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Knowledge, Attitudes, and Behaviors toward HIV/AIDS among Health Care Workers' in Urban Cities in Leyte Philippines

Althea Grace Mosende, Carl Benedict Lacambra, Janet Alexis De los Santos*

Visayas State University, Pangasugan, Baybay City, 6521 Leyte, Philippines

**Corresponding Author's Email: janetalexis.delossantos@vsu.edu.ph*

ABSTRACT

Background: The difficulty of curbing the incidence of HIV has long been associated with stigma, which has been linked to the lack of knowledge, poor attitudes, and discriminatory behaviours of healthcare workers. The study aimed to assess the knowledge, attitudes, behaviour, and care barriers of healthcare workers from highly urbanised cities towards HIV/AIDS. Methods: A total of 171 healthcare workers in Leyte Province were included in the study. The study utilized a self-report questionnaire and was conducted in the early quarter of 2021. Spearman rank-order correlation analysis was employed to answer the study's hypotheses. **Results:** Results revealed that the participants have moderate knowledge of HIV/AIDS and good work attitudes but have prejudicial attitudes and discriminatory behaviours toward their HIV/AIDS-related care. Furthermore, it was found that there is a positive correlation between knowledge and attitude, as well as attitude toward behaviours. Notably, results revealed no correlation between knowledge of HIV/AIDS and perceived behaviours. **Conclusion:** It can be concluded that health workers in highly urbanized cities like Leyte province have essential knowledge, attitude, and behaviours in providing care to clients suspected or confirmed of HIV/AIDS. A good attitude towards HIV suggests the likelihood of a health care provider having sufficient knowledge of HIV and practicing caring behaviours.

Keywords: Attitudes; Behaviors; Healthcare Workers; HIV/AIDS; Knowledge; Philippines

INTRODUCTION

The human immunodeficiency virus (HIV) is considered both a crucial public health concern and a social issue affecting people across many countries. Globally, roughly 38 million individuals tested positive for HIV/AIDS in 2019 (UNAIDS, 2020). In the Philippines, the high incidence of HIV is recorded in urban areas, which as of this writing have an estimated 33 cases of HIV per day in the country (DOH, 2022). The Department of Health recognized an additional ninety-nine (99) HIV/AIDS cases in Eastern Visayas in the first nine months of 2020 (Sabalza, 2022). The report further revealed that forty-seven (47) were accounted for in Leyte, sixteen (16) in Northern Samar and Samar, nine (9) from Southern Leyte, seven (7) from Eastern Samar, and four (4) from the Biliran province.

Amidst long stretches of preventive efforts and enhanced treatment options, HIV infection remains a threat to public health. Wiginton *et al.* (2021) stated that technological advancements may have significantly improved the health of people living with HIV and AIDS (PLHA). Still, awareness and acceptance within society have not improved as dramatically.

In the healthcare setting alone, the stigma of HIV has been well reported by healthcare professionals worldwide. For instance, there is a presence of stigmatizing attitudes and behaviors observed among healthcare workers, such as refusal to care, differential treatment, and gossiping (De los Santos, 2020; Langi *et al.*, 2022) and other structures and policies implemented at the level of the health facility unknowingly deemed to be stigmatizing (De los Santos *et al.*, 2022; Mulubale *et al.*, 2022) Moreover, many studies linked the lack of knowledge and skills to the prevalence of stigma and discriminatory behaviors among health care professionals (Eticha, & Gemeda, 2019). HIV stigma served as a significant deterrent to the health and well-being and late linkage to care among people with high-risk behaviors and PLHA (Kemp *et al.*, 2019)

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Given the literature discussing the knowledge, attitude, and behaviors of care providers in various parts of the world, very scarce literature is published presenting how it is in Eastern Visayas Philippines. To bridge this knowledge gap, the researchers aimed to assess the healthcare workers' knowledge, attitudes, and perceived behavior toward HIV.

METHODOLOGY

Research Design

This study is a quantitative, descriptive cross-sectional research design.

