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Factors that determine utilization of cervical cancer screening methods among women aged 21-50 years in Meru South, Tharaka Nithi County, Kenya

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Abstract

The cervical cancer ranks as the first cause of female cancer and the first most common female cancer in women. It is also the first leading cause of cancer deaths in women aged 15 to 44 years in Kenya. Despite the introduction of cervical cancer screening and control programmes, the burden of cervical cancer remains high in Kenya. This study therefore sought to identify factors that determine utilization of cervical cancer screening methods among women aged 21-50 years in Meru South, Tharaka Nithi, Kenya. A cross-sectional descriptive study composing of 40 women aged between 20 and 50 years was carried out. An interview guide was used to collect data which was transcribed to Microsoft Excel 2017 software. The findings revealed that the respondents' age significantly influenced uptake of cervical cancer screening. Besides, increasing age was associated with increased likelihood of screening. Only 12.5% of women aged 21-30 years had screened as compared to 50% of women in the age category 51-60. However, utilization of screening services was higher among women aged 31-40 years. Educational status was also significant in the uptake of screening services. However, tertiary education level had no much influence as many would expect. Majority of those who had tested for cervical cancer were of primary and secondary educational status. Knowledge level of respondents with regards to cervical cancer and screening also significantly influenced uptake of screening services. Knowledge and awareness of risk factors, cervical cancer test and availability of the test enhanced screening uptake. The study concluded that uptake of cervical cancer screening methods was influenced by age, educational status and knowledge level of respondents. Poor use of the screening services was majorly attributed to lack of precise information regarding cervical cancer & screening and disregard for screening services. It recommended that health care providers from all cadres should greatly be involved in the promotion of cervical cancer screening to women who seek health care in the health facilities and the community. I tend to believe that a woman devoid of information and impacts of cervical cancer will definitely test for cervical cancer when told of and asked to by the health care provider.

Keywords: *Utilization, cervical cancer screening methods, women aged 21-50 years*

1.0 Introduction

Cervical cancer is the fourth most common cancer in women and the seventh overall; with an estimated 569,847 cervical cancer cases being reported in 2018, with 85% of that burden occurring in low and middle-income countries (Fawcett, 2020). It's relatively uncommon in the developed countries. For instance, the incidence of invasive cervical cancer declined steadily in the US over the past few decades (by 50% in 30 years). This epidemiologic trend in developed countries has been attributed to mass screening with Papanicolaou test which permits early detection and treatment of precancerous lesions, thereby, decreasing morbidity and mortality from cervical cancer (Boardman, 2016; American Cancer Society, 2014). 85% of the global burden occurs in the less developed regions where it accounts for 12% of all female cancers. Eastern Africa, Southern Africa and middle Africa are high risk regions with estimated age standardized rates of over 30 per 100000 (42.7, 31.5 and 30.6 respectively) (GLOBOCAN, 2012). Cervical cancer is the most common cancer in women in Eastern and Middle Africa (Bruni et al., 2016; GLOBOCAN, 2012). It is the second most common female cancer in women age 15 – 44 years in the world (Bruni et al., 2016). 266,000 deaths from cervical cancer worldwide occurred in 2012, with the figure rising to 311 000 cervical cancer related deaths as at the year 2018 (Arbyn, et al., 2020). About 87% of the deaths occurred in the less developed regions. Western Asia, Western Europe and Australia had the lowest mortality rates (less than 2 per 100,000 women) (GLOBOCAN, 2012). Cervical cancer remains the leading cause of cancer related deaths for women in developing countries (Bruni et al, 2015).

