African University Students’ Knowledge of HIV/AIDS and knowledge transfer

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The objective of African University students’ knowledge of human immunodeficiency virus/acquired immune deficiency syndrome (HIV/AIDS) and transfer of knowledge sought to examine the extent to which African university students are knowledgeable about HIV/AIDS transmission, infection and prevention, and its impact on sexual behaviour change. Descriptive statistics in the form of frequency, percentage and chi-square were used as method of data analysis. The sample comprised 366 participants drawn from three universities located in Kenya, South Africa and Tanzania. The results showed that the level of HIV/AIDS knowledge among the participants was very high, and that such knowledgeability had an impact on participants’ sexual behaviour change. It was concluded that such findings serve as reinforcement to the concerted effort in HIV/AIDS public education. Such effort ought to be kept in place, particularly for the fact that there are still some misconceptions about HIV/AIDS which call for timely intervention.

Key words: Sexual behavior change, human immunodeficiency virus/acquired immune deficiency syndrome (HIV/AIDS) infection, HIV/AIDS knowledgeability, transfer of learning, African students.

INTRODUCTION

Acquired immune deficiency syndrome (AIDS) is a condition that dis-empowers the body immune system from fighting diseases (Summerfield, 1990; Wikipedia, 2013). The presence of human immunodeficiency virus (HIV) can be confirmed by use of test. If the test results are positive, it means the person is HIV positive, meaning that the person is infected and capable of transmitting it to others. According to Naswa and Marfatia (2010) an adolescent contracts HIV once and remains infected and infecting so long as he/she lives. At such stage, the person has not as yet reached the stage of AIDS, though she or he has commenced moving in such direction. Along with this, he/she is not yet vulnerable to opportunistic diseases.

In many parts of the world, HIV/AIDS has attained the status of pandemic, which means large areas are affected, and HIV/AIDS continues spreading (Kibombo et al., 2007; Ebeniro, 2010; Janckie et al., 2011). In this regard, Facente (2001) warns that, whereas there has been a visible decline of the rate of HIV to AIDS, there has been an increase in the contraction of HIV/AIDS.

Since HIV/AIDS is not curable though manageable, prevention remains the only surety for combating it; hence, the motivation for the numerous studies on HIV/AIDS knowledge, attitudes, beliefs and perceptions. Moreover, the present investigation is informed by the stated motivation, as well as the many studies undertaken in the quest for a relief, as far as HIV/AIDS is concerned. Macintyre et al. (2004) pointed out that HIV risk perception is considered an important antecedent for one’s adoption of protective behaviour, in so far as contracting HIV/AIDS is concerned. Njogu and Martin (2003) argue that, given the challenge of HIV/AIDS that adolescents encounter in their present and future life experience, it is vital that their awareness of the risks associated with sexual behaviour is made abundantly.

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clear, and the corresponding transfer of such awareness to real life experience as expected.

Van Wyk (2006) reported of an investigation whose objective was to examine university students’ perceptions, attitudes and awareness towards HIV/AIDS at a South African University in the Northwest Province. The study was based on a sample of 290 students whose age ranged from 18 to 23 years, both males (41%) and females (59%). The results showed that the majority of participants were knowledgeable about HIV/AIDS. While the majority of participants had a knowledge that was quite detailed regarding HIV/AIDS transmission and prevention, a small number of participants were not that well informed, moreover there were others who denied the existence of HIV/AIDS.

Tagoe and Aggor (2009) advanced the argument that many university students in Africa are not that well informed about HIV/AIDS (Katjavivi and Otaala, 2003). As a matter of fact, many university campuses provide an environment that is conducive to the contracting and transmission of HIV/AIDS (Tagoe and Aggor, 2009). Such assertion is supported by the following factors: The age at which students are at university ranges from 19 to 49 which is the cohort for the large age group contracting HIV/AIDS both in Africa and other parts of the world; rise in the students population comprising African and international students; transactional sex among male and female students; use of alcohol and drugs among students which predisposes them to engage in sexual activity that might lead to HIV infection.

