

Assessment of Attitudes toward HIV and AIDS among Undergraduate Students at a Historically Black University

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Abstract

Objective: This study aimed to assess and compare attitudes toward HIV and AIDS among undergraduate students by gender at a historically black university.

Methods: A cross-sectional survey was conducted among 400 undergraduate students enrolled in Jackson State University. Data were collected using a validated self-administered standardized questionnaire that was designed to measure their attitudes toward HIV and AIDS.

Results: Eighty-seven percent of students expressed positive attitudes towards people living with HIV and AIDS. However, there were some negative attitudes toward HIV/AIDS patients. Male students had more negative attitudes compared to female students (19.1% vs. 8.5%, chi-square test= 9.6; $P < 0.002$).

Conclusions: Despite high positive attitudes (87.8%), there were some negative attitudes toward people living with HIV and AIDS in this study. Concerning gender, males had more negative attitudes compared to females. This investigation calls for continued and strengthened health awareness education and promotion of positive attitudes toward people living with HIV and AIDS.

Keywords: Attitudes, Students, African Americans, HBCU, Mississippi

Introduction

HIV is no longer only a public health challenge, but also a global threat with a devastating negative impact that has claimed over 35 million lives globally. In 2017, about 36.9 million people live with HIV, and 1.8 million people becoming newly infected with the disease globally [1]. The Centers for Disease Control and Prevention (CDC) estimates that 1.2 million people are currently living with HIV in the United States (US). HIV/AIDS continues to disproportionately affect African Americans in the U.S. Despite representing about 12% of US population, African Americans accounted for 44% of HIV diagnoses in 2016.

The same year, African Americans have the highest rate of HIV diagnoses compared to other races and ethnicities in the United States [2]. The CDC estimates that 51% of young people aged 13-24 who were living with HIV, do not know their status. The same age group represents the highest rate of undiagnosed HIV in any age group in USA [3,4]. Impact of HIV/AIDS among African Americans is even more pronounced when examining its presence among younger African Americans under the age of 25 years. In 2017, African American young adults, ages 13-24, represented more than half (52%) of new HIV diagnoses in that age group [5]. African American university undergraduates fall within the age range of the

people in society that have been most affected by HIV infection in the U.S. Any investment in this age group, without protecting them from HIV infection may be a waste of investment among this vulnerable population [6].

In 2016, African American men accounted for almost one-third (32%) of all HIV diagnosed in the U.S. The rate of HIV diagnoses among African American men was nearly eight times as high as the rate among white men, and more than twice that of Latino men [7]. Among African American men, most new diagnoses occur among gay and bisexual men. If current rates persist, CDC estimates that approximately one in 20 African American men, and one in two African American gay and bisexual men will receive a diagnosis of HIV during their lifetimes [7]. Many African American communities disproportionately affected by HIV do not understand the physical and mental toll that HIV and AIDS can have on African Americans living with the disease. They often see it as a chronic disease that can be managed with readily available drugs. Some African American men who have sex with men (MSM) believed that a cure for HIV/AIDS was already available to some individuals and will soon to be released [8-9]. Such misinformation and misconception could undermine HIV/AIDS awareness and prevention campaign.

In 2017, African American women accounted for the largest share of new HIV diagnoses (59%), and the rate of new HIV diagnoses is nearly 15 times the rate among Caucasian women and nearly five times the rate among Latino women. African American women represented about one quarter (26%) of new HIV diagnoses among all African Americans. CDC estimates that approximately one in 48 African American women will receive a diagnosis of HIV during their lifetimes. This disproportionate HIV burden among African Americans underscores the need to curtail the growth of this epidemic, and to eliminate various negative attitudes toward African Americans living with the disease. HIV epidemic has been associated with stigma and discrimination since its inception. This negative attitude towards HIV/AIDS patients has not only compromised the fight against the disease but has also compounded the effects of the epidemic over the years [10].

