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Patient-Related Factors Influencing Uptake of Cervical Cancer Screening Services among Outpatient HIV-Positive Women at PCEA Chogoria Hospital, Tharaka-Nithi, Kenya

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Abstract

Cancer of the cervix is the leading gynecological malignancy in women and the most prevalent cancer among HIV-positive women. HIV-positive women have up to six times higher risk of contracting cervical cancer as compared to HIV-negative women. The World Health Organization (WHO) recommends that sexually active girls and women should start screening for cervical cancer as soon as they are diagnosed with HIV. However, studies conducted in most developing countries, including Kenya, have established a low uptake of CCS services among this population. The purpose of this study was to determine patient-related factors influencing cervical cancer screening (CCS) uptake among women living with HIV (WLHIV) in PCEA Chogoria Hospital, Tharaka-Nithi County, Kenya. A cross-sectional descriptive survey design was used. A total of 130 WLHIV were recruited into the study using convenient sampling technique. Data was collected using a semi-structured questionnaire and was analyzed using both descriptive statistics and inferential statistics. Chi-square tests were used to establish the association between patient-related factors and screening for cervical cancer. The findings of the study revealed that 79% of the WLHIV had screened for cervical cancer. Most of the WLHIV screened for cervical cancer as a personal initiative or after recommendation by a health care worker. Patient-related factors such as level of education, age, marital status, partner support, and religion significantly ($p < 0.05$) influenced the likelihood of the WLHIV screening for cervical cancer. The study recommends that health care workers should continually initiate and support CCS to WLHIV because this modality appeared to greatly increase the uptake of CCS. Moreover, health care workers should encourage partner support for CCS. Policy formulators can use the information as a guide in formulating policies that will enhance uptake of CCS among WLHIV.

Subject Areas

Gynecology & Obstetrics

Keywords

Cervical Cancer, Screening, HIV-Positive Women, Uptake, Patient-Related Factors

1. Introduction

Globally, cancer of the cervix kills more than 300,000 women every year and it is the fourth leading type of cancer in women (Gultekin *et al*., 2020) [1]. It has been projected that if cancer of the cervix prevention and treatment are not scaled up, the incidence of the disease and mortality could double by the year 2035 (UNAIDS, 2018) [2]. For this reason, the World Health Organization (WHO) advocates for effective prevention strategies such as screening to control the impact of cervical cancer, especially among at-risk women such as women living with HIV (WLHIV) (WHO, 2020) [3]. However, the main problem has been the uptake of screening for cancer of the cervix as a strategy to reduce mortality associated with the disease.

Despite many WLHIV living healthy and long lives (because of antiretroviral therapy), many are also dying because of complications such as cancer of the cervix (UNAIDS, 2018) [2]. The prevalence of cervical cancer among WLHIV ranges from 5% in areas with low HIV prevalence to an estimated 40% in re- gions with high prevalence of HIV (WHO, 2020) [3]. Moreover, about 85% of cancer of the cervix cases in WLHIV is found in Sub-Saharan Africa, a region with the highest prevalence of HIV/AIDS (WHO, 2020) [3]. In the Eastern Afri- can region, the percentage of WLHIV suffering from cancer of the cervix is es- timated to be 22.9% (Stelzle *et al*., 2021) [4]. Kenya ranks second after Uganda in proportions of cancer of the cervix among WLHIV in the Eastern Africa region (Stelzle *et al*., 2021) [4]. Although the prevalence of cancer of the cervix cases among WLHIV in Kenya has not been quantified, the proportion of WLHIV with cancer may be higher than that of the developed countries (WHO, 2020) [3].

WHO recommends that sexually active girls and women should start screen- ing for cancer of the cervix as soon as they are diagnosed with HIV. The current Ministry of Health (MOH) guidelines in Kenya recommend cervical cancer screening for HIV-positive women immediately after diagnosis irrespective of their age if they have ever had sexual intercourse (MOH, 2018) [5]. Studies con- ducted in Kenya and other developing countries have established low uptake of CCS services among WLHIV (Bulto *et al*., 2019 [6]; Lukorito *et al*., 2017 [7]; Wanyenze *et al*., 2017 [8]).

