Sociocultural factors influencing cervical pre-cancer screening among women attending Mbagathi level four hospital, Nairobi, Kenya

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ABSTRACT

Cervical cancer poses a significant global health challenge, causing around 340,000 deaths annually and ranking as the fourth most frequent cancer worldwide. The burden is heaviest in low- and middle-income countries (LMICs), where more than 90% of cervical cancer deaths occur, largely due to inadequate screening. In Kenya, cervical cancer is the second most frequent cancer among women after breast cancer, with 5,236 new cases and 3,211 deaths annually. Kenya's cervical cancer mortality rates are expected to increase by 50% by 2030. Cervical pre-cancer screening, as endorsed by the WHO, stands as a crucial strategy towards the elimination of cervical cancer by 2030. Sociocultural barriers such as stigma, gender roles, and economic constraints continue to limit participation in preventive health programs. This study aimed to determine the sociocultural determinants influencing cervical pre-cancer screening uptake among women attending Mbagathi Level Four Hospital in Nairobi, Kenya, using the Health Belief Model as the guiding theoretical framework. An analytical cross-sectional design was employed, targeting women aged 25–49 years. A total of 240 participants were interviewed through systematic random sampling at the hospital's Mother and Child Health Clinic. Data was collected using structured questionnaires administered via KoboCollect and supplemented by health worker interviews. Descriptive statistics, chi-square tests, and logistic regression analyses were conducted using SPSS version 26. The study revealed the cervical pre-cancer screening rate among respondents as 39.6%. Screening uptake was shaped by multiple sociocultural factors. Insurance coverage showed a notable disparity, with 65.8% of women enrolled in NHIF while 34.2% lacked coverage. Although 69.6% reported discussing cervical cancer screening, 30.4% avoided such conversations due to stigma and cultural restrictions. Social networks exerted a strong influence on behavior, as 55.4% of the participants had friends who had undergone screening. Regression analysis revealed that sociocultural factors moderately predicted screening uptake (R = 0.413), accounting for 17.1% of variance. Participation was mainly associated with age, education, occupation, and income, but not with marital status or religion. Results demonstrate that cultural stigmas together with financial difficulties and weak awareness levels prevent screening from taking place, although individuals show strong confidence in discussing the issue (mean = 4.79, SD = 0.579). The study results also demonstrate that sociocultural variables strongly influence preventive actions in healthcare, yet unidentified elements remain important. The solution to these hurdles demands expert-crafted education, which refutes superstitions while providing monetary support to reduce affordability problems, and peer-based healthcare promotion, which activates community networks. This research reveals universal importance beyond Nairobi through its demand for local healthcare initiatives that will break down barriers and achieve health equity across similar areas. Additional future research needs to study variables beyond the findings that include systemic roadblocks alongside mental barriers so that complete strategies for sustainable screening participation and cervical cancer prevention become possible.

Keywords: Cervical Cancer, Health Belief Model, Kenya, Pre-Cancer Screening, Sociocultural Determinants

I. INTRODUCTION

Cervical cancer is a malignant tumor of the cervix, primarily caused by persistent infection with high-risk human papillomavirus (HPV) types, especially HPV-16 and HPV-18 (World Health Organization, [WHO], 2018. The global cancer observatory (GLOBOCAN), estimates 662 301 new cases annually with a mortality of 348 874 cases annualy with 94% of these deaths occurring in low and middle income countries (LMIC) (WHO, 2022). The World Health Organisation (WHO) has identified this essential matter by showcasing that cervical cancer causes a woman's death every two minutes thus necessitating worldwide intervention in 2018. Screening for pre-cancerous cells of the cervix stands as one of three crucial interventions to eliminate cervical cancer by 2030 despite receiving inadequate worldwide acceptance (WHO, 2018). Screening behaviours of communities are greatly affected by their sociocultural elements. Culture-based perceptions create misunderstanding about cervical cancer-causing misconceptions that link it to traditional illnesses or divine retribution which prevents women from getting screened (Biack *et al*., 2019). Research at the global scale demonstrates why healthcare providers must develop cultural competency when they aim to reduce barriers to screening and increase testing frequency.

In Sub-Saharan Africa (SSA), cervical cancer exacts a disproportionate toll, with a mortality rate of 23 per 100,000 women (Ngune et al., 2020). The screening statistics across the region demonstrate extremely poor performance through the 12.9% average rate observed between 2000 and 2019 (Yimer *et al*., 2021). Knowledge awareness acts as a vital factor because insufficient understanding about cervical cancer reduces screening participation but improved educational campaigns might boost participation rates up to five times (Yimer *et al.,* 2021). Women in Ghana with higher education levels display 122 times better rates of screening which eclipses those of women with lower education levels in Ethiopia who see their screening rates decrease by two-thirds (Ampofo *et al*., 2020; Desta *et al*., 2021). The implementation of screening programmes gets obstructed by social factors which incorporate monetary impediments alongside social prejudices and conventional yield to local medical practises (Swanson *et al*., 2018). The psychological factors of testing outcome fears together with privacy worries and stigma expectations exist extensively throughout the region (Lim & Ojo, 2017). Women's breast cancer screening decisions are greatly affected by gender-based norms that come from spouses as demonstrated by research in Nigeria and Ghana (Modibbo *et al.,* 2016; Binka *et al*., 2019). The research demonstrates that sociocultural elements psychological aspects and structural elements affect SSA in a complex relationship.

The leading female cancer death in Kenya is cervical cancer which results in 5,236 deaths every year and the forecasted burden will increase by 50% by 2030 (Ferlay *et al.,* 2018). Research indicates that sociocultural elements strongly affect screening rates even though the national rate remains at 16.4% according to Nyangasi *et al.* (2018). The knowledge deficit of cervical cancer acts as a major barrier to screening because research from Western Kenya identifies a lack of awareness as a contributing factor (Wachira *et al*., 2016; Morema *et al*., 2014). Research shows that Somali women from Kenya demonstrate 55.8% fear and embarrassment toward screening procedures (Abdikarim *et al*., 2017) similar to how women from Nairobi strongly favoured self-sampling options (Rositch et al., 2012). Women face two main barriers to pelvic exams: resistance and financial constraints as demonstrated by (Bradford & Goodman, 2013; Owenga & Nyambedha, 2018). The approval and financial assistance requirements from spouses act as principal gender dynamics factors in healthcare behaviour (Black *et al*., 2019). The cost of travel and diagnostic tests alongside low economic status create an additional barrier to screening for women in particular (Owenga & Nyambedha, 2018). Research demonstrates the essential requirement of developing specialised education programmes together with financial support networks and gender-specific care initiatives for enhancing screening outcomes in Kenya. It has been demonstrated that sociocultural barriers such as stigma, gender norms and cultural beliefs inhibit cervical pre-cancer screening.