Based on this understanding, Tagoe and Aggor (2009) carried out a study on the university students’ perceptions, attitudes, knowledge in relationship to students’ sexual behaviour. The sample was based on 375 university students in Ghana. Overall, students had adequate knowledge about HIV/AIDS and its transmission through: blood transfusion, sharing sharp instruments, sex with an infected person. In terms of prevention, they mentioned the use of condom, being faithful to one uninfected partner and being abstinent.

In Namibia, De Beer et al. (2012) investigated the extent of HIV/AIDS prevalence, knowledge and attitudes among university students. The participants were drawn from the University of Namibia as well as the Polytechnic constituting a sample of 5,000 participants. The end results showed that the HIV/AIDS knowledge was good, though there were some misconceptions regarding HIV/AIDS transmission and perception of one’s possible risk of contracting HIV was rather low. Some of the participants tested were HIV positive, and yet they had not been aware of such status, which is the more reason for improvement in awareness campaigns.

Ching et al. (2005) made a study of 375 Nigerian university students’ HIV knowledge, perceived susceptibility for HIV and sexual behaviour. They reported that female students were more knowledgeable than their counterparts. On the other hand, male students were more knowledgeable on the risk of HIV transmission through oral sex. The female respondents were more knowledgeable on the erroneous belief that antibiotics protect one from HIV infection. Moreover, female students knew more about needle sharing in steroid use. The overall results showed that participants’ knowledge of HIV/AIDS was high, though when it came to application, some did not do well, given that they engaged in sexual activity that was rather risky and likely to lead to the transmission of HIV. They further considered themselves to be of low susceptibility to HIV/AIDS infection.

Ebeniro (2010) aimed at examining the level of awareness of HIV/AIDS among university students in Nigeria. Participants constituted the largest population of those infected with HIV/AIDS. Moreover, the participants comprised those who engaged in risky behaviour, drug addiction and premarital sex, all of which are likely to increase the probability of being HIV/AIDS infected. The sample comprised 162 females and 162 males, and their age range was 20 to 24 years drawn from three universities. The results showed that the difference in gender perceptions of HIV/AIDS were associated with socio-economic factors, culture and tradition in response to the behaviour aspects of the questionnaire, 89% were aware that HIV is transmitted sexually; 81% knew that HIV could be contracted as a result of using unsterilized equipment; 89% were aware about transmission through contaminated blood or through injection. There were 31% of the participants who had misconceptions, as they were of the view that HIV/AIDS could be contracted as a result of physical contacts, kissing, hugging and hand shake with an infected person. There were 6% of the participants who did not believe that HIV/AIDS existed and had no knowledge of how it is transmitted.

The study observed that despite the presumed correlation between knowledge and transmission of HIV/AIDS, participants engaged in behaviour that predisposed them to HIV/AIDS infection. For example, they did not take the necessary precautionary measure in the form of condom; freely used alcohol; they had multiple sex partners.

Odu and Akanle’s (2008) study sought to investigate: the relationship between the knowledge of HIV/AIDS and students’ sexual activity; different types of sexual behaviour and whether university students have a basic grasp of HIV/AIDS concepts. The sample was made up of 1,420 university students aged 15 to 30 years drawn from four universities in Nigeria. The results of data analysis showed that the majority of students were sexually active; engaged in high risk sex relationships; casual, same sex, multiple sex partners and sex in exchange for money and favours. Their knowledge of HIV/AIDS was very high. There were also misconceptions regarding the cure of AIDS. There was a significant relationship between knowledge of HIV/AIDS and their sexual behaviour.
Milanzi and Komba (2005) looked at the spread of HIV/AIDS from a different perspective. To begin with, they argued that in the last twenty years, the spread of HIV/AIDS has continued without end in sight, and therefore proposed a different approach and strategy which HIV/AIDS transmission and prevention can be brought under control by voluntary counselling testing (VCT) which were considered and ascertained to be both effective and cost effective in enhancing behaviour change among university students (Milanzi and Komba, 2005).

