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Southern African Journal of Gynaecological Oncology

ISSN: 2074-2835 (Print) 2220-105X (Online) Journal homepage: https://www.tandfonline.com/loi/ojgo20

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To cite this article: AD Olanlesi-Aliu, PD Martin & FM Daniels (2019) Towards the development of a community-based model for promoting cervical cancer prevention among Yoruba women in Ibadan Nigeria: application of PEN-3 model, Southern African Journal of Gynaecological Oncology, 11:2, 20-24, DOI: 10.1080/20742835.2019.1679528

To link to this article: https://doi.org/10.1080/20742835.2019.1679528

Published online: 08 Nov 2019.

Southern African Journal of Gynaecological Oncology 2019; 11(2):20–24
https://doi.org/10.1080/20742835.2019.1679528

South Afr J Gynaecol Oncol
ISSN 2074-2835 EISSN 2220-105X

RESEARCH

Towards the development of a community-based model for promoting cervical cancer prevention among Yoruba women in Ibadan Nigeria: application of PEN-3 model

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Objective: Through the identification of the barriers to the uptake of prevention services for cervical cancer and ways to promote prevention of cervical cancer in the community, this research study purposed the development of a community-based model for promoting cervical cancer prevention among Yoruba women living in Ibadan, Nigeria.
Method: An exploratory, descriptive design was used to collect data from 20 health workers and four policy makers using semi-structured interviews and key informant interviews respectively. The PEN-3 cultural model developed by Airhenbuwa in 1998 guided the exploration of the barriers to the uptake of available prevention services for cervical cancer, and the ways to promote the prevention of cervical cancer. Three interrelated and interdependent primary domains, namely cultural identity, relationships and expectations, and cultural empowerment, form the basis of the PEN-3 model. Cultural identity emphasises the subjective responses in relation to the community and cervical cancer prevention. Relationships and expectations determined health workers' and policy-makers' experience of community members' perception of cervical cancer. Enablers and nurturers alluded to the availability and accessibility of cervical cancer prevention resources, and the reinforcing factors that the women receive from their social networks. The central assumption of this theory is that health beliefs and actions that are harmful to health should be changed and the community's positive decisions and practices related to promoting a healthy lifestyle should be identified.
Results: Findings from the health workers and policy-makers confirmed that community members lack knowledge and awareness of cervical cancer. Moreover, the findings show that the inaccessibility and unavailability of cervical cancer screening services play a role in its poor uptake.
Conclusion: There is need for awareness creation of cervical cancer, and provision of prevention services at the community level. Screening services should be provided to women at subsidised cost. In order to contextualise the discussion, theoretical perspectives on cervical cancer are alluded to.

Keywords cervical cancer prevention, community-based, PEN-3 model, Yoruba women

Introduction

About 1.5 million cases of cervical cancer are diagnosed globally and 85% of these are in developing countries like Nigeria. Developed countries have reduced their incidence by over 70% in the last 50 years; however, the burden appears to be on the increase with projections of 444 546 to 588 922 between 2012 and 2025 in the developing countries.[1]

The most significant risk factor is human papillomavirus (HPV) infection; however, absence of accessible cervical screening services is the main obstacle to screening uptake. The burden of cervical cancer in Nigeria is enormous. More than 40 million Nigerian women aged 15 and above are at risk of cervical cancer. In Nigeria, cervical cancer accounts for 63% of genital cancers. Existing estimates show that every year, 14 550 women are diagnosed with cervical cancer and 9 659 die from the disease. It is estimated that in 2025 there will be 22 914 new cervical cancer cases and 15 251 cervical cancer deaths in Nigeria.[1–3] However, the level of awareness is low and only about 15% of women aged 20–65 years in the south-west region of Nigeria have heard of the disease.[4] Despite the recommendation that cervical screening does save lives, the uptake for cervical screening for women in developing countries is still very low.[5]

The larger population of women (60%) live in rural areas of Nigeria with no access to cervical screening. Less than 10% of women have ever been screened for cervical cancer, whereas 40–50% of women are screened in developed countries.[3,5] Nigeria still lacks a national cervical policy, hence cervical screening for women is not widespread.[6]

Primary health care (PHC) centres were established in both rural and urban areas in Nigeria to ensure equitable and easy access to healthcare services. Unfortunately, to date the goal of PHC offering health care to all is yet to be attained in Nigeria and appears impracticable in the next decade due to a number of challenges including healthcare services not being made readily accessible, available and affordable to the people in the community.[7] This could be attributed to lack of political will, shortage of staff, inadequate supply of required equipment, poor infrastructure and a lack of financial support.[8]

In summary, it could be argued that the system of healthcare financing in Nigeria is uneven, such that it pushes the burden and risk of obtaining health services to the poor. The spatial scattering of health facilities among urban and rural areas is inequitable (with more health facilities located in the urban areas than the rural areas). Residents of rural areas often walk over 5 km to get to the nearest health facility.