1.1 Statement of the Problem

The WHO aims to eliminate cervical cancer by 2030 through screening programmes although annual worldwide mortality from this cancer reaches 340,000 people per year making it the fourth deadliest cancer (WHO, 2022). The screening rates in Sub-Saharan Africa remain at 12.9% even though mortality stands at 23 per 100,000 women because of sociocultural barriers that include stigma along with financial barriers and gender norms (Ngune *et al.,* 2020; Yimer *et al*., 2021). The population loss from cervical cancer in Kenya reaches 5,236 deaths every year based on data from Ferlay et al. (2018) and the disease is projected to increase by half by 2030. Mbagathi Level Four Hospital, a major public referral facility in Nairobi predominantly serves women from low-income and marginalized urban populations and socioeconomic challenges are particularly pronounced. Many patients depend on informal employment with unstable incomes, limiting their ability to afford transport, consultation, and follow-up treatment (Abdikarim *et al*., 2017, Nyangasi et al., 2018; and Owenga and Nyambedha, 2018). The analysis of patient-centred screening barriers persists to be unexplored even though policy changes and training solutions have solved facility-level issues (Mwenda *et al.,* 2022; MOH, 2020).Sociocultural realities position Mbagathi Hospital as a critical site for examining the intersection of poverty, education, and health system access in shaping cervical cancer screening behaviours. Unless these structural

inequities are addressed, women attending Mbagathi will continue to face disproportionately low screening uptake, undermining Kenya's progress toward the World Health Organization's target of 70% screening coverage by 2030 (Canfell *et al*., 2020; WHO, 2018).

1.2 Research Objective

To determine sociocultural factors that influence cervical pre-cancer screening among women attending Mbagathi level four hospital, Nairobi, Kenya.

II. LITERATURE REVIEW

2.1 Theoretical Review

2.1.1 Health Benefit Model

The Health Belief Model (HBM), developed by Rosenstock in the 1950s and expanded in the 1970s, remains one of the most widely used frameworks for explaining preventive health behaviors, including cancer screening. The model posits that individuals' likelihood of engaging in a health behavior depends on six constructs: perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action, and self-efficacy. Applying the HBM to cervical cancer screening among women at Mbagathi Level Four Hospital in Nairobi helps reveal how sociocultural factors shape screening uptake.

Perceived susceptibility refers to a woman's understanding of her personal risk of developing cervical cancer. Women understanding their cervical cancer risk influences their decisions regarding screening tests. Limited knowledge about the existence of pre-cancerous lesions often leads to a diminished sense of vulnerability. The research conducted by Arbyn *et al.* (2020) shows how a low understanding of pre-cancerous cervical tissue diminishes its perceived threat particularly among women from rural Western Kenya (Wachira *et al.,* 2016). Pregnant women at Mbagathi Hospital do not seek screening services because they lack information about cancer detection while cultural traditions may prevent them from discussing cancer topics in public spaces.

Perceived severity reflects the extent to which women believe cervical cancer is a serious health threat. Cancer patients who have sufficient knowledge about cervical cancer's mortality risk tend to start prevention screening according to Canfell et al. (2020). The study of Mwenda, (2019) located in Nairobi indicate that numerous women show insufficient understanding regarding cervical cancer severity and fail to grasp its dangerous potential. Insufficient knowledge about cervical cancer related to sociocultural beliefs which ignore the disease severity creates barriers for patients to attend screening appointments at Mbagathi Hospital.

Perceived benefits highlight the protective value of screening. Educational and awareness programs have consistently demonstrated that communicating the life-saving potential of early detection improves women's willingness to undergo screening. A recent community health volunteer–led dialogue program in Kisumu County significantly improved women's knowledge and their perception of screening benefits (Onyango *et al*., 2024). Despite this, cultural resistance to gynecological procedures and distrust of the health system often outweigh these benefits in urban facilities like Mbagathi. Cultural tailoring of educational interventions, as shown in Ghana (Ampofo *et al.,* 2020) and rural Kenya (Rosser *et al*., 2015a), is therefore critical to encourage participation.

Perceived barriers encompass structural, social, and cultural obstacles that hinder screening. These include high costs, fear of stigma, spousal disapproval, and negative healthcare experiences. Research by Burrowes *et al.* (2022) in Ghana and Page *et al.* (2020) in Migori, Kenya, identifies obstacles like inadequate healthcare infrastructure, cost, and transportation issues. At Mbagathi Hospital, these barriers are likely exacerbated by sociocultural factors such as gender roles, where women's health is often deprioritized, or fear of judgment from healthcare providers. Inconsistent awareness campaigns further obscure the true extent of these barriers.

Cues to action are external triggers—such as health education campaigns, peer influence, or provider recommendations that prompt women to seek screening. Cues to action, like health education and public campaigns, can motivate screening. Abiodun *et al*. (2014) demonstrated this in Nigeria, where targeted messaging prompted women to act. However, in Nairobi's urban setting, where competing priorities and misinformation are rampant, such cues must be localized and persistent to be effective.

Finally, self-efficacy - women's confidence in navigating the screening process is critical. Bula *et al.* (2022) in Malawi found that educational programs can enhance self-efficacy, but at Mbagathi Hospital, cultural stigmas and systemic inefficiencies may undermine this confidence. Women may feel disempowered by long wait times, dismissive healthcare workers, or lack of privacy, all of which erode trust in the system.

Applying the HBM to Mbagathi Hospital highlights the need for interventions that address both individual beliefs and sociocultural realities. Health education must be culturally sensitive, tackling misconceptions about susceptibility and severity while emphasizing the tangible benefits of screening. Structural barriers, like cost and access, require policy-level solutions, while community-based programs can build self-efficacy and provide actionable cues.

The HBM's relevance across diverse settings underscores its utility in crafting targeted strategies to improve cervical pre-cancer screening uptake in Nairobi's unique sociocultural landscape.