Stigma has been defined as a harmful societal phenomenon that begins, when a specific trait or group is labeled and linked to negative stereotypes, leading to status loss and discrimination [11]. HIV-related stigma refers to negative beliefs, feelings, and attitudes towards individuals with HIV and AIDS [12]. Discrimination includes any act or behavior that has the intention or effect of impairing the enjoyment of fundamental human

rights, including their unlimited access to health care and services [13]. Stigmatization and discrimination toward people living with HIV can affect every area of their lives. HIV-related stigma and discrimination are closely related to several negative consequences, including societal rejection, anger, depression, low self-esteem, and even thoughts or acts of suicide [14]. In some society, HIV-infected individuals are considered as social outcast and threat to the public [15-17]. Life-threatening nature of advanced stage of this disease, its association with negative attitudes, and the belief that people with HIV/AIDS are being justifiably punished for having done something wrong, all contribute to HIV/AIDS-related stigma and discrimination [18]. Individuals living with HIV often fear stigma and rejection from society, friends, and family members. They stand to lose their social place of belonging, lose their shelter, and jobs security [14]. Poor knowledge of HIV/AIDS, misconceptions and negative attitudes relating to HIV/AIDS can interfere with friends, family members and health care providers' ability to provide quality care for HIV positive patients [19]. Stigma and discrimination toward HIV positive students have been found to increase their chance of experiencing violence when compared with other students in their schools. Such violence includes bullying, teasing, harassment, physical assault, and suicide-related behaviors [20].

The fear of stigma and discrimination may cause HIV positive African Americans to denial and hide their status. Some of these HIV tested positive African Americans think disclosing their status may not only create a complicated and stressful situation but can also cause shame and potential of losing their family support and health care provision [15,17]. The right to non-discrimination implies that HIV and AIDS patients should be treated with respect and dignity. Also, their privacy and confidentiality should be respected, with unhindered access to health care services. Although addressing issues of stigma and discrimination against HIV and AIDS patients are critical, there must be an enabling environment in achieving equality of treatment to individuals with HIV and AIDS [13].

Studies have shown that HIV-related stigma and discrimination can be a stressful situation for HIV positive young African Americans [15,17]. Dismantling stigma and discrimination from HIV risk, infection, and treatment is one of the greatest public health challenges facing HIV prevention programs among this vulnerable young African Americans age group. These negative stereotypes and discriminations toward HIV positive young African Americans tend to mitigate the war on HIV/AIDS, notably within marginalized and stigmatized African American communities [20]. Despite all these

negative effects of stigma and discrimination on the efficacy of HIV prevention goals among this vulnerable population, few epidemiological studies have examined attitudes toward HIV and AIDS among African-American undergraduate students in Historically Black Universities. Thus, assessing attitudes toward HIV and AIDS among undergraduate students at a historically black university will provide strong empirical evidence of attitudes toward people living with HIV and AIDS among this age group of African American undergraduate students. Therefore, this study aimed to assess and compare attitudes toward HIV and AIDS among undergraduate students by gender at a historically black university.

Materials and Methods

Study area and design

A cross-sectional study was conducted from January 10, 2016 to September 30, 2016. Participants were selected through convenience sampling among undergraduate students of Jackson State University (JSU). The inclusion criteria for the participants were as follows: (1) must be freshman, sophomore, junior or senior undergraduate students of JSU; (2) being at least 18 years of age; (3) giving consent to participate in the research; and (4) must be an African American undergraduate student at JSU. JSU is located in the City of Jackson, and the school has a population of about 9,000 undergraduate students. JSU is the fourth largest institution of higher learning in Mississippi State and fourth largest Historically Black Colleges and Universities (HBCU) in the nation [21]. Jackson is the capital of Mississippi.