The objective of the study was to examine the perceptions and attitudes regarding VCT based on a sample of university students drawn from three universities and the Institute of Finance Management in Tanzania. The results showed that the use of VCT facilities was on the increase, as more students made use of the facilities; there was increase in budget for the operation of the service. As regards perceptions and attitudes, there was indication of willingness to participate in knowing more and being counselled, though when it came to being tested, there was some reluctance on the part of some students who indicated that they would engage in such exercise at a later date. The majority of participants were of the view that VCT was a useful approach to the prevention of HIV/AIDS transmission and infection.

In summary, the review of literature shows that the majority of African university students have a sound knowledge of HIV/AIDS transmission, infection and prevention. It is also clear that the transfer of such knowledge applies to some studies, while to others it was not observed. There is therefore both correlation and no correlation between knowledge and application in their sexual change of behaviour. It must also be noted that, although the level of HIV/AIDS knowledgeability is good, there are a considerable number of university students whose knowledge of HIV/AIDS is unsatisfactory; hence the need for more HIV/AIDS public education to eliminate the existing knowledge deficit, thus the motivation for the present undertaking.

**METHODODOLOGY**

**Sample**

Participants who took part in this investigation were drawn from three African universities, geographically located in Kenya, South Africa and Tanzania. Their distribution was as follows: 100 students from Tanzania; 102 from Kenya and 164 from South Africa.

**Procedure**

For each university, the lecturers offering a module in education administered the questionnaire to the participants. This was preceded by briefing students on what the questionnaire was all about, and that responding to the questionnaire was voluntary. As such, they were free to either respond to the questionnaire, or choose not to respond to the questionnaire. There was no report of some of the potential participants refraining from responding to the questionnaire for all the three universities.

**Measuring instrument**

A questionnaire comprising 25 statements and questions commonly used for testing respondents’ HIV/AIDS knowledge, perceptions, attitudes, beliefs was used. Each statement and question had three options, namely “Yes, No, Don’t know”. Participants were asked to tick whatever option they thought was true of their HIV/AIDS knowledge. For confidentiality purposes, respondents were advised not to write their names or name of the university affiliated to. They were, however, requested to indicate their gender and date of birth. While the questionnaire comprised 25 statements and questions, only 19 for Kenya and South Africa and 17 for Tanzania were included in the statistical analysis. This was so because there was lack of clarity in the six statements/questions they responded to, so that either way they answered would mean the answer was correct. With the Tanzanians, additional questions being excluded were because there was no response for the two questions for all the participants. It is unknown why this was so.

**RESULTS**

Following the scoring of the questionnaire, descriptive statistics in the form of frequency, percentage, chi-square and probability were used as displayed in Table 1. In response to sharing a cigarette with someone who has AIDS, the correct response for the three universities was: Kenya 79%, South Africa 90%, Tanzania 85% all of which were significant at p < 0.001. In response to the statement of drinking water from the same cup with an AIDS person, the response was 85% for Kenya, 93% for South Africa and 84% for Tanzania. In both countries, the $\chi^2$ was significant at p < 0.001. Similar outcomes held true for sharing food, using the same toilet seat and sharing clothes with an HIV/AIDS person. The respondents did not think that interacting with such persons would lead to the transmission of HIV/AIDS.

In response to kissing someone with HIV/AIDS, the response was as follows: Kenya 42%, South Africa 81% and Tanzania 61%. While South Africa and Tanzania participants did not think one would contract HIV/AIDS by kissing an infected person, Kenyans were of the view that such behaviour would lead to being infected. Taking care of an HIV/AIDS person was rejected as being a source of HIV/AIDs transmission by 96% Kenyans, 77% South Africans and 68% Tanzanians, all of which was statistically significant at p < 0.001. Receiving blood transfusion from an HIV/AIDS person was accepted as a source of HIV/AIDS transmission. The same held true for having sexual relationship with an infected person. All participants did not think that mosquito bites and shaking hands with an infected person would lead to contracting HIV/AIDS.

