

The Effect of Educational Intervention on Attitude of African American College Students Towards People Living with HIV

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Abstract

HIV still continues to be a major health crisis around the world after three decades. Considering this, one of the foci of a global health measure should be towards the management of HIV for those people who are afflicted and protection of others. One aspect of this management is to decrease stigma for the people diagnosed with HIV by changing the attitude of general population towards HIV. This effort is most important for young adult African-Americans, who hold a significant burden of HIV diagnoses and mortality. We have observed that providing informative material on HIV and reminding African-American psychology undergraduates each week with a pop quiz lead to significant decrease in negative attitude towards people living with HIV in a month as measured by a 28-question scale as compared to a control group where no education was provided. These results suggest that we need to explore educational measures that fit specific populations to control HIV stigma and attitude towards people living with HIV/AIDS.

Keywords: *HIV/AIDS, stigma, African-American, college students, attitude, education, educational intervention*

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Introduction

Human immunodeficiency virus (HIV), the virus that causes acquired immunodeficiency syndrome (AIDS), continues to be a major world health challenge (WHO, 2017). The first HIV cases were reported in 1981 (Kaiser Foundation Report, 2014); today, there are more than 36.7 million people living with HIV with a loss of 35 million lives globally, since the beginning of the epidemic (UNAID, 2017). The WHO has estimated 1.8 million people infected with HIV worldwide in 2016 alone, though there is considerable decline in prevalence and mortality since 1985.

According to a recent report by Dailey et al. (2017), 1.1 million individuals aged 13 and older were living with HIV infection in the United States and an estimated 15% with undiagnosed infections. In addition to

recognized risk behaviors, a range of social and economic factors places some Americans at increased risk for HIV infection. The Center for Disease Control (CDC, 2017) has reported that African American men and women that comprise only 12% of the US population accounted for 48% of HIV diagnoses as compared to other races/ethnicities as in 2015 and young adults 13-24 years old contributed to 38% of African men diagnosed with HIV. The CDC has also observed that the lack of awareness of HIV status, associated stigma, fear, discrimination and homophobia may also increase the risk for HIV.

It is commonly acknowledged that extensive stigma and discrimination continue to be associated with HIV/AIDS (Chowwen & Ita, 2006; Herek, Capitanio, & Widaman, 2003; Levi-Minzi & Surratt, 2014; Li, Liang, Wu, Lin,

& Wen, 2009; Mahajan et al., 2008; Saki, Kermanshahi, Mohammadi, & Mohraz, 2015), despite the significant progress in care and organized prevention effort (**Wagner, Girard, McShane, Margolese, & Hart, 2017**). HIV/AIDS-related stigma and discrimination also interact with pre-existing fears about contagious and sexually transmitted diseases. There are exacerbated fears of HIV (Lieber, Li, Wu, Rotheram-Borus, & Guan, 2006), thereby lending legitimization to HIV stigma and discrimination. The misconceptions and the negative attitudes towards HIV positive individuals have been major factors hindering the effective outcomes of all efforts to contain this epidemic (Chowwen and Ita, 2006). According to Nyblade & Field-Nger (2001), stigma involves internalization of guilt and shame, and loss of hope and isolation; however, this can be reduced with a positive self-image.

Herek (1990) explained that stigma often results in a special kind of downward mobility where the stigmatized lose their place in a social hierarchy. HIV fear and denial among individuals cannot be overlooked. Perception of stigma is reported to be related to direct exposure to rejection and disappointment from others (Conrad and Joseph, 1983). Chowwen and Ita (2006) suggest that private self-consciousness and perceived stigmatization jointly influence individual perceptions of acceptance that degrade individual to a stigmatized human being (Gaudine, Gien, Thuan, & Dung, 2010) leading to individual's loss of social status with labels (Thomas, 2006). People living with HIV are ostracized, rejected and labeled as a threat to the public (Alonzo & Reynolds, 1995; Cullinane, 2007; Zhou, 2007). Thus, stigmatization leads to decreased social support, depression, inability to work, financial strain, and reluctance to benefit from available resources of care (Beer, Fagan, Valverde, & Bertolli, 2009; Chesney & Smith, 1992; Earnshaw & Kalichman, 2013; Venable,

Crey, Blair, & Linwood, 2006). Stigmatization of people who are already diagnosed with HIV or who are concerned that they may be HIV positive may lead these individuals to actively avoid contact with the health and social services thus avoiding or delaying testing and medical care (Dowson, Kober, Perry, Fisher, & Richardson, 2012; Pollini, Blanco, Crump, & Zuniga, 2011; Smith et al., 2012). Stigma is also negatively associated with adherence to antiretroviral medication (Sumari-de Boer, Sprangers, Prins, & Nieuwerkerk, 2012). Persistent negative attitudes towards people with HIV create social relationships that are commonly hostile, oppressive and discriminatory (Sunmola, 2002), social support from friends is found to be associated with less perceived **HIV stigma** among **HIV**-positive African Americans (Galvan, Davis, Banks, & Bing, 2008).