A minimum sample size of 369 was calculated using the formulas of Michel and Talbot [22,23]. The sample size was increased to 400 students to allow for non-response. Students were informed and encouraged to participate in the study after obtaining permission and approval of their lecturers before their class sessions. Those who agreed to participate were informed that this study was completely voluntary, that they may refuse to answer any specific question, and may withdraw at any time without penalty or prejudice. Those undergraduate students who agreed to participate in the study were given informed consent letters to sign before the distribution of the questionnaires. The questionnaires were only distributed to those students who have signed the informed consent letters at the end of their scheduled class session with cooperation and approval of the lecturer in charge. The questionnaires were completed in class, and it took an average of ten minutes to complete.

Data collection

The study instrument was a self-administered questionnaire composed of two parts.

1. Related to student's demographic background.
2. On attitudes regarding HIV and AIDS.

Attitudes relating to HIV and AIDS questionnaire items were adopted and modified for this study from the World Health Organization [24] and the literature review. To validate the study questionnaire; a draft was given to a group of Jackson State University undergraduate students for feedback, and those students were not included in this final study. The questionnaire validation test showed that the Cronbach's alpha was 0.72 for attitude. Cronbach's alpha coefficient ranges from 0–1, with values closer to 1.0 indicating higher internal consistency [25]. Attitudes toward people living with HIV/AIDS were assessed using items in the questionnaire which included attitudes toward isolation of people living with HIV/AIDS, toward AIDS patients as paying the price of their immoral lifestyles, toward HIV/AIDS patients visiting clinics for treatment and whether youth with HIV/AIDS should attend regular schools.

Scoring

Attitudes toward HIV and AIDS patients were assessed using a 10-item questionnaire, where attitude scores between 0 to 5 were considered as a negative attitude, and scores 6 to 10 were considered as a positive attitude.

Data analysis

All analyses were conducted using SAS[®] 9.3 statistical software (SAS Institute Inc., Cary, NC, 2012). Descriptive statistics was performed to describe the study variables: mean and standard deviation for continuous variables and frequency and percentage for categorical variables was reported. The chi-square test was applied to finding an association between gender and attitude and the association was considered significant if p value < 0.05 .

Ethical considerations

Ethical clearance was obtained from the Jackson State University Institutional Review Board. Before data collection, all study participants were given information on the study and assured that all data were confidential and will only be analyzed as aggregates. All respondents signed the informed consent form before participation. Data obtained during this study were kept private. We protected the privacy of people by withholding their

identities and other personal information from all persons not connected to this study.

Results

Students' profile

Four hundred undergraduate students participated and completed the questionnaire after recruitment through convenience sampling from Jackson State University undergraduates. The mean age of the 400 respondents was 21.9 years, standard deviation \pm 5.7 years and ranged from 18 to 57 years (Table 1). A total of 141 (35.2%) were male undergraduate students, and 259 (64.8%) were female undergraduate students. The respondents for the study were all African American undergraduate students. Regarding religion demography of the respondents of the study, 88.3% were Christians, and 11.7% indicated Non-Christians, as shown in Table 1.

Characteristics	n (%) or Mean \pm S.D.
Age	21.94 \pm 5.74
Gender	
Male	141 (35.2)
Female	259 (64.8)
Religion	
Christian	353 (88.3)
Non-Christians	47 (11.7)

Table 1: Demographic characteristics of the 400 undergraduate students enrolled in the study.

Variables	Appropriate responses	n (%)
HIV only affects people who lived an immoral life	Disagree	369 (92.3)
AIDS patients are paying the price of their immoral lifestyles	Disagree	282 (70.5)
People with HIV/AIDS should be isolated	Disagree	308 (77)
Willingness to share the same toilet with HIV and AIDS person	Agree	95 (23.7)
Youth with HIV/AIDS should not attend regular schools	Disagree	335 (83.8)
HIV Positive tested individuals should seek further medical care	Agree	386 (96.5)
People should be encouraged for VCT	Agree	390 (97.5)
Willingness to buy stationeries from an AIDS infected seller	Agree	268 (67)
Willingness to share reading materials or be in a discussion group with an HIV infected student	Agree	386 (96.5)

HIV/AIDS patients should not eat with the same plates with others	Disagree	284 (71)
HIV: Human Immunodeficiency Virus; AIDS: Acquired Immune Deficiency Syndrome; VCT: Voluntary Counseling and Testing; n: Number of students; %: Percentage		

Table 2: Attitudes of 400 undergraduate students enrolled in the study towards HIV/AIDS.

