	(42.2)	10	(41.7)	622	(47.4)	0.000*
A10	I am afraid of catching HIV through clinical practice while working	141	(69.8)	439	(47.0)	56	(63.6)	28	(43.8)	14	(58.3)	678	(51.6)	0.000*
A11	I believe that sex workers, youths and other key population groups are responsible for spreading HIV	71	(35.1)	307	(32.8)	41	(46.6)	19	(29.7)	11	(45.8)	449	(34.2)	0.064
A12	Health facilities should not refuse to care for a patient just because they are HIV positive	201	(99.5)	900	(96.3)	85	(96.6)	58	(90.6)	24	(100.0)	1268	(96.6)	0.010*
A13	Do you think that children living with HIV should be able to attend school with children who are a HIV negative?	198	(98.0)	821	(87.8)	80	(90.9)	56	(87.5)	21	(87.5)	1176	(89.6)	0.001*

Table 6. Practice items with percentage of good practice in accordance with profession of respondents (n=1313).

No	Practice items	Professions												*P*-value
		Doctors		Nurses		Pharmacists		Medical assistants		Pharmacist assistants		Total		
		n = 202		n = 935		n = 88		n = 64		n = 24		n = 1313		
		n	(%)	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)	
P1	You will encourage people to get tested and counseled for HIV/AIDS if needed	198	(98.0)	884	(94.5)	84	(95.5)	62	(96.9)	20	(83.3)	1248	(95.0)	0.044*
P2	You will refer people for voluntary counseling and testing, even if these services are not available at your workplace	186	(92.1)	797	(85.2)	67	(76.1)	53	(82.8)	17	(70.8)	1120	(85.3)	0.007*
P3	You always practice universal blood and body fluid precautions at your workplace	201	(99.5)	918	(98.2)	61	(69.3)	62	(96.9)	14	(58.3)	1256	(95.7)	0.000*
P4	Gloves and gowns are required for any contact with patients with HIV/AIDS	118	(58.4)	273	(29.2)	45	(51.1)	12	(18.8)	9	(37.5)	457	(34.8)	0.000*
P5	Double gloving is only recommended during some exposure prone procedures such as orthopedic operations, gynecological operations or when attending major trauma incidents patients	156	(77.2)	793	(84.8)	57	(64.8)	53	(82.8)	19	(79.2)	1078	(82.1)	0.000*
P6	You will treat blood spills on floors or other surfaces with a disinfectant before cleaning up	173	(85.6)	804	(86.0)	49	(55.7)	56	(87.5)	15	(62.5)	1097	(83.5)	0.000*
P7	The risk of infection with HIV is high after an accidental needle stick injury at the workplace	55	(27.2)	112	(12.0)	10	(11.4)	10	(15.6)	2	(8.3)	189	(14.4)	0.000*
P8	To prevent accidental injury, all used needles should be recapped immediately after use on patients with HIV/AIDS	177	(87.6)	726	(77.6)	12	(13.6)	53	(82.8)	3	(12.5)	971	(74.0)	0.000*
P9	You have the knowledge about post-exposure prophylaxis (PEP) and its usage at your workplace	131	(64.9)	637	(68.1)	58	(65.9)	37	(57.8)	6	(25.0)	869	(66.2)	0.000*

between work experience, HIV/AIDS training and experience of working with PLHIV with HIV-related practice of respondents (Table 3).

The practice items with percentage of good practice in accordance with profession of respondents are displayed in Table 6. In terms of HIV-related practices, 65.2% of respondents agreed that gloves and gowns are required for any contact with patients with HIV/AIDS (P4) with significant difference among professions. The doctors scored the highest percentage of good practice (58.4%) in comparison to other professions. In accordance to the risk of needle stick injury (P7), 85.6% of respondents agreed that the risk of infection with HIV is high after an accidental needle stick injury. Again, the doctors scored the highest percentage of good practice (27.2%) with a significantly difference in comparison to other professions.

Discussion

This study assessed the HIV-related KAP among HCW who were directly involved in care of PLHIV. The study found a high level of HIV-related knowledge, neutral attitude and fair practice among HCW towards PLHIV with significant differences among professions.

