UNIVERSITY OF THE WESTERN CAPE

FACULTY OF COMMUNITY HEALTH SCIENCE

RESEARCH REPORT

TITLE: The development of a community-based model for promotion of cervical cancer prevention for Yoruba women in Ibadan Nigeria

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KEYWORDS

Cervical cancer

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Model development

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Yoruba women

ABSTRACT

Cervical cancer is the fourth most common cancer among women worldwide. The global disparities in cervical cancer incidence and mortality between wealthy and poor countries are likely related to lack of prevention and detection efforts. There is an exponential increase in cervical cancer deaths in Ibadan. Literature suggests that the increase of cervical cancer deaths is most likely a result of a lack of awareness and knowledge of cervical cancer, lack of outreach programmes and the unavailability of prevention services at community level. Community-based interventions have been identified as being most suitable for the promotion of cervical cancer prevention among women of low socio-economic status, a group that forms the greater part of Nigeria's population. The aim of this research study was to develop a community-based model for preventing cervical cancer in Yoruba women in Ibadan, Nigeria. A multi-method research approach, using both quantitative and qualitative methodologies was used. This study was conducted in 3 phases. Phase 1 was a descriptive survey during which data was collected using a multistage technique to select 480 community members to explore their knowledge, practice, beliefs and attitudes towards cervical cancer. Data collection was by means of a semistructured interviewer administered questionnaire (community members), yielding a response rate of 95% (n= 452). Phase 2 was an exploratory, descriptive design during which data was collected from twenty (20) health workers and four (4) policy makers to explore the barriers to cervical cancer prevention services and ways to promote cervical cancer prevention services using semi-structured interview (health workers), and key informant interviews (policy makers). Quantitative data collected was analyzed using descriptive and inferential statistics such as Chi-square and correlation to test the significance of association between variables. This was achieved

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through the use of the statistical package for social science (SPSS) version 21. Qualitative data was analysed using Tesch's method of data analysis and Altas ti. Findings from this study showed that there is low level of awareness and poor knowledge of cervical cancer; the women needed to secure their husband's permission before accessing cervical cancer screening services. The majority of women respondents had not been screened for cervical cancer. More than half of the women have poor attitudes and beliefs about cervical cancer and its preventive measures. Findings from the health workers iii and policy-makers confirm 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 statistics. Trustworthiness of the qualitative data was ensured by means of applying Guba's model of truth value, applicability, consistency and neutrality. Reflexivity was used by the researcher to further enhance trustworthiness. Permission to conduct the study was obtained from the relevant authorities. The ethics principles of respect for human dignity, beneficence and justice were applied throughout the study. Phase 3 follwed a theory generative design towards model development following three steps. Step one-concept synthesis - focused on identification, synthesis and definition of main concepts generated in phase two. A total of twenty eight were identified which were further synthesized into six key concepts. Step 2 – Statement synthesis- focused on the development of relational statements and Step 3- Theory synthesis – focused on the process of model development. An expert review of five participants was purposively selected to classify the concepts towards model development. A visual application of the model was shown which depicts the main concepts, the process and the context. Step 4- dealt with the development of the guidelines for the implementation of the community-based model for promotion of cervical cancer prevention. A critical reflection of the model was done by the panel of experts

who previously did the review using five criteria for model evaluation according to Chinn &
Kramer. Limitations were identified. It is recommended that cervical cancer screening is
made readily available at all levels of care at a subsidized fee or no cost.

DECLARATION

I declare that this research study titled "the development of a community-based model for promotion of cervical cancer prevention for Yoruba women in Ibadan Nigeriais my own original work. It has not been submitted before for any degree or examination in any other university. All sources that have been used or quoted have been indicated and acknowledge as complete references.

Olanlesi-Aliu Adedoyin Deborah

Signature

Date: May 2017

DEDICATION

This dissertation is dedicated to Olumide, Obamide and my loving family members, for their all encompassive support. I know you are extremely proud of my achievement.

