

Knowledge, Attitudes and Socio-Cultural Practices that Influence the Control of Cervical Cancer among Women in Uasin Gishu County, Kenya

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Abstract: Cancer is now recognized globally as one of the leading non-communicable diseases. Each year about half a million women develop invasive cancer of the uterine cervix, with more than 80% occurring in low-income countries. This study assessed Knowledge, Attitudes and Socio-cultural Practices that influence the control of cervical cancer among women in Uasin Gishu County, Kenya. Data was collected using a semi-structured questionnaire, interview schedules with key informants and focus group discussions. SPSS statistical software was used to generate statistical parameters like mean, standard deviation, etc. The chi square test was used as a test of significance and a Level of significance below 0.05 was considered to determine the association. Multiple logistic regression analysis with odds ratio at 95% confidence interval was utilized. Preventive measures identified; Pap smear 62% (n=225), vaccination 16.5% (n=60), drugs 8% (n=29) and HPV testing 3.9% (n=14). 35.5% (n=142) of the participants had ever been screened. The predictors of cervical cancer control interventions reception were; education, marital status, employment status, ethnicity, having heard of cervical cancer, knowing someone with cervical cancer, knowing cervical cancer preventive measures, having someone recommend testing, age at first sexual activity and trust for conventional methods of cervical cancer control. Barriers to reception were; gender of health care provider, traditional herbal medicine, perception of not being at risk, pain associated with screening and the private nature of cervical cancer. There is need to develop clear and simple educational messages about cervical cancer and the screening test that can easily be understood by women in order to enhance reception to cervical cancer control interventions.

Keywords: Cervical cancer, knowledge, attitude, socio-cultural practices.

1. INTRODUCTION

Cancer of the cervix is a significant public health problem globally, especially in developing countries where it is the most common cancer in women (Parkin, 2003). Every year, approximately 500,000 new cases of cervical cancer are diagnosed worldwide with 90% of these cases being in developing countries. It is estimated that deaths resulting from cervical cancer may increase to over 11 million by the year 2030 (WHO, 2009, 2010). It is the only cancer that is almost completely preventable by safe, simple and inexpensive methods yet every two minutes, one woman dies an unnecessary death from this cancer in the world (Manaf and Ismail, 2017). In Sub-Saharan Africa, cervical cancer comprises 20 to 25% of all cancers among women, which is about double that of women worldwide and existing data indicates that the incidence of disease is actually increasing in some parts of Sub-Sahara Africa (Abotchie *et al.*, 2009). East Africa suffers the highest burden of cervical cancer accounting for 39% of all reported cases and 41% of all mortalities in Africa (WHO, 2010). Eastern Africa has one of the highest incidence and mortality rates from cervical cancer in the world with estimated Age-Standardized Rate (ASR) of 42.7 per 100,000 (Farley *et al.*, 2013).

Kenya has a population of 13.45 million women of ages 15 years and older who are at risk of developing cervical cancer. Current estimates indicate that every year 4802 women are diagnosed with cervical cancer and 2451 die from the disease. It ranks as the first most frequent cancer among women in Kenya and the first most frequent cancer among women between 15 and 44 years of age (ICO/IARC, 2017). Cervical cancer screening methods available in Kenya, which were part of the Ministry of Health's National Cervical Cancer Prevention Strategic Plan from 2002 to 2006, include the Papanicolaou (Pap) test, visual inspection with acetic acid, and visual inspection with Lugol iodine; however, uptake of these methods remains very low and haphazard. If screening and treatment remain low in Kenya, the number of deaths resulting from cervical cancer will almost double by 2025 (Sudenga *et al.*, 2013). In this study we explored the knowledge, attitude and socio-cultural practices of Kenyan women that may influence their reception of cervical cancer control interventions.

