EDORIUM Journals

Edorium J Public Health 2024;10(1):1–14.
www.ejpublichealth.com

RESEARCH ARTICLE PEER REVIEWED | OPEN ACCESS

Knowledge, attitudes, and practices among healthcare providers regarding HIV/AIDS in Anguilla

Jennie An, Jennifer Ngandu, Hannah Rader, Amanda Villatoro

ABSTRACT

Aims: Although a copious amount of research has been done highlighting the attitudes and practices associated with people living with HIV/AIDS (PLWHA) among healthcare providers in the United States, little to no research has been done regarding in Anguilla. This research was conducted in an effort to explore stigma across healthcare providers, which included doctors and nurses, toward HIV/AIDS patients in Anguilla.

Methods: We estimated the prevalence of these attitudes among 19 healthcare personnel comprising of physicians and nurses. A survey was done to asses different parameters of discrimination.

Results: Prejudices or discrimination toward PLWHA are compounded with other societal prejudices in regard to socioeconomic status, ethnicity, gender, and sexual orientation. In addition, patient care has been affected by perceived danger to the healthcare worker (HCW) when coming in physical contact with a PLWHA in situations such as placing an intravenous (IV) or drawing blood. Our results indicated positive findings that suggested discrimination.

Conclusion: Moreover, this study aimed to set the stage for further research and formation of policies and procedures promoting de-stigmatization and improved level of care for PLWHA in Anguilla and the Caribbean.

Keywords: Acquired immunodeficiency syndrome (AIDS), Anguilla, Human immunodeficiency virus (HIV), Patient care, Stigma

How to cite this article

An J, Ngandu J, Rader H, Villatoro A. Knowledge, attitudes, and practices among healthcare providers regarding HIV/AIDS in Anguilla. Edorium J Public Health 2024;10(1):1–14.

Article ID: 100030P16JA2024

****

doi: 10.5348/100030P16JA2024RA

Jennie An[1], Jennifer Ngandu[2], NPH, Hannah Rader[3], MD, Amanda Villatoro[4]

Affiliations: [1]Medical student, Saint James School of Medicine, Park Ridge, Illinois, United States of America; [2]NPH, Medical student, Saint James School of Medicine, Park Ridge, Illinois, United States of America; [3]St. James School of Medicine, Louisiana State University, New Orleans, Louisiana, United States of America; [4]Department of Research and RHM, Walden University, Los Angeles, California, United States of America.

Corresponding Author: Jennie An, 3434 N Elston Avenue, Apt 101, Chicago, IL 60618, United States of America; Email: Janhw5@mail.sjsm.org

Received: 06 October 2023
Accepted: 12 December 2023
Published: 06 January 2024

INTRODUCTION

Since HIV/AIDS emerged as a global pandemic in the 1980s, the public health community has faced many challenges in stopping its spread. Myths and social stigmas have been attached to the disease and are impediments to global goals for HIV/AIDS disease burden management. Persistent social and cultural stigmas, prejudice, and discrimination surrounding HIV/AIDS influence patient care and privacy, patients' willingness to seek treatment, and a patients' access to healthcare [1]. Medical treatment for people living with HIV/AIDS (PLWHA) has long been complicated by attitudes of blame and judgment from healthcare workers (HCWs). Human immunodeficiency virus/Acquired immunodeficiency syndrome (HIV/AIDS) is known to be a highly stigmatized illness due to the nature of transmission, because many members of

the general public as well as those working in healthcare view methods of HIV/AIDS transmission as immoral and voluntary [2].

Due to cultural stigmas surrounding intravenous drug use, needle sharing, and homosexual, and promiscuous sex, HIV infection is sometimes not treated with the same compassion as other diseases. Prejudices or discrimination toward PLWHA are compounded with other societal prejudices in regards to socioeconomic status, ethnicity, gender, and sexual orientation [3]. In addition, patient care has been affected by perceived danger to the HCW when coming in physical contact with a PLWHA in situations such as placing an IV or drawing blood.

The recent Joint United Nations Programme on HIV/AIDS (UNAIDS) 2020 Report entitled "Seize the Moment" highlights the global goals for fighting the AIDS epidemic. Namely, the Three Zeros are the 2030 baseline goals to address the pandemic: zero new cases, zero AIDS-related deaths, and zero discrimination. Addressing discrimination and barriers to care requires a clear picture of what HIV patients face when seeking care. Knowledge, attitudes, and practices (KAP) surveys can offer us insight into how HCWs approach and treat HIV infected patients and consequently what affected patients face when interacting with healthcare providers.

Knowledge, attitudes, and practices regarding HIV/AIDS vary greatly among healthcare providers at all levels and across the globe. Stigmatizing attitudes or lack of knowledge impacts quality of care, barriers to care, cultural transparency, nosocomial infection transmission, occupational risk to providers, and a variety of other factors related to HIV/AIDS [4]. For example, there are variations in understanding how transmission occurs. The Caribbean, as a region, has the highest rate of HIV infection outside of the continent of Africa [5]. The prevalence of HIV/AIDS in the Caribbean stands at 1.3% of the population. In contrast, Anguilla carries a low burden of HIV/AIDS infection, with a total of 8 cases from 2010 to 2015 [6].

This study investigates beliefs and practices concerning HIV/AIDS by Anguillan healthcare professionals. From this KAP study, health system administrators could further shape community health education, provider training, target transmission risk, remove barriers to care, and share best practices with other countries in the region with comparable populations and risk factors. Furthermore, this study could contribute to the direction and design of a proposed upcoming United Nations survey of Sexual Health in Anguilla. Areas of interest in this study are if KAP, judgment, acts of discrimination and comfort level treating patients differ by socioeconomic status, educational level, public or private system, religious affiliation, formal training on HIV/AIDS, prior experience with HIV/AIDS patients, and compliance with privacy laws. Our study also provides insight on the role that HCWs in Anguilla play in infection transmission, prevention, and prophylaxis.

