

Knowledge and Attitude towards HPV, PAP Testing and HPV Vaccination among Women with HIV

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Abstract

Background: Although cancer prevention strategies have resulted in a dramatic reduction in the overall cervical cancer burden in developed countries, among women with HIV the problem remains unabated. Several studies have identified limited knowledge as a major contributory factor for cervical cancer especially in vulnerable populations like women with HIV.

Objective: To determine the knowledge and attitudes of HPV, Pap smear testing and HPV vaccination among women with HIV utilizing the health belief model as a guiding framework for the study.

Methods: 50 HIV positive women in the 21-64 age groups were purposively sampled from the HIV clinic in San Fernando General Hospital, South Trinidad. Data were collected using an administered questionnaire with a 100% response rate after receiving ethical approval.

Results: Respondents were generally knowledgeable about Pap Smear testing but had limited knowledge about HPV and HPV vaccination. Most respondents were unaware that HPV infection was a risk factor for cervical cancer. Many respondents knew that the purpose of pap testing and the recommended Pap testing guidelines for women with HIV. Although most respondents 43 (86%) considered Pap Smear testing to be important it was not a regular practice. The main reasons for not having regular Pap test include the procedure is embarrassing and painful, fear of a cervical cancer diagnosis, reluctance to be examined by male doctor and not being asked to do Pap test by healthcare professionals. Respondents also had a negative attitude when asked if they would recommend the vaccine to friends and relatives.

Conclusion: While women with HIV may be knowledgeable of the risk associated with cervical cancer, this does not necessarily translate into effective screening behaviours. The findings of this study demonstrate the need for an organized and integrated cervical cancer screening program for women with HIV as an integral component of management.

Keywords: Cervical cancer; HPV; Pap Smear testing; HPV vaccination; Knowledge; Attitude; Women with HIV

Introduction

Cervical cancer is a public health concern that disproportionately affects women in developing countries [1-3]. Ranked as the third most common cancer among women, studies show that 85% of these cases occur in developing countries [2]. While the actual incidence and prevalence of cervical cancer among women with Human Immunodeficiency Virus (HIV) is not known, HIV infection is known to intensify the cervical cancer burden [4,5]. In countries with HIV epidemics like Sub-Saharan Africa cervical cancer is the number one cause of co-morbidity and mortality [6-8].

Epidemiological data show that cervical cancer morbidity and mortality have been falling in developed countries due to improperly organized national cancer prevention programs [2,9,10]. In contrast, cervical cancer incidence in developing countries is on the rise mainly due limited availability or improperly organized cervical cancer prevention programs.

In Trinidad and Tobago the incidence of cervical cancer is 24 per 100,000 and the mortality rate 12 per 100,000. Previous studies done in Trinidad and Tobago have shown that most women were aware of cervical cancer however the majority were unaware of the cause and their level of risk [11]. There is no data on knowledge and attitude towards cervical cancer prevention among women with HIV in Trinidad and Tobago. The objective of this study is to: 1) describe the knowledge and attitudes towards HPV, Pap testing and HPV vaccination among

women with HIV within the 21- 64 age group in Trinidad and Tobago; 2) assess the effect of demographic variables such as age, education, income and ethnicity on the level of knowledge of cervical cancer prevention among women with HIV. Therefore, conducting this study would contribute to the body of knowledge about cervical cancer among women with HIV in Trinidad and Tobago.

Methodology

The study was a cross sectional design using a convenience sample of HIV positive women in the 21-64 years age groups attending the HIV clinic at the San Fernando General Hospital, Trinidad. Data were collected from August 5th 2016 to August 19th 2016 using a five part questionnaire adapted from the Women Interagency Study and consisted mainly of closed ended questions.

Data collection commenced after ethical approval to conduct the research was granted by the Ethics Committee of both the University

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of the West Indies and the South West Regional Health Authority. The questionnaires were administered by the investigator in a private room in the HIV clinic and lasted for approximately half an hour. The respondents level of knowledge toward HPV, Pap smear testing and HPV vaccinations were evaluated from 25 questions with 22 of the answers were “true”, “false” or “do not know” and three questions with the likely answer of “yes”, “no” and “don’t know”. The sum of the correct answers from each respondent from 0-25 was used to calculate the overall knowledge scores. Four questions were related to attitude where the importance of Pap testing and HPV vaccinations were assessed.