2.2 Empirical Review

Social and cultural elements worldwide determine how people access health resources for their care specifically regarding cervical pre-cancer screening tests. Binka *et al.* (2019) establish that community beliefs directly guide how people respond when offered screening services. In Ghana, some communities believe cervical cancer comes from the gods or stems from promiscuous behaviour thus making women avoid seeking screening services. According to Singh and Badaya (2012), cultural misunderstandings in India cause two major problems: the mistreatment of cervical cancer as traditional health issues and the wrong diagnosis of vaginal bleeding as menstrual symptoms which leads women to continue using self-administered medications. Research findings validate the widespread challenge of countering embedded cultural explanations that stop people from using early detection services and screening programmes worldwide.

Traditional customs together with gender dynamics in Africa create additional hurdles which restrict women from accessing cervical pre-cancer screening. Black *et al*. (2019) together with Kasraeian *et al.* (2020) describe how spousal support deficiency, social discrimination, and faith healer adoption prevent women from using screening services. The combination of religious modesty beliefs and healthcare provider gender requirements generates barriers to cervical pre-cancer screening for Muslim women in Nigeria according to Modibbo *et al*. (2016). These women demand female medical professionals and chaperones and need their husbands' permission because of both religious standards and financial needs. The research studies by Ongtengco *et al*. (2020) from Senegal and Binka *et al.* (2019) from Ghana show how male authority shapes healthcare choices since women need both permission and financial backing from their spouses to receive screening services. Gender norms along with traditional practices maintain their hold across African societies to limit women's ability for self-determination and healthcare prevention access.

Economic along with sociocultural factors in Kenya develop the screening behaviours for pre-cancerous cervical cells. Owenga and Nyambedha (2018) explain that financial obstacles including travel expenses and diagnostic fees negatively impact women from Western Kenyan low-income regions by hindering their ability to access screening services. Cultural beliefs together with gender dynamics similar to what other African societies experience act as major determining factors. Women commonly encounter both the financial stress of putting family first and the social stigma against cervical cancer leading them to avoid proactive health cheques. The authors suggest financial support combined with expanded insurance plans would help minimise these obstacles (Biddell *et al*. 2021). The solution to Kenya's specific healthcare problems depends on implementing culturally appropriate educational programmes and economic support services to allow women to dedicate attention to their health despite socioeconomic barriers.

III. METHODOLOGY

Analytical An analytical cross-sectional study was conducted among women aged 25–49 years attending the Mother and Child Health clinic at Mbagathi Level Four Hospital, Nairobi. A total of 240 participants were selected by systematic random sampling, every 6th eligible clinic attendee and interviewed using a structured questionnaire administered electronically via KoboCollect. The pretest took place at Mama Lucy Level Four Hospital while research assistants received training to maintain data quality through strict management practises that strengthened both validity and reliability.

The study data was exported and analysed with the aid of Statistical Package for Social Sciences (SPSS) version 26.0 through both descriptive and inferential statistical methods to determine sociocultural screening uptake factors. This study applied descriptive analytics to present the findings of participant responses and utilised Chi-square tests together with logistic regression to discover key contributors to screening practice changes among participants. The research investigated the influences of sociocultural community beliefs and gender norms together with family dynamics on women's screening behaviour. The research methods delivered precise insights about how cultural beliefs and spousal backing alongside traditional customs produce barriers or opportunities for screening utilisation within Kenyan urban communities.

The research team maintained ethical standards from the beginning to the end of their work. The Mount Kenya Research Ethics Committee together with the National Commission for Science, Technology and Innovation (NACOSTI), Nairobi County Research Committee and Mbagathi Level Four Hospital Research Committee granted approval followed by the participants' acknowledgment of their freedom to withdraw from the study without penalties. Process anonymization served to protect confidentiality by following strict privacy regulations. The investigation concentrated on sociocultural elements to deliver practical solutions for policymakers and healthcare providers as it supported the development of culturally appropriate interventions for cervical pre-cancer screening at Mbagathi Hospital alongside comparable healthcare facilities.

IV. FINDINGS & DISCUSSION

4.1 Findings

The study analyses how cultural standards, financial circumstances, healthcare availability and societal behavioural norms affect women's involvement in pre-cancer screening tests for cervical cancer diagnosis and their medical prevention perceptions.

4.1.1 History of Cervical pre- cancer screening

The primary outcome was whether a participant had undergone cervical pre-cancer screening. This was measured by the question: "Have you had a cervical pre-cancer screening?" Of the total sample of 240 participants, Figure 1 reveal 39.6% (95 participants) reported that they had been screened for cervical cancer before. In contrast, 60.4% (145 participants) indicated that they have never been screened for cervical cancer.

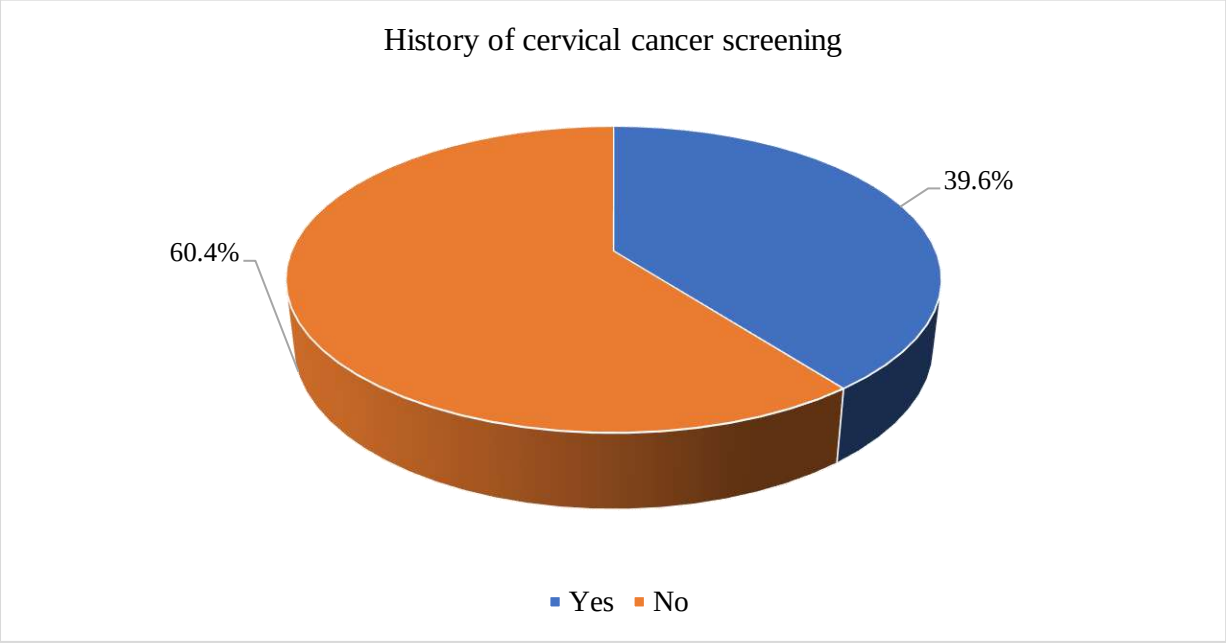

Figure 1

History of Cervical Cancer screening.