Problem statement

The global disparities in the incidence of cervical cancer and the mortality rate seen between wealthy and poor countries are likely related to lack of prevention of cervical cancer. The literature suggests that it is most probably as a result of a lack of awareness and knowledge of cervical cancer and the unavailability of cervical cancer prevention services at a community level.[9] Community-based interventions have been identified as most suitable for the promotion of cervical cancer prevention programme for women of low socio-economic status, a demographic that forms a large part of Nigeria's population. There is no effective community-based intervention programme to promote cervical cancer prevention among Yoruba women in Ibadan. This study aimed to develop a community-based model for promoting cervical cancer prevention among Yoruba women using the PEN-3 model as a theoretical foundation to guide the study.

Methods

A theory-generating design using a qualitative, exploratory, descriptive methodology was used to meet the aim of the study. A purposive sample of 20 health workers (nurse-midwives and community health officers) and four policy-makers was selected. An interview schedule using open-ended questions was designed for both semi-structured and key informant interviews. Open-ended questions were used, and probes were used for further explanation and clarification. Two participants per group were included in this study. A consent form was completed by each participant and an information sheet was also distributed to participants before the commencement of the interview sessions. Trustworthiness of the qualitative data was ensured by means of applying Guba's model of truth value, applicability, consistency and neutrality.[10] Reflexivity was used by the researcher to further enhance trustworthiness. Permission to conduct the study was obtained from the Oyo State Ethical Committee and the Medical Directors of the health facilities, Ibadan, Nigeria, to secure approval to use facilities in its local government areas (LGAs) so that research could be conducted. The ethics principles of respect for human dignity, beneficence and justice were applied throughout the study. The semi-structured interviews were conducted between June 9 and July 31, 2015. The key informant interviews were conducted for the policy-makers between August 3 and August 31, 2015, in their respective offices at the Ministry of Health, Ibadan.

Results

The PEN-3 model was used as a guide to address the objectives of this study and capture the range of responses of the health workers (nurse-midwives and community health officer) and policy-maker participants groups. Four themes and four categories emerged from the health workers' group, while one theme and three categories emerged from the policy-makers' group.

Cultural identity

Theme 1: Cultural beliefs, myths and practices regarding cervical cancer prevention

Misconceptions, cultural barriers, and the cultural beliefs and norms that can be modified for the promotion of preventive services in the treatment of cervical cancer were identified in the Cultural Identity dimension of the PEN-3 model. Health promotion will provide the necessary avenue to empower Yoruba women and the community at large with the relevant information, and this will enable them to make informed choices. Community health officer participants commented that community members hold superstitious beliefs. For example, they believed that cervical cancer is an attack from either their enemies, an idol, from a hereditary origin or from an evil spirit. Yoruba people regard disease or sickness as punishment from the gods. Some also believe that illness is a result of an attack by their enemies or witches, and they usually consult a traditional healer for treatment. They believe that, as cervical cancer has a spiritual cause, its treatment should focus on spiritual methods. However, some of the community members did not believe that cervical cancer exists, whilst others viewed it as a death sentence:

> 'They believe it's an extraordinary spiritual something, another version of the community belief that there is nothing called cervical cancer while those who believe it exists see it as spiritual attack and death sentence.' (CHO 005)

Relationships and expectations: perception of cervical cancer and its preventive measures

Theme 2: Knowledge and awareness of cervical cancer and preventive measures were influenced by environmental factors and societal beliefs, education and literacy levels and availability of health information

Environmental and societal beliefs regarding cervical cancer refer to the geographical location of the community members (urban/rural), and the availability of social amenities.

The nurses alluded to the difference in resource allocation regarding cervical cancer prevention between urban and rural areas with the urban areas being better resourced in terms of information. However, the limited services that were available were deemed unaffordable, as this participant mentions:

> 'People living in the cities still have access to information on cervical cancer as well as the screening at the tertiary institutions although it is not readily available and not affordable. People living in the villages lack information on cervical cancer due to poor communication system, poor electricity supply and the rest.' (NSG 003)

Theme 3: Quality of cervical cancer services was influenced by availability of services, infrastructure and resources

A lack of physical space and insufficient material precluded conducting cervical screening on patients. However, staff felt that, if there were space, they would conduct the screening in order to prevent cervical cancer:

> 'So it's because we don't have space for it right now that's why it is not done, if we have space for it tomorrow we are going to do it but right now government is promising and we are still expecting from them.' (NSG 004)

Cancer prevention services were perceived to be unaffordable. Referral of females to secondary and tertiary hospitals for cervical cancer screening was expensive for the community members as they did not have the money to access these services. In the words of one participant:

> 'Cervical cancer screening is not readily available. In fact it is not done at the primary health care centres yet, so those at the grassroots in the community needs to get

> to the urban area at state specialist hospitals, teaching hospitals and some private hospitals for the screening. However, the cost in the mentioned hospitals is so expensive that these community women cannot afford it due to their socio-economic status.' (NSG 006)

Theme 4: Nonexistence of cervical cancer policy

Participants mentioned the lack of a national policy position governing screening/education for cervical cancer. In the absence of such policy, participants reported conducting physical assessments during female community members' family planning visits. If there were abnormalities detected during these assessments, the women were referred for further intervention. Information on cervical cancer is given sporadically as was expressed by one participant, who said:

> 'There are no policies per se, but what we do is that you know because we are here and we practice family planning they come, we could see the cervix, if we see any abnormality we talk to those people, most times we send them for pap smear that's what do.' (CHO 003)

Cultural empowerment: positive existential attitudes that can be used to influence community members to participate in cervical cancer prevention services

Theme 5: Awareness raising of cervical cancer through stakeholder collaboration, male involvement and cultural sensitivity

Awareness creation through community campaigns focused on health education and health promotion will assist in increasing the knowledge of cervical cancer of community members. Such campaigns could include radio and television jingles, the use of the postal services and outreach events in public spaces such as schools, markets and churches:

> 'Health education, health education, health education and awareness so if we do that everybody will be aware of cervical cancer and its preventive services. It should be done at churches, markets, schools and using of radio and television jingles and postal services.' (PCY 003)

The community was encouraged to embrace moral cultural values such as females abstaining from sexual intercourse until marriage, and males and females having only one sexual partner and being faithful, as living a life guided by such values will prevent women from contracting HPV, which is one of the major causes of cervical cancer:

> 'Some men it could be from their being promiscuous which is the most common, he would have infected the wife with different kind of disease.' (CHO 009)

> 'Emphasis should be laid on keeping of virginity which is our cultural practice in Yoruba land, and early marriage should be discouraged.' (CHO 003)

Participants regarded the involvement of males in the prevention of cervical cancer as important. Males needed to be involved in terms of providing financial support and through granting consent for treatment. This points to a need to increase spousal awareness and knowledge of cervical cancer so as to encourage greater spousal involvement in its prevention:

> 'You see men are decision-makers at least in our own part of the world and once they are aware, the tendency will be encouraging and give their women the opportunity to visit the health facility and if it's a setting where money is being paid, they will need to give their wives the money.' (PCY 001)

Discussion

Misconceptions, cultural barriers, and the cultural beliefs and norms that can be modified for the promotion of preventive services in the management of cervical cancer were identified in the Cultural Identity dimension of the PEN-3 model. Health promotion will provide the necessary avenue to empower Yoruba women and the community at large with the relevant information, and this will enable them to make informed choices.

Traditionally, community education encompasses raising awareness of the existence and the magnitude of cervical cancer so as to empower community members. In Yoruba culture, the individual is not the primary focal point. Rather, extended family systems need to be taken into account because collectivism is emphasised. Individual identities and roles are embedded in larger social and family structures. This highlights the importance of *persons, extended family and neighbourhood* in cultural identity according to the PEN-3 model.

The Cultural Identity dimension of the PEN-3 model in this study identified the cultural barriers to the uptake of cervical cancer prevention services within the study participant context. The participants in this context are health workers and policy-makers in selected primary health care settings of the two LGAs in Oyo state.

To ensure the increase in the participation rate of people in cervical cancer prevention programmes even when such involvement does not require a cost, there is a need to understand and identify the obstacles to its successful and effective implementation.[11] Health workers and policy-makers mentioned cultural beliefs as an obstacle as such beliefs reduce the uptake of prevention services for cervical cancer. For example, most men prefer their wives to be examined by female health workers. They regard it as embarrassing if a male doctor examines their wives. In the Yoruba culture it is a taboo for a man, even a medical doctor or a nurse, to see another man's wife's nakedness, except when the woman is giving birth to a child. Cultural and religious factors warp the exposure of the vagina into a socially profound issue by insisting that such exposure should occur completely and solely between a husband and his wife.[12] Most Yoruba women are thus socialised into feeling embarrassed by the idea of undergoing a vaginal examination by a medical practitioner.[8,13]

