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Awareness of Cancer and Cancer Risk Factors among Women in Kitale Municipality


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Abstract

Purpose: The aim of the study was to assess awareness of cancer and cancer risk factors among women in Kitale Municipality

Methodology: A cross-sectional study using stratified simple sampling to select a sample of 422 women aged 30-69 years old was adopted. A Structured questionnaire was used to collect data. Data entry and coding was done in SPSS v20. Subsequent content analysis was used to descriptively summarize and compute proportions, mean and standard deviation in reporting socio-demographic data. To test the association between dependent and independent variables, Chi-square was used while Multiple Logistic Regression analysis was used to generate adjusted odds ratios of association. Data was presented in form of tables and figures.

Findings: Findings suggest that 80% (338) women were aware of cervical cancer. Among them, 75% (317) had never heard of Human Papilloma Virus HPV while only 23% (97) women knew HPV infection was a risk factor for developing cervical cancer. There was a positive association between awareness of multiple sexual partners ($p=0.007$); early sexual intercourse ($p=0.012$) as risk factors and cervical cancer screening. This study found that there was modest awareness about cervical cancer among women in this Municipality.

Unique Contribution to Theory, Practice and Policy: The study recommends scale up for cervical cancer awareness by stakeholders. The current study has added knowledge that will be used by stakeholders advocating for cervical cancer awareness that will aid in uptake important in early detection and treatment of cervical cancer cases, and hence reducing case morbidity and mortality.

Keywords: Awareness, Cancer, Cancer Risk Factors, Women

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INTRODUCTION

Cervical cancer is defined by the National Cancer Institute (NCI) as a malignant neoplasm of cells originating from cells of cervix uteri. Cervical cancer, medically called cervical carcinoma, usually develops at the opening of the cervix, where the mucous membranes of the vagina and cervix meet. There are two common types of cervical cancer: Squamous cell carcinoma that develop from abnormal cells covering the cervical opening and adenocarcinomas that develop from gland cells (WHO, 2014).

It's estimated that 270 000 women die of cervical cancer worldwide annually with almost 90% (231,000) of the deaths occurring in low- to middle-income countries, Kenya being one of them. In contrast, only 10 % (35 000) of these women, live and die in high-income countries (WHO, 2014). Annually, 528 000 new cases of cervical cancer are diagnosed worldwide; of these, a large majority, about 85% occur in less developed regions (Jean *et al.*, 2012). WHO projects that cervical cancer is expected to kill over 474,000 women annually by year 2030 and over 95% of these deaths are expected to be in low- and middle-income countries largely due to poor cervical cancer screening practice (Huchko *et al.*, 2011).

In Kenya, annual cervical cancer mortality and incidence are estimated to be 2111 and 2635 respectively (MOH, 2012). The statistics are likely to be higher than reported because there is no a cervical cancer surveillance programme in place to provide actual cervical cancer incidences and mortality rates (Huchko, 2011). WHO projects that cervical cancer burden in Kenya is likely to double by the year 2025 by applying current population forecasts for the country and assuming that current incidence rates of cervical cancer are constant over time (International Agency for Research on Cancer [IARC], 2014).

Cervical cancer risk factors precede the onset of cervical cancer, and the disease varies by value or category of these factors (Cancer Research UK, 2013). Cervical cancer is the only human cancer that has an identifiable cause (Bosch *et al.*, 2002; Parkin, 2011). The most common cause of cervical cancer is persistent infection with cancer-causing HPV types 16 and 18 (WHO, 2014). Genital HPV is generally sexually transmitted through contact with infected cervical, vaginal, vulvar, penile or anal epithelium (Cancer Research UK, 2013). WHO identifies multiparity, multiple sexual partners, early first sexual intercourse, tobacco use, oral contraceptives use and immune suppression as other cervical cancer risk factors. However, when the protective effects of oral contraceptives on ovarian and womb cancer are taken into account, oral contraceptives are estimated to have a net beneficial effect (Parkin, 2011). Awareness of these factors by women at risk of cervical cancer who are in the reproductive age can go a long way in reducing the incidences of cervical cancer.