The overall illuminating contribution this study offers is the ability to inform education and health programs, enhance safety for providers to prevent nosocomial HIV transmission, and improve care for all patients in Anguilla. Prior to this study, knowledge attitudes and practices surrounding HIV/AIDS in Anguilla had not been thoroughly researched. This study aims to set the stage for further research and formation of policies and procedures promoting de-stigmatization and improved level of care for PLWHA in Anguilla and the Caribbean.

MATERIALS AND METHODS

Study population and setting

The majority of healthcare services in Anguilla is provided through the public sector by the Health Authority of Anguilla. Primary and secondary services are provided via three clinics and the Princess Alexandra Hospital. There is a small private sector that also provides healthcare services. The government, through the Ministry of Health, purchases these services and does not directly engage in the delivery of healthcare services but is responsible for funding, regulation, policy, planning, and evaluation. The study was conducted among public and private sector doctors and nurses in Anguilla.

Measurement

Data were collected through an anonymous, self-administered electronic questionnaire on Survey Monkey consisting of 41 multiple choice questions on: socio-demographics, level of education, profession, facility location, HIV/AIDS knowledge, attitudes toward HIV, and practices in caring for HIV infected or non-infected patients in light of HIV (see Appendix A). Profession, years of experience, knowledge on HIV/AIDS prevention, infection, and transmission were considered the explanatory variables whereas stigmatizing attributes and attitudes were considered the variables of outcome. Demographic and personal data collected included gender, religion, level of religiousness, age, and nationality. Data regarding professional expertise included place of employment, employment title, years in profession, experience with HIV/AIDS patients, and number of HIV/AIDS cases encountered within the six months prior to completing the survey. Specifically, profession was categorized using the following: General practitioner (MD), Specialist (MD), Registered nurse, Practical nurse, and "Other." Knowledge on HIV/AIDS was evaluated using Section I of Appendix A whose values are located in Table 1.

Assessment of stigmatizing attitudes was conducted using a Likert scale with the following responses

corresponding to respective numerical values: 1 (strongly agree) to 5 (strongly disagree). Depending on the way the question was worded, some values were reverse-coded to ensure that a value of 5 suggests a highly stigmatizing response whereas a value of 1 suggests the opposite, a least stigmatizing response. Factor analyses were conducted utilizing eigenvalues of one or greater, varimax rotation, Kaiser-Meyer-Olkin Measure of Sampling Adequacy, and Bartlett's test of sphericity. With these considerations, the four entries fit into one subscale component with a Cronbach of 0.797. The results of this analysis are located in Table 2.

All data were analyzed using excel and SPSS to determine statistical strength among associations. This study was approved by the Institutional Review Board (IRB) through Saint James School of Medicine, Anguilla campus and the Ministry of Health of Anguilla.

Table 1: Healthcare workers' HIV/AIDS knowledge

Item	Correct reponses n (%)
A person can contract HIV infection by sharing meals with an HIV infected person (F)	19 (100)
Gonorrhea is more easily transmitted than HIV virus through sexual contact (T)	7 (36.8)
Most newborns born to HIV-positive women have HIV/AIDS infection at birth (F)	13 (68.4)
After a needle stick injury with a needle from an HIV-infected patient, immediately gently expressing blood from the puncture site reduces the risk of contracting HIV infection (T)	13 (68.4)
After a needle stick injury with a needle from an HIV-infected patient, the chance of contracting HIV virus is less than 1% (T)	12 (63.2)
Procedures for avoiding hepatitis B infection and HIV infection are similar (T)	16 (84.2)

RESULTS

One questionnaire was discarded because the respondent was not a HCW. A total of 19 questionnaires were completed—17 of which were from the public sector and 2 from the private sector—for a representation of 89% from the public sector. The latest assessment from the Health Authority of Anguilla indicates that there are a total of 19 doctors and 61 nurses on staff up until the end of 2019. The estimated response rate for public sector HCWs was therefore 17 out of 80, 21.3% for all HCWs and 10/19, 52.6% of all doctors on the island. Personal, professional, and institutional characteristics were treated as the explanatory variables while stigmatizing attitudes and acts of discrimination were treated as outcome variables. Furthermore, correlations were investigated between attitudinal subscales and acts of discrimination.

A cross-sectional study was conducted via a survey disseminated to 19 healthcare personnel comprising physicians and nurses practicing in Anguilla between September 10 and October 30, 2020. Participants included employees from Princess Alexandra Hospital, public and private health clinics, and the Health Authority and Ministry of Health of Anguilla. The mean age of participants was 43.44 (SD 12.44) and 73.7% were females. The majority of respondents were of Caribbean nationalities, including Anguillan (36.8%), Saint Lucian (5.3%), Dominican (5.3%), Grenadian (5.3%), Antiguan (5.3%), and Nevisian (5.3%), as well as American (15.8%), Canadian (5.3%), British (5.3%), and other (10%). The largest category of religion stated by participants besides Other (36.9%) was Christian/Methodist (26.3%), followed by Seventh Day Adventist (21.0%), then Catholic (10.5%), and none (5.3%). Most participants responded as somewhat religious (42.1%), while those who responded as very religious or not religious at all numbered 31.6% and 26.3% respectively. The largest group of respondents were Medical Doctors, who comprised 52.6% of the study population. Within this group, 50% were general practitioners and 50% were specialists. Forty-two percent of respondents were Registered Nurses, and 5.3% were Practical Nurses. The majority of participants have had formal HIV/AIDS training (63.2%). The majority of participants had encountered less than 5 cases of HIV/AIDS in the past six months (84.2%) half of which had encountered none. An equal number of respondents (36.8% for each answer) stated that they either were not aware of an HIV testing policy in their employment institution or that one did not exist. Only 26.3% reported that their facility had an HIV testing policy. Participant demographics can be found in Table 3.