Statement of the Problem:

In Kenya, cervical cancer is ranked as the number one cause of female cancers, resulting in an estimated 4,802 women being diagnosed with cervical cancer (estimation for 2012) and 2,451 dying from the disease annually (Bruni *et al.*, 2015). About 9.1% of women in the general population are estimated to harbour cervical HPV-16/18 infection at a given time, and 63.1% of invasive cervical cancers are attributed to HPV 16 or 18 (ICO/IARC, 2017). Studies have indicated that 55% of cervical cancer cases reported in Kenya are in stage III or more advanced and only 6% of the Kenyan women found with invasive cancer have a history of previous cervical cancer screening (Claeys *et al.*, 2003).

Significance of the study:

Cervical cancer is the most common cancer among women in sub-Saharan Africa and the incidence is on the increase in some countries. Knowledge and awareness of this disease on the continent are very poor and mortality is still very high (Anorlu, 2008). About 80% of reported cases of cancer in Kenya are diagnosed at advanced stages, when the treatment is costly and the prognosis is poor (ICO/IARC, 2017). The Kenyan Government has made tremendous efforts in trying to incorporate screening programs in the regular HIV care and also the national cervical cancer prevention plan focusing on primary prevention, screening and early detection and treatment (National cervical cancer prevention plan 2012-2015). In spite of all the efforts put in place for cancer screening by the Ministry of Health, the uptake still remains low. The findings and recommendations of this study will provide valuable information to the Ministry of Health and other stakeholders in addressing issues of screening uptake and the common barriers to screening among women in the rural communities.

2. MATERIALS AND METHODS

Study design and setting:

The sample size was calculated using Yamane's formula (Yamane, 1967) and precision level assumed at 95% confidence interval. The study utilized key informant interview schedules, focus group discussion guides and questionnaires. The semi-structured interviews with the medical providers at the cervical cancer screening clinics in the two sub counties where the study was carried out were conducted to gather qualitative data to contextualize the quantitative results. Four FGDs each constituting of 12 women was conducted in Langas location and three in Meibeki/Karuna locations bringing together 84 women. The FGD sought information on; awareness on cervical cancer, role of traditional herbal medicine and traditional healing in cervical cancer control, reception to cervical cancer control interventions and attitudes and socio-cultural practices influencing cervical cancer control. The pretested questionnaire collected socio demographic information including; age, ethnicity, marital status, education levels and employment status. It also assessed the respondents' knowledge on cervical cancer causes and transmission, signs and symptoms of cervical cancer, qualification for screening, the importance of early screening, cervical cancer preventive measures, and screening tests for cervical cancer. Additionally, it had questions regarding access to screening services including whether respondents were screened and when, outcome of screening and whether they had adhered to follow-up and whether they had ever been recommended for screening. Research assistants conducted the interviews and the administration of the questionnaires in quiet and convenient locations within the homestead where interruptions were minimal and no non participant were present. Only one participant was selected per sampled household and where more than one eligible participant were present simple random sampling was applied to select one participant.

Study area and sampling:

Since the study wanted to understand the reception levels of women from varied social backgrounds, two sub counties; one with the highest rural to urban population and another with the highest urban to rural population were purposively sampled. The two sub counties were Moiben and Kapsaret with a total of 22,305 females in reproductive age. Further intensive research was carried out in Meibeki/Karuna and Langas locations of Moiben and Kapsaret sub counties respectively being the least cosmopolitan and the highest cosmopolitan locations respectively (KNBS, 2009). Simple random sampling was used to select 4 sub locations in Langas location and 3 sub locations in Meibeki/ Karuna location since Langas has a higher population (33,085) as compared to Meibeki/Karuna's population (26,048). The sampling units were households and only one participant was selected per sampled household. Since three sub locations were considered in Meibeki/Karuna locations and four sub locations in Langas location, the households were also be picked in these same proportions giving 168 households in Meibeki/Karuna and 225 in Langas Location. An additional 7 households, 4 in Langas and 3 in Meibeki/Karuna were oversampled to cover for non-response.