World Health Organisation recommends several measures that should be incorporated in the national cervical cancer prevention and control programmes. Among the elements in the national programmes endorsed by WHO aimed at preventing cervical cancer is educating of women, health providers and communities on cervical cancer with emphasis on its cause and prevention (CCA Report Card, 2015). It also identifies ensuring women's access to screening to detect precancerous changes and early treatment before invasive cancer occurs as key elements that should be

incorporated in the national cancer prevention programs. For these strategies to be successful, the awareness of cervical cancer and its risk factors must be enhanced.

Cervical cancer risk factors include Human Papilloma Virus (HPV) infection, multiparity, multiple sexual partners, early first sexual intercourse, tobacco use, oral contraceptives use and immune suppression (NCI, 2013; Cancer Research UK, 2013). Cervical cancer is as a result of HPV infection in approximately 60% of cases and HPV is transmitted through sexual intercourse in most cases (Walboomers *et al.*, 1999). Public awareness of cervical cancer risk factors is very important for screening programmes of the disease to be to be successful. The awareness of cervical cancer risk factors is reportedly high in developed countries and very low in developing countries. In a survey conducted in Saudi Arabia, only 14 % of women had knowledge that HPV is an etiological agent for cervical cancer (Asmaa, 2013). A study in Kenya among female primary teachers found out that despite of them being among the most knowledgeable in the society, only 38% of them knew HPV infection as a cervical cancer risk factor (Ombech *et al.*, 2012). The awareness of these risk factors among women in Kenya and in Kitale Municipality is not known. Lack of adequate knowledge and awareness has been identified as one of the factors associated with high cervical cancer incidences and mortality in developing counties, Kenya being one of them (Kyle *et al.*, 2013). Increasing awareness of cervical cancer and its risk factors is one of ways of cervical cancer prevention. The strategies to increase awareness of cervical cancer among women should be based on facts for them to be successful. Therefore, there is a need to assess and establish the level of awareness of cervical cancer among women in Kitale Municipality.

Statement of the Problem

Kitale Municipality has one of the highest cervical cancer cytology prevalence of 17.24% among women compared to the national cytology prevalence of 3.6% among the general women population according to MOH records. The high abnormal cytology prevalence among women in Kitale Municipality require more innovative approaches to increase awareness of cervical cancer, its risk factors. Despite these high prevalence rates and low uptake records, there is no published data examining the awareness of cervical cancer and its risk factors among women in Kitale Municipality. There is need to establish level of awareness of cervical cancer and its risk factors among women in Kitale Municipality.

LITERATURE REVIEW

Awareness of Cervical Cancer among Women

Awareness of cervical cancer among women who are at risk of it is very important. Several studies have tried to determine the awareness level of cervical cancer among different segments of women and from different countries and region. Generally, studies have reported that cervical cancer awareness is high among women in developed countries and low in low-income countries. One such study was a qualitative study conducted in Ethiopia (Birhanu *et al.*, 2012). The study found out a low awareness of cervical cancer. Most participants from urban areas (Addis Ababa) had heard of “cancer” but not cervical cancer. The study also found out that rural participants had limited awareness about any type of cancer. In particular, awareness about cervical cancer was almost non-existent. However, the study focused only on girls aged 9-12 years and their parents hence the findings cannot be inferred on all women at risk of cervical cancer.

In another study in Iraq among college students and women healthcare workers, it was found that the participants, generally, have poor levels of knowledge and awareness about cervical cancer (Asmaa, 2013). The study also found higher knowledge about HPV, cervical cancer, genital warts and transmission among health care workers in comparison with college students. This study focused on female health care workers and college students only. These represent just a small segment of women and hence the findings are not representative of the general women population.

A study conducted in Tanzania found out that cervical cancer knowledge among women in Tanzania is low (Lyimo and Beran, 2012). The study determined that over half (59.6%) of the participants had a low level of knowledge of cervical cancer and its prevention, less than a quarter (21.2%) had a medium level, and less than a quarter (19.2%) had a high level of knowledge. However, this study focused on women from 18-67 years and over 50% of the respondents were in age groups 18-39 years. WHO and MOH recommend that the primary focus for cervical cancer screening programs in developing countries should be women aged above 30 years due to the pathogenesis of cervical cancer.