1.1 Statement of the Problem

A population of 13.5 million Kenyan women aged 15 years and older are at risk of developing cervical cancer (HPV Information Centre, 2015). The incidence of cervical cancer in Kenya stands at about 4802 new cervical cancer cases annually, with cervical cancer ranking as the first cause of female cancer and the first most common female cancer in women aged 15 to 44 years in Kenya (HPV Information Centre, 2015; Bruni et al., 2015). Mortality from cervical cancer is about 2451 deaths annually. Cervical cancer being the first leading cause of cancer deaths in women aged 15 to 44 years in Kenya (HPV Information Centre, 2015; Bruni et al., 2015). With HPV-16 and 18 that cause 70% of invasive cervical cancer prevalence being at 9.1% of women in the general population; there is an increased risk for women developing cervical cancer. Hence, a call for increased uptake of cervical cancer screening majorly by conventional cytology [Pap smear] and VIA/VILI tests to decrease incidence and mortality and morbidity from cervical cancer in Kenyan women. Despite the introduction of cervical cancer screening and control programmes in Kenya, the burden of cervical cancer is still high. This study therefore sought to identify factors that determine utilization of cervical cancer screening methods among women aged 21-50 years in Meru south, Tharaka Nithi, Kenya.

1.2 Purpose of the Study

To identify factors that determine utilization of cervical cancer screening methods among women aged 21-50 years in Meru south, Tharaka Nithi, Kenya.

2.0 Empirical Review

2.1 Methods of screening cervical cancer

According to the WHO and the American Cancer Society, the available screening methods include cytology {Pap test}, visual inspection with acetic acid and HPV testing for high risk HPV types {HPV DNA test} (American Cancer Society, 2014; WHO, 2016). In low resource countries such as Sub Saharan countries Africa and some of Asian countries, attention is being given to a much less expensive method of screening using vinegar (Visual Inspection with Acetic Acid), which has the potential of lowering mortality from cervical cancer by 31% (Roxanne, 2013). In Kenya, visual screening is available in all county referral hospitals, some sub-county hospitals, a few health centres and some faith-based facilities. Pap smear is the most commonly used method but limited to the urban areas (NCCP Plan, 2012).

2.2 Demographic characteristics that influence utilization of cervical cancer screening

Age, educational level, marital status, parity have been cited as important demographic determinants of utilization of cervical cancer screening services. In a study by Ncube et al. (2015), women in the youngest age group {19-29 years} were less likely to have ever had a pap smear compared with women in older age groups {30-50 years}. Women older than 50 were 4.5 times likely to have had a pap smear. Being younger than 60 years increases the likelihood of receiving a Pap smear/pelvic exam (Akinyemiju, 2012). Among the 6% who had been screened for cervical cancer in Sudenga et al. (2013) tended to be older. Bessler, Maung and Jolly (2007) reported that women in the age group of 34-44 years were 5.3 times more likely to have ever had a pap smear compared with women in the 45-54 years group. Women in the youngest age group (25-29 years) showed a poor uptake of screening.

In Ncube et al. (2015), married women were two times more likely to have had a pap smear since 78% of those who had not had a pap smear were single women. Being single, divorced or widowed is associated with reduced likelihood of receiving a pelvic exam/ Pap smear (Akinyemiju, 2012). Increasing parity is a significant determinant of utilization of cervical cancer screening (Muthoni et al., 2016). Women who had 3 or more children had a higher uptake rate (25.9%) than those with 1-2 children (13.6% uptake rate).

Education serves as a gateway to information, cognitive skills and values. Thus, educated women have better awareness of and greater access to preventive medicine, apply greater independence in decision making regarding their health and face lower barriers to access and utilisation of screening cervices. For instance, Soneji and Fukui (2013) reported educational attainment as a key determinant of women's knowledge of pap smears. Akinyemiju (2012) stated that having a secondary school educational achievement or greater and seeing a nurse/midwife as factors that significantly contributed to uptake of a pelvic exam among 18-69 years old women. Sudenga et al. (2013) reported that among the 6% (23) who had utilized the Pap test, tended to be better educated and were aware of cervical cancer compared with the women who had not been screened. In yet another study in Jamaica by Bessler et al. (2007), women with a secondary school education were 4.5 times more likely to have been screened compared with women with a primary school education.