In Table 1, results are shown to true/false questions regarding knowledge about HIV transmission and prevention. The average number of correct answers was 4.3 (SD 1.11) out of 6. The lowest score was a 2 while the highest was a 6. About 68.4% of participants scored 67% or higher. For almost every question the majority of respondents answered correctly, although only 36.8% correctly answered that gonorrhea is more easily transmitted than HIV. All people (100%) knew that HIV could not be transmitted from eating a meal with a person infected with HIV, and 89.5% agreed that prevention measures for Hepatitis B virus are similar to prevention of HIV. Regarding needle stick injuries, 68.4% answered correctly that expressing blood from the puncture site lowers the risk of infection, and that the risk of transmission is less than 1% from a needle stick injury.

Table 2, attitudes toward HIV/AIDS patients among HCWs, illuminates the perspective of the HCWs in terms of patients with HIV, screening, transmission, and treatment. When asked if they felt sympathetic toward either patients who got HIV/AIDs through transmission of intravenous drugs, birth transmission, or sexual activity which had a mean of 2.46. Favoring that these HCWs

were in fact sympathetic toward patients with stigmatized transmission. Further inquire of how patients with HIV/AIDS should be treated in clinical spaces. A standard deviation of 1.12 arose in the opinion that patients should be screened for HIV/AID on admission to the hospital/clinic. A consensus was seen when asked these medical practitioners about a patient's HIV status to be revealed to either relatives or sexual partners without consent, the idea of segregating HIV/AIDs patients, and HCWs with HIV should not be in contact with other patients which they disagreed densely on these opinions. Their respected standard deviation is seen below. Lastly we examined their ease in terms of treating HIV/AIDs patients, these medical professionals felt it would be appropriate to treat HIV/AIDS patients.

In Table 4, strives to illustrate the level of discrimination toward HIV patients by HCWs. Reverse coding was used to assign a higher number to indicate more negative attitudes toward HIV infected patients. The data in this table do not show any significant findings except in 3 cases. Two participants indicated that they have disclosed the HIV status of a patient to colleagues who were not a part in the patient's healthcare management and one participant who has disclosed a patient's HIV status to people outside of the patient's healthcare providers. However, the participants of the 3 cases showed they have only done such "some of the time."

Factors associated with stigmatizing attitudes among HCWs which can be found in Table 5 were computed by independent T-tests using mean values answered to questions 20–30 as categorized in Table 5. Responses were scored as Strongly Agree (5), Agree (4), Neither Agree Nor Disagree (3), Disagree (2), and Strongly Disagree (1). Questions were reverse coded when necessary, so that all higher scores represent higher stigmatizing attitudes or practices. The only statistically significant difference was between level of religiousness in that participants who answered Very religious showed lower levels of comfortableness when treating PLWHA than those who answered as Somewhat religious or Not at all religious. Although all other comparisons from Table 6 were not found to be statistically significant, participants of Anguillan nationality showed more stigmatizing attitudes toward imposed measures, attitudes of blame and judgment, and lower levels of comfortableness dealing with HIV/AIDS cases than those who answered Other nationalities. Healthcare workers who stated that their workplace had an HIV testing policy showed lower levels of stigmatizing attitudes across the board compared with those who either did not have a policy in place or were not aware of one. Nurses were found to have less negative attitudes toward and a higher comfort level dealing with patients with HIV/AIDS than doctors, although they showed higher levels of blame and judgment. Participants with values of HIV/AIDS knowledge of or above 67% showed less negative attitudes toward HIV/AIDS patients but also lower levels of comfort treating those patients.

Table 2: Attitudes toward HIV/AIDS patients among healthcare workers

Subscales and items	No. of respondents (%)					Mean (SD)
	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	
	1	2	3	4	5	
Attitudes of blame/judgement						**2.46 (0.85)**
I am sympathetic toward people who get HIV/AIDS from intravenous drug abuse.*	0 (0.0)	1 (5.6)	8 (44.4)	7 (38.9)	2 (11.1)	2.44 (0.78)
I am sympathetic towards people who get HIV/AIDS from sexual activity.*	0 (0.0)	1 (5.3)	6 (31.6)	9 (47.4)	3 (15.8)	2.26 (0.81)
I feel that if a child contracts the HIV/AIDS virus from its mother through mother-to-child or vertical transmission, the mother is to blame for the child's disease.	1 (5.3)	8 (42.1)	7 (36.8)	2 (10.5)	1 (5.3)	2.68 (0.95)
Attitudes toward imposed measures						**2.20 (1.18)**

Table 2: *(Continued)*

Subscales and items	No. of respondents (%)					Mean (SD)
	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	
All patients admitted to the hospital should be HIV-tested.	0 (0.0)	6 (31.6)	3 (15.8)	7 (36.8)	3 (15.8)	3.37 (1.12)
Relatives/sexual partners of patients with HIV/AIDS should be notified of the patient's status even without his/her consent.	8 (42.1)	6 (31.6)	2 (10.5)	3 (15.8)	0 (0.0)	2.00 (1.11)
Patients with HIV/AIDS should be cared for and treated in separate hospitals and facilities, away from other patients who do not have HIV/AIDS.	9 (47.4)	9 (47.4)	0 (0.0)	1 (5.3)	0 (0.0)	1.63 (0.76)
A health professional with HIV/AIDS should not be working in any area of health care that requires patient contact.	8 (42.1)	8 (42.1)	2 (10.5)	1 (5.3)	0 (0.0)	1.79 (0.85)
Comfortableness dealing with HIV/AIDS patients						**1.81 (0.74)**
I am comfortable providing health services to clients who are HIV positive.*	0 (0.0)	0 (0.0)	0 (0.0)	11 (61.1)	7 (38.9)	1.61 (0.50)
I am comfortable putting an IV drip in someone who is showing signs of AIDS.*	0 (0.0)	2 (10.5)	1 (5.3)	11 (57.9)	5 (26.3)	2.00 (0.88)

Items noted with an * were reverse coded so that higher numbers indicate more negative attitudes toward HIV infected patients.

