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Factors that Influence Uptake of Cervical Cancer Screening Among Women Attending Fort Portal Regional Referral Hospital Kabarole District Uganda

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ABSTRACT

Poor access to comprehensive cervical cancer screening added significantly to the high morbidity and mortality rates brought on by the disease in poor nations. The majority of the burden of this was placed on underserved communities in rural areas, where access to health care was hampered by problems with transportation, inadequate medical facilities, and a lack of information. In this study, women at Fort Portal Regional Referral Hospital (FPRRH) were asked to rate their use of cervical cancer screening and its related factors. This descriptive cross-sectional study used quantitative data collection techniques and was conducted in Fort Portal City, at FPRRH. A semi-structured questionnaire on cervical cancer screening was used to gather information from females between the ages of 15 and 49 who had lived in the area for at least six months. Epi-data 3.02 was used to enter the data and STATA 12.0 was used to analyse it. The analyses included univariate, bivariate, and multivariate. Negative person perceptions were cited as a barrier to cervical cancer screening 553 times (64.5%), and 416 other respondents (48.5%) claimed they were unaware of the screening program. Being recommended by a health professional [AOR = 87.85, p 0.001], knowing where screening services were offered [AOR = 6.24, p = 0.004], and knowing someone who had ever been screened [AOR = 9.48, p = 0.001] were the independent predictors of cervical cancer screening. Cervical cancer screening knowledge, attitude, and practice were lacking. The responsible body needed to actively spread information about cervical cancer screening, boost women's economic standing, and offer cervical cancer counselling while patients were receiving medical care. To improve access to the service in remote regions, interventions to promote cervical cancer screening should be put into place.

Keywords: Cervical cancer screening services, Women, Health professionals, Females between the ages of 15 and 49, cervical cancer counselling.

INTRODUCTION

Cancer was considered the second leading cause of death after cardiovascular diseases, with an estimated 9.6 million deaths globally [1–3]. In 2015, the disability-adjusted life years (DALYs) caused by cancer for both men and women were 208.3 million worldwide [4]. High-risk human papillomavirus (HPV) is a known causal agent of cervical cancer, a very common virus transmitted through sexual contact [5], with sexually active women at high risk of getting infected with HPV during their lifetime, with an estimated lifetime highest prevalence reaching nearly 50% among those aged 20–24 years [3]. Globally, cervical cancer (C.C.) continues to be a major public health problem affecting middle-aged women, with around 570,000 cases of C.C. and 311,000 deaths occurring in 2018 [6]. According to global cancer statistics, C.C. ranks fourth for both incidence (6.6%) and mortality (3.5%) among females in 2018 [7]. According to the World Health Organisation (WHO) [8], a woman dies from cervical cancer every two minutes, with more than 90% of these deaths accounting for low- and middle-income (LMIC) countries. Cervical cancer makes up up to 85% of the new cases and 87% of the deaths that occur, making it the second most commonly diagnosed cancer and the third leading cause of cancer death among females in less developed regions [9]. In sub-Saharan Africa, cervical cancer incidence has been increasing, becoming the second most prevalent and incidental type of cancer among women after breast cancer [10]. In response to the above incidences, WHO targeted three goals aimed at eliminating cervical cancer. Goal one says 90% of girls have to be fully vaccinated with the HPV vaccine by age. 15 Goal two: 70% of women should be screened with a high-performance test by the age of 35 and again at 45; and goal three: 90% of women identified with cervical cancer should receive treatment (90% of women with pre-cancer treatment, 90% of women with invasive cancer managed) that is designed to mitigate cervical cancer by reducing the number of cases to 4 cases per 100,000 women per year [8, 11]. In Uganda, the guidelines for cervical cancer screening advocate a see-and-treat approach where women aged 25 to 49 years are screened using visual inspection with acetic acid (VIA), followed by cryotherapy [12]. While screening by cytology (pap smears) has prevented up to 80% of cervical cancer in high-resource settings [12], this approach is not currently feasible in Uganda due to inadequate infrastructure and a lack of trained personnel [13]. Despite concerted efforts and improved screening