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Contents

ABBREVIATIONS

CDC: Center for Disease Control and Prevention

HPV: Human Papillomavirus

IARC: International Agency for Research on Cancer

ICO: Information Centre on HPV and Cancer

NCI: National Cancer Institute

WHO: World Health Organization

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CHAPTER ONE

ORIENTATION TO THE STUDY

1.1INTRODUCTION

Cervical cancer is the fourth most common cancer in women worldwide and the most common among women in developing countries (Globocan, 2012, Alif, Kuelker, & Wassie, 2012, Agosti, Goldie & Denny, 2007). Currently, over one million women worldwide have cervical cancer the majority of which are yet to be diagnosed and have no access to treatment that could preserve or prolong their lives (WHO, 2012). In developed countries, the expectation of being cured of cervical cancer cases is reasonable and achievable because about 75% of women with cervical cancer are diagnosed at an early stage in such countries (WHO, 2012).

Cervical cancer remains the most common cancer in women in developing countries such as Malawi, Uganda, Kenya, Nigeria, Ghana, India, Zambia, and its survival rate remains very low with roughly 85% of approximately 529 800 cervical cancer cases being detected annually (ICO, 2013; Jelnal, Bray, Ceter, Ferlay, Ward, 2011; WHO, 2010). If awareness is not raised about cervical cancer, and there is no increase in the uptake of cervical cancer prevention services, the incidence of cases in developing countries will increase to 90% by 2020 (Jelnal, Bray, Ceter, Ferlay, Ward, 2011). Currently in developing countries, most cervical cancer cases present in advanced stages (WHO/ICO Information Centre on HPV and Cervical Cancer, 2010). This may be attributed to the fact that women encounter obstacles in their attempts to access the prevention services for cervical cancer.

Cultural and behavioural obstacles such as fear, anxiety, misconceptions and lack of knowledge and awareness, coupled with socio-economic and political obstacles such as the

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poor availability and poor accessibility of health services, the bad attitude of health workers and the high cost of the service, have resulted in the under-utilization of cervical cancer prevention services by women in the high-risk age group (30 to 60 years of age) in developing countries (Williams, 2014; Dreyer, Mnisi, Maphalala, 2013).

1.2 BACKGROUND AND RATIONALE FOR THE STUDY

Cervical cancer was listed among the most common causes of cancer deaths worldwide (GLOBACAN, 2012). Developed countries such as the United States of America, South Korea, Ireland and Sweden have an incidence rate of less than 4 women per 100 000 population as compared to most African countries, which have a high risk of cervical cancer and a high incidence rate. For example, Zimbabwe has an incidence rate 61, 46 women per 100 000 population, Burundi has 47, 33 women per 100 000 population, Ghana has 20, 71 women per 100 000 population and Nigeria has 20, 61 women per 100 000 population (CDC, 2014). In sub-Saharan Africa, about 35 cervical cancer cases are diagnosed for every 100 000 women, compared with only about 7 new cases for every 100 000 women in North America. While about 23 women per 100 000 die from cervical cancer in sub-Saharan Africa, compared to about 3 per 100 000 in North America (CDC, 2014). Nigeria, a developing country in sub-Saharan Africa, has a population of 47, 72 million women aged 15 years and older who are at risk of developing cervical cancer. Nigeria ranks 10th in the world with a high cervical cancer mortality rate of 22, 9 deaths per 100 000 women (Ibrahim, Rasch, Pukkala, Aro, 2011; WHO/ICO Information Centre on Human Papilloma Virus (HPV) and Cervical Cancer, 2011). Cervical cancer in Nigeria ranks as the secondmost frequent cancer among women between 15 and 44 years of age (ICO information Centre on HPV and Cancer 2014, Nzelu 2015). In many parts of Nigeria, cervical cancer is the most common cause of

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cancer-related deaths in women, with 80% (about 25 000) of women dying annually being attributable to it (Nzelu 2015; Wright et al., 2013; Hyacinth et al., 2012).

