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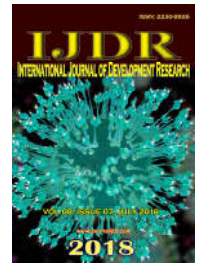
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KNOWLEDGE AND BARRIERS TO UPTAKE OF CERVICAL CANCER SCREENING AMONG WOMEN AT KOGINGA FISH LANDING SITE IN HOMA BAY COUNTY, WESTERN KENYA

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ABSTRACT

Background: Cancer of the cervix remains a major public health problem among women worldwide especially in developing countries and in Kenya, there are about 2,454 new cases and 1,676 annual deaths. The potential areas of new cases include fish landing sites, where there are high prevalence of sexually transmitted diseases due to promiscuity. However, knowledge and barriers to cervical cancer screening in the fish landing sites have not been assessed despite the vulnerability of the population.

Objective: The aim of this study was to assess the knowledge and identify barriers to cervical cancer screening among women in Koginga fish landing site in Homabay County, Kenya.

Method: A cross-sectional descriptive study design was used study participants were 203 registered women selling fish at Koginga fish landing site. Both qualitative and quantitative methods, in particular, semi-structured questionnaire and key informant interview guides were used to collect data. Descriptive statistics was used for the analysis.

Results: Majority of the respondents (89.3% n=181) had heard of cervical cancer and the source of information about cervical cancer are health care workers at 28%(n=57). Interestingly, about 75% (n=152) of respondents said that cervical cancer can be prevented and 52.71% (n=107) were aware that Human papilloma virus is a risk factor. However, 45.32% (n=92) pointed at tobacco but only 46.31% (n=94) pointed at the multiple sexual partner despite the high promiscuity levels at the site. Cervical cancer screening uptake is at 23%. On the barriers to the uptake of the screening, 85.2% (n=173) indicated work and lack of awareness of availability of cancer screening services at the health facilities by 15.8% (n=32) of the respondents.

Conclusions: Cervical cancer screening uptake is low and there is poor knowledge of multiple sexual partner as major risk of cervical cancer at the fish landing site. Barriers to the uptake of cervical cancer screening include work and lack of awareness on the availability of cervical cancer screening services at the health facilities. Therefore, the study recommends a site specific programmatic intervention to create awareness on the risk of cervical cancer.

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INTRODUCTION

Cervical cancer is a malignant neoplasm arising from cells originating in the cervix uteri due to excessive proliferation of the cells of the cervix (WHO, 2006).

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It is a significant public health burden in most developing countries, where it is a major cause of mortality and morbidity among women (WHO, 2014). Cervical cancer takes longer period to develop up to ten years or more and this makes early screening a strategic preventive method (Aminisani et al., 2012). Cervical cancer is among the most common cancers in women in the world. In sub-Saharan Africa, 34.8% new cases of cervical cancer are diagnosed per 100,000 women annually

and 22.5% per 100,000 women die from the disease (WHO, 2013). In 2010, WHO estimated that 2454 cases of cervical cancer and 1676 deaths due to cervical cancer occurred in Kenya every year (WHO/ICO, 2010). Despite its preventable nature, cervical cancer screening uptake in Kenya is still at 3.2% (WHO/ICO, 2010). This has been reported to be due to lack of awareness of effective screening programs and low uptake of Pap smear or pelvic examination (Gan and Dahlui, 2013). Human papillomavirus (HPV) infection which is exclusively transmitted through sexual contact is the major cause of cervical cancer. If left untreated, the cancer spreads to other organs such as the bladder, intestines and the uterus. Cervical cancer is preventable and curable by early diagnosis through screening and prompt treatment (Bosch *et al.*, 2002). However, most of the health facilities which are accessed by 80% of the people do not offer cervical cancer screening (MOPHS, 2012). Cervical cancer screening uptake in developing countries is low. Studies report that an estimation of over 96% of women have never been screened for cervical cancer and over 80% of women newly diagnosed with cervical cancer live in developing countries. These women are mostly diagnosed when they have advanced disease (Lyimo and Beron, 2012). This is because in most parts of sub-Sahara Africa including Kenya, cervical cancer screening has not been given the priority as compared to other diseases such as HIV/AIDS, Malaria and Tuberculosis.