Table 3: Participant demographics

Variables	n	%
Age (years)		
25–35	4	21.1
36–45	6	31.6
46–55	4	21.1
56+	2	10.5
N/A	3	15.8
Sex		
Male	5	26.3
Female	14	73.7
Nationality		
Anguillan	7	36.8
Other Caribbean	6	31.6
Other	6	31.6

Table 3: *(Continued)*

Variables	n	%
Country where degree was obtained		
USA	5	26.3
Other	14	73.7
Religion		
Seventh Day Adventist	4	21.1
Catholic	2	10.5
Christian/Methodist	4	21.1
Other	8	42.1
None	1	5.3
Religiousness		
Very	6	31.6
Somewhat	8	42.1
Not at all	5	26.3
Profession		
General practitioner (MD)	5	26.3
Specialist (MD)	5	26.3
Registered nurse (RN)	8	42.1
Practical nurse	1	5.3
Years in profession		
1–5	4	21.1
6–10	4	21.1
11–15	4	21.1
15+	7	36.8
Formal HIV/AIDS training		
Yes	12	63.2
No	7	36.8
No. of HIV/AIDS cases encountered in the past 6 months		
None	8	42.1
Fewer than 5	8	42.1
5–10	3	15.8
Awareness of HIV testing policy		
Yes	5	26.3
No	7	36.8
Don’t know	7	36.8
HIV/AIDS knowledge score		
<67%	6	31.6
≥67%	13	68.4

Table 4: Acts of discrimination by healthcare workers

Subscales and items	No. of respondents (%)					Mean (SD)
	Never	A little of the time	Some of the time	Most of the time	All of the time	
	5	4	3	2	1	
I give the same amount of attention to all my patients regardless of their HIV status.	0 (0.0)	0 (0.0)	0 (0.0)	1 (5.30)	18 (94.7)	1.05 (0.23)
If a patient was suspected to be HIV-positive, I have let another co-worker assist the patient instead of caring for the patient as assigned.	18 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1.00 (0.0)
I obtain consent from the patient before testing his/her blood for HIV.	1 (5.30)	0 (0.0)	2 (10.5)	4 (21.1)	11 (57.9)	1.67 (1.08)
I have disclosed a patient's HIV status to a person(s) outside of a colleague who is not directly involved in the management of that case.	17 (89.5)	0 (0.0)	2 (10.5)	0 (0.0)	0 (0.0)	1.21 (0.61)
I have disclosed a patient's HIV status to a person(s) outside of the patient's health care providers.	18 (94.7)	0 (0.0)	1 (5.3)	0 (0.0)	0 (0.0)	1.11 (0.45)

Table 5: Factors associated with stigmatizing attitudes among healthcare workers

Attitudinal subscale	Attitudes toward imposed measures		Attitudes of blame/judgement		Comfortableness dealing with HIV/AIDS cases	
	Mean (SD)	p	Mean (SD)	p	Mean (SD)	p
Age (years)		0.431		0.360		0.654
<45	1.97 (0.64)		2.67 (0.50)		1.78 (0.57)	
≥45	2.50 (0.97)		2.38 (0.68)		1.93 (0.61)	
Sex		0.056		0.139		0.552
Male	2.60 (1.17)		2.27 (0.76)		1.90 (0.74)	
Female	2.05 (0.56)		2.64 (0.44)		1.80 (0.51)	
Nationality		0.140		0.624		0.151
Anguillan	2.21 (1.08)		2.57 (0.50)		2.07 (0.45)	
Other	2.20 (0.59)		2.54 (0.62)		1.73 (0.56)	
Religion		0.317		0.495		0.203
Seventh Day Adventist	1.88 (0.48)		2.50 (0.43)		1.75 (0.29)	
Other	2.28 (0.82)		2.55 (0.59)		1.83 (0.62)	
Religiousness		0.822		0.281		0.039
Very	1.75 (0.63)		2.61 (0.39)		1.83 (0.26)	
Somewhat/Not at all	2.40 (0.75)		2.51 (0.62)		1.81 (0.66)	
Formal HIV/AIDS training		0.254		0.518		0.362
Yes	2.19 (0.89)		2.61 (0.51)		1.79 (0.62)	

Table 5: *(Continued)*

Attitudinal subscale	Attitudes toward imposed measures		Attitudes of blame/judgement		Comfortableness dealing with HIV/AIDS cases	
	Mean (SD)	p	Mean (SD)	p	Mean (SD)	p
No	2.21 (0.55)		2.43 (0.63)		1.86 (0.48)	
Awareness of HIV testing policy		0.122		0.535		0.322
Yes	2.10 (1.24)		2.40 (0.44)		1.80 (0.45)	
No	2.23 (0.58)		2.59 (0.59)		1.82 (0.61)	
No. of HIV/AIDS cases encountered in the past 6 months		0.889		0.097		0.758
Fewer than 5	2.22 (0.77)		2.54 (0.60)		1.91 (0.52)	
5–10	2.08 (0.88)		2.56 (0.20)		1.33 (0.58)	
Profession		0.381		0.148		0.898
Doctor	2.28 (0.91)		2.47 (0.63)		1.90 (0.61)	
Nurse	2.11 (0.61)		2.63 (0.46)		1.72 (0.51)	
HIV/AIDS knowledge		0.141		0.157		0.907
<67%	2.35 (0.38)		2.73 (0.87)		1.70 (0.57)	
≥67%	2.14 (0.87)		2.48 (0.41)		1.86 (0.57)	

Responses were scored as *Strongly Agree* (5), *Agree* (4), *Neither Agree Nor Disagree* (3), *Disagree* (2), and *Strongly Disagree* (1). Questions were reverse coded when necessary so that all higher scores represent higher stigmatizing attitudes or practices.