Significantly, Ibadan, a town in the south-west of Nigeria, has an incidence rate of 130, 6 per 100 000 women. This is 6 times higher than Nigeria's prevalence of cervical cancer (Jedy-Agba et al., 2012). For women in Ibadan, most of whom belong to the Yoruba culture; cervical cancer prevention services such as cervical cancer screening facilities and treatment are not available because such services have not been implemented at community level. A study conducted in six countries (Malawi, Madagascar, Nigeria, Uganda, the United Republic of Tanzania, and Zambia) by the World Health Organization on the prevention of cervical cancer by using visual inspection with acetic acid (VIA) and treatment with cryotherapy recommends that the prevention services of cervical cancer should be made available at community level, with a special recommendation that the screening facility should be provided at primary health care centers using VIA (WHO, 2012).

1.2.1 The Republic of Nigeria

In order to contextualize the study, it is important to know about the geographical location of Nigeria, its government and administrative divisions, Yoruba culture, Ibadan town and how health care services are implemented.

i) Geographical location of Nigeria

Nigeria is the 32nd largest country in the world. It has a total area of 923 768 km^2 (356,669 square miles), and is situated in Western Africa on the Gulf of Guinea. It shares a 4 047 km (2515 mile) border with Benin (773 km), Niger (1497 km), Chad (87 km) and Cameroon (1690 km), and has a coastline of at least 853 km. Nigeria has a varied landscape.

ii) Government and administrative divisions

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The Federal Republic of Nigeria's constitution has three levels of government, namely federal, state and local levels. The federal level is responsible for the formulation of policies and for technical and financial support for the implementation of the formulated policies at both state as well as local government level.

The second level of the administrative structure of Nigeria is made up of 36 states while local government makes up the third level of the administrative structure. State government is responsible for the implementation of formulated policies at state and local government levels. It also provides training for health care staff as well as the necessary equipment. Local government is responsible for the proper dissemination of information on the implementation of policies at grass-roots level, ensuring that the facilities are readily available, accessible and affordable to communities. There are 774 local government areas in the country. Oyo is one of the states in Nigeria, located in the south-west of the country and its capital is Ibadan. The southern part of Oyo is bordered by Ogun state and its northern reach is bordered by Kwara state. It is bordered partly in the west by Ogun state and the Republic of Benin, and in the east by Osun state. It has a land mass of 27 249 square kilometers and a population of about 6 617 720 (2005 estimate)

iii) Ibadan city profile

Ibadan is the largest indigenous city in West Africa and is located about 145km north-east of Lagos with a population of 2 550 593 (National Population Commission, 2006). It consists of 11 local government areas known as the Ibadan metropolitan area. Five of the 11 local government areas are found in Ibadan town. These are: Ibadan south-west (291 628 people) with headquarters in Ring Road; Ibadan north-west (157 725 people) with headquarters in Onireke; Ibadan north (340 972 people) with headquarters in Iwo Road; Ibadan north-east (340 972 people) with headquarter in Agodi and Ibadan south-east (274 559 people) with

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headquarters at Mapo. The remaining 6 local government areas are outside Ibadan city, they are: Egbeda (290 583 people); Oluyole (209 212 people); Lagelu (152 692 people); Ona-ara (273 541 people), Akinyele (218 122 people); and Ido (106 275 people). There are 27 electoral constituencies, 42 wards and 236 zones or communities in the Metropolitan area of Ibadan (Oyo state health facility directory, 2008).   The Yorubas are the main inhabitants of Ibadan city and they practice Christianity, Islam and Traditional worshippers as their form of religion.

iv) The Yoruba people and their culture

Alaba (2004) defines Yoruba culture as an "aggregate of ways of life of the Yoruba-speaking peoples of south-west Nigeria and other Yorubas who live elsewhere in world". The Yoruba ethnic group is found in the south-west and north central regions of Nigeria, as well as southern and central Benin in West Africa. The Yoruba is one of the largest ethnic groups in Africa. They make up 21% of Nigeria's population of over 60 million people (CIA World Fact Book, 2013). The main language spoken by Yorubas is the Yoruba language (Adeuyan, 2011).