4.1.2 Timing of Last Cervical Cancer Screening Among Participants

Among those who have been screened, Table 1 reveal that the most common time frame was within the past year, with 20.8% having undergone screening during this period. 4.6% were screened two years ago, 5.0% three years ago, 2.1% four years ago, and 5.8% were screened five or more years ago.

Table 1

Timing of the last cervical cancer screening

Last screened	Frequency	Per cent
1 year ago	50	20.8
2 years ago	11	4.6
3 years ago	12	5.0
4 years ago	5	2.1
5 years or more	14	5.8
Never	148	61.7
Total	240	100.0

4.1.3.Perception of Hospital Costs for Cervical pre-Cancer Screening

The study sought to find out the perception of participants towards the cost of doing cervical pre-cancer screening test. The findings in figure 2 reveal that 20.0% (48 participants) believe there is a hospital cost associated with cervical cancer screening, while 80.0% (192 participants) believe there is no cost.

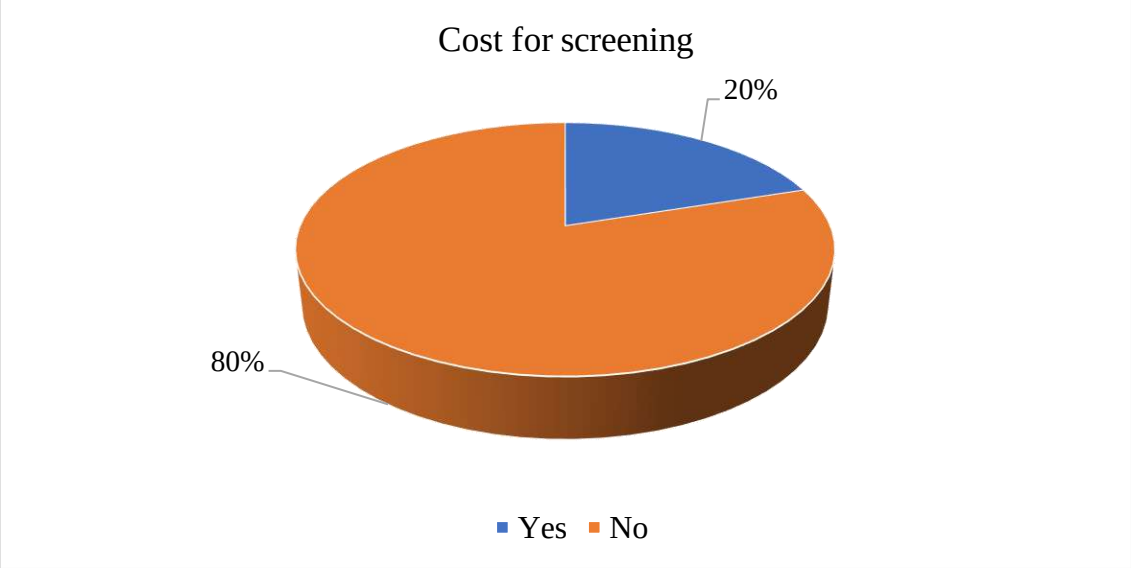

Figure 2
Perception of Hospital Costs for Cervical Pre-Cancer Screening

4.1.4 Health Insurance Policy (NHIF)

The findings presented in Figure 1 demonstrate the various health insurance coverages among the study participants with emphasis on the National Hospital Insurance Fund (NHIF). The research shows that 158 participants (65.8%) possessed NHIF coverage but 82 respondents (34.2%) did not have this health insurance. The study findings reveal a substantial gap in insurance coverage because these results could affect how the studied population utilises healthcare services.

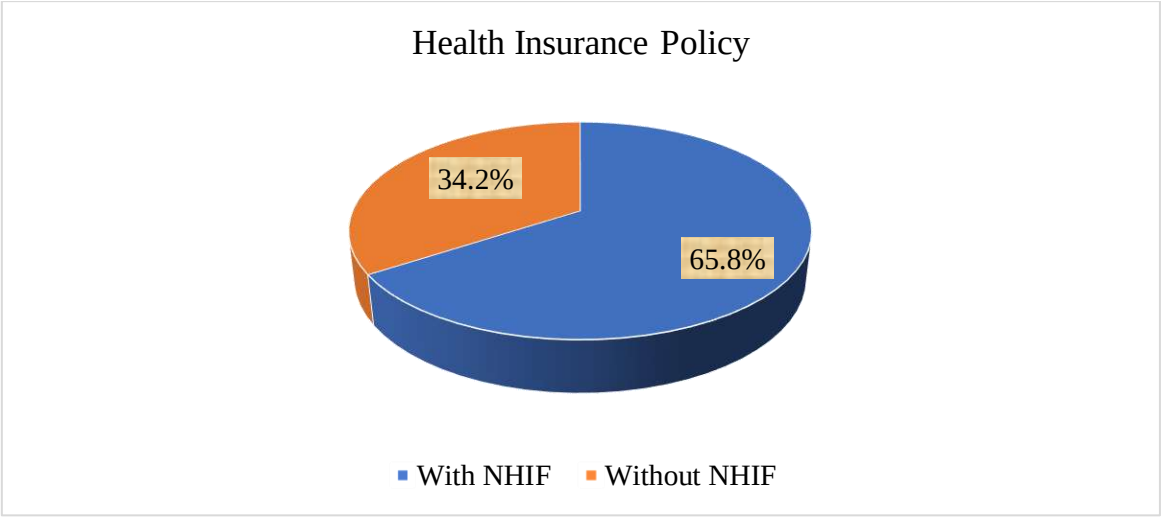

Figure 3
Health Insurance Policy (NHIF)

4.1.5 Cervical Cancer Communication

The study sought to reveal if participants had discussed with friends and relatives about cancer of the cervix to visulize communication patterns in the community. The study found that 167 participants among 240 respondents (69.6%) discussed cervical cancer whereas 73 respondents (30.4%) did not participate in such discussions. Although many cohort members discuss cervical cancer issues the high number of non-communicators indicates insufficient knowledge or reluctance to discuss this topic which could affect screening actions and medical results as shown in figure 4.