In Kenya, some studies have tried to establish awareness of cervical cancer among women. One such study was conducted in Kisumu on knowledge, attitudes, practices, and perceived risk of cervical cancer among Kenyan women (Sudenga *et al.*, 2013). The study was conducted in 4 health facilities that offer reproductive health services within the Kisumu Municipality, Kenya. The study found out that whereas 91% of the surveyed women had heard of cancer, only 29% of them had previously heard of cervical cancer, and most received their information about cervical cancer from health care workers. However, this study was conducted in health facilities and has same weaknesses of other clinical studies. The study left out women who did not seek reproductive services at the four facilities.

Another study was conducted in Kenya to establish awareness of cervical cancer, risk factors and practice of Pap smear testing among female primary school teachers (Ombech *et al.*, 2012). The study was conducted in one of the administrative divisions of Nairobi city (Kasarani). The study found out that 87% of the respondents had heard about cervical cancer while 13% had never heard of cervical cancer. The study also found out that 75% of the respondents knew about the Pap smear test and only 25% did not know about the test. This study gave some useful insight into the women's awareness of cervical cancer. However, the study focused only female primary school teachers who are very small segment of the women population in Kenya. Female primary school teachers also have different socio-economic characteristics from majority of women in the general population. As such, the findings from this study cannot be inferred on the women population in Kitale Municipality. There's need to fill this gap through a study focussing on all women who are most at risk of cervical cancer in Kitale Municipality.

Awareness of Cervical Cancer Risk Factors among Women

Despite HPV being the most common sexually transmitted infection and the aetiological agent for cervical cancer, penile and other anogenital ulcers, public awareness and knowledge remains poor (Klug *et al.*, 2008; Smith *et al.*, 2009). In a study in Singapore, Smith *et al.* (2009) found out that Singaporean men and women displayed overall low levels of HPV awareness and knowledge. They also observed that there were differences in the levels of knowledge HPV (cervical cancer

risk factor) in both men and women depending on the survey mode used (Computer Assisted Telephone Interviews (CATI) or Face to Face Interviews (FTFI). In their findings only 21.3% of women in the FTFI group reported an awareness of HPV and 18.6% in the CATI group. The findings were almost similar in men, with only 17.9% of men in CATI reporting an awareness of HPV and 14.2% in FTFI group. They explained some of these differences as being partly as a result of variations in the demographic profiles between the survey modes, particularly with regard to education, occupation, and language spoken at home. This study focused mainly on the awareness of HPV and left out other cervical cancer risk factors. The study therefore does not answer the question of awareness level of cervical cancer risk factors among women.

Another study carried out in Britain by Kyle *et al.* (2003) using a controlled before-and-after study with 6-month follow-up to determine effectiveness of school based educational intervention to increase cancer awareness among British adolescents, found low cancer awareness among British adolescents. It was observed that most adolescents were not aware of cancer 'warning signs' but reported a significant level of awareness of the same after being exposed to school based educational intervention on cancer awareness (Kyle *et al.*, 2013). However, these findings cannot be inferred on the general population because the study focused on specifically adolescents. Adolescent girls have different demographic and socio-economic characteristics from women and the findings from them are not representative of all women in the population.

In another cross-sectional study in Nigeria to assess willingness and acceptability of cervical cancer screening among HIV positive Nigerian women, it was found out that most (56.2%) of HIV+ Nigerian women were aware of cervical cancer (Ezechi *et al.*, 2013). However, few were aware of a weakened immune status as a risk factor for cervical cancer. Most of them (68.2%) assessed their risk of developing cervical cancer as low despite of their weakened immunity being one of the cervical cancer risk factors. This might have been occasioned by their unawareness of cervical cancer risk factors. This study concentrated on the women who were HIV + women hence its findings are not representative of the women population.

In a cross-sectional study in Kasarani Division in Nairobi, Kenya among female primary school teachers found out that 13% of female primary school teachers had never heard of cervical cancer (Ombech *et al.*, 2012). They also found out that knowledge of cervical risk factors varied among the female primary teachers. Most of them identified having multiple sexual partners (55%) and use of oral contraceptive (54%) as factors that could lead to cervical cancer. Similarly, 53% of them identified history of sexually transmitted disease and use of hormonal contraceptives (injectables) as risk factors for cervical cancer. In the same study, less than half identified inherited disease from family (45%), immune suppression of immune system (42%), smoking (39%), early sexual debut (32%), and early pregnancy (30%) as risk factors for developing cervical cancer. Another 25%, 23% and 20% of the female primary teachers thought that old age, having an uncircumcised partner and diet respectively could put one at risk of developing the disease. While 12% of them thought that poverty could put one at risk, similarly 10% identified having many children (more than five) as a risk factor, 8% thought that having one sexual partner could put one at risk, and 7% of them thought that having a circumcised partner could still put a woman at risk. However, information on the awareness of cervical cancer and its risk factors among the general

women population in Kenya was not provided by this study. The study focused only on primary school teachers whose socio-economic factors are different from majority of Kenyan women.