Literature indicates that the uptake of cervical cancer screening services may

be influenced by various patient-related factors such as knowledge about the risk factors of contracting cervical cancer (Erku *et al*., 2017 [9]; Lukorito *et al*., 2017 [7]), age (Bulto *et al*., 2019 [6]; Lukorito *et al*., 2017 [7]); patient's level of education (Chukwunyere & Awonuga, 2019 [10]; Erku *et al*., 2017 [9]); years lived with HIV (Assefa *et al*., 2019 [11]; Chukwunyere & Awonuga, 2019 [10]; Wanyenze *et al*., 2017 [8]); and income or type of employment (Lukorito *et al*., 2017 [7]; Solomon *et al*., 2019 [12]). Other factors include partner support (Assefa *et al*., 2019 [11]; Lukorito *et al*., 2017 [7]), as well as experiences of cervical-cancer like symptoms (Chukwunyere & Awonuga, 2019 [10]; Lukorito *et al*., 2017 [7]).

Cervical cancer is mainly caused by HPV virus and the risk factors of contracting the disease include early sexual intercourse, immune suppression by diseases like HIV and having multiple sexual partners. HIV-positive women are more likely to suffer from persistent HPV infections and thus have a higher risk of cervical cancer. Literature indicates that WLHIV has up to six times higher risk of cervical cancer as compared to HIV-negative women. The WHO recom- mends that sexually active girls and women should start screening for ca cervix as soon as they are diagnosed with HI. Tharaka-Nithi County has an HIV preva- lence of 3.9% and approximately 5368 women living with HIV access HIV com- prehensive care services across the County. Uptake and factors affecting utiliza- tion of CCS among WLHIV in the county are not clearly known. Apparently, there appears to be no study that has investigated factors that influence decisions to undertake CCS amongst WLHIV in Tharaka Nithi County. There is also li- mited information on the uptake of CCS services among WLHIV in Thara- ka-Nithi. This study, therefore, sought to determine patient-related factors in- fluencing CCS uptake among WLHIV in Tharaka-Nithi by focusing on PCEA Chogoria Hospital which attends to the highest population of HIV-positive women in the County.

2. Methodology

2.1. Study Design and Sampling

A cross-sectional descriptive survey design was used and data were collected from outpatient WLHIV seeking services at the Comprehensive Care Center (CCC) department of PCEA Chogoria located in Tharaka-Nithi County. A sam- ple size of 130 patients was obtained from the 1054 HIV-infected women on ART at the facility (PCEA Chogoria Health Record, 2020) using the Fisher *et al*. (1998) formula. The research participants in each facility were recruited using convenient sampling technique.

2.2. Data Collection Tool

Data was collected by the researcher using a semi-structured questionnaire. Pre- testing of the questionnaires was conducted at Chuka County Referral Hos- pital, Tharaka-Nithi County. Pre-testing helped in evaluating the accuracy and clarity of the questions on the questionnaires. Corrections and amendments were

made on the questions after the pre-test. Healthcare providers involved in CCS of WLHIV also helped to review the tools to enhance content validity of the tool. The data collection questionnaire was tested for reliability using the test-retest method which generated a correlation coefficient value of 0.87 which was considered adequate.

2.3. Data Analysis

Collected data were analyzed using SPSS v.26. Frequencies and percentages were used to describe the quantitative data while relationships between variables were tested using Chi squares.

2.4. Ethical Considerations

Approval to carry out the study was obtained from the Chuka University Ethics and Research Committee. Besides, a permit to carry out the research was ob- tained from the National Commission for Science, Technology and Innovation (NACOSTI). Authority to collect data from PCEA Chogoria Hospital was also obtained from the facility. All the ethical considerations of voluntariness, in- formed consent and confidentiality were adhered to.

3. Results

3.1. Sociodemographic Characteristics of the Respondents

A total of 105 participants out of 130 completed the questionnaires representing a response rate of 80.7%. The mean age of the participants was 41.72 years with a standard deviation of ±10.81. Their modal and median age was 45 and 42 years respectively. Most of the respondents were in the age range of 31 to 50 years.