Muthoni et al. (2016) agree that age, marital status and a high level of education significantly influence uptake of cervical screening services. In their study, married older women were more likely to be screened than younger women. Married women made up 85.9% of those who had been screened. Women in the age category 42-49 years were 6 times more likely to utilize screening services compared to women in the age category 18-25 years; indicating that older women were more likely to be screened compared to younger women. Women with

higher education level were more likely to take part in screening than those of lower levels of education.

Likewise, Mupepi et al. (2011), Olesen et al. (2012), Njiru (2016) and partly Morema et al. (2014) reported similar findings. From these studies, increasing age up to 60 years, higher parity, higher educational attainment and being married were observed as boosters of cervical cancer screening as the opposite was noted as a malefactor of poor cervical cancer screening. However, in some other studies contrasting findings were reported. According to Oche et al. (2013), marital status, ethnicity, religion and educational qualification did not have any statistically significant effect on uptake of screening services. A high level of awareness and knowledge did not translate to proper utilization of pap smears (79% awareness) with only 10% screening rate. Utoo, Ngwan and Anzaku (2013), in their study, found out that utilization of screening services was not significantly influenced by education, parity, occupation and marital status. They stated non-utilization reasons as hindrances to the utilization of screening services among women at risk of cervical cancer.

2.3 Socioeconomic determinants of utilization of screening services

Socioeconomic factors are the social and economic experiences that help mould one's personality, attitudes and lifestyle (Chase, no date). They include income, employment/ occupation, environment and housing (place of residence), education and literacy, social support/ culture/religion, health behaviours such as smoking, exercise, diet & drug and substance use, etc. and access to health care (Public Health Agency of Canada, 2008). Wealth and having had a recent doctor's visit are consistent determinants for having used screening services recently (Soneji & Fukui, 2013). In this study, the probability of screening among those who had a visit to a doctor(s) compared to those who had not, increased from 16%, 43% to 67% among the poorest, middle and richest wealth quartiles respectively. Women living in urban residents had a higher screening possibility compared to those who lived in rural residents as in the case of Ecuador, Nicaragua and Peru. Disadvantaged ethnic and racial groups were less likely to have received a pap smear.

Number of annual visits to a health care provider and physician recommendation significantly determine utilization of cervical cancer screening services (Bessler et al., 2007). Women who visited a health care provider once a year were 5 times more likely to have been screened compared to those who visited once every two or more years. Those who had a physician's recommendation were more likely to have been screened in the last one year.

Greater accumulation of wealth increases the chance of getting screened for cervical cancer due to additional screening opportunities, early treatment and fewer barriers to seeking use of preventive medicine (Soneji & Fukui, 2013). The American Cancer Society lists poverty among risk factors for cervical cancer. Many low-income women do not have ready access to adequate health care services, including pap tests. This renders them at a risk of not being screened or treated for cervical precancers (American Cancer Society, 2014).

Increased socio-economic status place women in a better position economically and knowledge-wise, thus increasing their probability of seeking for cervical cancer screening services and utilizing them (Morema et al., 2014). In a study by Akinyemiju (2012), residing in a rural area, current unemployment, residing in a low or middle socioeconomic household and seeing a traditional health practitioner were factors significantly associated with reduced likelihood of a pelvic exam/pap smear. Also observed in this study; every unit increase in the country's health expenditure increases the likelihood of receiving a pelvic exam. Muthoni et al., (2016) in their study, observed that majority of those who had been screened had formal employment and could afford to travel to far health facilities for the service.

Male partner influence, cost of screening service, gender of health care provider and the number of physicians in the screening room are significant in a woman's decision to take up the screening tests (Njiru, 2016). In this study, majority of women preferred a low screening service cost, a female health care practitioner and at least two health care providers in the screening room. They expressed a serious consideration of screening for cervical cancer upon male partner's request to screen. A husband's positive emotional and financial support is a key influencing factor of a woman's decision to participate in cervical cancer prevention services (Bingham et al., 2003).