Participants and Setting

This study was conducted in Tacloban and Ormoc City being the two urban cities in Leyte Philippines. A total of 171 Healthcare workers were included in the study, consisting of 137 barangay health workers (BHW), 3 doctors, 17 midwives, and 15 nurses which was computed using Slovin's formula. software Stratified proportionate random sampling was done according to job position (profession). The sample participants for BHWs were additionally stratified based on the barangay/ district with the highest number of employed BHWs. All in all, there were eight barangays from the two urban cities where data was collected. Among health facilities in the country, the Baranggay Health Stations (BHS) are the widely distributed across country and are considered as primary health care facilities. Its operation relies with its assigned health professionals but is most of the time manned by Baranggay Health Workers (BHW). We implemented eligibility criteria for participant selection. Inclusion criteria include: (1) must be a local health board-accredited barangay health worker; (2) must be a licensed professional (RN, RM, or MD); (3) must be in active service in the rural health unit or community health setting, regardless of tenure; and (4) must have an experience with a possible patient with HIV/AIDS. Excluded were health workers whose work was purely administrative and had no direct patient care. The study was conducted January-June 2021.

Instruments

The study utilized a structured questionnaire for data gathering to assess health care workers' knowledge, attitudes, and behaviors towards HIV/AIDS.

We utilized a 20-item scale to measure the participant's knowledge of HIV/AIDS and the Human rights of a PLHA. The HIV knowledge scale was based on the standardized questionnaire by Li et al., (2007), while the knowledge on Human rights of a PLHA comprised items lifted from three sources, namely: a subscale from a population-based survey of HIV/AIDS by Leili et.al., (2008), a comparison of HIV/AIDS-related stigma survey by Genberg *et al.*, 2009, and the International Guidelines on HIV/AIDS and Human Rights, a publication organized jointly by the Office of the United Nations High Commissioner for Human Rights and the Joint United Nations Programme on HIV/AIDS (2006). The responses to each statement in the questionnaire are between 1 (no) and 2 (yes). This scale was scored based on the number of correct answers the participant made. We screened the instrument both on its item and scale content validity indices. Results showed a value of 0.98, indicating high validity. The scale further revealed high reliability based on its Cronbach's score of 0.98.

To measure the participant's attitude, we utilized a 13-item scale based on the health professional survey questions and scales by Li *et al.*, (2007). This scale was used to assess the health workers' attitudes toward HIV and AIDS. Responses to each statement in the questionnaire range from 1 (strongly disagree) to 5 (strongly agree). The acceptable consistency reliability of this scale was supported by a Cronbach's alpha value of 0.75.

To assess the participant's behavior, we utilized the Nurse Behavior towards Confirmed and Suspected HIV/AIDS Patients (NB-CSHAP) Scale (De los Santos *et al.,* 2022). This scale was used to assess the healthcare worker's behaviors toward PLHA. There are four subscales, namely, (1) service-oriented behaviors, (2) openhanded behaviors, (3) perceptive behaviors, and (4) discriminatory behaviors. Responses to each statement in the questionnaire ranged from 1 (never) to 5 (Always). The scale yields an acceptable internal consistency score of 0.73 Cronbach's alpha.

Ethical Considerations

This study ascribed to the Declaration of Helsinki to conform with the ethical standards in conducting research.

Technical and ethical issues were cleared by the college's ethics review committee and was issued clearance with code number: RES-CON-S2020.13 issued March 8, 2021. Moreover, the participants were informed of all information and voluntarily participated in the study.

Data Analysis

The data was collated and organized using the SPSS v.23 software. The demographic characteristics of the respondents were examined and presented using descriptive statistics such as frequency, means, and standard deviations. The Spearman Rank Order Correlation coefficient was used to answer the study's hypotheses and measure the strength and direction of the relationship between the participant's knowledge and other key variables.

RESULTS

This study aimed to assess the participant's knowledge, attitudes, and behavior toward HIV/AIDs and determine correlations between these variables. There were a total of 171 health workers composed mostly of females (94.7%) in this study. Most of them were college graduates (66.7%) working as barangay health workers (80.1) in their health facilities. On the other hand, 34 participants were health professionals (doctors, nurses, midwives) (Table 1).

Table 1: Profile of the Healthcare Workers

Variables	Frequency (f)	Percentage (%)
Sex		
Female	162	94.7
Male	9	5.3
Education		
College Graduate	114	66.7
College Level	1	0.6
Elementary Graduate	6	3.5
High School Graduate	40	23.4
Post-Graduate	8	4.7
Vocational Course Graduate	2	1.2
Job position		
Barangay Health Worker	137	80
Health professionals	34	20

Table 2 shows the participant's responses to HIV awareness and knowledge questions. Based on the overall score, it is evident that the healthcare workers are highly knowledgeable regarding HIV transmission based on their mean score of 8.3. Nonetheless, some healthcare workers have an incorrect understanding of the transmission of HIV. The item "Can physical exercise stop HIV transmission?" had the highest number of participants who scored correctly.