Nearly half of the study participants 50 (47.6%) were married, 27 (25.7%) were single, 17 (16.2%) widowed, 7 (6.7%) separated, and 4 (3.8%) divorced. Besides, 61 (58.1%) of the outpatient WLHIV were self-employed, 27 (25.7%) were unemployed, while 17 (16.2%) were formally employed. A majority *i.e*. 104 (99%) of the study participants were Christians and the remaining 1 (1%) was a Muslim. Almost half *i.e*. 48 (45.7%) had secondary, 29 (27.6%) primary and 27 (25.7%) tertiary level of education, while the remaining 1 (1%) did not attend school. Slightly more than two-thirds *i.e*. 74 (70.5%) of the outpatient WLHIV had lived with the illness for more than five years and 31 (29.5%) for less than five years. A majority *i.e*. 92 (87.6%) of the study participants had 1 - 3 children, 12 (11.4%) had more than 3, and 5 (2.6%) had none. Also, most *i.e*. 66 (62.9%) of the outpatient WLHIV had an active health insurance while 39 (37.4%) did not have any (**Table 1**).

3.2. Uptake of Cervical Cancer Screening Services

The study sought to establish the number of WLHIV who had been screened for cervical cancer. The results are presented in **Figure 1**.

Figure 1 shows that a majority *i.e*. 83 (79%) of the outpatient WLHIV reported

Table 1. Sociodemographic characteristics of the outpatient WLHIV.

Sociodemographic Characteristics		Frequency (n)	Percentage (%)
Marital status	Single	27	25.7
	Married	50	47.6
	Divorced	4	3.8
	Separated	7	6.7
	Widowed	17	16.2
	Total	105	100
Employment status	Formally employed	17	16.2
	Self-employed	61	58.1
	Unemployed	27	25.7
	Total	105	100
Religion	Christian	104	99
	Muslim	1	1
	Total	105	100
Education Level	None	1	1
	Primary	29	27.6
	Secondary	48	45.7
	Tertiary	27	25.7
	Total	105	100
Years lived with HIV	5 or fewer years	31	29.5
	More than 5 years	74	70.5
	Total	105	100
Number of children	None	1	1
	3 or less	92	87.6
	More than 3	12	11.4
	Total	105	100
Has health insurance	Yes	66	62.9
	No	39	37.1
	Total	105	100

that they had screened for cervical cancer at least once. The remaining 21% had not screened for cervical cancer.

3.2.1. Reasons for Undergoing CCS

The research participants were asked to indicate why they underwent cervical cancer screening and the results are shown in **Table 2**.

Table 2 shows that most of the outpatient WLHIV *i.e.* 52 (61.9%) who had screened did so as a personal initiative, the remaining 31 (36.9%), and 1 (1.2%) were recommended to screen by a health care provider or participated in a study respectively.

Table 2. Reasons for undergoing CCS.

Reason for undergoing CCS	Frequency (n)	Percentage (%)
Personal initiative	52	61.9
Recommendation by HCP	31	36.9
Participation in a study	1	1.2
Total	84	100

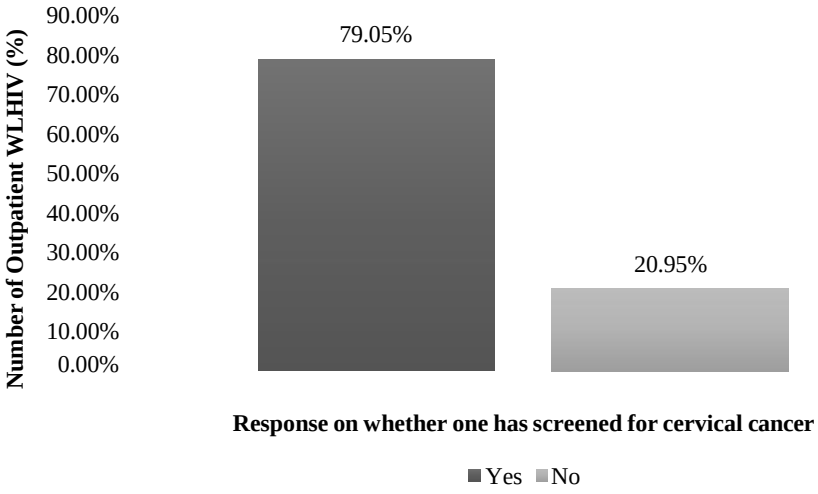

Figure 1. Number of outpatient WLHIV who have undergone CCS.