The greatest effect of this HIV-related stigma is on the youth. As reported by the UNAIDS (2014), HIV primarily affects those in their most productive years that is 15-24 years; about 5.4 million young people in this age group in the world were living with HIV, and this number continues to grow. The UNAID (2017) has estimated 5000 new HIV infections (adults and children) a day in 2016 and 15-24 year old young adults accounting for approximately 37% of the new HIV infections. According to CDC (2013), prevention efforts have helped keep the rate of new infections stable in recent years, but continued growth in the number of people living with HIV, ultimately may lead to more new infections if prevention, care, and treatment efforts are not targeted to those at greatest risk. Most essentially, the CDC reports that although HIV testing capacity has increased over time, enabling more people to learn about their HIV status, approximately half of all people with HIV are still unaware that they are infected. Adolescents and young people represent a growing share of people living with HIV worldwide.

The university students at undergraduate level are more vulnerable to adopt more risky health behaviors including HIV related behaviors. They get the first opportunity to be independently living away from their protected homes for prolonged period of time when they explore the new environment, deal with their identity crisis and enjoy personal freedom. The university environment allows students to interact with diverse individuals and presents opportunities to engage in sexual activities (Smith, Menn, Dorsett, & Wilson, 2012); otherwise they may have some restrictions. Further, affiliation with on-campus organizations such as fraternities or sororities may increase a **student's** risk, given the rituals and socially endorsed **behaviors** associated with Greek organizations (Scott-Sheldon, Carey, & Carey, 2008). Scott-Sheldon and associates in a study of Greek and non-Greek college students found that Greek members engaged in more **risky health behaviors** (e.g., alcohol use, cigarette smoking, sexual partners, and sex under the influence of alcohol or drugs) than non-Greek members. The college students underestimate sexual health-proactive behaviors (e.g., condom use and birth control use) and overestimate the **risky behaviors** such as frequency of drinking prior to sex, typical number of drinks prior to sex, frequency of casual sex, alcohol abuse, tobacco usage, misuse of prescription medications use etc. (Lewis, 2014; Varela & Pritchard, 2011).

Young people can play an important role in preventing the onward transmission of HIV-related stigma and discrimination in their communities, and increasing support for their peers who are living with HIV. **Sexually transmitted** infections (STIs) continue to pose a serious risk to **college students** in the US (King, Vidourek, & Singh, 2014); young adults hold close to half of all new STIs while only being about a quarter of the sexually experienced

population (Satterwhite et al., 2013; Weinstock, Berman, & Cates, 2014). Due to this increased burden of STIs also, higher awareness of HIV-related risks among young adults is important. Though better knowledge does not necessarily lead to behavioral change, there are some cases where the correlation still occurs (Meinhold & Malkus, 2005) and also, the attitude towards individuals with HIV and levels of knowledge are closely related (Herek, 1999; Robert, Blakey, & Smith, 1994; Tavooosi, Zaferani, Enzevaei, Tajik, & Ahmadinezhad, 2004). Additionally, when there is communication regarding HIV, there may be decreased HIV stigma (Genberg et al., 2009) that is a major concern for individuals living with HIV (Earnshaw and Chaudoir, 2009).

Misconceptions about the routes of transmission among high school students and substantial intolerant attitude towards individuals living with HIV have been observed (Tavooosi, Zaferani, Enzevaei, Tajik, & Ahmadinezhad, 2004) as well in another study, the students with adequate knowledge about HIV/AIDS displayed negative attitude towards individuals with HIV/AIDS (Patil, Sreenivasan, & Goel, 2011). Insufficient knowledge and fear as a factor introducing negative feelings (Serlo & Aarvarinne, 1999) demonstrated deficiencies in the knowledge about HIV and that false beliefs about HIV spread. Those who experience more fear of contracting (phobic perceptions) a disease are more likely to have the most stigmatizing attitudes toward those who are HIV positive (Brinkley-Rubinstein & Craven, 2014).

Considering that stigma has such unwanted effects for HIV-positive people and college going young adults are more prone to risky health behaviors that stigmatization of peers makes worst; a way to reduce transmission for those most affected populations would be to educate and clear the myths or misconceptions about HIV/AIDS. The present study was an

effort to investigate if the educational intervention about HIV would change African American college students' attitude towards individuals living with HIV.

Method

Sample

The sample consisted of 59 young adult African American students in two psychology classes in the age range of 18-25 years with 80% females and 20% males. They ranged from sophomore to senior level.