Data were analyzed using SPSS statistical software version 20. The relationship between the variables was calculated using Pearson correlation coefficient. Multiple logistic regression was used to determine whether demographic variables such as age, marital status and education predicted pap smear screening among women with HIV. Ordinal regression was conducted to determine the relationship between the demographic variables and the importance of pap testing and the HPV vaccine.

Results

Demographic characteristics

Fifty respondents from the HIV clinic at San Fernando General Hospital were involved in this study. Persons of African descent accounted for 29 (58%) of the sample. The majority of the respondents were in the 31-40 age group 21 (42%), single 19 or (38%), had secondary level education 40 (80%) and earned \$36,000.00 or lower 40 (80%) (Table 1).

Knowledge of HPV

Most respondents 30 (60%) lacked knowledge about HPV and were unaware that HPV was associated with cervical cancer. Likewise, many respondents, 30 (60%) did not know that HPV infection increases the risk for cervical cancer and women with HPV are at higher risk for

genital warts. Forty-nine (98%) respondents were unaware that there were usually no signs and symptoms with an HPV infection and forty-one (82%) believed that condoms could keep HPV from spreading. Pearson coefficient revealed no significant correlation between age (p-0.158), educational level (p-0.237), income (p-0.027), marital status (p-0.211), ethnicity (p-0.001) and knowledge of HPV among women with HIV.

The majority of respondents were knowledgeable about the risk factors that were linked to cervical cancer including sexually transmitted diseases 43 (86%), multiple sex partners 34 (68%), not getting a pap smear done 36 (72%) and viral infections 37 (74%). However, fewer respondents considered early sexual debut 27 (54%) and sex without a condom 30 (60%) as risk factors for cervical cancer. Respondents were somewhat knowledgeable about Pap testing with a total of 42 (84%) knowing that the purpose of the Pap Smear test was to check for cervical cancer. In addition, 33 (66%) were knowledgeable about the recommended guidelines for Pap Smear testing among women with HIV. Respondents accurately indicated that women with HIV should have Pap Smear tests annually if two previous tests are normal.

While many respondents were aware of the purpose of Pap Smear screening, they were less knowledgeable about pap testing, in that, 32 (64%) they were unable to identify the specific part of the body on which the test is done. Many respondents 31 (62%) knew that an abnormal Pap Smear test result meant that the cervical cells appeared abnormal and could be pre-cancerous or cancerous. However they were less knowledgeable about the follow up care after receiving an abnormal test result. A total of 25 (50%) of the respondents indicated that follow up care should include a biopsy while 29 (58%) indicated a repeat Pap Smear test should be done. Additionally, 35 (70%) of the respondents did not know that a colposcopy may be a follow up test after an abnormal Pap Smear result.

Most respondents 36 (72%) did not practice annual Pap smear screening while 18 (36%) never had a pap smear. Pearson coefficient showed no significant correlation between age, (R-0.067) education, (R-0.130) income, (R-0.009) marital status, (R-0.081) ethnicity (p-0.156) and knowledge of the purpose of Pap testing. A multiple regression was conducted to predict the effect of Pap testing on age, marital status and education. There was no significance with age, education, marital status and the likelihood of screening for cervical cancer, $F(3, 46)=2.926$, $P>0.05$, $R^2=0.160$.

A total of 43 (86%) respondents knew that cervical cancer could be prevented, 28 (56%) had heard about the HPV vaccine but 25 (50%) did not know what the vaccine was meant to prevent. However, 24 (48%) respondents knew that the vaccine was meant to prevent cervical cancer while 38 (76%) were unaware of any recommended guidelines for HPV vaccination among women with HIV. Pearson’s correlation showed that there was no significant correlation between age, (p-0.073) education, (p-0.005,) marital status, (p-0.187) income, (p-0.208,) ethnicity, (p-0.132,) and knowledge of what HPV vaccine was supposed to prevent.