A study on personal factors influencing use of cervical cancer screening services by Olesen et al. (2012) observed that women with higher levels of overall Medicare service use were more likely to participate in cervical cancer screening. Furthermore, reliance on government welfare payments, living in rental houses and not working were associated with reduced likelihood of participating in cervical cancer screening. Besides, poor self-related health; lower levels of physical functioning, obesity, smoking, anxiety and depression symptoms were associated with lower rates of screening.

High and moderate overall health use, no childhood sexual abuse, younger age, non-smoking, having children, no/low levels of anxiety, life time reported drug use, not being welfare reliant, being employed, not being obese and high levels of physical functioning were noted as independent factors which increase participation rate in cervical cancer screening (Olesen et al., 2012).

2.4 Barriers to seeking and utilizing cervical screening services

In instances where increasing age, multi-parity, marital status, wealth, higher level of educational attainment, high level of physical functioning, etc., do not reflect a high uptake rate, then other non-utilization factors must account for this phenomenon. Commonly reported is ignorance, absence of screening centres, perceived non-necessity, faith in God, prohibitive cost and physician's non-recommendation (Utoo et al., 2013). Also reported is fear of pain of a pap test, fear of a positive pap test result, never receiving pap test results, long distance screening centres, test being too expensive and too embarrassing and in no need of the test perception (Bessler et al., 2007). Ndikom and Ofi (2012), as well, reported that lack of awareness about the screening services, illiteracy, poverty and facts that when people are healthy they do not bother about preventive services, unavailability of screening services in most centres and unfavourable attitudes of health care workers as factors that hinder women from utilizing cervical cancer screening services. In Ncube et al., a greater proportion of women who had never had a pap smear reported that they feared the pap test and that they needed more adequate information, they did not know where to go for the test, feared a positive pap test and lacked information about cervical cancer and screening.

According to Morris (2016), of the women who attempted to seek screening services, only 53% received, 47% reported not to have received screening services yet they required them. Accounting for this was shortage of screening reagents, shortage of trained staff on cervical cancer screening, lack of clear screening programmes and policies within the health facilities. Reasons given for not seeking screening services among respondents who had never attended screening services included; they never knew existence of such services at the local health facilities, had no time since they were always committed at work, they lacked funds to pay for the service, long distance to the facility and fear of the diagnostic outcome and medical procedures. These barriers are similarly marked in other studies (Ndejjo et al., 2016; Oche et al., 2013).

The main challenges to increasing access to and improving quality of cervical cancer screening services include: low community awareness on the importance of screening

coupled with low knowledge of common symptoms of cervical cancer, inadequate skills among service providers, inadequate equipment and supplies, lack of treatment facilities when there is pre-cancer or cancer diagnosis, inadequate monitoring and evaluation of existing programmes, low prioritization of cervical cancer among policy makers and low HPV vaccine immunization coverage (NCCP Plan, 2012).

Bingham et al. (2003) described barriers to utilization of cervical cancer screening in terms of factors related to sociocultural norms, barriers related to service delivery systems and quality of care related barriers. Sociocultural norms hindering utilization include: barriers and attitudes towards the concept of prevention where people have a limited understanding of preventive medicine. For instance, women in Kenya reported that it was problematic for a woman to go to a health clinic to be screened if she is "feeling healthy". Furthermore, women do not understand that cervical cancer is a preventable disease. Secondly, beliefs that cervical screening is related to Sexually Transmitted Infections diagnosis. Women sometimes believe that cervical screening tests are used to detect STIs/HIV and thus may decide not to get screened. Thirdly, fears stemming from negative images of cancer gynaecological care where women who reported having powerful and quite frightening images of cancer were reluctant to get screened of cervical cancer.

Service delivery system barriers include: location of the service (in Kenya, Peru and Mexico screening rates were much lower in districts where services were distant or difficult to access), multiple visits for screening, confirmatory diagnosis, treatment and follow up compounded financial costs to women and contributed to high attrition. Women often do not receive accurate information about the actual cost of services; even in cases of free screening many still do not know that these services are free.