Some of the tests used to detect cervical cancer in Kenya include visual inspection with acetic acid (VIA), visual inspection with Lugol's iodine (VILI) and Papanicolaou test (Pap smear). The Pap test is recommended for all women between the ages of 21 and 65 years old, and can be done in a laboratory, medical clinic or doctor's office (Kenya Medical Directory, 2009/10). These tests are currently available in most private clinics and hospitals as well as government health facilities. However, this service is greatly underutilized by the general population in Kenya and in other developing countries. Most of the women at the fish landing sites sell fish and their presence at these sites makes them highly vulnerable to sexually transmitted diseases (STDs) including HPV (Medard, 2012). This is because majority of them have multiple sexual partners and engage in unprotected sexual activity (Beuving, 2010). In Kenya along Lake Victoria females enter into such relationships for steady fish supply (Kwena *et al.*, 2012). A woman can be in relationship with more than one sexual partner where they engage in sex without the use of a condom (Kwena *et al.*, 2012). These casual sexual contacts puts the health of these women at risk to STIs including HPV (Lwenya and Yongo, 2012). These women are predisposed to Human Papilloma Virus which is mainly transmitted through sexual contact with many sexual partners.

MATERIALS AND METHODS

Cross-sectional descriptive research design which targeted women between the age of 18 to 49 years at Koginga fish landing site of Homa Bay County guided the conduct of this study. The Study Site was Koginga which is the largest fish landing site in Homa Bay County. It is on the outskirts of Homa Bay about four kilometers from the town and the majority of residents are low income earners. The study populations were 203 women aged between 18 to 49 years who are registered as fish mongers at Koginga fish landing site. Health care providers at Health facilities or hospital accessed by the women for their health care services were also

included in the study as key informants. All the study participants provided written informed consent. Ethical approval was sought from Institutional Research Ethics Committee of Jaramogi Oginga Odinga Teaching and Referral hospital. Data was collected using a semi-structured questionnaire and Key Informant Interview guide. The semi-structured questionnaire was administered to the women at Koginga fish landing site and Key Informant Interviews (KII) to the health care providers were conducted at the health facility. Each question was coded for ease of entry. Coded data was entered into STATA software version 13.1 and Ms Excel. Analysis was done using simple descriptive techniques. Data was organized in tables, bar graphs and pie charts and also summarized using frequencies and percentages. Content analysis was used to analyze qualitative data from the key informants.

RESULTS

Demographic characteristics of the study population

A total of 203 women aged between 18 to 49 years old were interviewed. Majority of the respondents 56.16% (n=114) were aged between 18 to 25 years, 26-33 years were 25.62% (n=52) and 5.91% (n=12) were aged between 42-49 years. On the education levels, majority 45.32% (n=92) had primary education, 42.36% (n=86) secondary education, 9.36% (n=19) middle level education, 2.46% (n=5) had no formal education. On the monthly income, those who earn less than Kshs1000 were 1.97% (n=4), monthly earning between Kshs1000 to 5000 was 22.17% (n=45), Kshs 5000 to 10000 were 53.69% (n=109), Kshs 10000 to 20000 were 18.72% (n=38) while those who earn more than Kshs 20000 is 3.45% (n=7).

Knowledge on cervical cancer screening

On the level of awareness of cervical cancer, 89.3% (n=181) of the respondents had heard of cervical cancer while 10.7% (n=22) had not heard of it. Of those who had heard of cervical cancer, 28.08% (n=57) reported that the source of information is health care workers (HCW) and 26.11% (n=53) heard from HCW and others, 24.63% (n=50) heard from Others, 14.78% (n=30) heard from Friends(F), 0.99% (n=2) heard from Family Members, 0.99% (n=2) heard from FM,HCW and Others, 0.49% (n=1) heard from FM,F,HCW and Others, 1.97% (n=4) heard from FM and Others, 1.48% (n=3) heard from F and Others and 0.49% (n=1) heard from F and HCW (Figure 1).