In order to determine the households to be picked in the selected locations, the use of data from households mapping done by the Kenya National Bureau of Statistics (KNBS) through the Kenya National Census and Household Surveys (KNCHS, 2009) was utilised. Using the numbers derived for households and structures for example structure number fifteen and household number thirty denoted S0015/030 were all populated in SPSS computer software and a command issued to randomly pick the required number of households in each location. The randomly generated numbers were used to pick the households to interview the women. The household numbers selected randomly by the computer were identified on the ground through support of the Village elders who are familiar with the mapping exercise of households during the 2009 census.

Data analysis:

The data were checked for consistency, coded appropriately, and entered into SPSS software package version 20 for analysis. Preliminary frequency analyses were conducted and any inconsistency in the data was identified and corrected. There was no missing data for all the 400 participants eligible for the analysis. The data were explored and general features displayed to identify problem areas before commencing data analyses. Descriptive statistics like; numerical summary measures, frequencies and graphs (diagrams), chi square test were used for describing the study population in relation to relevant variables. Median was used to classify the scores of knowledge and Attitude. The questions assessing participants' knowledge about what causes cervical cancer, the signs and symptoms, methods of preventing cervical cancer, when to start cervical screening and preferred means of receiving health information were multiple response questions and the participants could choose more than one response. Each response in the multiple response questions was coded as a separate variable and then grouped under a multiple response set variable in SPSS prior to the analysis. Logistic regression models were used to determine the magnitudes of associations between independent and dependent variables; odds ratios have been reported with accompanying 95% confidence intervals.

Ethical approval:

This study was approved by Masinde Muliro University of Science and Technology Institutional Research and Ethics Committee (IREC) and the Kenya National Commission for Science Technology and Innovation (NACOSTI). We obtained permission to access communities from the county and local leaders. The researcher ensured that the research assistants comprehensively explained to the participants, the purpose, objectives and benefits of the study. Participants were informed of the non participation option and the ability to pull out of the study at any point even before the end of the study. Issues of anonymity were guaranteed to the participants by ensuring that their names were not attached either to the questionnaire or any feedback meant for the study. Anonymity was observed and avoidance of harm was also observed through careful handling of people and information. No major risks were envisaged through participation in the study since it is a descriptive study and not an intervention study.

3. RESULTS AND DISCUSSIONS

3.1 Cervical cancer preventive measures:

Pap smear 62% (n=225) was reported as the commonly known preventive method while HPV testing 3.9% (n=14) was the least known (Figure 1). Earlier studies (Toye *et al.*, 2017; Shibeshi and Degefu, 2017; Mukama *et al.*, 2017) reported similar results. Contrary findings were however reported in (Netsanet *et al.*, 2016; Nayak *et al.*, 2015) where awareness regarding preventive measures was found to be very poor.