Table 6: Factors associated with acts of discrimination

	I have given the same amount of attention to all my patients regardless of their HIV status		If a patient was suspected to be HIV-positive, I have let another co-worker assist the patient instead of caring for the patient as assigned*		I obtain consent from the patient before testing his/her blood for HIV		I have disclosed a patient's HIV status to a colleague who is not directly involved in the management of that case*		I have disclosed a patient's HIV status to a person(s) outside of the patient's healthcare providers*	
Items	**Mean (SD)**	**p**	**Mean (SD)**	**p**	**Mean (SD)**	**p**	**Mean (SD)**	**p**	**Mean (SD)**	**p**
Age (years)		0.065		0.000		0.526		0.727		0.016
<45	1.11 (0.33)		1.00 (0.00)		1.56 (0.88)		1.22 (0.67)		1.00 (0.00)	
≥45	1.00 (0.00)		1.00 (0.00)		1.46 (0.55)		1.29 (0.76)		1.29 (0.76)	
Sex		0.221		0.000		0.003		0.000		0.000
Male	1.00 (0.00)		1.00 (0.00)		2.20 (1.79)		1.80 (1.10)		1.40 (0.89)	
Female	1.07 (0.27)		1.00 (0.00)		1.46 (0.66)		1.00 (0.00)		1.00 (0.00)	
Nationality		0.091		0.000		0.333		0.000		0.007
Anguillan	1.00 (0.00)		1.00 (0.00)		1.43 (0.79)		1.57 (0.98)		1.29 (0.76)	
Other	1.09 (0.30)		1.00 (0.00)		1.80 (1.32)		1.00 (0.00)		1.00 (0.00)	
Religion		0.291		0.000		0.852		0.068		0.291
Seventh Day Adventist	1.00 (0.00)		1.00 (0.00)		1.75 (0.96)		1.50 (1.00)		1.00 (0.00)	
Other	1.07 (0.26)		1.00 (0.00)		1.64 (1.15)		1.13 (0.52)		1.13 (0.52)	

Table 6: *(Continued)*

	I have given the same amount of attention to all my patients regardless of their HIV status		If a patient was suspected to be HIV-positive, I have let another co-worker assist the patient instead of caring for the patient as assigned*		I obtain consent from the patient before testing his/her blood for HIV		I have disclosed a patient's HIV status to a colleague who is not directly involved in the management of that case*		I have disclosed a patient's HIV status to a person(s) outside of the patient's healthcare providers*	
Religiousness		0.163		0.000		0.631		0.280		0.163
Very	1.00 (0.00)		1.00 (0.00)		1.40 (0.89)		1.33 (0.82)		1.00 (0.00)	
Somewhat/not at all	1.08 (0.28)		1.00 (0.00)		1.77 (1.17)		1.15 (0.55)		1.15 (0.55)	
Formal HIV/ AIDS training		0.115		0.000		0.031		0.451		0.115
Yes	1.08 (0.29)		1.00 (0.00)		1.42 (0.67)		1.17 (0.58)		1.17 (0.58)	
No	1.00 (0.00)		1.00 (0.00)		2.17 (1.6)		1.29 (0.76)		1.00 (0.00)	
Awareness of HIV testing policy		0.221		0.000		0.726		0.000		0.000
Yes	1.00 (0.00)		1.00 (0.00)		1.60 (0.89)		1.80 (1.10)		1.40 (0.89)	
No	1.07 (0.27)		1.00 (0.00)		1.69 (1.18)		1.00 (0.00)		1.00 (0.00)	
No. of HIV/ AIDS cases encountered in the past 6 months		0.377		0.000		0.326		0.167		0.377
Fewer than 5	1.06 (0.25)		1.00 (0.00)		1.73 (1.16)		1.25 (0.68)		1.13 (0.50)	
5–10	1.00 (0.00)		1.00 (0.00)		1.33 (0.58)		1.00 (0.00)		1.00 (0.00)	
Profession		0.027		0.000		0.310		0.001		0.048
Doctor	1.00 (0.00)		1.00 (0.00)		1.80 (1.32)		1.40 (0.84)		1.20 (0.63)	
Nurse	1.11 (0.33)		1.00 (0.00)		1.50 (0.76)		1.00 (0.00)		1.00 (0.00)	
HIV/AIDS knowledge		0.221		0.000		0.003		0.054		0.221
<67%	1.00 (0.00)		1.00 (0.00)		2.20 (1.79)		1.00 (0.00)		1.00 (0.00)	
≥67%	1.07 (0.27)		1.00 (0.00)		1.46 (0.66)		1.29 (0.73)		1.14 (0.53)	

Factors associated with acts of discrimination which can be found in Table 6 were computed using independent T-tests for each question and category. Responses were scored as Never (5), A Little of the Time (4), Some of the Time (3), Most of the Time (2), and All of the Time (1). Questions noted with * were reverse coded, so that all higher scores represent higher stigmatizing attitudes or practices. A significant difference was found between doctors and nurses in regards to patient attention and HIV status disclosure. Doctors were more likely than nurses to give the same amount of attention to all patients regardless of HIV status ($p < 0.05$). Doctors were also less likely than nurses to disclose their patient's HIV status to another provider or anyone not directly involved in that patient's care ($p < 0.05$, $p < 0.05$). Healthcare workers under the mean age of 45 were less likely to disclose a patient's HIV status to a person outside of the patient's healthcare providers ($p < 0.05$). Females obtained consent from their patient before testing his/her blood for HIV more often than males did ($p < 0.05$). Healthcare workers with formal HIV/AIDS training, as well as those with an HIV/AIDS knowledge score at or above 67% also obtained consent more often than those with no formal training in that area or with scores lower than 67% ($p < 0.05$, $p < 0.05$). Those of Anguillan nationality reported higher rates of disclosure of a patient's HIV status to a person outside of the patient's healthcare providers ($p < 0.05$).