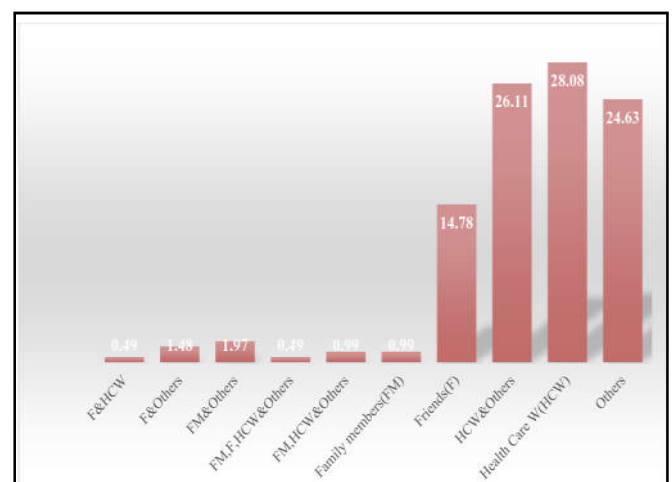


Figure 1. Sources of information about cervical cancer

Table 1. Knowledge on risk factors for cervical cancer

Risk factor of cervical cancer	Agree	Strongly agree	Disagree	Strongly disagree	Unsure
Human Papillomavirus	52.71% (n=107)	2.46% (n=5)	10.84% (n=22)	0.49% (n=1)	33.5% (n=68)
Poverty	20.2% (n=41)	1.97% (n=4)	44.33% (n=90)	9.36% (n=19)	24.14% (n=49)
Tobacco use	45.32% (n=92)	3.45% (n=7)	20.69% (n=42)	3.45% (n=7)	27.09% (n=55)
Many sexual partners	46.31% (n=94)	35.96% (n=73)	0.00% (n=0)	7.39% (n=15)	10.34% (n=21)
Family history	24.14% (n=49)	0.99% (n=2)	40.89% (n=83)	4.93% (n=10)	29.06% (n=59)
Nutrition	14.78% (n=30)	0.49 (n=1)	39.41% (n=80)	4.93% (n=10)	40.39% (n=82)
Weak immunity	35.96% (n=73)	6.40% (n=13)	22.66% (n=46)	1.48% (n=3)	33.5% (n=68)
Hormonal medication	33% (n=67)	3.94% (n=8)	14.29% (n=29)	1.97% (n=4)	46.8% (n=95)

Cervical cancer screening uptake was at 23% (n=47). Of the respondents 77% (n=156) indicated that they had never gone for screening. Reasons provided for not having gone for cervical cancer screening included: Lack of time (“I have been busy”), inability to pay for the screening in case there is a cost, fear of being found positive for cervical cancer, fear of pain, not having made the decision yet to go for the screening, fear of being mishandled by the nurses, lack of awareness that the program exists, not having any signs and symptoms that require testing and lack of awareness of the existence of the disease. When asked on whether cervical cancer can be prevented, majority of the respondents 75% (n=152) said yes, 14% (n=28) said they do not know and 11% (n=22) said no. The respondents said cervical cancer can be prevented by ‘limiting the number of sexual partners’, ‘routine screening’, ‘vaccination’, ‘public campaigns against cervical cancer’, ‘getting curative drug for cervical cancer’, ‘taking balanced diet’, and ‘avoiding family planning injections’, ‘being faithful to your partner’, avoiding tobacco use’.

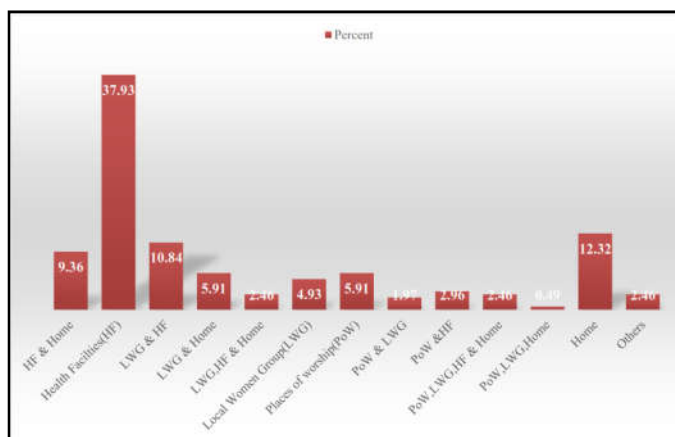


Figure 2. Places to reach women with cervical cancer screening messages

When asked on the best place to reach women with cervical cancer screening messages, majority 37.93% (n=77) of the respondents said the health facility (HF), 12.32% (n=25) at home (H), 10.84% (n=22) at LWG and HF, 9.36% (n=19) at HF and Home, 5.91% (n=12) at LWG and Home, 5.91% (n=12) at places of worship (PoW), 4.93% (n=10) at local women group (LWG), 2.96% (n=6) PoW and HF, 2.46% (n=5) at PoW, LWG, HF and Home, 2.6% (n=5) Other places, 2.46% (n=5) at LWG, HF and Home, 1.97% (n=4) at PoW, and LWG, while the least was 0.49% (n=1) at PoW, LWG, and Home. All the health care providers agreed untimely screening of women was a concern in their health care facilities. The reason they gave include “because these women present to the hospital in the late stages and this contributes to high mortality”.