protocols, HPV 16/18 prevalence among Ugandan women has been estimated at 33.6% [14]. Furthermore, cervical cancer ranks as the 1st leading cause of female cancer in Uganda and is the most common female cancer in women aged 15 to 44 years [6]. There is no documented information about the factors that determine the uptake of cervical cancer screening among women attending health care at FPRRH, Kabarole district. The study was meant to find out factors that determine the uptake of cervical cancer screening services by women of reproductive age, and knowing these factors will help to improve cervical cancer screening uptake in the Kabarole district, thereby reducing maternal morbidity and mortality. According to global cancer statistics, cervical cancer ranks fourth for both incidence (6.6%) and mortality (3.5%) among females in 2018 [7]. According to the WHO[8] a woman dies from cervical cancer every two minutes, with more than 90% of these deaths accounting for low- and middle-income (LMIC) countries. In sub-Saharan Africa, cervical cancer incidence has been increasing, becoming the second most prevalent and incidental type of cancer among women after breast cancer[15]. A recent study showed that cervical cancer accounts for 13% of female cancers. The study also illustrated eastern and western Africa as high-risk regions, with a cumulative risk of 3.8%, as well as (2.9%) southern Africa [16]. In East Africa, cancer of the cervix is the leading cause of cancer-related morbidity, with one of the incidence rates above 40 cases per 100,000 of the population [16]. In addition, cervical cancer ranks as the first leading cause of female cancer in Uganda and is the most common female cancer in women aged 15 to 44 years[17, 18]. No study has been conducted in the Kabarole district to explain why there is a high prevalence of cervical cancer. This study was meant to find out the factors that influence the uptake of cervical cancer screening services at Fort Portal RRH, and knowing these factors will help to improve C.C. screening uptake in the Kabarole district and possibly the Tooro region at large. The study was designed to assess the factors that determine the uptake of cervical cancer screening services among women aged 15–49 attending health care at Fort Portal Referral Hospital (FPRRH), Kabarole district.

METHODOLOGY

Area of Study

This study was conducted at FPRRH, Kabarole district, western. It is a public hospital funded by the Uganda Ministry of Health (MoH), and general care in the hospital is free. It is one of the 13 "regional referral hospitals" in Uganda. The hospital is designated as one of the 15 "internship hospitals" where graduates of Ugandan medical schools can serve one year of internships under the supervision of qualified specialists and consultants. The bed capacity of Fort Portal Hospital is quoted as 333. Fort Portal Hospital lies within the city of Fort Portal, approximately 148 kilometres (92 miles) by road west of Mubende Regional Referral Hospital (George, 27 October 2020). This location is approximately 294 kilometres (183 miles) west of Mulago National Referral Hospital in Kampala, Uganda's capital and largest city. The coordinates of the hospital are 03919. O N, 3016'53. O" E (latitude: 0.655278, longitude: 30.281389) (Google, November 27, 2020). It is commonly known as Fort Portal Hospital, sometimes referred to as Buhinga Hospital. It is the referral hospital for the districts of Bundibugyo, Kabarole, Kamwenge, Kasese, Ntoroko, and Kyenjojo (Mafaranga, Hope, July 2010, Steven Aiganiza, and July 2009). Kabarole district is a district in western Uganda, part of the kingdom of Toro. It is bordered by Ntoroko district to the north, Kibaale district to the north-east, Kyenjojo district to the east, Kamwenge district to the south-east, Bunyangabu district (which was formerly a county of Kabarole district) to the south, the Democratic Republic of Congo to the southwest, and Bundibugyo district, which crosses the Rwenzori mountains to the west. Portal, the chief town (Uganda's tourism city) in the district, lies approximately 320 kilometres (200 miles) by road, west of Kampala, the capital city of Uganda (Mafaranga, Hope, July, 2010). Its main two were Fort Portal before July 1, 2020, when it was elevated to a city, separating it from the Kabarole district government. The new Kabarole district seat is proposed by the Busoro town council. Kabarole remains in only one county (Burahya). The coordinates of the district are 00 36N, 30 18E (latitude, 0.6000, longitude, 30.000). The surface area is 1,814 km2 (700 sq m), with a total population of 415,600 (2012 estimates). The Batoro, Batuku, and Basongora ethnicities constitute about 52% of the population. The Bakiga constitute 28%, followed by the Bakonjo and Bamba. The major languages spoken in the district are Rutooro, Rukiga, and Runyankole, with subsistence Agriculture and animal husbandry being the main economic activities, and livestock is the second economic activity practised in the district. Commercial fishing occurs on about 30 of the 52 lakes scattered in Kabarole district. The main fish species harvested from the crater lakes is the small haplochromine (Nkejje). Fishing, mainly of Protopterus aethiopicus (lungfish), is also carried out in several wetlands.