DISCUSSION

Stigmatizing attitudes and acts of discrimination against patients with HIV/AIDS

To our knowledge, this is the first KAP study on HIV/AIDS in Anguilla. Considering that the study was population based on physicians/nurses this allowed to generalize the small niche inside the island. In reference to Table 2, the study demonstrated that stigmatization of patients with HIV/AIDS among all participants did exist with the highest stigmatization score being 2.46 for the "attitudes of blame/judgment" category. A similar consensus was demonstrated in a study on stigmatization of patients with AIDS: understanding the interrelationships between Thai nurses' attitudes toward HIV/AIDS, drug use, and commercial sex. The study concluded that a strong HIV/AIDS stigma correlation existed among injection drug users and those engaging in commercial sex [7].

In reference to "attitudes toward imposed measures," the responses demonstrated minimal stigmatized attitudes. In March 2018, the Pan American Health Organization (PAHO) provided training in Anguilla in hopes of decreasing stigma and discrimination regarding HIV/AIDS patients and the support that they need. The results of the current study could be a response to the effectiveness of the training held by PAHO. However, despite such affirmative results, participants still felt "all patients admitted to the hospital should be HIV-tested" and "patients with HIV/AIDS should be cared for and treated in their own hospitals and facilities, away from other patients who do not have HIV/AIDS." This suggests that, among very few healthcare providers stigma is evident and would require training to be addressed.

Acts of discrimination by HCW workers

This portion of the study did not illustrate significant results in regard to the stigmatizing actions of the HCWs in Anguilla. Unlike other studies such as The Effect of Perceived Stigma from a Health Care Provider on Access to Care Among a Low-Income HIV-Positive Population [8] which showed a stigmatizing attitude toward individuals with HIV or AIDs in the healthcare setting, majority of the HCW workers in Anguilla did not stigmatize the HIV or AIDs patients. Of the 19 participants that participated in the survey, only 3 have been shown to give stigmatizing attitudes in regard to protecting the privacy of the patients with HIV or AIDs. These 3 participants reported that they have disclosed information about patients with HIV to other healthcare providers who were not partaking in their care or colleagues outside of the healthcare setting.

Factors associated with HIV/AIDS stigmatizing attitudes and acts of discrimination

This study indicates an opportunity for formal HIV/AIDS training for HCW workers. In particular, patients would benefit from expanded training on privacy laws and their ethical obligation to maintain confidentiality. A key informant informed us that in December 2019, a training session providing knowledge and skills for the clinical management of HIV/AIDS was held by PAHO and was attended by 5 Anguillan physicians. Formerly, there was a designated physician employed by the Ministry of Health of Anguilla who coordinated care for PLWHA. Their role included case management, direct patient care, and education on medication/treatment compliance. This program was discontinued in July 2019 and was replaced with the PAHO training session four months later. Our study assessed existing stigmatizing attitudes and behaviors toward PLWHA in Anguilla, and provides insight into the efficacy of the existing HIV/AIDS training program.

The main difference between stigmatizing behaviors that we found between those who have had formal HIV/AIDS training and those who haven't was that participants with formal training were more likely to obtain consent before testing a patient's blood for HIV infection. Existing HIV/AIDS training programs could be expanded to include training for nurses as well as physicians, as our study found differences in both stigmatizing attitudes and behaviors between nurses and physicians. Although this study found that doctors were more likely to give the same level of care to all patients regardless of HIV status, doctors were also more likely to breach confidentiality by disclosing a patient's HIV status to others outside of their direct care team. Healthcare workers with formal HIV/AIDS training reported less negative attitudes toward imposed measures and showed higher levels of comfortableness dealing with HIV/AIDS cases, although these results were not statistically significant. Interestingly, HCWs with formal HIV/AIDS training showed higher levels of attitudes of blame/judgment toward PLWHA although this result was not further stratified into whether the respondent was a doctor or nurse and the result was not statistically significant. Of the 10 physicians who participated in the study, 6 reported that they had formal HIV/AIDS training (60%), while 6 out of 9 participating nurses did as well (66.7%).

No significant differences were found dependent on caseload, which is in contrast with other similar studies which showed that higher case loads of HIV/AIDS showed lower levels of stigmatizing attitudes and practices [9]. Additionally differing from the literature, the only significant finding that was shown in regard to age was that older HCWs were more likely to disclose a patient's HIV status to someone not directly involved

in the patient's care. Higher ages of HCWs are typically linked with more negative attitudes toward PLWHA, and lower comfort levels when dealing with HIV infected patients [9] as well as being less likely to gain consent before testing a patient's blood for HIV, and having lower levels of knowledge of the disease [10–19].

Strengths and limitations

One of the main limitations of this study was that it took place during the COVID-19 Global pandemic, so the survey had to be administered electronically instead of using distributed hard copies. It is well known that electronic administration of surveys typically leads to lower response rates but that was the only available option. Our ability to advertise the electronic survey was also limited due to the logistical challenges of a global pandemic. As a result, our sample size was smaller than we had anticipated. Additionally, due to the small population of Anguilla, the pool of HCWs is not that large to begin with. Another limitation is that respondents may not have felt comfortable responding truthfully due to the sensitive nature of the topic which may have skewed results. However, because this is the first KAP study on HIV/AIDS in Anguilla, it does pave the way for future research under this topic and training programs to address stigmas surrounding this topic. Furthermore, since this is a population-based study of HCWs it allows for proper generalizability and as a result, exceptional external validity.

CONCLUSION

Our study indicates some positive findings regarding discrimination, but indicates room for improvement on sympathy for certain at risk groups. It also shows a need for training and education around privacy laws and ethics in sharing personal health information and in testing for HIV without consent. In addition, the results indicate that HCWs show some reticence in caring for HIV positive patients and feel at personal risk by working with HIV infected patients. This lack of comfort in caring for HIV patients could be addressed with more extensive training in accurate occupational risk of HIV infection, best practices when caring for a suspected or confirmed HIV patient, and protocol in the event of a needle stick. Further epidemiological research on a greater scale could be done in the future to revisit these data.