Only 13 (26%) respondents had cancer screening annually as per recommended guidelines. Nevertheless when asked for their reasons for not screening as per recommended guidelines the responses were variable. These included 8 (16%) indicating that the Pap Smear examination was embarrassing, 12 (24%) were fearful of a cancer diagnosis, 11 (22%) were not asked to do so by the doctor and 2 (4%) did not want to be examined by a male doctor, indicated that a Pap Smear test was painful or felt they were too young to do pap smears respectively.

Characteristics	N (50)	%
Age (yrs)		
21-30	6	12
31-40	21	42
41-50	15	30
51-60	8	16
Marital Status		
Single	19	38
Married	11	22
Common-Law	13	26
Separated/Divorced	7	14
Ethnicity		
African	29	58
East Indian	11	22
Mixed	10	20
Employment		
Employed	24	48
Unemployed	26	52
Annual income		
36,000 and under	40	80
48,000-60,000	8	16
Over 120,000	2	4

Table 1: Socio-demographic characteristics of HIV positive respondents, HIV clinic, San Fernando.

Nevertheless, 43 (86%) respondents thought that it was important for women with HIV to have regular pap smears. Fewer, 12 (24%) considered the HPV vaccine important to prevent cervical cancer and as result they indicated that they would be less likely to recommend the HPV vaccine to their relatives or friends. An ordinal regression was conducted and the proportional odds model shows no statistical significance $\beta=0.107$, (p-0.774) according to the Wald test (0.082).

Discussion

While women who are HIV positive have a higher risk for cancer of the cervix than their counterparts in the general population [2,12,13] this may not necessarily result in these women being more sensitive to the need for greater screening to prevent cervical cancer. The objective of this study was to assess the knowledge and attitudes towards HPV, Pap smear testing and HPV vaccination among women with HIV. The results of this study showed that the respondents were generally knowledgeable about Pap Smear testing and HPV vaccination. The findings concur with previous studies done among young HIV positive and HIV negative women [14-16]. These respondents were also more knowledgeable about Pap Smear testing but less knowledgeable about HPV and HPV vaccination.

Wigfall et al. in their study on cervical cancer prevention knowledge and abnormal Pap Smear test experiences among women living with HIV/AIDS found that few women with HIV knew about HPV and its link to cancer and little was known about the HPV vaccine [17]. Similar studies have shown that many women have not been able to make the link between HPV and cervical cancer and may be less likely to believe that they are susceptible to the disease [18,19].

Furthermore, the data showed that there was varying levels of knowledge about the risk factors for cervical cancer. Women who were knowledgeable generally associated cervical cancer with sexual activity including multiple partners, sexually transmitted diseases, early sexual debut and sex without a condom as the main factors associated with cervical cancer. Fewer participants considered smoking a factor associated with cervical cancer. This was inconsistent with Lambert et al. who postulated that lack of awareness of risk factors may reduce an individual's perception of their susceptibility to the disease [15]. In general, participants were knowledgeable about the risk factors associated with cervical cancer but did not see themselves as vulnerable. Poor knowledge about risk factors of cervical cancer may reflect respondents' inability to perceive their level of susceptibility and hence not take appropriate steps to prevent cervical cancer. However, the fact that they have to contend with the challenges of HIV may be so overwhelming that they may not consider the associated risks of other disease conditions. Researchers found that a good knowledge of cervical cancer risk factors is correlated to screening, early detection and treatment of cervical cancer [20,21]. In essence, respondents with high knowledge of risk factors score may be considered more likely to perceive their susceptibility to the disease; however, this was not consistent with the findings in this study.

The findings also showed that in spite of the interactions with health professionals it appears that cervical cancer prevention education was not routinely incorporated in HIV care among women in this study. Researchers suggest that organized integration of cervical cancer education in routine HIV care is important to reduce the cervical cancer burden [4]. This is especially important in populations with high cervical cancer mortality like Trinidad and Tobago.