Study design

A descriptive cross-sectional study with a quantitative approach to data collection and analysis was used.

Study population.

This study involved women aged 15–49 attending health care at FPRRH.

Inclusion criteria.

All women aged 15–49, both inpatient and outpatient, who consented were included in this study.

Exclusion criteria.

Any woman aged 15–49, both in-patient and out. Patients who did not consent were not included in this study. Also, all women who did not meet the set age group were not included in the study.

Sample size determination

The sample size for the study was calculated using the Kish and Leslie [19] formula as follows:

$$N = \frac{Z^2(1-P)}{d^2}$$

Where,

n = desired sample size

z = standard deviation (1.96) at a 95% confidence interval

p = proportion of women attending cervical cancer screening services. Since there's no literature, P is conventionally taken as 0.5.

d = margin of error (5%)

$$n = \frac{(1.96)^2 0.5(1-0.5)}{(0.05)^2}$$

n=384 participants.

Sampling technique

A simple, convenient random sampling technique was used.

Sampling procedure

A convenient random sampling technique was used, choosing participants based on their convenience.

Data collection

Qualitative data was obtained through focused group discussions (FGDs) with selected participants (women), key informants, and healthcare workers who gave first-hand information. End-to-end structured questionnaires were used to collect quantitative data. Each questionnaire had three sections on the different objectives. Secondary data was collected from published articles, magazines, and policy articles.

Data analysis

Each questionnaire was checked for completeness, missed valves, and unlikely responses that were manually cleared up upon such indications. Data was analysed for frequency and percentage and will be displayed using the statistical package for social science (SPSS), a Microsoft Excel spreadsheet, and information was summarised in the form of percentages, pie charts, and tables to give descriptive statistics for easy understanding by other researchers.

Plan for Data Dissemination

Research findings will be presented to FPRRH administration, interested research participants, and KIU-WC; a copy will be available at the university library. The findings will also be presented in different forms, like conferences and seminars, and published in different journals.

Ethical Considerations

This was conducted with the approval of my supervisor, and clearance was obtained from the KIU-WC faculty of clinical medicine and dentistry through IREC. Consent was obtained both verbally and in writing from the hospital administration and the selected participants. Confidentiality was ensured throughout the whole process, and all the obtained information was used solely for the study.

RESULTS

Socio-demographic characteristics of the respondents

327 (85.2%) of the 384 respondents were married, and 265 (69.1%) of them made less than $150,000 a month. The bulk of respondents, or 300, were between the ages of 25 and 39. Among the respondents, only 97 (25.3%) had completed their post-primary education, 214 (55.8%) were farmers, and 260 (67.8%) lived in rural areas (**Table 1**).

Table 1: Socio-demographic characteristics of the respondents

Variable	Frequency	Percentage
Age group		
15-39	300	78.1
40-49	84	21.9
Residence		
Rural	260	67.8
Urban	124	32.2
Religion		
Christians	222	57.6
Muslim	162	42.2
Marital status		
Married	327	85.2
Single	57	14.8
Education		
None/Primary	287	74.7
Secondary and above	97	25.3
Occupation		
Variable	**Frequency**	**Percentage**
Farming	214	55.8
Others (business, house wife, civil servant)	170	44.2
Parity		
Four and below	184	47.8
Above four	200	52.2
Average income		
<150,000	267	69.1
>150,000	117	30.9
Ever tested for HIV		
Yes	323	84.0
No	61	16.0
Ever use Modern familyplanning		
Yes	249	64.8
No	135	35.2
Number of people inhousehold		
Below 5	153	39.8
Variable	frequency	Percentage
Above 5	231	60.2

Socio-demographic factors associated with cervical cancer screening uptake

Being screened for cervical cancer was substantially correlated with living in an urban or semi-urban location (COR = 2.54 (95% CI: 1.37–4.71), p = 0.003). In comparison to their counterparts, respondents who resided in households with five or fewer individuals were twice as likely to have attended cervical cancer screenings (COR = 2.18 (95% CI:

1.17–4.07), p = 0.014). Although this was not statistically significant [COR = 4.07 (95% CI: 0.97–17.02), p = 0.054], Individuals who had ever tested positive for HIV were four times more likely to have had cervical cancer screening than those who had never done the test.