Responding to the statement that there is a cure for AIDS was rejected by 80% Kenyans, 70% South Africans and 88% Tanzanians, and the rejection was statistically significant. HIV/AIDS being God’s punishment for engaging in sex out of wedlock was rejected by 51%
Kenyans, 56% South Africans and 71% Tanzanians. The rejection by both Kenyans and South Africans was marginal, implying that those accepting the statement were close to those who disagreed with statement. Avoidance of HIV/AIDS persons as much as possible, as a means of prevention from contracting infection was rejected by all the three sets of participants. The scores in percentage were: 92% Kenyans, 70% South Africans and 80% Tanzanians.

Participants were asked whether they thought there was a chance of their being infected with HIV/AIDS, to which a large number from South African and Tanzanian participants responded negatively. This means that they did believe that it was possible for them as individuals to contract HIV/AIDS. The response from Kenyan participants was marginally positive. In response to whether participants on the basis of their HIV/AIDS awareness or knowledge were careful in their relationship with members of the opposite sex, the positive responses were as follows: Kenya 96%, South Africa 88% and Tanzania 73%, all of which were statistically significant. This was interpreted to signify the transfer of knowledge to sexual behaviour change. Statements and questions relating to sleeping with and sitting next to a person with HIV/AIDS, as a source of infection were rejected by all participants. HIV/AIDS children going to the same school was accepted by South African participants and rejected by both Kenyan and Tanzanian participants.

In summary, the analysis of data has shown that the majority of participants from the three universities had a good knowledge of HIV/AIDS transmission, infection and prevention; though this does not rule out the misconceptions observed among those who were successful and those who did not do so well on the questionnaire. The analysis has further shown that there was transfer of knowledge inasmuch as the number of successful candidates in their knowledge of HIV/AIDS was comparable to those who indicated that they were careful in their relationship with members of the opposite sex, for the purpose of guarding themselves against contracting HIV/AIDS.

**DISCUSSION**

This investigation sought to establish the extent

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**Table 1. Participants’ correct responses frequencies, percentage, Chi-squares and probability N = 366.**

<table>
<thead>
<tr>
<th>No.</th>
<th>Statement</th>
<th>Kenya N = 102</th>
<th>South Africa N = 164</th>
<th>Tanzania N = 100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freq.</td>
<td>%</td>
<td>$\chi^2$</td>
<td>P</td>
<td>Freq.</td>
</tr>
<tr>
<td>2</td>
<td>Sharing cigarette with AIDS person</td>
<td>81</td>
<td>79</td>
<td>97.5</td>
</tr>
<tr>
<td>3</td>
<td>Sharing a cup with AIDS person</td>
<td>87</td>
<td>85</td>
<td>123.6</td>
</tr>
<tr>
<td>4</td>
<td>Sharing food with infected person</td>
<td>100</td>
<td>98</td>
<td>121.6</td>
</tr>
<tr>
<td>5</td>
<td>Using same toilet seat AIDS person</td>
<td>88</td>
<td>86</td>
<td>125.7</td>
</tr>
<tr>
<td>6</td>
<td>Kissing an AIDS person</td>
<td>43</td>
<td>42</td>
<td>32</td>
</tr>
<tr>
<td>7</td>
<td>Taking care of AIDS person</td>
<td>98</td>
<td>96</td>
<td>81</td>
</tr>
<tr>
<td>9</td>
<td>Sharing clothes with AIDS person</td>
<td>93</td>
<td>91</td>
<td>153.9</td>
</tr>
<tr>
<td>10</td>
<td>Blood transfusion from AIDS person</td>
<td>102</td>
<td>100</td>
<td>136</td>
</tr>
<tr>
<td>11</td>
<td>Having sex an infected person</td>
<td>102</td>
<td>100</td>
<td>120.5</td>
</tr>
<tr>
<td>12</td>
<td>Shaking hands with AIDS person</td>
<td>98</td>
<td>96</td>
<td>152.5</td>
</tr>
<tr>
<td>13</td>
<td>Mosquito bite</td>
<td>88</td>
<td>86</td>
<td>108</td>
</tr>
<tr>
<td>14</td>
<td>There is no cure for AIDS</td>
<td>82</td>
<td>80</td>
<td>94.8</td>
</tr>
</tbody>
</table>