Another study conducted in Thika, Kenya to establish factors affecting uptake of Cervical Cancer early detection measures among women in Thika, Kenya by Ngugi *et al.*, 2012 found out that majority of women did not know anything about cervical cancer. They also found out that awareness of cervical cancer risk factors varied. The study participants suggested multiple probable causes of cervical cancer which included hereditary, environmental pollutants, multiple sexual partners, pathogenic organisms, and witchcraft. Women with a higher level of education identified HIV infection as the cause of cervical cancer but very few identified HPV. However, this was a qualitative study that relied heavily on 50 in-depth interviews of only 50 women and the results are not representative enough to be inferred on women in Kitale Municipality.

The awareness of cervical cancer and its risk factors among women in Kenya is low (Smith *et al.*, 2013). Smith *et al.*, (2013) in a Cross-sectional study on knowledge, attitudes, practices, and perceived risk of cervical cancer among Kenyan women that was conducted in 4 health facilities that offer reproductive health services within Kisumu Municipality, Kenya found out that only 29% of women who participated in the study had previously heard of cervical cancer. When asked about risk factors associated with the development of cervical cancer, the previously screened women believed vaginal bleeding (15%), having multiple sex partners (30%), smoking (10%), having sexually transmitted diseases (10%), or use of contraceptives (20%) was associated with cervical cancer (Smith *et al.*, 2013). However, this study only focused on women seeking services at only the four health centres in Kisumu Municipality. It therefore left out the general women population who are equally at risk of cervical cancer. The study also had shortcomings common with clinical based studies.

METHODOLOGY

This was a descriptive cross-sectional study. The study population was women aged between 30-69 years old living or working in Kitale Municipality and are sexually active women. The study used Stratified simple random sampling technique. The sample size was 422 with 10% of 384 added to cater for a possible non-response rate. Structured questionnaire (Appendix III) was used to collect data. The questionnaire had both open and closed ended type of questions. Qualitative data was mainly women's knowledge of cervical cancer risk factors. Analysis was done using Statistical Package for Social Sciences (SPSS) version 20.

RESULTS

Socio-demographics Characteristics of Women in Kitale Municipality

A total of 422 respondents were sampled to participate in the study. All questionnaires were returned and analysed. In terms of age, most of women, 62.6% (264) were in age group 30-39 years while few, 3.7% (16) were above 60 years. The mean age of the women interviewed was 39.32 years with a standard deviation of 8.66 and 95% confidence limits of 38.53 and 40.12. On the marital status, 66.5 % (281) were married while very few, 0.4 % (2) were cohabiting. In terms of education, 25.2% (106) of respondents had primary level while 18.2% (77) secondary school level education. Regarding employment, 59.5 % (251) were self-employed while 19% (80) were

employed. On the number of years stayed in Kitale municipality, 78.4% (331) had stayed for more than 4 years. These demographics characteristics are summarized in the Table 1.

Table 1: Socio-Demographic Characteristics

Characteristic	Number (N=422)	Percent (%)
Age		
30-39 years	264	62.6
40-49 years	98	23.3
50-59 years	44	10.4
60-69 years	16	3.7
Marital Status		
Single	65	15.5
Married	281	66.5
Divorced/separated	26	6.2
Widowed	48	11.4
Cohabiting	2	0.4
Level of education		
None	23	5.4
Primary	106	25.2
Secondary	177	42.0
Mid-level college	77	18.2
University	39	9.2
Occupation		
Housewife/none	91	21.5
Self-employed	251	59.5
Employed	80	19.0
Length of stay in Kitale municipality (%)		
0-2 years	27	6.5
3-4 years	64	15.1
>4 years	331	78.4

Awareness of Cervical Cancer among Women in Kitale Municipality

Majority of women, 80% (338) knew about cervical cancer while 20% (84) did not know about cervical cancer. Of those who were aware of cervical cancer, 44% (149) had been informed through mass media, 38% (128) through healthcare facilities, 13% (44) through friends, 3% (10) through relatives, 1% (3) through church, and 0.5% (2) through school. Figure 1 shows awareness of cervical cancer among women