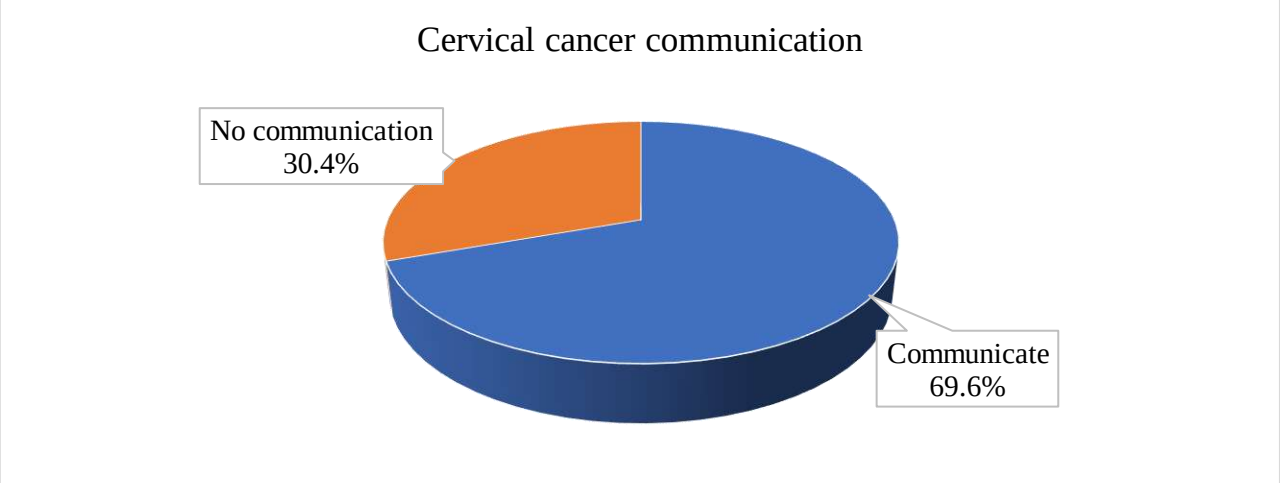

Figure 4
Cervical Cancer Communication

4.1.6 Friends or Relatives Screened for Cancer of the Cervix

Looking for social influence on cervical pre-cancer screening, the study sought to reveal if friends and relatives had been screened. Figure 5 presents findings that showcase cervical cancer screening history among friends and relatives of participants. A moderate proportion of 55.4% (133 out of 240) participants from the study explained that their friends or relatives underwent screening procedures. A significant number of 44.6% who participated in the study (107 out of 240) revealed their friends and relatives had not undergone cervical pre-cancer screening tests. Several members of respondent social networks have been screened but many more contacts still need targeted interventions that could help activate peer advocacy for wider screening programmes.

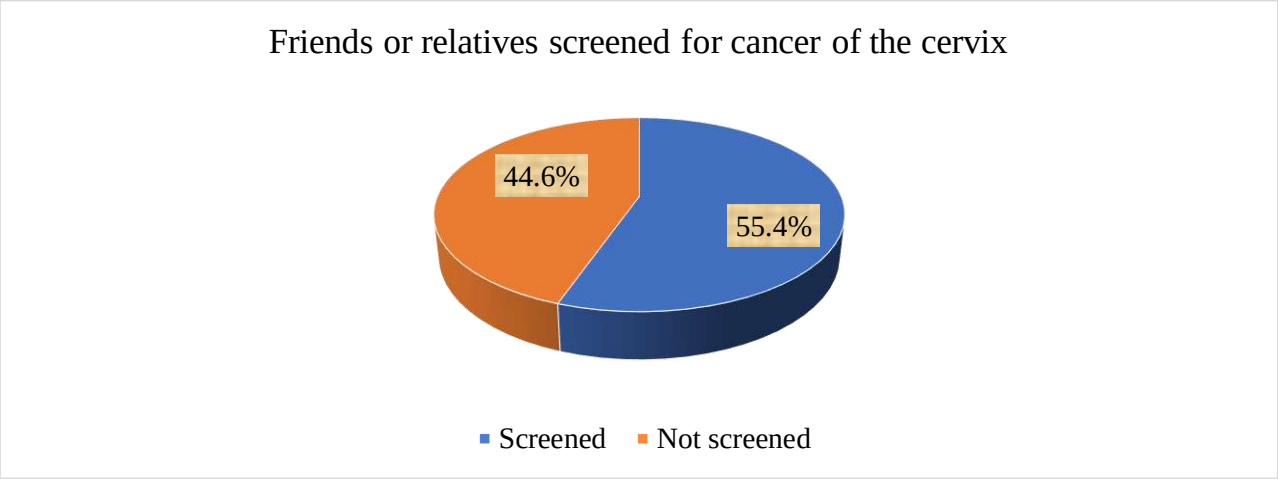

Figure 3
Friends or Relatives Screened for Cancer of the Cervix

4.1.7 Sociocultural Factors that Determine Pre-Cervical Cancer Screening

The study sought how much participants agreed with sociocultural factors influencing cervical pre-cancer screening; confidence in talking about cervical pre-cancer screening with relatives and friends, pelvic examination as taboo, Seeking healthcare services as a collaborative decision, spousal support in screening and the feeling of being limited to seek healthcare services because of being a woman. Table 1 displays mean values and standard deviations from the examination of sociocultural pre-screening factors. The survey scores demonstrate significant relationships because the measurement scale reflects increasing agreement and confidence levels.

Most participants expressed very high self-confidence (4.79, SD = 0.579) in explaining cervical cancer screenings to friends and relatives even though the data shows low variation throughout the group. The results indicate respondents avoided strong opinions about pelvic examinations as taboo with an average score of 2.63 and a standard deviation of 1.384. The two variables measuring family involvement in healthcare choices (mean = 4.06, SD = 1.341) and partner support for screening tests (mean = 4.38, SD = 1.020) received high scores from the respondents while showing minimal variation. Research participants moderately agreed on the experience of limitations when pursuing

healthcare services as women although standard deviations showed wide variations between respondents. The sociocultural factors revealed a positive overall effect on screening practises (mean = 4.00, SD = 0.968) but taboos and gender restrictions demand specific interventions that will eliminate cultural obstruction and structural barriers.