Tools

i) Educational Intervention material on HIV/AIDS - We used the toolkit, "Love, Life & HIV: Voices of young people with HIV from around the world" that includes video and handouts published by International Planned Parenthood Federation (IPPF, 2012) as HIV educational intervention material. It explains the meaning, risk factors, myths, and services associated with HIV/AIDS with emphasis on how to reduce HIV-related stigma and discrimination and to develop a greater understanding of what it means to be young and living with HIV.

ii) Individual HIV Attitude Scale - Individual attitudes towards people living with HIV/AIDS were measured by asking the participants 28 questions. We constructed this scale based on the educational intervention material used in this study. The responses of each item ranged from 1=strongly agree to 5=strongly disagree on a five-point Likert scale with a higher score indicating less biased towards people living with HIV/AIDS. The response categories for items 22, 26 and 28 were reversed.

HIV Attitude Scale (Pre/Post-Intervention)

1. One should avoid having contact with persons who have HIV.
2. A doctor should have the right to decide if he or she wants to treat patients with HIV.

3. I would feel embarrassed if one of my family members had HIV.
4. There should be separate public facilities (i.e., rest room toilets) for people with HIV.
5. An employee who has HIV should not be allowed to work.
6. Only unfit mothers have children with HIV.
7. One should avoid touching the saliva of a person with HIV.
8. One should avoid touching the sweat of a person with HIV.
9. One should avoid sharing utensils with a person with HIV.
10. One should avoid changing the clothes of a person with HIV.
11. One should avoid serving food to a person with HIV.
12. There should be limited participation of people with HIV in community activities.
13. One should divorce/leave partner because of HIV.
14. One should avoid touching the skin of a person with HIV (dead or alive).
15. One should not invite a person with HIV to social events, like weddings.
16. One should not allow a child to play with another child who has HIV.
17. There should be separate utensils for a person with HIV.
18. One should avoid using something touched by a person with HIV.
19. One should refuse to rent a room to a person with HIV.
20. People with HIV should not be allowed to get married.
21. Children with HIV should not be allowed to study with non-infected children.
22. People with HIV should be treated the same as people without HIV.
23. Most people who are HIV positive are poor and uneducated.
24. It is prostitutes who spread HIV.
25. People with HIV should be ashamed of themselves.

26. People with HIV deserve sympathy.
27. One should refuse to share a toilet with a person with HIV.
28. Drug users spread HIV.

iii) HIV Risk Assessment Measure : This instrument used for HIV risk assessment of participants was adapted from Online Skidmore College HIV Risk Assessment Questionnaire. It had 14 items related to individual's knowledge of safe sex and other HIV related practices.

Procedure

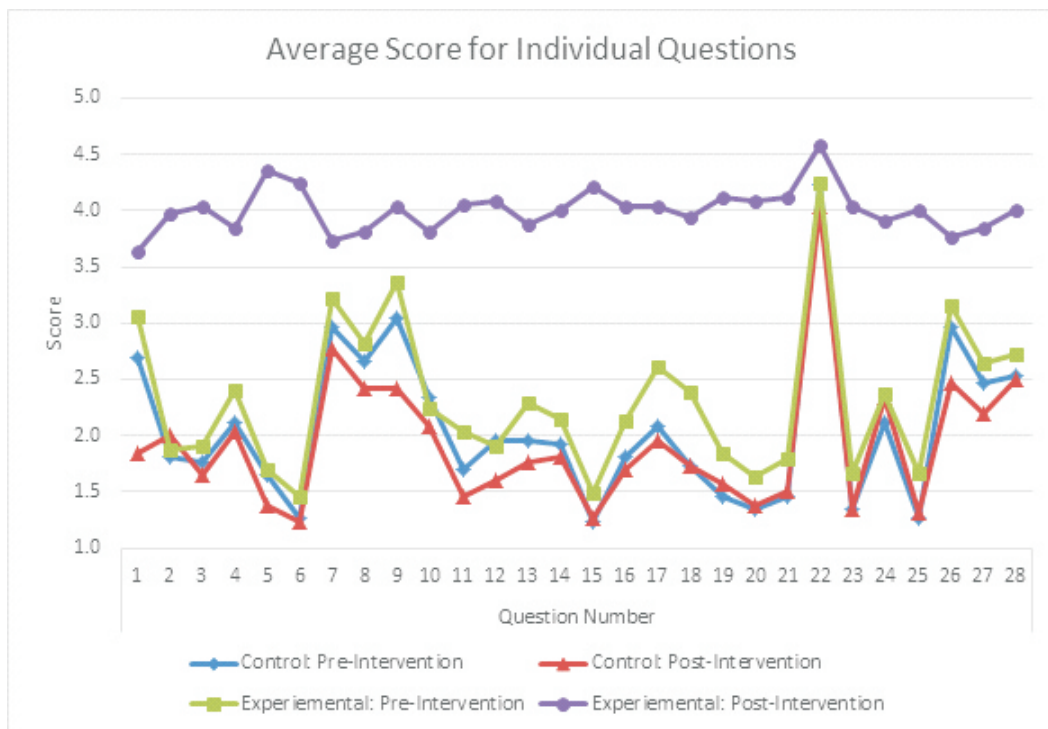
Upon Institutional Review Board approval, two groups of undergraduate students with their oral informed consent were enrolled for volunteer participation. Both groups responded to Individual HIV Attitude Scale and HIV Risk Assessment Measure. The control group was not given any further instruction. Experimental group watched the intervention video and received the handout with a reminder to remember the information. The researcher contacted the experimental group every week briefly to remind of the information in the form of pop-up quiz. They were also encouraged to explore the issue more whenever they got opportunity. After one month, both the groups were again given the same Individual HIV Attitude Scale. In an anticipation of changed attitude of experimental group, the control group was also offered the same intervention so that they also receive the same benefit as the other group, if any. At the end, all were given a health risk assessment that was modified from HIV-AIDS Information document of Skidmore College. No incentive was given for participation in the study.