Yoruba culture is one of the richest, most tenacious and probably the most sophisticated in Africa. This is evident in its beliefs, values, customs, practices, and social behaviours, and confirmed in its arts, music, political institutions, local economy, family structure, burial rituals, cuisine, numerical system, literature, and other related activities (Yorupedia, accessed on 5 April, 2016). The Yoruba lifestyle is embedded in the Yoruba culture. Despite many years of struggletrying to co-exist with the competing interests of other religions, or responding to historical events (Christianity, Islam, Colonialism, Post-colonialism, and industrialization) the culture, notwithstanding these changes, has prevailed. The Yoruba culture has been the link and connection between Yorubas at home and abroad (Yorupedia, accessed on 5 April, 2016; Jegede, 2002).

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Yoruba family

The Yoruba have a family organization that is very distinctive. It is distinctive in the sense that it is community-based, and is a form of grass-roots "government" It is on this level of government that other tiers of government within the society are built. There are two levels of family organization among the Yoruba people: the immediate or nuclear family level, and the kinship or extended family level. These two levels focus on both blood and marital relationships (Yorupedia, assessed on 5April, 2016).

The nuclear family comprises the father, mother and the children. Polygamy is practised among the Yoruba in the sense that men can marry more than one wife. Adultery, though, is taboo. It is the responsibility of the father to provide for the entire family. The mother functions as a kind of operations manager within the nuclear family. She is a wife, a mother and the administrator of the household economy (Yorupedia, assessed on 5 April, 2016).

The members of the extended family mostly live in a large compound. It comprises as many nuclear families as can be sustained within the compound. The extended family lives a community-based life. The Yorubas cherish and embrace family ties and support. (Yorupedia, assessed on 5th April, 2016).

Etiological perspectives of the Yoruba on the causes of disease

Health and illness are two contrasting phenomena underlying Yoruba philosophy. This is clearly understood in the "ayanmo" myth of destiny. Ayanmo is a predetermined factor of the individual's existence on earth. This factor could be either positive or negative (Jegede, 2002).

The Yoruba idea of preventative and curative care is part of the day-to-day survival of the people, whose beliefs about health are embedded in their culture. The average Yoruba man tries in every way possible to circumvent any desecration of taboos so that he can preserve a good relationship with supernatural entities. In Yoruba culture, a person is viewed as being

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sick only when he/she is restrained and is powerless to perform the expected normal daily tasks and duties. Friends, neighbours and family members help to determine the degree of seriousness of the health of others by sharing their experiences. However, health workers also play significant roles in this respect (Jegede, 2002).

Illness among Yorubas is viewed as a product of the social and cultural environment. Hence, for Yorubas, illness is believed to be from their enemies. These enemies could include witchcraft, sorcery, gods or ancestors, and the anger of the gods when taboos have been broken (Jegede, 2002).

The implications of using suspect pathways to address ill health are significant. People may encourage and engage in harmful traditional practices such as incision and scarification, rather than take sick persons to hospital. Ill health could also be incorrectly diagnosed (Jegede, 2002).

If the perceived causes of diseases determine the choice of prevention and treatment, then there will always be a delay in seeking modern health care. In most cases, people in the community resort to hospital treatment only in the terminal stages of an illness, by which time the condition has usually become unmanageable, resulting in death. This phenomenon causes people in the community refer to hospitals as "ile iku" [houses of death] (Jegede, 2002).

Moral values in Yoruba culture

In Yoruba culture great importance is attached to virginity (Fadipe, 1970). Extramarital sexual intercourse is not encouraged or accepted. While a wife might have only one living husband, a man may have as many wives as his means allow (Dogo, 2014; Akintan, 2013, Jegede, 2002). Illicit sexual intercourse is not encouraged in Yoruba culture (Dogo, 2014; Akintan, 2013, Alaba, 2004).