Table 2: HIV knowledge scale

HIV Knowledge	*Yes*		*No*	
	f	*%*	*f*	*%*
Is AIDS curable?	30	17.5	141	82.5
Can HIV be transmitted through pregnancy?	151	88.3	20	11.7
Can HIV be transmitted through childbirth?	155	90.6	16	9.4
Can HIV be transmitted through breast-feeding?	112	65.5	59	34.5
Can mosquitoes transmit HIV?	13	7.6	158	92.4
Can HIV be transmitted through daily contacts, such as sharing public bathrooms?	28	16.4	143	83.6
Can HIV transmission be stopped by more nutrient intake?	29	17.0	142	83.0
Can physical exercise stop HIV transmission?	9	5.3	162	94.7
Is an HIV vaccine already available?	35	20.5	136	79.5
Are patients with sexually transmitted diseases more likely to get HIV?	152	88.9	19	11.1
MEAN SCORE: 8.3				

Shown in Table 3 are the participants' responses to the scale on knowledge of the human rights of a PLHA. Results revealed that the healthcare workers are highly knowledgeable of PLHAs human rights based on their mean score of 8.02. Most participants (90.1%) believe PLHA should have equal protection and equality before the law, and the right to freedom of movement, while the remaining 9.9% opposed the idea.

Table 3: Knowledge of PLHA Human Rights

Knowledge on Human Rights of a PLHA	***Yes***		***No***	
	F	***%***	***f***	***%***
Can negative attitudes and beliefs about people with HIV lead to HIV stigma?	134	78.4	37	21.6
Should HIV infected people feel ashamed?	24	14.0	147	86.0
Are the appearance of HIV carriers different from the normal population?	55	32.2	116	67.8
Should people with HIV/AIDS be treated the same as everyone else?	137	80.1	34	19.9
Should people with HIV/AIDS be isolated from others?	23	13.5	148	86.5
Should health professionals treat people with HIV/AIDS in a similar manner to people with other illnesses?	132	77.2	39	22.8
Should the rights of people living with HIV be violated because of their presumed or known HIV status?	5	2.9	166	97.1
Should stigma and discrimination obstruct access to treatment and may affect employment, housing and other rights?	51	29.8	120	70.2
Should HIV stigma and discrimination discourage individuals infected with and by HIV from contacting health and social services?	40	23.4	131	76.6
Should PLHA have equal protection and equality before the law and the right to freedom of movement?	154	90.1	17	9.9
MEAN SCORE: 8.02				

Table 4 presents the healthcare worker's discriminatory attitude and general prejudicial attitudes scale. Results revealed that the participants have a good healthcare attitude toward caring for HIV/AIDS, considering their scores on the two subscales. The participants disagree (m=3.98, SD=0.67) that they have discriminatory attitudes at work, however, remains neutral (m=3.37, SD=0.88) on their general prejudicial attitudes.

Table 4: Discriminatory Attitudes at Work and General Prejudicial Attitudes Scale

Healthcare Worker's Attitudes to HIV/AIDS	**Mean**	**SD**
Discriminatory attitude at work	**3.98**	**0.67**
1. You would be willing to work with HIV -positive patients.	3.98	0.66
2. If you worked with HIV -positive patients, you would provide the same quality of care to them that you provide to other patients.	4.21	0.75
3. If the superior in your hospital asked you to do a physical examination of a known HIV-positive patient, you would be willing to do so.	3.87	0.76
4. If you worked with HIV-positive patients, you would interact with them just like other patients.	3.86	0.89
General prejudicial attitudes	**3.37**	**0.88**
5. People who acquired HIV/AIDS through sex or drug use got what they deserved.	3.56	0.99
6. AIDS is a punishment for bad behavior.	3.53	1.13
7. People who behave promiscuously should be blamed for AIDS	3.61	1.01
8. PLHA should have the right to marry.	3.77	0.95
9. You feel afraid of PLHA.	3.15	1.13
10. You would feel ashamed if someone you know got HIV/AIDS.	3.22	1.24
11. You would feel ashamed if someone in your family got HIV/AIDS.	3.13	1.26
12. You would not buy from a food vendor who has HIV/AIDS.	3.13	1.18
13. You would not share eating utensils with a PLHA because you are afraid of HIV infection.	3.21	1.24

The participant's behavior towards confirmed and possible HIV patients was measured and revealed that they have appropriate behaviors as care providers to their constituents seeking consult in their health facilities. This is reflected in their cumulative mean score (m=4.35; SD-0.98) shown in Table 5. Moreover, the service-oriented subscale revealed a mean score of 4.53 (SD=0.59), interpreted as "always" based on the parameters of the scale. The Openhanded behaviors similarly revealed a high mean score (m=4.29; SD=0.58), suggesting the participants always show professional generosity. Likewise, the Perceptive behaviors subscale was usually practiced by the participants (m=3.68, SD=0.95). However, it also revealed that discriminatory behaviors are reported by the participants based on the high mean score of 4.9 (SD=0.20).