Table 2

Mean and Standard Deviation for Sociocultural Factors that determine Pre-Cervical Cancer Screening

Tests	N		Mean	Std. Dev.
	Valid	Missing		
I am confident about talking to friends or relatives about Cervical cancer screening	240	0	4.79	.579
Pelvic examination is a taboo	240	0	2.63	1.384
Seeking healthcare services is a family collaborative decision	240	0	4.06	1.341
My spouse is very supportive of cervical cancer screening	240	0	4.38	1.020
I feel sometimes limited in seeking healthcare services as a woman	240	0	3.83	1.438
Aggregate sociocultural factors that determine pre-cervical cancer screening	240	0	4.00	.968

4.1.8 Regression Model for Sociocultural Factors Determining

The data from Table 3 demonstrates how sociocultural elements influence individuals' practises of cervical pre-cancer screening evaluation. The R-value of 0.413 in the model summary demonstrates that aggregate sociocultural factors have a moderate positive connection to aggregate cervical pre-cancer screening measurements. Socio-cultural variables demonstrate an ability to predict 17.1% of screening uptake by screening criteria when adjusted R-squared (0.167) measures how well these variables predict the screening uptake. The model prediction accuracy was measured through its standard error of 0.640.

Data analysis shows the statistical significance of the model as indicated by an F value of 48.989 and a p-value equal to 0.000 which demonstrates the predictor variable's ability to explain screening behaviour differences. The amount of total variation explained by the regression model reaches 20.040 (117.400) points and the unexplained variance exists at 97.360.

The coefficients table reveals that when aggregate sociocultural factors rise by one unit then cervical pre-cancer screening uptake grows by 0.299 units (B = 0.299). The standardised coefficient value (Beta = 0.413) indicates that the influence is moderate. The model demonstrates robustness through significant statistical values achieved by the constant (p = 0.000) and the predictor (p = 0.000). Unstudied variables probably make significant contributions to screening behaviour although sociocultural factors show notable influence.

Table 3

Regression Model for Sociocultural Factors Determining

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.413[a]	0.171	0.167	0.640

a. Predictors: (Constant), Aggregate sociocultural factors that determine pre-cervical cancer screening

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	20.040	1	20.040	48.989	.000[b]
	Residual	97.360	238	.409		
	Total	117.400	239			

a. Dependent Variable: Aggregate cervical pre-cancer screening

b. Predictors: (Constant), Aggregate sociocultural factors that determine pre-cervical cancer screening

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.254	.176		18.502	.000
	Aggregate sociocultural factors that determine pre-cervical cancer screening	.299	.043	.413	6.999	.000

a. Dependent Variable: Aggregate cervical pre-cancer screening

4.1.9 Chi-Square test of Independent of Sociocultural factors that determine Pre-Cervical Cancer Screening among different Demographic Characteristics

Table 4 presents crosstabulations between sociodemographic elements and pre-cervical cancer screening sociocultural beliefs using the Disagree, Neutral, Agree, and Strongly Agree response categories. The V Cramer

statistics together with p-values provide measures for evaluating both the strength and statistical significance between different factors.

The variables of age yield meaningful statistics in their relationship with sociocultural factors (Cramer's V = 0.189, p = 0.036). Between 115 and 158 younger participants aged 34 years and below demonstrated agreement to sociocultural screening influences but only 49 to 82 older participants aged above 34 years expressed similar levels of agreement. Screening attitudes display different sociocultural influences among younger versus older individuals in the population. The education level between participants shows a meaningful correlation with an effect value of Cramer's V = 0.219 (p = 0.009). The majority of survey participants with formal education (157 out of 221) believe strongly in breast cancer screening services but those with informal education express a wider range of responses due to the positive influence of education on screening acceptance. Occupation together with income data show strong relationships which affect the study. The employment status of respondents demonstrates a connection to their screening agreement level because formal workers exhibit lower agreement (75 out of 127) compared to informal workers who show higher agreement (89 out of 113). This discrepancy may stem from different health information exposure. The relationship between income and screening choices demonstrates that Kes 0-30,000 respondents tend to agree or strongly agree with screening initiatives (129 out of 172). At the same time, higher-income individuals exhibit less agreement indicating economic limitations influence sociocultural perceptions (Cramer's V = 0.220, p = 0.001).

The relationships between marital status and religion and number of children and breast cancer screening behaviour are both weak and fail to achieve statistical significance (p values exceed 0.05). Religion (Cramer's V = 0.057, p = 0.857) together with marital status (Cramer's V = 0.051, p = 0.891) produce no significant differences in responses among the study participants indicating that these variables do not influence screening attitudes substantially. Similarly, the number of children (Cramer's V = 0.095, p = 0.543) shows minimal variation, with slight differences between those with no children and those with one or more. Sociodemographic factors consisting of age alongside education level together with occupation status and income have proven as substantial determinants which show the importance of developing targeted intervention methods to remove sociocultural and socioeconomic barriers in screening adoption.

Table 4

Crosstabulation of Sociodemographic and Sociocultural Factors that determine Pre-Cervical Cancer Screening

Sociodemographic factors		**Sociocultural factors that determine pre-cervical cancer screening**				**Total**	**Cramer's V**	**P value**
		Disagree	**Neutral**	**Agree**	**Strongly Agree**			
Age of the participants	<= 34 Years	11	32	43	72	158	0.189	0.036
	>34 Years	7	26	27	22	82		
Total		**18**	**58**	**70**	**94**	**240**		
Marital Status	Not married	8	27	30	46	111	0.051	0.891
	Married	10	31	40	48	129		
Total		**18**	**58**	**70**	**94**	**240**		
Religion	Christian	17	54	65	90	226	0.057	0.857
	Muslim	1	4	5	4	14		
Total		18	58	70	94	240		
Number of Children	0	5	11	11	22	49	0.095	0.543
	>= 1	13	47	59	72	191		
Total		**18**	**58**	**70**	**94**	**240**		
Highest level of education completed	Formal education	16	48	65	92	221	0.219	0.009
	Informal education	2	10	5	2	19		
Total		18	58	70	94	240		
Current occupation	Formal	12	40	41	34	127	0.280	0.000
	Informal	6	18	29	60	113		
Total		**18**	**58**	**70**	**94**	**240**		
Average monthly income	Kes 0 -30,000	13	30	48	81	172	0.220	0.001
	Kes 30,001 - 100,000	5	25	20	13	63		
	Kes > 100,000	0	3	2	0	5		
Total		**18**	**58**	**70**	**94**	**240**		