3.2.2. Experiences during CCS Screening

The participants of the study were asked to report on how their experience was during the cervical cancer screening exercise and their responses are shown in **Figure 2**.

Among those who had screened for cervical cancer, 28 (34.6%) reported that the test was uncomfortable while 26 (32.1%), 19 (23.5%), and 8 (9.9%) indicated that it was normal, embarrassing, or uncomfortable respectively (**Figure 2**).

3.2.3. Reasons for Not Screening for Cervical Cancer

The outpatient WLHIV were also asked to indicate reasons why they had not undergone cervical cancer screening and their responses are shown in **Table 3**.

Table 3 shows that almost half *i.e.* 47.62% of the patients who had not undergone CCS feared that it might be embarrassing/painful and were the highest while 4.76% believed that God will protect them.

3.3. Patient-Related Factors Influencing Uptake of CCS among Outpatient WLHIV

The study sought to establish the association between patient-related factors and uptake of cervical cancer screening services among outpatient WLHIV. The re- sults are presented in **Table 4**.

Table 4 shows that there was significant ($p < 0.05$) association between ages and having been screened for cancer of the cervix among the outpatient WLHIV

Table 3. Reasons for not screening for cervical cancer among outpatient WLHIV.

Reason for not screening	Frequency (n)	Percentage (%)
Don't know about CCS	4	19.05
Fear it may be embarrassing/painful	10	47.62
I do not see the need for undergoing the test	3	14.29
I fear the results of a CCS test	3	14.29
God will protect me	1	4.76
Total	23	100

Table 4. Association between patient-related factors and uptake of CCS among the WLHIV.

Age in years?	Have you ever been screened for cervical cancer?			Statistics
	Yes	No	Total	
20 - 30	5 (4.76)	9 (8.57)	14 (13.33)	$\chi^2 = 20.536$
31 - 40	28 (26.67)	6 (5.71)	34 (32.38)	$N = 105$
41 - 50	29 (27.62)	3 (2.86)	32 (30.48)	df = 3
Over 50	22 (20.95)	3 (2.86)	25 (23.81)	p-value = 0.0001
Total	84 (80)	21 (20)	105 (100)	
What is your marital status?	Have you ever been screened for cervical cancer?			Statistics
	Yes	No	Total	
Single	16 (15.24)	11 (10.48)	27 (25.71)	
Married	43 (40.95)	7 (6.67)	50 (47.62)	$\chi^2 = 10.707$
Divorced	3 (2.86)	1 (0.95)	4 (3.81)	$N = 105$
Separated	6 (5.71)	1 (0.95)	7 (6.67)	df = 4
Widowed	16 (15.24)	1 (0.95)	17 (16.19)	p-value = 0.030
Total	84 (80)	21 (20)	105 (100)	
What is your employment status?	Have you ever been screened for cervical cancer?			Statistics
	Yes	No	Total	
Formally employed	14 (13.33)	3 (2.86)	17 (16.19)	$\chi^2 = 0.799$
Unemployed	50 (47.62)	11 (10.48)	61 (58.1)	$N = 91$
Self-employed	20 (19.05)	7 (6.67)	27 (25.71)	df = 2
Total	84 (80)	21 (20)	105 (100)	p-value = 0.671
What is your Religion?	Ever been screened for cervical cancer?			Statistics
	Yes	No	Total	
Christian	84 (80)	20 (19.05)	104 (99.05	$\chi^2 = 4.0$
Muslim	0 (0)	1 (0.95)	1 (0.95)	$N = 105$, df = 1
Total	84 (80)	21 (20)	105 (105)	p-value = 0.0445