Table 2: Socio-demographic factors associated with cervical cancer screening uptake

Variable	Screened	COR	P-value
Age group			
15-39	17 (4.4)	1	
40-49	23 (6.1)	1.41(0.71-2.78)	0.328
Residence			
Rural	13 (3.3)	1	
Urban	30(7.9)	2.45 (1.73-4.68)	0.003*
Religion			
Christians	19 (5.0)	1.13 (0.60-2.02)	0.692
Muslim	17 (4.4)	1	
Marital status			
Married	18(4.8)	1.07 (0.43-2.49)	0.875
Single	17(4.5)	1	
Education			
None/Primary	18(4.8)	1	
Secondary and above	18(4.8)	1.01 (0.50-2.03)	0.968
Occupation			
Farming	15(3.8)	1	
Others (business, housewife, civil servant)	23(6.0)	1.63 (0.88-3.01)	0.120
Parity			
Four and below	20 (5.3)	1.26 (0.63-2.20)	0.434
Above four	17(4.3)	1	

*** Statistically significant at P<0.05**

Variable	**Screened**	**COR**	**P-value**
Average income			
<150,000	2(4.5)	1	
Variable	Screened	COR	P-Value
>150,000	21(5.4)	1.21 (0.63-2.30)	0.561
Ever tested for HIV			
No	5 (1.4)	1	
Yes	21 (5.4)	4.06 (0.89-17.01)	0.52
Ever use Modern family planning			
No	18(4.7)	1	
Yes	18(4.8)	1.01 (0.52-1.89)	0.959
Number of people in the household			
Above 5	13(3.3)	1	
Below 5	27(7.0)	2.17 (1.06-4.05)	0.014*

Knowledge factors associated with uptake of cervical cancer screening services

Knowing at least one cervical cancer test method was positively correlated with having had screening for the condition among the respondents [COR = 2.88 (95% CI: 1.48-5.60), p = 0.002].Respondents who knew someone who had ever been screened or diagnosed with the condition (COR = 8.21 (95% CI: 3.88- 17.36), p=0.001) were eight and two times more likely to have beenscreened respectively compared with their counterparts.

Table 3: Knowledge factors associated with uptake of cervical cancer screening services

Variables	Screened (%)	COR (95%)	P-value
Knew someone who has ever screened for cervical cancer			
Yes	47(12.2)	8.20 (3.86-17.28)	<0.001*
No	6(1.5)	1	
Knew more than one preventive measure for cervical cancer			
Yes	24(6.3)	1.54 (0.80-2.91)	0.163
No	16(4.1)	1	
Knew at least one test for cervical cancer			
Yes	28 (7.3)	2.87 (1.38-5.50)	0.002*
No	10(2.7)	1	
Knew that someone can be vaccinated against cervical cancer			
Yes	21(5.5)	1.64 (0.80-3.30)	0.154
No	13(3.4)	1	
Early detection of cervical cancer can be helpful			
Yes	33 (8.7)	(0.50 (0.16-1.45)	0.207
No	18(4.6)	1	
Cervical cancer is curable if detected early			
Yes	20(5.2)	1.52 (0.67-3.30)	0.293
No	13(3.5)	1	
Cervical cancer can be prevented			
Yes	22(5.6)	1.98 (0.90-4.31)	0.085
Variables	Screened (%)	COR (95%)	P-value
Variable	Screened (%)	COR (95%)	P-value
No	11(2.9)	1	
Knew recommended age for cervical cancer screening initiation			
Yes	31(8.1)	1.81 (0.52-6.15)	0.337
No	18 (4.6)	1	
Knew more than one symptom of cervical cancer			
Yes	22 (5.7)	1.16 (0.84-3.04)	0.142
No	14 (3.6)	1	

Note ** means that there is a significant association between dependent and independent variables. Abbreviations: AOR, adjusted odds ratio, CI, confidence interval; COR, crude oddsratio.