...
to which African university students in Kenya, South Africa and Tanzania are familiar with knowledge relating to HIV/AIDS. The investigation further sought to establish whether knowledgeability on HIV/AIDS was transferable to sexual behaviour change among the participants. Both aspects of the investigation were confirmed so far as African university students had a good knowledge of HIV/AIDS. Similarly, the investigation showed that there was transfer of learning, since students indicated, in all the three institutions of higher learning, that they were careful in their sexual behaviour in relationship to their gender counterparts. Such findings are both comparable and in contrast with what has been reported in the literature review. In terms of comparativity, there are researchers who have reported similar findings, as what has been observed in this investigation. For example, Van Wyk (2008) studied undergraduate students’ knowledge, perceptions and attitudes in the North-West Province of South Africa and concluded that, participants were quite detailed in their knowledge of HIV/AIDS transmission and prevention. In Ghana, Tagoe and Aggor (2009) presented a contrast in that the sample used did not show that they were well informed about HIV/AIDS.

De Beer et al. (2012) reported that Namibian university students were considered good in their HIV/AIDS knowledge, though there were some misconceptions among some of them. Ebeniroy (2010) made a study of university students from three Nigerian universities and concluded that their knowledge of HIV/AIDS was very high. Similar results were reported in an investigation carried out by Odu et al. (2008) in Western Nigeria. These examples are adequate to show that their findings were in harmony with the present investigation findings.

In terms of correlation between knowledge of HIV/AIDS and its application, there are studies that found similar results and those that did not observe such correlation. For example, Odu and colleagues reported a significant correlation between knowledge of HIV/AIDS and its transfer to sexual behaviour change. Ebeniroy did not observe such a correlation. According to Davis et al. (2007) a high knowledge of HIV/AIDS did not serve as a deterrent for engaging in high risk sexual behaviour among university students to the point that they did not believe in the use condom for safe sex. Given the low number of studies showing a correlation between HIV/AIDS and transfer of knowledge for sexual behaviour change makes the present investigation a contribution to knowledge.

Conclusion

The objective of this investigation was to establish the extent to which African university students are knowledgeable about HIV/AIDS, and how such knowledge impacts on their sexual behaviour change. This was confirmed by the high level of HIV/AIDS knowledge they have in their possession, and that such knowledge has an impact on sexual behaviour change, given that they expressed their being careful in their inter-relationship with members of the opposite sex, solely on the basis of avoiding contracting HIV/AIDS.

The results of this investigation have several implications in the efforts for the prevention of the spread of HIV/AIDS. With such knowledge, it is anticipated that African university students and many others will guard against being infected. This is particularly so in view of the fact that there is so far no cure for AIDS, and the only option left is that of prevention. Unlike many other studies, this investigation has shown that HIV/AIDS knowledgeability is correlated to applying such knowledge to sexual behavior change. Such findings offer hope to those engaged in HIV/AIDS public education that, their effort is not in vain, as it does bear fruit, notwithstanding the research which has reported to the contrary. The findings further draw attention to the fact that, though the level of knowledge is high, there are still bottlenecks, where there are misconceptions, for which there is need for more refined effort and strategies for halting the spread of HIV/AIDS.

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