Continued

Highest Level of education?	Ever been screened for cervical cancer?			Statistics
	Yes	No	Total	
None	0 (0)	1 (0.95)	1 (0.95)	
Primary	23 (21.9)	6 (5.71)	29 (27.62)	$\chi^2 = 4.483$
Secondary	38 (36.19)	10 (9.52)	48 (45.71)	$N = 105$
Tertiary	23 (21.9)	4 (3.81)	27 (25.71)	df = 3
Total	84 (80)	21 (20)	105 (100)	p-value = 0.213
Screened for cervical cancer?	Level of Knowledge on Risk Factors?			Statistics
	Low	High	Total	
Yes	47 (44.76)	37 (35.24)	84 (80)	$\chi^2 = 1.1575$
No	9 (8.57)	12 (11.43)	21 (20)	$N = 105$; df = 1
Total	56 (53.33)	49 (46.67)	105 (100)	p-value = 0.2820
Discusses with spouse	Have you ever been screened for cervical cancer?			Statistics
	Yes	No	Total	
Yes	46 (43.81)	4 (3.81)	50 (47.62)	$\chi^2 = 8.5$
No	38 (36.19)	17 (16.19)	55 (52.38)	$N = 105$, df = 1
Total	84 (80)	21 (20)	105 (100)	p-value = 0.003

Values in parenthesis are percentages of the respondents.

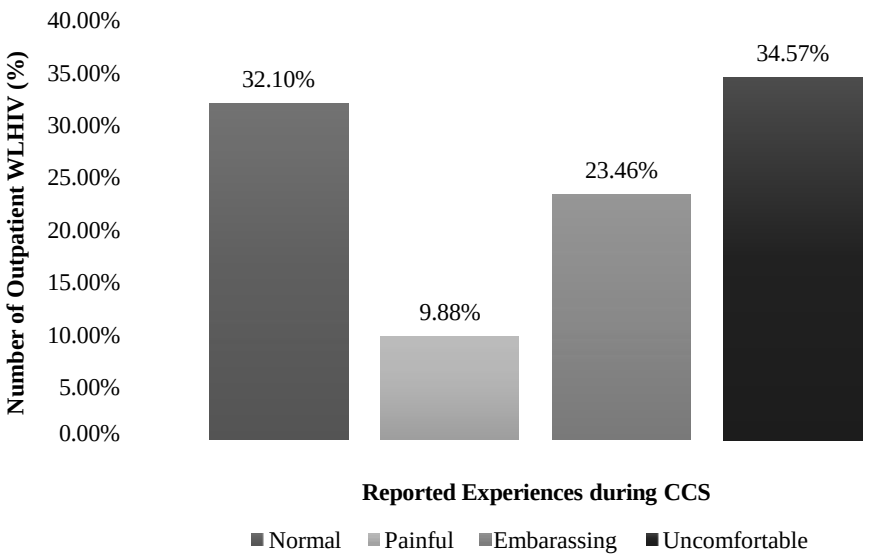

Figure 2. Self-reported experiences of undergoing CCS among Outpatient WLHIV.

(χ^2 (3, N = 105) = 20.536, $p < 0.0001$). Up to 80% of the outpatient WLHIV had screened for cancer of the cervix with many of them (27.62%) aged 41 - 50 years while those aged 20 - 30 years were 4.76% and were the minority. Moreover, a significant ($p < 0.05$) association was observed between marital status and hav- ing been screened for cancer of the cervix among the outpatient WLHIV (χ^2 (4, N =

105) = 10.707, p = 0.030). Married WLHIV who had screened for cancer of

the cervix were many (40.95%) while those who had divorced were fewer (2.86%).

There was no significant ($p < 0.05$) association between employment status and having been screened for cancer of the cervix among the outpatient WLHIV (χ^2 (2, $N = 105$) = 0.799, $p = 0.671$). Most of the patients (47.62%) who have screened for cancer of the cervix were unemployed while 9.89% who were the minority were in formal employment. However, religion was significantly ($p < 0.05$) associated with having been screened for the cancer of the cervix among the outpatient WLHIV (χ^2 (1, $N = 105$) = 4.038, $p = 0.0445$). 80% of the patients who had screened for cancer of the cervix were Christians.

Out of 80% of the patients who had screened for cancer of the cervix, 36.19% had attained secondary level of education and were the majority. Lower percen- tage of 21.9% was for the WLHIV having primary and tertiary education respec- tively. However, no significant ($p > 0.05$) association was observed between educa- tion level and having been screened for cancer of the cervix (χ^2 (3, $N = 105$) = 4.483, $p = 0.213$). Similarly, there was no significant ($p > 0.05$) relationship be- tween the participants' level of knowledge and their uptake of CCS services at PCEA Chogoria Hospital. Most of the participants (53.33%) had low levels of knowledge out of which 44.76% had screened and 8.57% had not screened for cervical cancer.