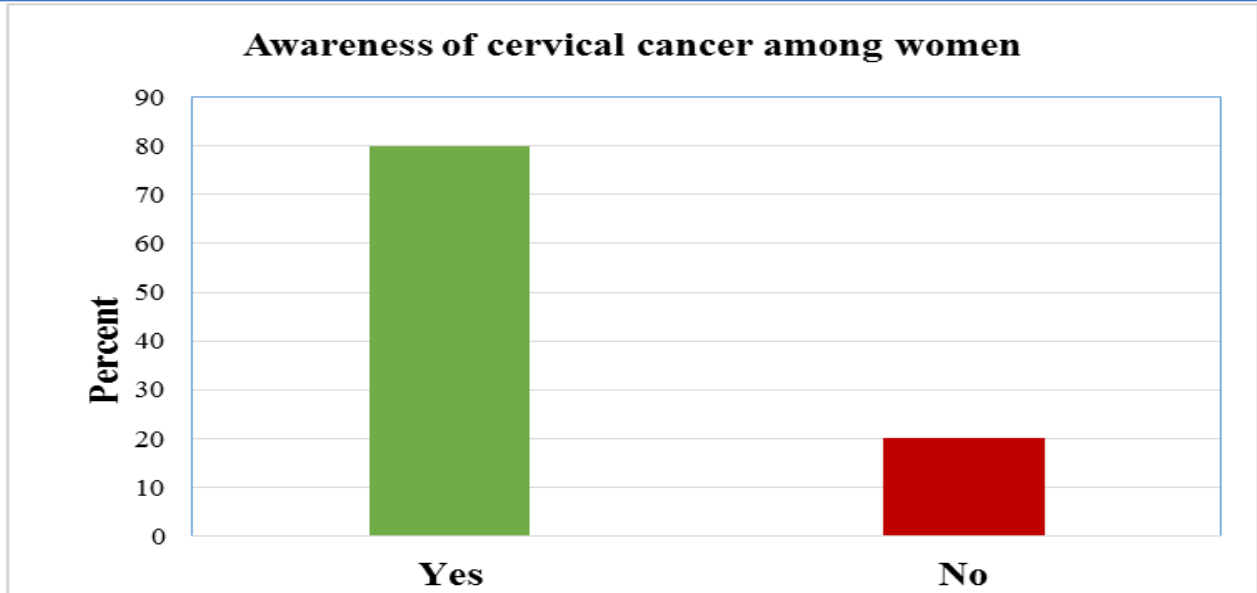


Figure 1: Awareness of Cervical Cancer among Women in Kitale Municipality

Awareness of Cervical Cancer Risk Factors among Women Kitale Municipality

A majority of the women, 75% (316) had never heard of HPV while only 25 % (106) had heard of HPV. Of those who had heard about HPV, a large percentage (99%) knew that it is transmitted through sex while only 1% thought it is transmitted through air. Figure 2 below shows awareness of HPV among women.