In spite of the high level of knowledge, this study found significant proportion of HCW retained misconception that the HIV virus is not easily killed with disinfectant in the environment with percentage of 68.8%. This finding is in line with a study conducted by Boakye et al. [12] that reported only 5.2% of nurses knew that the HIV virus can easily be killed with disinfectant in the environment. The findings of a number of studies [11,12], suggested that a high proportion of HCW believed that they were at high risk of acquiring HIV infection through occupation exposure, which is very similar to this finding. In this study, although the overall risk of occupation HIV infection and transmission among HCW is rare, but 49.7% of respondents overestimated their risks. Evidence of occupationally acquired HIV infection is rare compared with transmission of infections such hepatitis B and this needs to be highlighted to HCW [14].

With regards to attitude, the findings of this study showed that the HCW have favourable attitudes towards PLHIV with the majority of the respondents 1260 (96.0%) and 1231 (93.8%) agreed with the statement 'patients with HIV/AIDS have the right to the same quality of care as any other patient (P3)' and 'will you treat a patient who is HIV positive? (P7)'. This was quite encouraging and needs to be commended, considering their demonstration of fear of infection through clinical practice while working (48.4%). The findings of this study are in corroborated with studies conducted by Boakye et al. [12] and Ledda et al. [16], that although HCW have fears for contracting HIV, their consciences and integrity allowed them to display some positive attitudes by accepting PLHIV. Similar to other studies conducted by Lui et al. [14] and Ledda et al. [16], this study found that a fraction of the HCW had negative or prejudicial attitudes towards PLHIV. More than half of the respondents (57.8%) opined that people get infected with HIV because they engage in irresponsible behaviours and 65.8% of the respondents believed that sex workers, youths and other key population groups are responsible for spreading HIV. In this study, 52.6% of the respondents indicated that they were afraid of buying food items with HIV infected persons. This finding is in contrast to a study by Lui et al. [14], who found that almost half of medical and nursing students expressed willingness to buy food from a shop owned by an HIV positive person.

In terms of HIV-related practices, close to two-thirds of the respondents (65.2%) believed that it was necessary to take extra infection control precautions where gloves and gowns are required for any contact with patients with HIV/AIDS. Similar to the findings of this study, a study in Ghana found 65.7% of nurses put on gowns and gloves with any contact with PLHIV emanating from fear of contracting HIV during clinical practice [12]. This finding highlights a lack of understanding regarding the primary principle underlying Standard/Universal Precautions i.e., the precaution applies universally and not selectively. The value of Standard/Universal Precautions is that they protect HCW and patients against infection with a range of pathogens, not just HIV [17]. In this study, respondents are likely to be overestimating their risk of occupational infection with HIV, as the majority (85.6%) incorrectly believed that a needle stick injury with an HIV-contaminated needle was certain to result in infection. Although the overall risk of infection after a needle stick injury with a needle containing HIV-infected blood is estimated to be 0.3% per injury. This finding is in tune with a study by Al-Salihy et al. [18].

This study had several limitations that should be taken into account in interpreting the results. Similar to studies in this area and on HCW, these findings relied on self-reported responses and are subject to reporting and social desirability biases. Moreover, the study assessed only HCW employed in the government sector, with variable responses across governorates. As such, those working in the private sector may have different views and attitudes.

Conclusion

The study found a high level of HIV-related knowledge, neutral attitude and fair practice among HCW towards PLHIV with significant differences among professions. However, HCW also displayed negative attitudes and unacceptable practices probably due to fear of contracting HIV. These findings highlight the need of continuous training and educational opportunities to equip HCW with the right information needed to provide effective and appropriate care to PLHIV and at the same protect themselves against infection.

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Conflicts of Interest

The authors declare no conflicts of interest. The authors further declare that the study received no funding from any organizations or persons.

Authors' Contributions

Analysis and interpretation of the data: ZHMY, MR

Drafting of the article: ZHMY

Critical revision of the article for important intellectual content: MR, AS

Final approval of the article: AS

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