Another informant said that “because the women come for screening in late stages where treatment can be inaccessible and beyond reach for some”.

Knowledge on risk factors of the cervical cancer

When the participants were asked on whether she or any member of the family has ever been diagnosed with cervical cancer, majority 83% (n=169) of the respondents said no, 10% (n=20) yes and 7% (n=14) said they don’t know. When asked on whether cancer can be transmitted from one person to another, 50% (n=102) said yes, 41% (n=83) said no and 9% (n=18) said they didn’t know. When asked whether Human Papillomavirus is a risk factors, majority of the respondents 52.71% (n=107) agreed, In addition, whether poverty is a risk factor for cervical cancer, majority 44.33% (n=90) of the respondents disagreed. On the other hand 45.32 % (n=92) of the respondents agreed that tobacco is a risk factor for cervical cancer. When asked on whether many sexual partners was a risk factor for cervical cancer, 46.31% (n=94) of the respondents agreed. While when asked on whether family history was a risk factor for cervical cancer, 40.89% (n=83) of the respondents disagreed. Nutrition was identified as a risk factor for cervical cancer by 14.78% (n=30) of the respondents. Of the respondents 35.96% (n=73) agreed that weak immunity is a risk factor for cervical cancer, and finally 33% (n=67) indicated that hormonal medication is a risk for cervical cancer.

Barriers to uptake of cervical cancer screening

When asked on whether their spouses were supportive towards an initiative to take up cervical cancer screening, 83.6% (n=126) said yes, 8.7% (n=13) said no. Work was identified as a barrier to the uptake of cervical cancer screening initiatives by 85.2% (n=173) of the respondents. When asked on whether the health facilities around them carry out cervical cancer screening services, majority 81.6% (n=166) said yes, 2.6% (n=5) said no and 15.8% (n=32) said they did not know. In addition, majority 80.6% (n=164) of the respondents said they trust the health facilities around them and 19.4% (n=39) did not trust them. Further, when asked on whether they trust the healthcare providers in the facilities near them, 79.6% (n=162) said yes and 20.4% (n=41) said no. When the health care providers were asked to give the factors contributing to untimely screening of women at Koginga fish landing site, they stated “ignorance / lack of knowledge about cancer screening”, “lack of awareness”, “illiteracy”, “religious and cultural beliefs” and “lack of access to facilities (KIII)”. Contributing factors to untimely screening of women at the facility as stated by the key informants include “lack of enough equipment’s and facilities for screening”, “lack of enough trained personnel and equipment, cervical cancer screening has not been prioritized as a key service for women of

reproductive age (KII2), “some women do not understand the importance of cervical cancer screening (KII3)”. The suggestions put forward by the key informants on how timely screening for cervical cancer can be achieved for women aged 18-49 years include “community sensitization”, “staff training on cancer screening”, “availing commodities for cancer screening”, “screening all women of reproductive age and sensitizing their partners (KIII,2)”.

When asked on the challenges they experience during the sensitization on cervical cancer screening, they include the “age difference”, “cultural beliefs”, “myths and misconceptions about cervical cancer screening”, “language barrier”, “illiteracy”, “ignorance” and “some women say it is painful”, “women fear being diagnosed with cervical cancer as opposed to HIV (KII4)”. When asked on whether they think the government is supportive of cervical cancer screening, 3 of the health care providers said, “no because they couldn’t be missing commodities on cancer screening” while two (2) of them said “yes but one of them added” *there is need for improvement in terms of equipment supply and staff training among health care workers*. In addition, one of the nurse said “partially” and went on to say that “because commodity supply is not enough, training of staffs is low and community sensitization is rarely done (KIII,2,3,4,5)”. When asked to suggest on what should be done to increase government involvement in cancer screening, they said “involving the media”, “commodity supply should be consistent”, “staff training should be endorsed”, “the government needs to be made aware of the need to support cervical cancer screening and the relevant stakeholders need to push for this request”, “staffs to report on the number screened on a monthly basis to ease in timely supply of enough equipment (KII3,4)”.