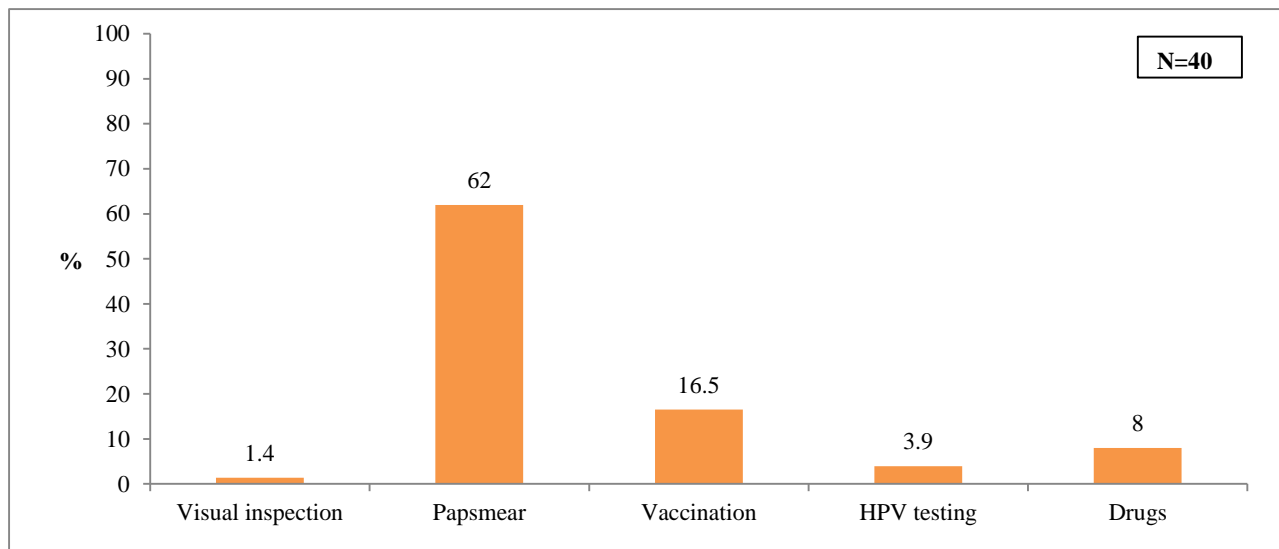


Fig 1: Cervical cancer preventive measures

Source: Field Data (2017)

The FGD discussants exhibited good knowledge on the control interventions for cervical cancer except that some of the participants had no faith in the use of hysterectomy which they referred to as ‘the use of the knife’ to treat cervical cancer. This is as illustrated below by one participant.

“I have seen many people who have gone to hospital to have their cancers removed by the use of the knife ‘surgery’ and have ended up not coming home ‘dead’. That thing ‘cancer’ does not go hand in hand with the knife. The best way is to use traditional herbal medicine, it has worked for some”

Education levels, marital status and employment status were shown to be associated with knowledge on cervical cancer preventive measures ($p < 0.0001$) as witnessed also in an earlier study (Ezechi *et al.*, 2013). Discordant findings were however reported in a study by Mukama *et al.*, (2017).

3.2 Practice of cervical cancer screening:

In the present study only 35.5% ($n=142$) of the participants had ever been screened in the past of which 46.4% ($n=65$) had been screened in the last 12 months. The practice of cervical cancer in this study was however much higher as compared to those in earlier studies (Anya *et al.*, 2005; Gichangi *et al.*, 2003; Anorlu *et al.*, 2000; Aweke *et al.*, 2017; Twinomujuni *et al.*, 2015; Gurel *et al.*, 2009). However, the reception levels of cervical cancer screening in the current study were lower when compared with earlier studies (Toye *et al.*, 2017; Barghouti *et al.*, 2008); Byrd *et al.*, 2004; Sirovich *et al.*, 2004). A high significance 0.01 level (2-tailed) correlation between the knowledge on cervical cancer preventive measures and the practice of cervical cancer screening was observed. Indeed other studies (Ndejjo *et al.*, 2016; Aweke *et al.*, 2017; Mukama *et al.*, 2017) found out an association between knowledge on preventive measures and practice of cervical cancer screening. There was a high significance between knowledge of any one who had suffered cervical cancer and practice of cervical cancer screening at 0.01 level (2-tailed) as was found out in an earlier study (Getachew, 2015).

Marital status was a significant factor influencing cervical cancer control at ($p < 0.05$). The married were almost 3 times more likely to have been screened compared to others (Divorced, separated and widowed) OR; 95% CI: 2.645(1.261-5.548). The singles were almost 2 times more likely to have been screened compared to others (Divorced, separated and widowed) OR; 95% CI: 1.959(0.784-4.890). Similar findings were reported in other studies (Anaman *et al.*, 2015; Liao *et al.*, 2006). Our study however contrasts reports from other studies (Cyril *et al.*, 2009; Singh *et al.*, 1998; Getachew, 2015) that found out that single woman were more likely than married women to have been screened. There was a significant correlation at 0.01 level (2-tailed) between having heard of cervical cancer and practice of cervical cancer screening as reported in earlier studies (Getachew 2015; Ezechi *et al.*, 2013; Bansel *et al.*, 2015). This underscores the importance of social influence in promoting cervical cancer screening. There was a high significant correlation at 0.01 level (2-tailed) ($P = < 0.0001$) between having being recommended to get tested and willingness to go for cervical cancer screening (Table 1). Employment status was also shown to be associated with practice of cervical cancer screening at $P = < 0.0001$ (Table 2).