To understand the promoting and inhibiting factors of health-seeking practices, the assessment of the health workers and policy-makers on the community's *perceptions* of cervical cancer, its causes and the practice of cervical cancer screening is important. In addition as suggested by the PEN-3 model, *enablers*, including available and accessible resources such as community or structural factors, e.g. the availability of policy on cervical cancer, the availability of cervical cancer screening facilities, the affordability and accessibility of services, as well as the referral system that enables the prevention services of cervical cancer, must be understood. *Nurturers*, or the reinforcing factors received from their social networks, promote the prevention of cervical cancer. The health workers and policy-makers

reinforce Yoruba cultural norms, values and beliefs that encourage prevention of cervical cancer. The rationale behind ascertaining health workers' perceptions of how community members perceive cervical cancer was based on the fact that they have first-hand knowledge and experience of the communities they serve. Some of the participant (health workers) groups also belong to the same communities and were Yoruba people.

All the participant groups perceived the community members to have limited or lack of awareness of cervical cancer. This may be due to ignorance, and poor knowledge of cervical cancer. The low level of awareness and poor knowledge of cervical cancer may be attributed to inappropriate dissemination of information on cervical cancer, especially in rural areas. Even in urban areas, many people lack information concerning cervical cancer.[14–18] There is a need to create ways of ensuring that information regarding cervical cancer and its prevention spreads to the grassroots within communities across Nigeria and sub-Saharan Africa, to lessen the preventable morbidity and mortality. Emphasis on primary and secondary prevention in terms of health education, HPV vaccination and cervical screening services is important and should also be made readily available and accessible in both rural and urban areas.[19]

In a study on knowledge of cervical cancer and its socio-demographic determinants among women in an urban community of north-central Nigeria, 200 women aged 25 to 64 were interviewed through an interviewer-administered semi-structured questionnaire on their knowledge of cervical cancer. Only 59 respondents (29.5%) had some knowledge of the symptoms of cervical cancer, with 9 of the respondents (4.5%) having good knowledge. The poor knowledge of cervical cancer demonstrated by respondents shows low levels of awareness and knowledge of cervical cancer. This shows a need for urgent community mobilisation and the use of educational resources to increase the awareness and knowledge of cervical cancer in the community.[20]

Cultural empowerment encompasses the positive, existential and negative dimensions of a person's culture that can be used to empower individuals to adopt healthy behaviours. Positive dimensions refer to cultural practices and values that can help to prevent cervical cancer. This includes such practices and values as abstaining from sexual activity—remaining a virgin—well into adulthood, and not indulging in adultery. However, those who cannot abstain from sex can have protected sex using a condom. Existential dimensions are cultural beliefs and norms that have no harmful health consequences. Cultural empowerment entails adopting healthy behaviours through health information, while the uptake of cervical cancer prevention services is a function of positive, existential Yoruba culture that can be used to empower their women to adopt and participate in the cervical cancer prevention services available.

All the participants mentioned that there is need for stakeholder collaboration. The stakeholders included public (i.e. governmental) and private organisations. The immediate ministries such as the Ministry of Health should collaborate with other ministries such as the Ministry of Information, Ministry of Women's Affair, Ministry of Education and youth development and non-governmental agencies, religious bodies and traditional rulers to create awareness of cervical cancer and its prevention services. Volunteers who can support the implementation and health promotion of cervical cancer prevention services should not be left out. Most of the community members respect their religious leaders and traditional rulers and therefore they should be involved in the prevention services of cervical cancer and most especially awareness creation.[19] These leaders should first be made to understand the importance of adequate knowledge and awareness of cervical cancer as well as the risks of its late discovery or diagnosis. Once they have adequate knowledge they can increase the level of awareness of cervical cancer at the community level and also correct related misconceptions. This approach has been applied to other programmes such as antenatal care where respected religious leaders and traditional rulers were used via the media to publicise the importance of antenatal care and disclose that they are in full support of it. This encouraged women to turn up for antenatal care and delivery at healthcare facilities instead of opting for home delivery or care and delivery by traditional birth attendants. This has caused a reduction in maternal mortality. This same strategy can be applied to cervical cancer prevention.[16]

Conclusion

There is need for continuous campaigns on cervical cancer, community mobilisation and participation, male involvement, collaboration from government and non-governmental bodies, women's empowerment and promotion of Yoruba culture in order to support the prevention of cervical cancer. It is the researchers' belief that a sustained cervical cancer prevention programme should be implemented at all levels of care, especially at the community level. If the cervical cancer prevention programme is sustained, it will be easily available, accessible and affordable for the community members.

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Received: 27-05-2019 Accepted: 9-10-2019