REFERENCES

1. PAHO/WHO: Pan American Health Organization. PAHO/WHO | Pan American Health Organization. 2019. [Available at: www.paho.org/hq/index.php?option=com_content]
2. Herek GM, Mitnick L, Burris S, et al. Workshop report: AIDS and stigma: A conceptual framework and research agenda. AIDS Public Policy J 1998;13(1):36–47.
3. Parker R, Aggleton P. HIV/AIDS-related stigma and discrimination: A conceptual framework and an agenda for action. Horizons Program, Tulane University. May 2002. [Available at: https://pdf.usaid.gov/pdf_docs/Pnacq832.pdf]
4. Farley JE, Hayat MJ, Murphy J, Sheridan-Malone E, Anderson J, Mark H. Knowledge, attitudes, and practices of OB/GYN nurses and auxiliary staff in the care of pregnant women living with HIV. J Assoc Nurses AIDS Care 2014;25(2):158–67.
5. Vitalis D. Introduction. In: Adherence to Antiretroviral Therapy among Perinatal Women in Guyana. Palgrave Macmillan, Singapore. 2021. [Available at: https://link.springer.com/chapter/10.1007/978-81-15-3974-9_1]
6. Anguilla. Health in the Americas. 2017. [Available at: https://www.paho.org/en/anguilla]
7. Chan KY, Reidpath DD. Stigmatization of patients with AIDS: Understanding the interrelationships between Thai nurses' attitudes toward HIV/AIDS, drug use, and commercial sex. AIDS Patient Care STDS 2007;21(10):763–75.
8. Kinsler JJ, Wong MD, Sayles JN, Davis C, Cunningham WE. The effect of perceived stigma from a health care provider on access to care among a low-income HIV-positive population. AIDS Patient Care STDS 2007;21(8):584–92.
9. Brown L, Macintyre K, Trujillo L. Interventions to reduce HIV/AIDS stigma: What have we learned? AIDS Educ Prev 2003;15(1):49–69.
10. Massiah E, Roach TC, Jacobs C, et al. Stigma, discrimination, and HIV/AIDS knowledge among physicians in Barbados. Rev Panam Salud Publica 2004;16(6):395–401.
11. Andrewin A, Chien LY. Stigmatization of patients with HIV/AIDS among doctors and nurses in Belize. AIDS Patient Care and STDs 2008;22(11):897–906.
12. Baird DS, Jones LD, Martin F, Yearwood E. Mental health of Caribbean women with HIV/AIDS. Psychology 2012;3(12):1005–9.
13. Bassett DC, Narain JP. Changing pattern of HIV transmission in the Caribbean. Bull Pan Am Health Organ 1989;23(1–2):134–7.
14. Doda A, Negi G, Gaur DS, Harsh M. Human immunodeficiency virus/acquired immune deficiency syndrome: A survey on the knowledge, attitude, and practice among medical professionals at a tertiary health-care institution in Uttarakhand, India. Asian J Transfus Sci 2018;12(1):21–6.
15. Influenza, SARS-CoV-2, RSV and other respiratory viruses situation report. 2019. [Available at: https://www.paho.org/en/influenza-situation-report]
16. Nyblade L, Stockton MA, Giger K, et al. Stigma in health facilities: Why it matters and how we can change it. BMC Med 2019;17(1):25.
17. Unakal CG, Nathaniel A, Keagan B, et al. Assessment of knowledge, attitudes, and practices towards infection prevention among healthcare workers in Trinidad and Tobago. Int J Community Med Public Health 2017;4(7):2240–7.

18. Mill J, Harrowing J, Rae T, et al. Stigma in AIDS nursing care in sub-Saharan Africa and the Caribbean. Qual Health Res 2013;23(8):1066–78.
19. Mahendra VS, Gilborn L, George B, et al. Reducing AIDS-related stigma and discrimination in Indian hospitals, Horizons Final Report. New Delhi: Population Council. 2006.

****

Acknowledgments
We would like to acknowledge the guidance and mentorship provided by Dr. Aisha Andrewin, who, among other things, generously allowed us to use the survey she created for a similar study in Belize. We deeply appreciate the participation of medical directors with distribution of the electronic surveys and all HCWs who participated in the survey. We would also like to acknowledge the Ministry of Health & Social Development in Anguilla for their partnership with this project. We thank all Saint James School of Medicine faculty, specifically Dr. Aisha Andrewin, for guidance in conducting this research.

Author Contributions
Jennie An – Conception of the work, Design of the work, Acquisition of data, Analysis of data, Interpretation of data, Drafting the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Jennifer Ngandu – Conception of the work, Acquisition of data, Analysis of data, Interpretation of data, Drafting the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Hannah Rader – Conception of the work, Design of the work, Acquisition of data, Analysis of data, Interpretation of data, Drafting the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Amanda Villatoro – Conception of the work, Design of the work, Acquisition of data, Analysis of data, Interpretation of data, Drafting the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Guarantor of Submission
The corresponding author is the guarantor of submission.

Source of Support
None.

Consent Statement
Written informed consent was obtained from the patient for publication of this article.

Conflict of Interest
Authors declare no conflict of interest.

Data Availability
All relevant data are within the paper and its Supporting Information files.

Copyright
© 2024 Jennie An et al. This article is distributed under the terms of Creative Commons Attribution License which permits unrestricted use, distribution and reproduction in any medium provided the original author(s) and original publisher are properly credited. Please see the copyright policy on the journal website for more information.

APPENDIX A

Questionnaire: Knowledge, Beliefs, Attitudes, and Practices of Healthcare Workers in Anguilla

Section I.