Table 1: Correlation between recommendation for testing and willingness to go for screening

		Recommended to get tested	Willing to go for cancer screening
Recommended to get tested	Pearson Correlation	1	.188**
	Sig. (2-tailed)		.000
	N	395	394
Willing to go for cancer screening	Pearson Correlation	.188**	1
	Sig. (2-tailed)	.000	
	N	394	399

** . Correlation is significant at the 0.01 level (2-tailed).

Source: Field Data (2017)

Table 2: Cross tabulation on employment status and practice of cervical cancer screening

	Reception to cervical cancer control services (Having been screened for cervical cancer)	
	Yes, n (%)	No, n (%)
Employment status		
Student	7(5.0)	39(15.9)
Employed	68(48.9)	59(24.1)
Self employed	34(24.5)	65(26.5)
Home maker	22(15.8)	74(30.2)
Retired	7(5.0)	7(2.9)
p-value	<0.0001*	

Source: Field Data (2017)

3.3 Experience at health care facility:

Only 4.9% (n=6) of the participants who had been screened rated the overall experience at the cancer facility as excellent. The FGD participants confirmed these findings by reporting that the overall experience was not good at the cervical cancer facilities. For instance one FGD participant described her experience as horrible as stated below

“The health care providers are sometimes so arrogant and very insensitive, imagine people (Screening staff) discussing you there in the screening room and quarrelling you why you fear the speculum as though you are a virgin, I regret going for the screening”

Similar findings were reported by Erdenechimeg *et al.*, (2010) while Huchko *et al.*, (2017) found contrary findings.

3.4 Barriers to Utilization of Cervical Cancer Interventions:

A. Gender of the health care giver:

Sixty three point four (n=218) agreed that training midwives will increase the number of women seeking services and elimination of male practitioners performing cervical cancer screening was reported to increase reception of cervical control services among women as indicated by 46.8% (n=159). There was a significant relationship between having midwives do the cervical cancer screening and willingness to go for cervical cancer screening at 0.05 level (2-tailed). The interpretation of this finding is that the gender of the health care provider in the cervical cancer screening and treatment plays a key role in the health seeking behavior of women as reported in earlier studies (Rees *et al.*, 2017; Waiswa *et al.*, 2017; Mutambara *et al.*, 2017; Ndejjo *et al.*, 2017; Nicky, 2005). These findings were confirmed by the KIIs who reported that the poor attitude that women have about a male health practitioner performing the screening played a key role in their health seeking behavior for cervical cancer screening and control services. The FGD participants reported that the main barrier to cervical cancer screening was the embarrassment associated with the intimate nature of the screening and the gender of the exam provider. One FGD participant had this to say

“Exposing myself to my sons (to mean male health care providers the age of her sons) is a taboo and an abomination.”

B. Traditional herbal medicine:

Thirty Three point three percent (n=115) agreed that incorporation of traditional herbal medicine into cervical cancer control services will improve its uptake among women. The Pearson correlation showed a significant correlation between incorporation of traditional herbal medicine into cervical cancer control services and willingness to go for cervical cancer control services at 0.05 level (2-tailed) (Table 3).

Table 3: Incorporation of traditional herbal medicine and willingness to go for cervical cancer screening

		Willing to go for cancer screening	incorporation of traditional herbal medicine into cervical cancer control services improves its uptake
Willing to go for cancer screening	Pearson Correlation	1	-.115*
	Sig. (2-tailed)		.025
	N	399	380
Incorporation of traditional herbal medicine into cervical cancer control services improves its uptake	Pearson Correlation	-.115*	1
	Sig. (2-tailed)	.025	
	N	380	380

*. Correlation is significant at the 0.05 level (2-tailed).