Attitudes towards HIV/AIDS

Attitudes toward HIV and AIDS data analysis results revealed that most students had a positive attitude toward HIV and AIDS patients (87.8%). However, 12.2% of the respondents of the survey had a negative attitude towards HIV and AIDS patients. The survey result in Table 2 shows that 29.5% of the students believed that AIDS patients are paying the price of their immoral lifestyles, and 23% agreed that HIV and AIDS patients should be isolated. Over 7% of the students believed that HIV only affects people who lived an immoral lifestyle. Whether HIV and AIDS patients should attend the same school with people not affected with the disease, 6.2% recommended that HIV and AIDS patients should not attend regular school with students not infected, and only 23.7% of respondents were willing to share the same toilet with an individual living with HIV and AIDS. Over 96% of the students favored that HIV positive tested individuals should seek further medical care, and 97.5% favored more people should be encouraged for Voluntary Counseling and Testing (VCT). On willingness to buy stationeries from HIV infected seller, 33% agreed with that response; and 29% of respondents recommended that HIV and AIDS patients should not eat with same plates with people not infected with the disease.

Characteristics	n	Percentage
Negative Attitudes	49	12.2
Positive Attitudes	351	87.8
Min. scores 0, Max. score 10		

Table 3: Characteristics of attitudes towards HIV/AIDS of the 400 undergraduate students enrolled in the study.

However; 96.5% are willing to share reading materials or be in a discussion group with an HIV infected student. Overall mean attitude score for the 400 respondents in this study was 7.7 ± 1.9 . When the sample was stratified

into a negative attitude towards HIV and AIDS patients (scores of 0-5) and positive attitude towards HIV and AIDS patients (scores of 6-10), a total of 87.8% of the respondents of the survey had a positive attitude towards HIV and AIDS patients (Table 3).

As shown in table 4, there was a significant difference between the attitudes of male and female respondents in terms of overall attitudes toward HIV and AIDS patients in this study ($\chi^2=9.6$; $P<0.002$). More female than male students reported having positive attitudes toward HIV and AIDS patients, and more male than female students reported having negative attitudes towards HIV and AIDS patients in this study.

Discussion

Attitudes toward HIV and AIDS patients

Although most students (87.8%) in this study had a positive attitude towards HIV and AIDS patients, however, it is deeply disturbing that some of the respondents still have some negative attitudes toward individuals living with HIV and AIDS. Some of the students believed that AIDS patients are paying the price of their immoral lifestyles, while some agreed that HIV and AIDS patients should be isolated from society. Some of the students still believed that HIV only affects people who lived an immoral lifestyle, while others recommended that HIV and AIDS patients should not attend regular school with others not infected by the disease. Also disturbing is that 76.3% of the students are not willing to share the same toilet with HIV positive individuals. These findings underscore the need for urgent interventional programs among this age group, as such interventions will invariably preserve the future of any nation, as this age group would eventually form building workforce of any nation [16]. Studies have also shown that youth are often subjected to struggle of various social autonomies, conquering their space and dealing with peer pressure. Young people often lack effective maturity, which will enable them to make positive sexual decisions. These struggles often lead adolescents to negative attitudes and behaviors that define high vulnerability to HIV infections. These negative attitudes remain a huge setback toward global

Variables	Attitudes		Chi-Square test	p-value
	Negative n (%)	Positive n (%)		
Sex				
Male	27 (19.1)	114 (80.9)	9.6	0.002
Female	22 (8.5)	237 (91.5)		

Table 4: Differences in distribution of attitude towards HIV patients for all respondents by Sex.