Table 5: Perceived Behaviors towards Confirmed or Suspected HIV/AIDS Patients

Behaviors towards HIV/AIDS	Mean	SD
Service-oriented behaviors	**4.53**	**0.59**
I care for my patients the best way I know based on what I learned	4.54	0.75
I always project with bearing even when I am stressed especially in front of my patients	4.56	0.63
I offer advice to my junior nurses who are new in handling critical cases	4.22	1.09
I provide care that is compassionate and supportive to the patients' needs	4.62	0.77
I care for my patients regardless of their disease condition	4.60	0.73
I observe precautionary measures	4.70	0.53
I talk to my patients even if I know they will not respond	4.53	0.73
Discriminatory behaviors	**4.90**	**0.20**
I would make jokes about HIV patients	4.94	0.26
I request from my seniors not to assign me with possible HIV+ patients	4.90	0.30
I do not give time to talk with a possible and confirmed HIV patient	4.88	0.32
I maliciously delve into the details of a person suspected or confirmed of HIV	4.86	0.36
Openhanded behaviors	**4.29**	**0.58**
I find time to talk with my patient, making him feel I am ready to listen	4.47	0.71
I try to provide holistic nursing care activities and interventions	4.51	0.57
I would share whatever I know about HIV to the patient especially on the expected future he will be facing	3.89	1.00
Perceptive behavior	**3.68**	**0.95**
I would sometimes laugh at my carelessness to lighted the mood	3.80	1.03
I would do things that may be risky on my part, so as not to make my patient uncomfortable or offended.	3.68	0.95
MEAN SCORE	**4.35**	**0.98**

Table 6 presents the analysis results to answer this study's three hypotheses. Results suggest no relationship between the participant's knowledge of HIV and their perceived behaviors.

However, it revealed that there is a significant positive relationship between the participant's knowledge of HIV to their attitudes ($r = 0.162$, $p < 0.05$) and a strong positive relationship between the participant's behavior and attitudes ($r = 0.592$, $p = <0.001$).

Table 6: Correlation of Knowledge, Attitude and Behaviors towards HIV/AIDS

Variables	1	2	3
Knowledge	1	0.162*	0.121
Attitude	0.162*	1	0.592**
Behavior	0.121	0.592**	1

**p=0.05 level (2-tailed); **p=<0.001*

DISCUSSION

The moderate knowledge of both HIV/AIDS and the human rights of PLHA suggests that the participants are aware of

the transmission dynamics of HIV as a disease and the need to uphold the human rights of those infected by it. As such, the health workers understand their need to show respect and display appropriate professional decorum when caring for patients suspected or confirmed of HIV. However, the participant's knowledge of HIV was lower than what was found in one study in Malaysia, which revealed a high level of HIV-related awareness (Yadzir, Ramly, & Suleiman, 2021). The difference can be explained by the population samples between the two studies where the latter recruited health care workers working in the hospital, in contrast with the participants in the current study, which involved health workers practicing in community health settings. Additionally, the participants in this study were primarily composed of BHW, which are characteristically non-health professionals working in primary care settings trained by the Department of Health in the Philippines. Remarkably, however, this study's findings differ from that of Lee, Bacolcol, & Brillantes, (2015), who found that Manila-based health practitioners have insufficient knowledge of HIV.

Furthermore, the participant's notable awareness of the human rights of PLHA may indicate that they are aware of the laws that protect their clients against stigma and discrimination. To our knowledge, this study is one of the very first conducted in the country to assess the health worker's knowledge of the human rights of PLHA. This is another knowledge dimension that future researchers may try to look at, considering that it may have an implication for patient care.

The participants in this study have good attitudes considering that they don't have prejudicial nor discriminatory attitudes while working with their clients. This desirable trait found in our participants is similar to other studies where health workers display a warm and welcoming approach to their patient encounters (Lee, Bacolcol, & Brillantes, 2015). However, it was found that the participant's high level of general prejudicial attitudes indicates that they have internal biases against HIV. These are occult feelings of stigma against a PLHA masked behind a care provider who is duty-bound to perform his professional duties. This finding is supported by other studies conducted in the country and abroad, which affirms the presence of several stigmatizing attitudes among healthcare providers (Lopez, Ramiro, & Roxas, 2017).