Attitudes towards cervical cancer screening

Table 4: Attitudes towards cervical cancer screening

Variable	Frequency	Percentage
Cervical cancer killer if not detected early		
Strongly disagree	29	7.6
Disagree	41	10.8
Neutral	46	11.9
Agree	135	35.1
Strongly agree	133	34.6
Cervical cancer is malignant		
Strongly disagree	20	5.2
Disagree	36	9.5
Neutral	134	34.9
Agree	118	30.6
Strongly agree	76	19.8
Taking a vaccine for cervical cancer is important		
Strongly disagree	11	2.8
Disagree	12	3.1
Neutral	102	26.6
Agree	113	29.3
Strongly agree	147	38.3

A total of 134 respondents (34.9%) and 135 (35.1%) disagreed with the statement that cervical cancer can be fatal if it is not discovered in its early stages (Table 4). 220 respondents, or 57.4%, thought the national screening programme was vital, as indicated below. 147 (38.3%) of the respondents said they would highly consider getting checked for cervical cancer if it was free and there was no risk involved (Figure 1). There were 231 individuals in all, or 60.1%, who expressed favourable sentiments.

Association between attitudes and uptake of cervical cancer screening services (bivariate and multiple logistic regression).

Table 5: Association between attitudes and uptake of cervical cancer screening services

Variables	Attitude status Negative Attitude	% Positive	COR (95%)	AOR (95%CI)
Heard about cervical cancer				
Heard	29 (7.6)	31 (8.0)	0.66 (0.43-0.99)	0.76 (0.49-1.16)
Not heard	124 (32.3)	200 (52.1)	1	1
Heard about cervical cancer smear				
Not heard	56 (14.7)	119 (17.3)	0.69 (0.5-0.96)	0.71 (0.51-0.98)**
Heard	97 (25.2)	294 (42.8)	1	1
History of Screened for cervical cancer				
Screened	6 (1.5)	4(1.0)	0.46 (0.17-1.21)	0.46 (0.17-1.23)
Not screened	147 (38.4)	227 (59.1)	1	1
No. of cervical cancer screen				
Once	113 (29.4)	136 (35.3)	6.0 (0.52-69.74)	30.00 (1.47-611.8)**
More than once	113 (29.4)	23 (5.9)	1	1

Note ** means that there is a significant association between dependent and independent variables. Abbreviations: AOR, adjusted odds ratio, CI, confidence interval; COR, crude oddsratio.

DISCUSSION

Socio-demographic factors associated with the uptake of cervical cancer services

As respondents who lived in urban or semi-urban regions were more likely to have been screened, the respondents' place of residence was likewise linked to cervical cancer screening. In the multivariate analysis, occupation confused this association nonetheless. It has been demonstrated that access to cervical cancer screening is more challenging in rural areas due to health centres' distances from homes, a lack of mobility, and the high cost of transportation [20, 21].

Knowledge factors influencing the uptake of cervical cancer screening services

Although very few women had access to screening, a previous study found that knowledge of cervical cancer and its risk factors was high [22]. According to previous research [23, 24], as intermediary elements, attitudes may be crucial in determining behaviour. In reality, the main hurdles to cervical cancer screening that study participants described were perception-related, including the lack of symptoms or signs of the disease, the belief that they weren't at risk, a lack of time, and dread of the results of the test. There have been other reports of similar screening-related obstacles [24]. The goal of education efforts should be to change these attitudes, raise awareness of the risks, and motivate women to get screened even when they show no signs or symptoms of the disease. Knowing the locations of services for cervical cancer screening and having a friend or family member who has undergone a screening. Previous investigations have revealed similar cervical cancer screening factors. Women who had been recommended for screening by a health worker were more likely to be screened, according to studies done in Uganda [25]. Other research [24, 26] revealed a connection between awareness of cervical cancer services and screening usage. Numerous studies have also demonstrated that women's choices to screen are influenced by the experiences of their friends or peers [27]. The fact that women who had been referred for screening by a health professional were over eighty times more likely to have been screened for the condition suggests that the majority of women only had their breasts examined after being advised to do so by a health professional. This poses both a problem and a chance. A problem is that cervical cancer is frequently discovered when it is already advanced because most women would not have sought out the service until it was too late. To promote higher use of screening programmes, information about cervical cancer should also be directed to social groups in the community, including women and youth groups.

CONCLUSION

This study discovered that women in Fort Portal City had relatively low rates of cervical cancer screening. The lack of awareness of cervical cancer screening services, as well as individual attitudes linked to not being at risk, not having any symptoms of the disease, being short on time, and being afraid of test results, were among the barriers to screening that were noted. Knowing where cervical cancer screening services were available, knowing someone who had ever been screened for the disease, and receiving a health worker's recommendation were independent predictors for cervical cancer screening.

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