There was significant ($p < 0.05$) association between having been screened for cancer of the cervix and patients discussing the need to undergo CCS with their husbands among the outpatient WLHIV (χ^2 (1, 105) = 8.591, $p = 0.003$). Out of 80% of patients who had undergone CCS, 43.81% reported having discussed with their husbands the need for CCS while 35.16% who had undergone CCS had not discussed with their husbands the need for the screening.

4. Discussion

In this study, a majority (79%) of the respondents reported that they had screened for cancer of the cervix. The high rate of uptake of CCS is only compared to what has been reported in developed countries. In a similar study carried out in Canada by Pokomandy *et al*. (2019) [13], almost 70% of the WLHIV who participated in the survey reported that they had their last Pap smear test within the last year. Similarly, CCS uptake among the general population and WLHIV has been reported to be above 80% in the United States (Watson *et al*., 2017) [14]. Fewer studies carried out in developing countries have reported more than 50% rate of CCS uptake among WLHIV. For instance, a study done in Côte d'Ivoire reported that slightly above 50% of the WLHIV who participated in the study had screened for cancer of the cervix (Tchounga *et al*., 2019) [15]. The high uptake of CCS services in this study differs from that reported in most developing countries. Most of the reviewed studies reported less than 30% uptake of CCS services among WLHIV (Nyangasi *et al*., 2019 [16]; Erku *et al*., 2017 [9]; Wanyenze *et al*., 2017 [8]). Similarly, the rate of uptake of CCS among the general population has also been low including in the area of study (Willy & Obuya,

2021 [17]; Lukorito *et al*., 2017 [7]).

A majority (98%) of those who had screened for cancer of the cervix in this study did so either as a personal initiative or after they were asked to screen by their healthcare providers. This finding is similar to what was reported in other studies. For instance, in a study done in Ethiopia, a majority of the women who had undergone screening did so after they were advised by the healthcare workers to take up the test during their HIV follow-up clinics (Tchounga *et al*., 2019) [15]. Similarly, another study reported that around 56% of the WLHIV who had undergone CCS did so after a healthcare provider's recommendation (Lukorito *et al*., 2017) [7]. These findings show that healthcare providers play an important role in encouraging people to adopt healthy behaviours such as regular screening for cancer of the cervix. Moreover, integration of cervical cancer screening to the routine HIV care provides an opportunity for the health care givers to initiate cervical cancer screening for the WLHIV. A study by Munoru *et al*. (2019) [18] reported that integration of CCS to routine HIV care improves knowledge about cervical cancer screening and also its uptake among WLHIV.

Respondents who had not screened for cancer of the cervix gave reasons such as fear that the test was embarrassing or painful (48%), fear of the results (14%), not seeing the need to undergo the test (14%), not knowing about CCS (19%), or beliefs that one will be protected by God (5%). In a similar study, respondents who had not screened feared undressing before the healthcare provider, results of the test, pain during the procedure, did not know where to go for CCS screening, or lacked money for testing (Lukorito *et al*., 2017 [7]; Erku *et al*., 2017 [9]; Wanyenze *et al*., 2017 [8]). Other respondents gave reasons such as absence of symptoms of cancer of the cervix (Erku *et al*., 2017) [9], and lack of time (Wanyenze *et al*., 2017) [8].

Findings of this study revealed that there was a significant association between participants' age and having been screened for cancer of the cervix (χ^2 (3, 196) = 11.747, p = 0.008). These findings corroborate with findings in similar studies which reported that there was a significant association between the respondents' age and their likelihood of screening for cancer of the cervix (Chukwunyere & Awonuga, 2019 [10]; Erku *et al*., 2017 [9]; Wanyenze *et al*., 2017 [8]; Lukorito *et al*., 2017 [7]).

Age is likely to influence an individual's perceived risk of suffering from cancer of the cervix. For instance, younger people may perceive themselves to be at a less risk of cervical cancer as compared to older individuals. However, the results of this study differ from findings of another similar study which reported that patient's age did not have a significant influence on an individual's likelihood of undergoing CCS (Bulto *et al*., 2019) [6].