4.2 Discussion

The findings in Figure 1 reveal a significant gap in cervical cancer screening within the study population, with 60.4% of participants never having been screened. This substantial percentage indicates that, despite efforts to raise awareness and promote screening, barriers still exist that prevent women from accessing or opting for cervical cancer

screening. These barriers could be related to socio-cultural factors, financial constraints, or lack of adequate health education, as suggested by previous studies (Mwenda *et al*., 2022; Swanson *et al*., 2018). Conversely, 39.6% of the participants had been screened for cervical cancer, which is encouraging and indicates that a notable portion of the population is engaging in preventive health behaviours. This percentage, while promising, also underscores the need for further efforts to improve screening rates. Studies have shown that higher educational attainment and awareness levels are critical in increasing screening uptake (Yimer *et al*., 2021). Therefore, targeted interventions focusing on education, reducing financial barriers, and addressing socio-cultural obstacles are essential to enhance screening rates and ultimately reduce the incidence and mortality associated with cervical cancer. Among those who have been screened, Table 1 show the most common time frame was within the past year, with 20.8% having undergone screening during this period. This suggests that recent screening efforts have been somewhat effective in reaching a segment of the population, reflecting the impact of ongoing awareness campaigns and health interventions (Mwenda *et al*., 2022). However, the percentage of participants who were screened decreased significantly for those who were screened two or more years ago. This decline in screening rates over time indicates a potential gap in sustained engagement and follow-up for cervical cancer screening. Specifically, 4.6% were screened two years ago, 5.0% three years ago, 2.1% four years ago, and 5.8% were screened five or more years ago. These findings highlight the need for continuous and reinforced efforts to maintain regular screening practices among women. Studies have shown that consistent reminders and follow-up initiatives are crucial for sustaining high screening rates and ensuring early detection and treatment of cervical pre-cancer conditions (Yimer *et al*., 2021). Addressing barriers that prevent regular screening, such as accessibility, financial constraints, and socio-cultural factors, is essential to improve long-term screening adherence and reduce the incidence and mortality associated with cervical cancer.

The findings presented in Figure 2 show that 20.0% of the participants believed there was a hospital cost associated with cervical cancer screening. This perception might reflect personal experiences or misinformation about the screening process and its associated expenses. Addressing these perceptions is crucial, as financial barriers can significantly impact health-seeking behaviours and deter women from accessing preventive services (Mwenda *et al*., 2022). Conversely, 80.0% of the participants believed that cervical cancer screening at the hospital was free of cost. This indicates a prevalent belief among the majority that financial constraints do not impede access to screening services. This positive perception is essential for promoting widespread participation in cervical cancer screening programs. However, ensuring that accurate information about the availability and cost of screening services reaches all segments of the population remains critical. Misconceptions about costs could still prevent some women from seeking screening, highlighting the need for continuous and clear communication from healthcare providers and public health campaigns (Nyangasi *et al*., 2018).

In Figure 3, 158 participants (65.8%) reported active cover under Kenya's National Hospital Insurance Fund (NHIF), while 82 (34.2%) had no NHIF cover. This split is consistent with wider evidence that affordability constraints, informal employment, limited understanding of benefits, and distrust or dissatisfaction with public services suppress enrolment and retention. Qualitative and mixed-methods work in Kenya shows that many households—especially in the informal sector—struggle with premiums, have limited knowledge of how insurance works, and report concerns about service quality and responsiveness, all of which dampen demand for NHIF (Barasa *et al.,* 2017). Lack of insurance is closely tied to delays or foregoing needed care because of cost. National analyses document substantial cost-related unmet need in Kenya and show that uninsured and poorer households are disproportionately affected. Even among NHIF members, financial protection may be shallow and attrition high, which helps explain the sizable uninsured share observed in urban public facilities like Mbagathi (Njagi *et al*., 2020; Oyando *et al*., 2023). Programmatic studies also indicate that knowledge of the NHIF benefits package influences access and use; members who better understand their entitlements navigate services more successfully. Strengthening outreach and simplifying communication about benefits are therefore plausible levers to reduce the uninsured gap in similar urban settings (Were *et al*., 2024).

The data from Figure 4 show that 69.6% of participants had engaged in discussions about cervical cancer, while 30.4% avoided such dialogue. This divergence reflects persistent knowledge gaps and sociocultural barriers, including stigma and discomfort around reproductive health topics. Evidence from Kenya and other Sub-Saharan African settings highlights that cultural norms and taboos often constrain open communication about cervical cancer, thereby limiting informed decision-making and awareness of preventive options (Abdikarim *et al*., 2017; Rosser *et al*., 2015). Avoidance of dialogue has important implications for health outcomes. Studies indicate that restricted communication reduces screening uptake, as women who do not discuss cervical cancer with peers, partners, or health workers are less likely to perceive themselves at risk and to seek preventive services (Gitonga *et al*., 2022). Further reinforcing this, stigma is manifested as internalized fear or societal judgment and has been shown to directly inhibit health-seeking behaviors. In Kisumu, women reported that anticipatory stigma, misunderstanding HPV and cervical cancer, and peer judgment discouraged them from getting screened (Ginjupalli *et al*., 2022). These insights underscore that effective health communication is essential. Tailoring interventions to enable safe, culturally sensitive conversations—through community forums, peer-led education, or multimedia strategies—can substantially mitigate stigma and improve screening behaviors (Onyango *et al.,* 2024).

Figure 5 illustrates a meaningful difference in how social networks relate to cervical cancer screening behaviors: 133 of 240 respondents (55.4%) reported having friends or relatives who had undergone screening, while 107 (44.6%) indicated no such social exposure. Peer influence appears to play a vital role—those embedded in networks with screened individuals may be better informed and motivated to act, whereas those without such connections might lack awareness or be subject to cultural norms that discourage preventive health actions. Recent literature underscores this pattern. A 2022 study in Kiambu County, Kenya, found that women who reported knowing someone screened for cervical cancer were significantly more likely to participate in screening themselves. The findings suggested that peer examples lower uncertainty, reduce stigma, and enhance perceived social norms around health behaviors (Gitonga *et al*., 2022). Similarly, mixed-methods research in western Kenya highlighted that social relationships—such as conversations with screened community members—serve as powerful facilitators of screening uptake. Women cited testimonials from peers as motivating, while the absence of such information sources contributed to reticence (Adewumi *et al*., 2023).