DISCUSSION

The study reveals that awareness of cervical cancer screening among respondents was high at 89.3% (n=181) and 27% (n=55) of the respondents had heard of cervical cancer screening from the health workers while others had heard from the television, family members and friends. Majority of the respondents 98% (n=199) regarded the disease as life threatening. Further, the screening uptake in this current study is 23% (n=47). Majority 74.5% (n=151) of the respondents said cervical cancer is preventable and some of the preventive measures include limiting the number of sexual partners, routine screening and HPV vaccination. When asked on the best place to reach women with cervical cancer screening messages, majority 38.3% (n=78) of the respondents said the health facility. Untimely screening is a problem at the health care facilities. The reasons for the low uptake of cervical cancer given by the respondents in this study include being busy and fear of the screening being charged. Women with knowledge on cervical cancer screening are more likely to go for cervical cancer screening as compared to those who are ignorant about it. The cervical cancer screening awareness in this study is 89.3% (n=181). Also, 98% (n=199) of the respondents regard cervical cancer as life threatening. The findings of this study agree with those from other studies which have reported a high cervical cancer screening awareness. A study done in Kenya reported a cervical cancer awareness of 87.1% (Ombech *et al.*, 2012). In addition, a recent study done in Kenya by Mbatia, reported an awareness level of 66.9% (Mbatia., 2016). However, the level of cervical cancer screening awareness reported in this research study,

89.3% (n=181), is higher than that reported in other research studies. The awareness level of a research done in Kenyatta National Hospital was 32% (Gichangi *et al.*, 2003), 40.4% in Tanzania and 40% in a study done in Limuru, Kenya, among rural women (Gatune and Nyamongo, 2005). The most common source of information on cervical cancer screening in the Limuru study was friends. Other sources included television, magazines, radio and education talks offered at the health facility (Gatune and Nyamongo, 2005). Further, a study done in Moshi Tanzania, the cervical cancer awareness level was 59.6% (Lyimo and Beron, 2012). A research study done in South-east Nigeria reported an awareness of 37.5%. The high awareness reported in this research study is due to the increased cervical cancer awareness campaigns on cervical cancer and cervical cancer screening.

Cervical cancer screening uptake in this current study is 23% (n=47). The low screening uptake recorded in this study is consistent with other studies done in the country and most parts of sub-Saharan Africa. In a study done in Embu, the cervical cancer screening uptake was 25% (Nthiga, 2014). Further, a study done at Kenyatta National Hospital, in which only 22% of the women had ever been screened (Gichangi *et al.*, 2003). A study done in Thika, only 17.3% of the women had ever gone for cervical cancer screening (Ngugi *et al.*, 2012). A study done in Kisumu reported an uptake of 17.5% (Everlyne *et al.*, 2014). In addition, in a study done in Moshi Tanzania, only 22.6% of the women had been screened (Lyimo and Beron, 2012). Further, a study done in Eldoret, Kenya reported that 12.3% of the participants had undergone cervical cancer screening (Were, Nyaberi and Buziba, 2011b). In a Zimbabwean study, 95.8% of the women interviewed had never gone for screening and had little knowledge about the various aspects of cervical cancer causes, prevention and treatment (Mupepi, Sampelle and Johnson, 2011). Also, A study done in Mulago Uganda among medical workers reported that 81% had never undergone cervical cancer screening (Mupepi, Sampelle and Johnson., 2011). On the other hand, the cervical cancer screening uptake, 23% (n=47), in this current study was lower than that recorded in other research study. Cervical cancer uptake was 41% in a study done in Kenya among female primary school teachers (Ombech, Mugai and Wanzala, 2012). The cervical cancer screening uptake in developing countries especially sub-Saharan Africa is usually lower than that of developed countries. Most of the developed countries report a high cervical cancer screening uptake because of the vigorous cervical cancer awareness carried out and the availability of cervical cancer screening facilities and commodities. A study done in Italy reported that 65% of the women underwent Pap smear screening (Napoli *et al.*, 2011). The low cervical cancer screening uptake recorded in this study has also been reported in other parts of sub-Saharan Africa. However, despite the awareness on cervical cancer and cervical cancer screening, over 95% of the women in developing countries have never undergone cervical cancer screening, and only 5% undergo screening (WHO, 2006). Cervical cancer screening has been reported to reduce deaths due to cervical cancer (Aminisani *et al.*, 2012) and that women with knowledge on cervical cancer are more likely to take up screening services compared to those with little or no knowledge. In contrast, in this study the cervical cancer screening uptake was very low despite the high level of awareness of cervical cancer and cervical cancer screening. This is because in most parts of sub-Saharan Africa including Kenya, cervical cancer screening has not been given