One of the critical findings in this study was the disconnection

between knowledge and behaviour. Although most respondents considered Pap testing important for women with HIV only a few indicated that they had yearly Pap Smear screenings. This reasoning suggests that they did not perceive the benefits of Pap Smear screening positively. Low Pap Smear screenings despite respondents' recognition of its importance for cervical cancer prevention may suggest that sociocultural barriers may be preventing respondents from acting on their knowledge. The main barriers identified by those who never screened for cervical cancer were consistent with previous studies including fear of a cervical cancer diagnosis, being embarrassed to have the procedure done and not asked to do a Pap test by health care provider which is consistent with findings from previous studies [18,22]. By extension, Lambert et al. found that perceived barriers act as a predictor for adherence to annual cervical cancer screenings among women with HIV [15].

One of the findings that was inconsistent with previous studies included the observation among the majority of the participants did not consider the HPV vaccine important. This contributed to their reasoning that they were not likely to recommend the vaccine to friends and relatives. While this may reflect lack of knowledge, it addresses a real socio-cultural reality that the diagnoses of HIV and cervical cancer may be considered distinct and not connected to each other. As a result, the findings are inconsistent with previous studies, for example [12,23] who found that, in spite of limited knowledge, HPV vaccine was accepted as important in preventing cervical cancer.

The finding showed that participants' knowledge of HPV, Pap test and HPV vaccination were not related to the socio-demographic variables in the study. This finding was unique to this study as previous studies have shown a relationship with age, education and income and knowledge and attitude towards cervical cancer [18,24-26]. Based on the findings of this study integrating cervical cancer prevention education and screening within HIV clinics should be a priority among women with HIV [27] since women who are not screened as per recommended guidelines are more likely to develop cervical cancer. Prevention, early detection and treatment of cervical cancer could help to ease the cervical cancer burden among women with HIV.

Limitations

This study has limitations which had some influence on the interpretation of the findings. Firstly all the respondents were recruited from the public HIV clinic in South Trinidad. Therefore, women with HIV who received care elsewhere or did not access care were not represented in this sample. Moreover, because each participant was recruited purposively once they met the inclusion criteria certain groups were not well represented in the sample. Women with HIV of a higher economic status and those with a higher level of education were under represented in the sample while those in 31-40 age group and had a low income were over represented in the sample.

Secondly because the sample size was small there was an amplification of the findings in favour of certain groups that may have been negated in a larger population. Based on these limitations the findings from this study cannot be generalized to all women with HIV in Trinidad and Tobago. However, the information from this study is useful as it provides a glimpse of the knowledge and attitude toward HPV, Pap smear testing and HPV vaccination among women with HIV in Trinidad. Therefore, researchers can build on this knowledge by conducting a national study that will inform healthcare professionals and decision makers in policy decision making. This could result in developing evidenced based strategies to support health literacy and

positive attitude towards HPV, Pap Smear testing and HPV vaccination among women with HIV.

Conclusion

Women who are HIV positive do have low levels of knowledge and poor attitude about cervical cancer prevention which may suggest that there may be gaps in their knowledge about risks associated with HPV and cervical cancer. Moreover, perceived barriers such as fearfulness of a cervical cancer diagnosis and feelings of embarrassment were the most common reasons women with HIV were not screened as per recommended guidelines despite recognizing the importance of regular cervical cancer screening. Further, the negative attitude to the HPV vaccine among women in this study is also of concern, notwithstanding the risks associated with a diagnosis of HIV.

This finding underscores the need for the development of a seamless cancer prevention as well as HIV management programs that focus on incorporating cervical cancer education in HIV management. Given the heightened level of risk for development of cervical cancer among women with HIV it is necessary that health systems focus on providing a comprehensive cervical cancer prevention education program for women with HIV.

Implications for Nursing

The findings from this research can serve as a framework for advocating for the integration of Pap Smear screening into the management of HIV at all levels of the health system. This will necessitate the review of curricula at all levels of nurse training to ensure that nursing personnel are prepared with the requisite levels of competence to respond to the dynamic needs of women at the preventative, curative and rehabilitative levels of care. Further, health systems, in responding to the perceived barriers to uptake of cervical cancer screening among HIV positive women, must be structured in such a way that nurses are given the necessary human and material resources to provide integrated services.

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