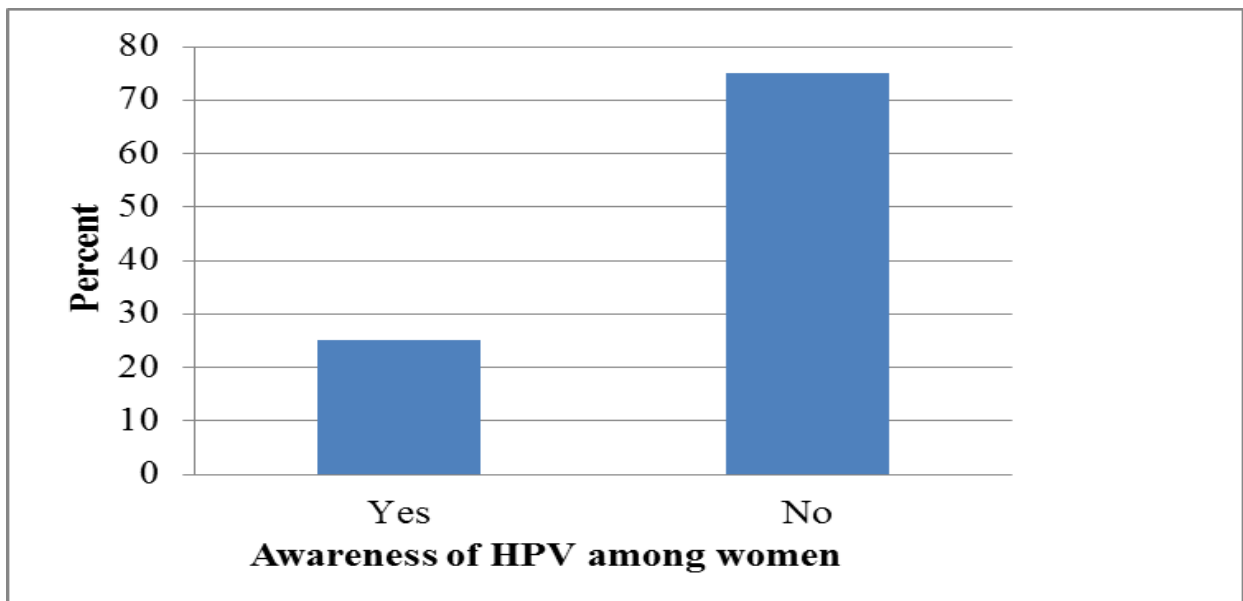


Figure 2: Awareness of Human Papilloma Virus

Of the respondents, 23% (97) thought HPV infection led to cervical cancer, 28% (118) said giving birth to many children caused cervical cancer, 81% (342) said having multiple sex partners, 60% (253) identified early sexual intercourse, 66% (279) identified use of oral contraceptives, 61% (257) identified a weakened immunity, 54% (278) identified smoking, 24%(101) thought obesity , 24% (101) identified one sexual partner , 57% (240) identified uncircumcised sexual partner, 17%(72) thought old age, 7% (30) identified witchcraft, 17% (72) identified a circumcised sexual partner, 35% (148) thought food while 6% (25) thought curse as being a cervical cancer risk factor. Figure 3 below shows the awareness of cervical cancer risk factors among women.