the priority as compared to other diseases such as HIV, Malaria and Tuberculosis. This leads to a lot of women in Africa presenting at the hospital when cervical cancer is at advanced stages making it difficult to treat it. Other research studies have linked low uptake of Pap smear to low level of education, being married and lack of a primary care unit (Hewitt, Devesa and Breen, 2004). Sensitization of women about available services is therefore necessary in low resource settings (Mupepi, Sampsel and Johnson, 2011). Therefore, the government should create awareness on cervical cancer screening to avert future deaths due to the disease. Majority, 74.5 % of the respondents perceived cervical cancer as preventable in this study. The preventive nature of cervical cancer reported in this study is higher than that reported in a Kenyan study where it was 56.8% (Mbatia, 2016) and 31.9% in South-east Nigeria (Eze *et al.*, 2012). The higher knowledge on the preventive nature of cancer recorded in this study can be linked to the increased sensitization campaign on cervical cancer. Cervical cancer is preventable by early diagnosis through screening and prompt treatment (Bosch *et al.*, 2002). Some of the methods of preventing cervical suggested by the participants in this study include limiting the number of sexual partners, routine screening and HPV vaccination.

Despite the fact that many women were aware of cervical cancer screening, their knowledge of risk factors associated with cervical cancer is low. This indicates that women have high level of general knowledge about the disease but no knowledge of the disease itself or its progression. The reason for this observation in this study is because a lot of women had low knowledge on the risk factors and this is why the uptake of cervical cancer screening was very low. This finding is in agreement with a study done in Uganda which reported ignorance on cervical cancer risk factor as one of the barriers to uptake of cervical cancer screening. In this Ugandan study only 40% of the medical workers had knowledge on the risk factors of cervical cancer which contributed to 81% having never been screened (Mutyaaba *et al.*, 2007). In addition, a research study done in Zimbabwe reported that women had little knowledge on the causes of cervical cancer and thus only 5% of the women went for cervical cancer screening. Further, a study done in Bangladesh found that the awareness on cervical cancer did not translate to knowledge on the causes of cervical cancer. It is worth noting that this study was carried out among women, men and children (Ansink *et al.*, 2008). Sensitization of women about available services is therefore necessary in low resource settings (Mupepi, Sampsel and Johnson, 2011). This research observed a number of barriers that affects the uptake of cervical cancer. In addition, 93.4% of the respondents would go for cervical cancer screening if given a chance. A major barrier is little or no understanding of the disease as well as lack of information about cervical cancer and screening itself. This is majorly contributed by low sensitization of women at all levels. Some women also reported that they did not feel at risk, others felt the procedure is painful and others were afraid of the vaginal examination during screening while others feared the outcome of screening. This could be contributed by the belief that cervical cancer is untreatable and it has no cure and therefore a positive result leads to death. Findings from health care providers indicated that healthcare facilities lack commodities for screening and they also lack adequate trained staff on cervical cancer screening. The findings of this study is in line with those of other studies which have reported ignorance among health care providers especially in rural areas, both individual and

institutional factors as barriers to cervical cancer screening uptake (Basu and Chowdhury, 2009). Some of the institution related factors, from previous studies include; Poor awareness among health care providers on the benefits of cervical cancer screening, lack of infrastructure, poor counseling, unfriendly staff and lack of enough female staff (Singh and Badaya, 2012).

Conclusion

The study highlights the poor knowledge on risk factors especially of the multiple sexual partner as potential risk to cervical cancer at Koginga fish landing site. Furthermore, the study shows that work, lack of screening services and awareness of available screening services are some of the barriers to the uptake screening. The study therefore recommends a site specific programmatic intervention and further studies to determine how work is barrier to uptake of screening.

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Declaration: The authors declare that they have no competing interests.

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