1. Place of employment: _____
   _____
2. Employment title: _____
   _____

   Please mark the appropriate answer:
3. Profession: Doctor Nurse Other (please specify) _____
4. General Practitioner (MD) Specialist (MD) Practical (Nurse) Registered (Nurse)
5. Number of years in your profession: _____
6. Country(s) where degree(s) were obtained: _____
   _____
7. Nationality: _____
   _____
8. Religion: - None - Catholic - Anglican - Evangelical - Muslim - Rastafarian - other (please specify)_____
9. Do you consider yourself religious: very somewhat not at all
10. Sex: male female other

11. Age: _____
12. Have you ever had formal training on the care of HIV/AIDS patients? (e.g., workshop, class, training)
    yes no
13. Number of known HIV/AIDS cases encountered within the past six months.
    None fewer than 5 5–10 11–20 more than 20

Section II. The following questions are to be answered "true," "false," or "don't know."

14. A person can contract HIV infection by sharing meals with an HIV infected person. true false don't know
15. Gonorrhea is more easily transmitted than HIV virus through sexual contact.
    true false don't know
16. Most newborns born to HIV-positive women have HIV/AIDS infection at birth.
    true false don't know
17. After a needle stick injury with a needle from an HIV-infected patient, immediately gently expressing blood from the puncture site reduces the risk of contracting HIV infection.
    true false don't know
18. After needle stick injury with a needle from an HIV-infected patient, the chance of contracting HIV virus is less than 1%.
    true false don't know
19. Procedures for avoiding hepatitis B infection and HIV infection are similar.
    true false don't know

Section III. Answer the following questions "strongly agree," "agree," "neither agree nor disagree," "disagree," or "strongly disagree."

20. All patients admitted to the hospital should be HIV-tested:
    strongly agree agree neither agree nor disagree disagree strongly disagree
21. Relatives/sexual partners of patients with HIV/AIDS should be notified of the patient's status even without his/her consent: strongly agree agree neither agree nor disagree disagree strongly disagree
22. Patients with HIV/AIDS should be cared for and treated in separate hospitals and facilities, away from other patients who do not have HIV/AIDS: strongly agree agree neither agree nor disagree disagree strongly disagree
23. A health professional with HIV/AIDS should not be working in any area of healthcare that requires patient contact: strongly agree agree neither agree nor disagree disagree strongly disagree

Section IV. Please answer the following statements as "strongly agree," "agree," "neither agree nor disagree," "disagree," or "strongly disagree." Please circle your responses.

24. Homosexuality is immoral.
    strongly agree agree neither agree nor disagree disagree strongly disagree
25. I am sympathetic toward people who get HIV/AIDS from intravenous drug abuse.
    strongly agree agree neither agree nor disagree disagree strongly disagree
26. I am sympathetic toward people who get HIV/AIDS from sexual transmission.
    strongly agree agree neither agree nor disagree disagree strongly disagree
27. I feel that if a child contracts the HIV/AIDS virus from its mother through mother-to-child or vertical transmission, the mother is to blame for the child's disease.
    strongly agree agree neither agree nor disagree disagree strongly disagree

Section V. Please answer the following statements as "strongly agree," "agree," "neither agree nor disagree," "disagree," or "strongly disagree." Please circle your responses.

28. All staff and healthcare professionals should be told when a patient has HIV/AIDS so they can adequately protect themselves from exposure to the virus.
    strongly agree agree neither agree nor disagree disagree strongly disagree
29. I am comfortable providing health services to patients who are HIV positive.
    strongly agree agree neither agree nor disagree disagree strongly disagree
30. I am comfortable putting an IV on a patient who is showing signs of AIDS.
    strongly agree agree neither agree nor disagree disagree strongly disagree
31. I feel that my job puts me at serious risk of contracting HIV/AIDS.
    strongly agree agree neither agree nor disagree disagree strongly disagree

Section VI. Answer the following based on your experience as a healthcare provider in the past 12 months.

32. I have noticed HIV positive patients receive less care/attention than other patients:
    all of the time most of the time some of the time a little of the time never
33. Since the patient was known to be HIV-positive, a senior healthcare worker assigned that patient to a junior healthcare worker:
    all of the time most of the time some of the time a little of the time never
34. I have tested a patient for HIV without their consent:
    all of the time most of the time some of the time a little of the time never
35. I have discussed a patient's HIV status with co-workers when not medically necessary for that patient's care:
    all of the time most of the time some of the time a little of the time never

Section VII. Answer the following.

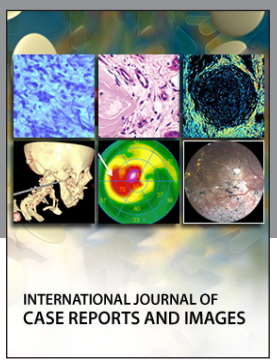
36. I have given the same amount of attention to all my patients regardless of their HIV status:
    all of the time most of the time some of the time a little of the time never
37. If a patient was suspected to be HIV-positive, I have let another co-worker assist the patient instead of caring for the patient as assigned:
    all of the time most of the time some of the time a little of the time never
38. I obtain consent from the patient before testing his/her blood for HIV:
    all of the time most of the time some of the time a little of the time never
39. I have disclosed a patient's HIV status to a colleague who is not directly involved in the management of that case:
    all of the time most of the time some of the time a little of the time never
40. I have disclosed a patient's HIV status to a person(s) outside of the patient's healthcare providers:
    all of the time most of the time some of the time a little of the time never

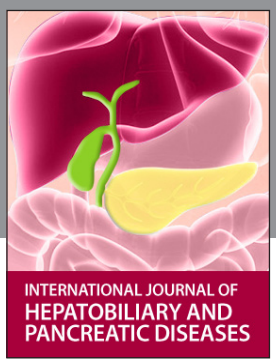
Section VIII. Answer the following questions "Yes," "No," or "Don't know."

41. Does your institution have a policy regarding HIV testing on patients?
    Yes No Don't know

Access full text article on other devices

Access PDF of article on other devices





Submit your manuscripts at

www.edoriumjournals.com