Source: Field Data (2017)

Traditional herbal medicine has long been highly valued in the cure of various diseases by various communities and more so in the African continent as reported in earlier studies (Jedi-Agba and Adebamowo, 2012; Ndejjo *et al.*, 2016).

C. Perception of not being at risk or being well:

A significant correlation between perception of not being at risk or being well (to mean no signs and symptoms) and willingness to go for cervical cancer screening was observed at 0.01 level (2-tailed). Earlier studies documented similar findings (Anantharaman *et al.*, 2013; Almobara *et al.*, 2016; Bansal *et al.*, 2015; Ndejjo *et al.*, 2016). Thus efforts to promote cervical cancer screening uptake among women should focus more on informing women of their susceptibility to cervical cancer and encouraging a belief that active and regular screening can detect cervical cancer at the pre-cancerous stage, hence enabling the early treatment and prevention of cancer. Women should be encouraged to take responsibility for their own health and be active participants in the screening programme.

D. Pain and fear of positive results:

Pain and fear of positive results have been cited as the main barriers of uptake of cervical cancer control services. A correlation was shown between the perception that cervical cancer is a very painful and an unbearable procedure and willingness to go for cervical cancer screening (Table 4). Many other studies have also reported embarrassment when seen seeking care for cervical cancer, stigma, and lowered self-esteem when one receives a negative result (International Agency for Research on Cancer, 2005; Kitchener *et al.*, 2006; Morris, 2016). The FGD discussants cited the fear of the procedure and the belief that it is better to be ignorant of a diagnosis of cancer if one has no symptoms of the disease as screening with resultant diagnosis of cancer can make one 'die early' as the barriers to screening. One of the FGD participants said this;

"It is better not to discover that you are suffering from such a deadly disease 'Cervical cancer' because this can send you to the grave early. Again once people know that you have it, they will start talking about you and discriminate against you. Some will even think about you and your spouse being promiscuous because of the association between cervical cancer and HPV, a sexually transmitted infection"

Table 4: Correlation between the perception of pain during screening and willingness to go for screening

		Willing to go for cancer screening	Cervical cancer is a very painful and an unbearable procedure
Willing to go for cancer screening	Pearson Correlation	1	-.131**
	Sig. (2-tailed)		.010

	N	399	386
Cervical cancer is a very painful and an unbearable procedure	Pearson Correlation	-.131**	1
	Sig. (2-tailed)	.010	
	N	386	386

** . Correlation is significant at the 0.01 level (2-tailed).

E. Cultural perceptions on cervical cancer:

The perception that Cervical cancer is a very private issue affecting the most private part of a woman's body and should not be discussed was found to have a significant correlation with the willingness to go for cervical cancer screening at 0.05 level (2-tailed). Women who were ashamed of cervical cancer discussion with the perception that it is a very private issue affecting the most private part of a woman's body were less likely to seek cervical cancer control interventions. Studies that explored culture show that cultural gender roles and behaviors of women, may also affect the uptake of cervical cancer screening (Engender Health, 2002; Katahoire *et al.*, 2008; Markovic *et al.*, 2005; Cox, 2010; Katahoire *et al.*, 2008). Cultural beliefs have reduced Pap smear uptake and hampered health-seeking for cervical cancer and require culture-tailored interventions to reduce or eliminate them (Daher, 2012; Shulmeister & Lifsey, 1999; Fang *et al.*, 2012 as cited in Mwaka *et al.*, 2015).

4. CONCLUSION

The study concludes that though majority 83.7% (n=304) of the participants indicated willingness to go for cervical cancer screening if they were well was not in tandem with practice with only 35.5% of the participants having been screened and of the 22.2% (n=84) that had heard about HPV vaccine only 25% (n=21) had been vaccinated with the HPV vaccine.

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