There was significant between marital status and having been screened for the cancer of the cervix (χ^2 (4, 196) = 12.308, p = 0.0152). Moreover, a significant association was observed between having been screened for cancer of the cervix and discussing the need to undergo CCS with marriage partners ($p < 0.05$). Similar studies reported that HIV-infected women who had partner support were

more likely to screen for cancer of the cervix than those without (Lukorito *et al*., 2017 [7]; Assefa *et al*., 2019 [11]). Literature suggests that using the natural support systems is an effective strategy of promoting the adoption and improving the sustainability of lifestyle modifications (Aschbrenner *et al*., 2017) [19]. Marriage partners, friends, as well as family members may provide the practical support and verbal encouragement required to adopt healthy behaviors such as CCS (Latkin & Knowlton, 2015) [20].

In this study, employment status did not significantly influence the study participants' likelihood of screening for cancer of the cervix ($p > 0.05$). In contrast, occupation was identified as a predictor of CCS among WLHIV in a study conducted by Solomon *et al*. (2019) [12]. Women who were government employees were more likely to screen for cancer of the cervix than those who were not in any formal employment (Lukorito *et al*., 2017) [7]. Another study also reported a higher likelihood of screening for cancer of the cervix among WLHIV who had a high monthly income (Bulto *et al*., 2019) [6]. Employment or level of income is likely to influence one's ability to afford the CCS tests.

There was no significant association between patients' education level and having been screened for cancer of the cervix ($p = 0.213$). In contrast, other sim- ilar studies also reported that the level of education was a significant determi- nant of CCS (Chukwunyere & Awonuga, 2019 [10]; Assefa *et al*., 2019 [11]; Erku *et al*., 2017 [9]; Lukorito *et al*., 2017 [7]). The findings of this study also revealed a significant association between patients' religion and the likelihood of screen- ing for cancer of the cervix ($p < 0.05$). A similar study carried out among WLHIV in a West African country also reported that religion was a strong determiner of CCS. Moslem women were more likely to undergo CCS as compared with women from other religions (Rimande-Joel & Ekenedo, 2019) [21]. However, other stu- dies did not identify a significant association between religion and uptake of CCS (Assefa *et al*., 2019 [11]; Erku *et al*., 2017 [9]; Lukorito *et al*., 2017 [7]). In contrast to findings reported in other similar studies (Black *et al*. 2019 [22]; Erku *et al*., 2017 [9]; Shiferaw *et al*., 2016 [23]), the level of knowledge on the risk fac- tors of contracting cancer of the cervix did not have a significant influence on the uptake of CCS services among outpatient WLHIV who took part in this.

5. Summary and Conclusion

A majority (79%) of the respondents reported that they had screened for cancer of the cervix. Thus, there was a relatively high level of uptake of CCS among the outpatient WLHIV in Tharaka-Nithi County when compared to what was reported by similar studies done in the country and other developing nations. Most of those who had screened for cervical cancer did so as a personal initiative or after a recommendation to screen from a health care giver. The outpatient WLHIV who had screened for cancer of the cervix was afraid of the test results, the test being embarrassing or painful or did not see the need to undergo the test. Most of the reasons given for undergoing or not undergoing the tests were similar to what was reported in similar studies. Moreover, patient-related factors such as

age, marital status, partner support, and religion significantly ($p < 0.05$) influ- enced the decision to undergo CCS among outpatient WLHIV in this study lo- cation.

Recommendations

Healthcare providers working in the HIV comprehensive care centers should continually encourage WLHIV to screen for cancer of the cervix because this modality has greatly improved the uptake of screening services in the area of study. Health care workers should also initiate and support cervical cancer screening for WLHIV. Additionally, health care givers should facilitate and encourage partner support during CCS of WLHIV.

Limitations of the Study

One of the main limitations of this study was the study design. The design adopted in this study relies on the information provided by the respondents. Self-reports may lead to biased information. However, this limitation was addressed by reas- suring the study participants that the information they gave would be treated confidentially and will be used for the purpose of research only.

Conflicts of Interest

Authors have declared no conflicts of interest.

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