On the contrary, the participant's behavior towards suspected or confirmed HIV/AIDS clients was generally acceptable. However, looking at the scores, particularly on the discriminatory behaviors, the participants declared high responses on the four items on this subscale. This is consistent with the prejudicial attitudes initially discussed. Although this implies a negative connotation, it reflects that these health workers need interventions to hone and improve their caring behaviors and reduce, if not mitigate, stigmatizing ones. Our participant's perceived behaviors conform with other studies indicating discriminatory behaviors found among health workers, such as refusing to care, violence, transphobia, and homophobia (Magno *et al.*, 2019).

Correlation of HIV Knowledge, Attitude, and Behaviors

Based on our findings, it revealed a significant positive correlation between the participant's knowledge of their attitude and a strong correlation between attitudes to their behaviors.

Despite not receiving professional degrees among most participants, it is notable that they possess substantial knowledge of HIV and human rights, which is equitable to their display of desirable attitudes towards their patients. The findings suggest that healthcare providers' attitudes about providing adequate care to PLHA are strongly influenced by their level of awareness about HIV and their knowledge of the human rights of their clients. Our findings are similar to Yadzir, Ramly, & Suleiman, (2021) who claimed that significant knowledge regarding transmission and treatment relates to a favorable attitude towards PLHA. Considering that one vital function of healthcare providers is to provide health education to both patient and their families, it is essential for them to have a thorough understanding of HIV as a disease. The consequences of misinformation and insufficient knowledge about the virus fuel HIV stigma and discrimination.

Moreover, the average knowledge of the participant's human rights is an additional key to supporting the participant's desirable attitudes. The more aware the health providers are of the human rights of the care recipients, the better attitudes they have. Human rights awareness is essential to create room for understanding and respect for care provider-client relationships in a health care setting.

Furthermore, the results of a strong positive relationship between a healthcare worker's attitude and their behavior suggest that the attitude of the healthcare worker is reflected in their behavior towards patients under their care. The findings indicate a considerable risk of stigma and discrimination against PLHA should the health care worker have poor

attitudes. Consequently, a poor attitude can be detrimental to HIV care since the health worker may provide less caring behaviors if they have unresolved personal biases in dealing with suspected or confirmed HIV clients. Our findings support prior studies which have identified barriers such as the poor attitude of the healthcare workers to be associated with discriminatory actions and violence against PLHA.

Limitations of the Study

This study poses several limitations. First, the study focused on assessing knowledge, attitudes, and behaviors among healthcare workers in two major cities in the province of Leyte; hence, it cannot be generalizable. Future studies are encouraged to have larger samples of respondents per municipality to produce a more accurate generalizable finding. Additionally, the study only involved the healthcare workers assigned to the rural health unit or community. The non-equivalent number of participant distributions may have resulted in confounding issues. Finally, a qualitative inquiry may provide a more elaborate explanation of the participant's experience to explain their behaviors, attitudes, and knowledge factors.

Study Implications

Several important implications can be identified based on the significant findings of this study. First, the local government units in the country may provide HIV-related training and seminars for health care workers, including the barangay health workers. Providing such will promote health and reduce the risk of HIV transmission, provide knowledge and raise awareness of the human rights of PLHA against stigma and discrimination. Secondly, although the results of this study revealed that the participants are well aware and possess a desirable work attitude toward HIV, there is a need to look closer at how this is translated in terms of behavior as they care for HIV-high-risk clients and the PLHA. Since the findings could not find a correlation between knowledge and behavior, strategies should be refocused toward behavioral interventions. There is a need to implement stigma-reduction activities and conduct management to remove or lessen stigmatizing behaviors of the health workers. The health facility may make a total facility approach to ensure the involvement of each health worker in enhancing knowledge and attitude and improving caring behaviors.

CONCLUSION

We conclude that sufficient knowledge of HIV is associated with a positive attitude towards PLHA. Thus, HIV-related upskilling and training play an essential role in improving the attitude of healthcare workers toward PLHA. HIV attitudes, on the other hand, mirror the health worker's behaviors. The health sector should implement education and behavioral interventions involving the health professionals and the trained health workers working in primary health care facilities to achieve a stigma-free health facility.

Conflict of Interests

The authors declare that they have no conflict of interests.

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