Results

Pre and post intervention data on individual attitudes towards persons living with HIV were analyzed using Statistical Package for

Social Sciences (IBM SPSS Statistics 25). An analysis of data as it relates to Likert or other opinion or attitude scales is a controversial issue (Jakobsson, 2004; Vigderhous, 1977). According to Clasen and Dormody (1994), Rensis Likert's original paper clearly identifies there might be an underlying continuous variable whose value characterizes the respondents' opinion or attitudes and this underlying variable is interval level, at best. Experts over the years have argued that the median should be used as the measure of central tendency for Likert scale data, however, other experts assert that if there is an adequate sample size (at least 5–10 observations per group) and if the data are normally distributed (or nearly normal), parametric tests can be used with Likert scale ordinal data (Jamieson, 2004). Norman (2010) provides compelling evidence, with actual examples using real and simulated data, that parametric tests not only can be used with ordinal data, such as data from Likert scales, but also that parametric tests are generally more robust than nonparametric tests. While Likert scale variables in our case represent an underlying continuous measure, the use of parametric procedures as a pilot analysis is justified.

The pre and post intervention responses of both control and experimental group were compared using item-wise independent samples t-test assuming equal variances. For pre-intervention condition, the control and experimental group significantly differed only on two items, 18 and 24 ($p < .05$) with experimental group exhibiting slightly higher means. The post intervention responses for control and experimental group differed significantly on all items ($p < .001$) except 22. The line graph using the average responses for the groups in pre- and post –intervention conditions compares the two groups.



Also, item-wise paired samples t-test was used to compare control and experimental groups in pre and post-intervention conditions separately. The results for experimental condition differed highly significantly for pre and post intervention conditions for all but two items, 1 and 22 whereas for control group the opposite was true that is there were no significant differences between the pre and post-intervention condition but three items, 1, 9 and 12.

On the HIV Risk Assessment, 2% participants indicated having STIs and at least 50% exhibited risky behavior, though none of the participants indicated having sexual relationship with an HIV positive individual.

As the participants were asked to give feedback on their participation, they referred to stigma associated with HIV and their reservations to come forward for testing or be associated with HIV positive person. The

majority admitted that they learned new information that got imprinted on their minds to make wise decisions. The reminders from time to time with pop up quizzes by the research team were considered very helpful.

Discussion

The results supported the hypothesis that there is a statistically significant difference between the perceptions or attitudes in the short term towards individuals living with HIV of those who have received continuous educational intervention compared to those who did not receive intervention. Thus, repeated prompting seems to be an effective method for long term retention of information (Cull, 2000; Larsen, Butler, & Roediger III, 2009) about HIV/AIDS, leading to positive health behaviors and reduction of HIV stigma. The information from this study can be used to encourage the students to continuously educate themselves and others

to dispel myths and misconceptions about HIV. There is a need to incorporate HIV information in the curriculum that is repeated from semester to semester for an effective intervention to control HIV spread and stigma towards people living with HIV/AIDS,

The study should be replicated with a larger sample that is more representative of the target populations. To test whether the change in attitude would be retained over a longer period, the duration between the first and last attitude testing should be longer. The study should be longitudinal, running for four years starting with first semester freshmen and culminating with last semester seniors to understand the more applied impact of the intervention. Additionally, participants should be tested on knowledge and behavior change alongside self-perceived attitudes. The HIV occurrence data should be compared along with attitude and behavior change over several years to fully quantify the impact of increase education and decreased stigma on preventing HIV transmission.

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