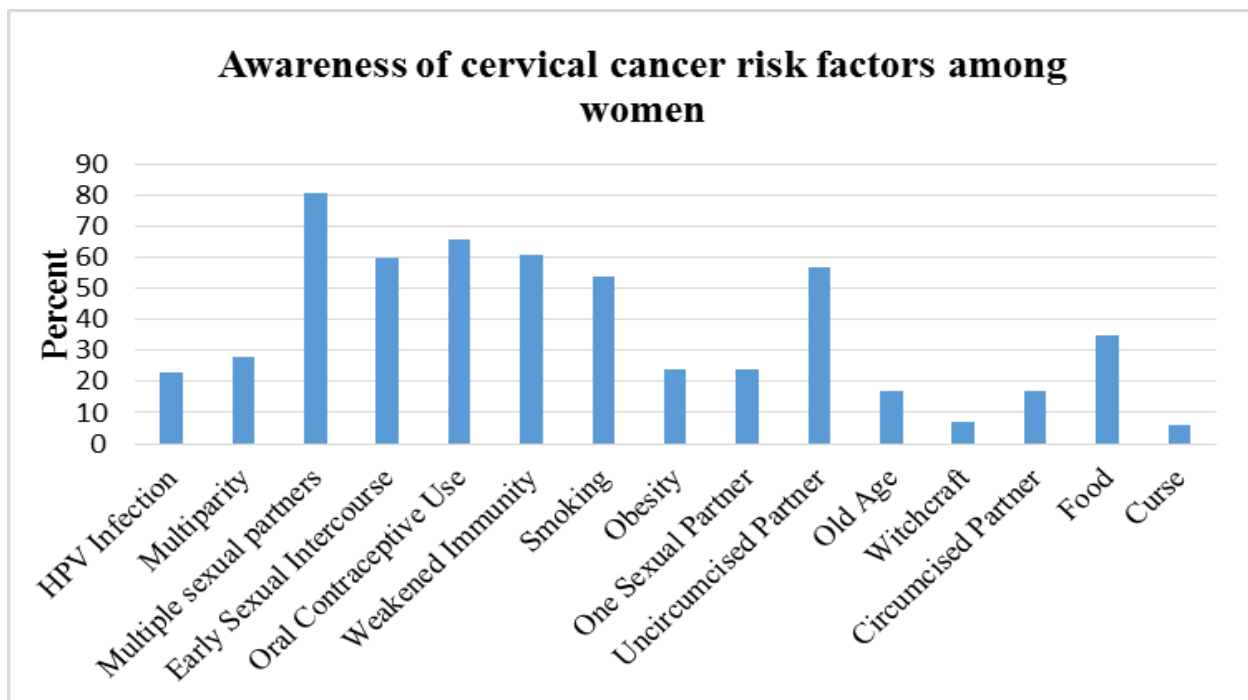


Figure 3: Awareness of Cervical Cancer Risk Factors among Women

Discussion

Awareness of Cervical Cancer among Women

It has been observed in several studies that the awareness of cervical cancer women is very low. One such study was in Kenya among women seeking reproductive health services that found that only a third of women had ever heard of cervical cancer in Kisumu, Kenya (Sudenga *et al.*, 2011). Another such study was a qualitative study conducted in Ethiopia that found out a low awareness of cervical cancer (Birhanu *et al.*, 2012). Most participants had heard of “cancer” but not cervical cancer. In another study in Iraq among college students and women healthcare workers, it was found that the participants, generally, have poor levels of knowledge and awareness about cervical cancer (Asmaa, 2013). However, findings from this study had contradicting findings. This study found that majority of women were aware of cervical cancer. This high level of awareness could be attributed to the fact that the study was conducted in an urban setting where women probably had access to flow of information and better health care facilities.

It has also been observed that the low level of awareness of cervical cancer among women is due to several factors mainly socio-economic, cultural and demographic factors, most notably education levels, economic status and healthcare infrastructure (Ngugi *et al.*, 2012). Findings from this study showed that mass media and health facilities are the main sources of cervical cancer information for the women. This could be attributed to the high penetration rate of mass media (mainly radio & television) outlets in the Municipality and Kenya in general and the trust in health facilities the women had.

Awareness of Cervical Cancer Risk Factors among Women

The current study found out that cervical cancer risk factors awareness was poor. Very few women identified HPV infection as cervical cancer risk factor despite HPV infection being associated with 60 % of cervical cancer cases (Walboomers *et al.*, 1999; WHO, 2012). Women identified some cervical cancer risk factors (having multiple sex partners, early sexual intercourse, use of oral contraceptives, weakened immunity and smoking) as risk factors largely because these factors are associated with other health problems. This study findings concurs with findings from a study in Singapore through Computer Assisted Telephone Interviews and Face to Face Interviews that found out that Singaporean men and women displayed overall low levels of HPV awareness and knowledge (Smith *et al.*, 2009).

The limited awareness of cervical cancer risk factors findings among women of this study further reinforced by the fact that some women identified obesity, one sexual partner, uncircumcised sexual partner, old age, witchcraft, circumcised sexual partner, food, and curse as being a cervical cancer risk factor. This is probably because the cervical cancer awareness campaigns have not been able to demystify beliefs related to the cause of cancer. This finding concurs with a study carried out in Thika, Kenya in which women identified other multiple probable causes which were not cervical cancer risk factors (Ngugi *et al.*, 2012).

Despite of the low awareness of HPV among women, this study found out a very high level of awareness on how HPV is transmitted. Majority of women were aware that HPV is transmitted mainly through sex. This contradicts with findings in Singapore that found low level of knowledge of HPV transmission (Smith *et al.*, 2009). This is very positive as far as HPV transmission prevention and control measures are concerned because knowledge of the main mode of transmission by the public is very vital in the efforts to prevent HPV transmission.

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Summary

In summary, findings showed that awareness of cervical cancer among women was high while the awareness of cervical cancer risk factors was low. Awareness was influenced by demographic and socio-economic factors mainly age, occupation, and education.

Conclusions

The awareness of cervical cancer among women in Kitale Municipality, Kenya is high with mass media and health care workers being the main sources of information.

Awareness of cervical cancer risk factors is low and is influenced by demographic and socio-economic factors mainly age, occupation, and education.

Recommendations

Health education programmes with detailed teaching about cervical cancer especially its aetiology and presentation should be enhanced through mass media and health care providers.

Cervical cancer awareness campaigns should include information about cervical cancer risk factors in its key messages to women.

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