Table 2 highlights the complex role of sociocultural factors in shaping cervical cancer screening behavior. Respondents expressed strong confidence (M = 4.79, SD = 0.579) in discussing screening with peers and relatives, reflecting growing openness and agency around the subject suggesting increasing openness and willingness to engage in dialogue. This reflects a positive shift in agency and awareness, which may help reduce stigma when supported by broader health education initiatives. At the same time, pelvic examinations remain mixed, with relatively low scores (M = 2.63, SD = 1.384) indicating that many still perceive such procedures as culturally inappropriate, underscoring how cultural sensitivities and stigma continue to act as barriers to gynecological services (Rosser *et al*., 2015; Abdikarim *et al*., 2017). Family and partner support were rated highly, with healthcare decisions often described as collaborative (M = 4.06, SD = 1.341), and spousal support in particular scoring very strongly (M = 4.38, SD = 1.020) emerging as central to screening decisions. These findings confirm that family dynamics—especially partner endorsement—are crucial determinants of women's preventive health behaviors, consistent with recent evidence from Kiambu and western Kenya (Gitonga *et al*., 2022; Adewumi *et al*., 2023). Conversely, gender-related barriers remain significant. Women reported sometimes feeling limited in accessing services due to their gender (M = 3.83, SD = 1.438), reflecting systemic inequities and cultural expectations that constrain health-seeking autonomy. Research has shown that gender discrimination and stigma reduce women's ability to seek timely care, especially in patriarchal settings (Nyangasi *et al*., 2019).

Table 3 demonstrates a moderate but statistically significant association between sociocultural factors and cervical pre-cancer screening behavior. The model produced an R value of 0.413, indicating a noticeable correlation, while the R^2 value of 0.171 shows that sociocultural variables explain approximately 17.1% of the variance in screening participation. Although this reflects only partial explanatory power, it confirms that cultural and social dynamics exert a measurable influence on women's preventive health choices. The model fit was strong ($F = 48.989$, $p < 0.001$), confirming that the relationship is statistically reliable. A one-unit increase in sociocultural support was associated with a 0.299 unit increase in screening behavior ($B = 0.299$, $\beta = 0.413$, $p < 0.001$). This finding suggests that factors such as spousal support, family involvement, peer encouragement, and reduced stigma directly enhance screening uptake, consistent with evidence from Kenyan and regional studies. Gitonga *et al*. (2022) found that partner and peer support significantly improved cervical cancer screening participation in Kiambu County, while Adewumi *et al*. (2023) reported that community-level stigma and cultural taboos in western Kenya reduced women's likelihood of seeking screening. Similarly, Nyangasi *et al*. (2019) demonstrated across multiple low- and middle-income countries that stigma and gender inequities remain structural barriers, limiting the effectiveness of awareness campaigns alone. These results highlight that while sociocultural factors are influential, they are not sufficient on their own; the majority of variance (82.9%) remains unexplained by the model, pointing to the importance of structural interventions such as affordability, accessibility, and health system responsiveness. Thus, strategies to increase screening uptake at Mbagathi Hospital and similar urban facilities must integrate cultural sensitivity with systemic health reforms, ensuring that social support aligns with service availability.

Table 4 highlights the interplay between sociodemographic characteristics and sociocultural perceptions of cervical cancer screening. Age was significantly associated with screening attitudes (Cramer's V = 0.189, p = 0.036), with younger women (≤34 years) showing stronger agreement with sociocultural explanations (115 of 158) than older participants (>34 years: 49 of 82). This generational divide may reflect differences in health literacy, openness to preventive health, and exposure to community health education (Rosser *et al*., 2015b; Gitonga *et al*., 2022). Education emerged as a powerful determinant (Cramer's V = 0.219, p = 0.009). Among those with formal education, 157 of 221 respondents agreed with the value of screening, compared to only 7 of 19 with informal education. This underscores the well-established role of education in shaping awareness and health-seeking behavior, as women with more schooling are more likely to understand screening benefits (Nyangasi *et al*., 2019; Adewumi *et al*., 2023). Occupation also mattered (Cramer's V = 0.280, p < 0.001). Informal workers showed higher approval rates (89 of 113) compared to formal employees (75 of 127). This may be linked to greater exposure to grassroots health campaigns and community outreach targeting low-income populations, which often emphasize free or subsidized services (Adewumi *et al*., 2023). Income level was another key predictor (Cramer's V = 0.220, p = 0.001). Women earning ≤KES 30,000 monthly expressed the

strongest approval (129 of 172), suggesting that low-income women are particularly reliant on accessible and affordable screening services, while those with higher income may seek care privately or prioritize other health needs (Huchko *et al*., 2015). By contrast, marital status (Cramer's V = 0.051, p = 0.891), religion (Cramer's V = 0.057, p = 0.857), and number of children (Cramer's V = 0.095, p = 0.543) showed little or no association with screening perceptions. This indicates that while personal identity factors may play some role, structural and socioeconomic variables exert a stronger influence on screening attitudes in this population. This data argues for targeted solutions which combine Cultural and Economic approaches because age, education level, career status and earnings status show high priority as influential factors thus requiring studies focused on local intervention methods.

V. CONCLUSIONS & RECOMMENDATIONS

5.1 Conclusions

This study shows sociocultural elements have a moderate impact on pre-cancer cervical screening practises and require specialised cultural education strategies to handle existing taboos and gender limitations but to utilise spouse support and personal communication abilities. Understandings about pre-cancerous cervical screening depend on sociodemographic factors such as age, education level and household income which require targeting specific strategies that merge educational programmes with financial subsistence alongside peer support initiatives to eliminate barriers experienced by marginalised populations.

5.2 Recommendations

The improvement of pre-cancer cervical screening requires educational programmes which deliver customised material about taboo issues and false beliefs while using community healthcare providers and peer advocacy to spread knowledge. The support of spouses will multiply through male-focused programmes because these programmes enable joint healthcare decisions. The programme should address financial limitations through subsidies coupled with expanded coverage for healthcare access especially for low-income female patients. The implementation of home testing collections decreases patient apprehension about cultural barriers and privacy-related issues. Peer-driven initiatives implemented through social networks serve to boost screening advocacy and uptake between people.

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