HIV prevention efforts. Majority of the students in this study favored that HIV positive tested individuals should seek further medical care, and young people should be encouraged for voluntary counseling and testing (VCT). These findings are consistent with the findings of some previous studies [26,27].

Research has shown that people in the communities that lack much knowledge about HIV/AIDS or do not know anybody that has tested positive to HIV, tend to have a less positive attitude towards people living with the disease [28]. Those students in this study with negative attitudes toward HIV/AIDS patients need HIV/AIDS education urgently to save potential future leaders in various sectors of our society from HIV/AIDS scourge.

It is also noted that some of the students in this study are not willing to share the same toilet with individuals with HIV/AIDS. This type of negative attitude towards HIV/AIDS patients demonstrates some of the misconceptions of the disease. However, it is encouraging to note that most respondents in this study (96.5%) are willing to share reading materials or be in a discussion group with an HIV infected student. It is noteworthy that a lower percentage of respondents recommended that HIV and AIDS patients shouldn't eat with the same plates with people not infected with the disease. A study by Maimaiti and colleagues showed a significant association between good knowledge of HIV/AIDS and positive attitudes [29].

Some of the positive attitudes demonstrated by the participants of this study may be attributed to good knowledge of HIV/AIDS. However, a recent undergraduate students study showed that adequate knowledge about HIV and AIDS does prevent some misconceptions about the routes of HIV infection transmission. Although

our previous study showed no significant difference between HIV and AIDS knowledge of male and female respondents [30], there was a significant difference between the attitudes of male and female respondents in terms of overall attitudes toward HIV and AIDS patients in this study. Thus, it simply underscores the need for the education system to implement specific HIV awareness programs that promote positive attitudes toward HIV positive individuals. It is important that undergraduate students understand HIV prevention and transmission, as well as develop a positive attitude and good practice. School is a good place and time to have peer education programs that address self-esteem and healthy sexual attitudes. Overall, most respondents of this study survey had a positive attitude toward HIV and AIDS patients.

Strength and limitations of the study

This study was conducted among undergraduate students of a particular university. It would be more appropriate if the students' attitudes toward HIV and AIDS patients were evaluated from more than one HBCU. Another limitation identified was the use of the cross-sectional design in the conduct of a quantitative survey. This study design makes it difficult in differentiating cause and effect from the simple association. Finally, because the questionnaire was self-administered, social desirability bias may have occurred, considering the sensitive nature of HIV and AIDS as young people may be reluctant to provide information about their sexual activities. However, the anonymity of the questionnaires hopefully encouraged students to be honest in their responses. Strength of this study was the good response rate of 100% from participants of this study. In spite of these limitations, the study succeeded in determining the attitudes toward people living with HIV and AIDS among this study's participants.

Conclusions

Despite the high level of knowledge and positive attitudes toward HIV and AIDS patients among undergraduate students at Jackson State University, there were some negative attitudes toward HIV and AIDS patients. Some of these negative attitudes may lead to stigmatization, discrimination, fears, and delay in seeking treatment among HIV patients. There were also gender differences in attitudes toward HIV and AIDS patients with female demonstrating a more positive attitude than male. Due to some of the negative attitudes found among participants in this study, this investigation calls for continued and strengthened health awareness education and promotion of positive attitudes toward people living with HIV and AIDS.

Author Contribution

Conceptualization, P.A., and A.B.; Methodology, P.A., and A.B.; Software, P.A., and A.B.; Validation, P.A., and A.B.; Formal Analysis, P.A., and A.B.; Investigation, P.A., and A.B.; Resources, P.A., and A.B.; Data Curation, P.A., and A.B.; Writing-Original Draft Preparation, P.A., and A.B.; Writing-Review & Editing, P.A., A.B., A.M. and M.S.

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Conflicts of Interest

The authors declare no conflict of interest.

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