3.0 Methodology

A cross-sectional descriptive study composing of 40 women aged between 20 and 50 years was carried out. This study used convenience sampling, where readily available women participated in the study. An interview guide was used to collect data which was transcribed to Microsoft Excel 2017 software. Results were presented by table and in statements. Anonymity and confidentiality of study participants was guaranteed.

4.0 Results and Discussion

4.1 Determinants of utilization of cervical cancer screening

Statistical association of independent variables and the dependent variable was carried out with the chi-square test of independence. A P value of less than 0.05 was considered to be statistically significant. In that case, the null hypothesis was rejected. The null hypothesis was accepted in the case of a P value greater than 0.05. The table 1 is a summary of the findings.

Table 1: Statistical association of independent and dependent variables

VARIABLE		FREQUENCY N=40			
		Ever tested			
		YES	NO	TOTAL	P value
Age in years	21-30	3	21	24	0.045795
	31-40	6	7	13	
	41-50	1	0	1	

	51-60	1	1	2	
Education	Primary	6	3	9	0.008246
	Secondary	4	14	18	
	Tertiary	1	12	13	
Marital status	Single	4	15	19	0.385039
	Married	7	14	21	
Parity	None	1	11	12	0.108698
	1 to 2	4	11	15	
	3 to 4	5	7	12	
	Above 5	1	0	1	
Screening service availability	YES	9	13	22	0.035750
	NO	2	16	18	
Ever heard of Cervical cancer	YES	11	25	36	0.194152
	NO	0	4	4	
Cervical cancer Cause awareness	Bacteria	2	9	11	0.116435
	too much sex	1	3	4	
	HPV	4	3	7	
	HIV	2	1	3	
	I don't know	3	2	5	
Risk factors Awareness	3 correct points	0	0	0	0.020654
	2 correct points	2	1	2	
	1 correct point	4	4	8	
	I don't know	5	25	30	
Cervical cancer Preventable	Yes	10	20	30	0.152399
	no/ I don't know	1	9	10	
True cervical cancer Test awareness	Yes	9	3	12	0.000011
	No	2	26	28	
Employment	formally employed	0	4	4	

Status	self employed	8	12	20	0.157311
	not employed	3	13	16	
Economic Stability	Yes	5	9	14	0.3932315
	No	6	20	26	
Health level Rating	very healthy	1	4	5	0.7472529
	Healthy	10	24	34	
	poor health	0	1	1	
View of a Pelvic exam	positive/acceptable	8	21	29	0.6889598
	Negative	2	3	5	
	Embarrassing	1	5	6	

4.2 Discussion of Findings

The respondents' age significantly influenced uptake of cervical cancer screening. Besides, increasing age was associated with increased likelihood of screening. Only 12.5% of women aged 21-30 years had screened as compared to 50% of women in the age category 51-60. However, utilization of screening services was higher among women aged 31-40 years.

Educational status was also significant in the uptake of screening services. However, tertiary education level had no much influence as many would expect. Majority of those who had tested for cervical cancer were of primary and secondary educational status.

Knowledge level of respondents with regards to cervical cancer and screening also significantly influenced uptake of screening services. Knowledge and awareness of risk factors, cervical cancer test and availability of the test enhanced screening uptake.

5.0 Conclusion

The study aimed to identify factors that determine utilization of cervical cancer screening methods among women aged 21-50 years in Meru South, Tharaka Nithi, Kenya. Based on the findings, the study concluded that uptake of cervical cancer screening methods was influenced by age, educational status and knowledge level of respondents. Poor use of the screening services was majorly attributed to lack of precise information regarding cervical cancer & screening and disregard for screening services.

6.0 Recommendations

Health care providers from all cadres should greatly be involved in the promotion of cervical cancer screening to women who seek health care in the health facilities and the community. Women devoid of information and impacts of cervical cancer will go for cervical cancer tests if well informed.

To incorporate cervical cancer screening with postnatal care services so that as women bring their new-borns for child welfare services & postnatal check-ups, they too get offered with cervical cancer screening besides the usual physical examinations.

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