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Female Genital Mutilation and Yoruba Culture

Female genital mutilation (FGM) has been in existence since several hundreds of years ago. According to Okeke, Anyaehie and Ezenyeaku (2012), FGM is broadly known as breach of human rights, which is profoundly embedded in cultural beliefs and perceptions over decades and generations with no easy task for change. The practice is defined by World Health Organisation (WHO) (2010) as, "all processes that entail partial or total removal of the external female genitalia, other injury to the female genital organs for nonmedical reasons". WHO (2010) classifies FGM into four major types: Type I (Clitoridectomy): partial or total removal of the clitoris (small, sensitive and erectile part of the female genitals) and, in very few cases, just the prepuce i.e. the fold of skin around the clitoris. Type II (Excision): this entails the partial or total removal of the clitoris and the labia minora, with or without cutting of the labia majora (the labia are "the lips" that surround the vagina). Type III (Infibulation): This is the most cruel form, it is the narrowing of the vaginal opening through the formation of a covering seal. The seal is formed by cutting and relocating the inner or outer labia, with or withoutelimination of the clitoris. FGM is frequently executed by traditional practitioners using a sharp object such as knife, razor blade or broken glass.

Cultural, religious and social causes different races and cultures have various reasons for conducting FGM. In West Africa, this may be linked to different ethnic and tribal cultures, family relations, tribal connections, class, economic and social circumstances, and education etc. (Ahmadi, 2013). Some indigenous Africans believe that circumcised girls might control their sexual urges accordingly following maturity and it shields them from sins and faults, while a large number of Africans also believe that women, who have not undergo circumcision in their childhood, face numerous physical problems at birth (La Barbera, 2010). It is believed that uncircumcised women have lower fertility powers compared to

circumcised women and are not able to manage their sexual urges (Ahmadi, 2013). Virginity, in a lot of African communities, is valued as a requirement for marriage and likened to female honour. FGM, infibulation in particular, is supported in this context as it is presumed to decrease a woman's sexual desire and lower temptations to have extramarital sex thereby preserving a girl's virginity (AID, 2013e).

The prevalence of FGM in Nigeria among women aged 15 to 49 is estimated to be 24.8% (DHS 2013). This number has not changed significantly in recent years. In the DHS 2008 it was 29.6%, which meant Nigeria was grouped as a 'moderately low prevalence' country by UNICEF (2013). This 4.8% decrease has now moved it into UNICEF's 'low prevalence countries' categorization.

South East and South West Zones have the highest prevalence (49% and 47.5% respectively). This is further confirmed by Ebonyi State in South East and Osun State in South West having the highest prevalence by state (74.2% and 76.6% respectively) (DHS, 2013). In the DHS 2013, 64.3% of women (and 62.1% of men) said that it should be stopped.

FGM mainly take place in Nigeria during childhood. Many girls are cut as infants (16% of girls aged 0 to 14pass through FGM prior to their first birthday), and most women (82%) aged 15 to 49 who have had FGM mention that they were cut before the age of five (DHS, 2013).

The prevalence of FGM in the Yorubas is the second highest, at 54.5% (DHS, 2013). They mostly practice Types I and II (Kandala, Nwakeze and Kandala, 2009). According to a study by Ayenigbara, Aina and Framakin (2013), FGM is considered in Nigeria most especially in Yoruba culture 'as a means of curbing promiscuity, preserving Virginity (particularly in the

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case of infibulations) and so avoiding shame to the girl's family, and enhancing marriage prospects.'

Women who have undergone FGM are at risk of HIV due to the unsterilized instruments used on them for circumcision. It is also difficult to conduct pap test on women who have undergone the infibulations type (cutting and stitching) of FGM, not being able to have pap tests done on them could place the survivors of FGM at extreme risk of developing cancer of the cervix (Global Woman Peace Foundation, 2015; Abdullahi, Copping, Kessel, Luck,Bonell, 2009). FGM is considered a key type of iatrogenic trauma. Banning of FGM can have an enormous effect in reducing the chances of cervical cancer in women in developing countries (Global Woman Peace Foundation, 2015). FGM can increase risk for invasive cervical cancer (ICC) particularly in the presence of HPV infection.

The socio-economic situation of the Yoruba people

The Yoruba people believe in "chronic" (osi) versus "transitory" (ise) poverty, related with anguish. They believe that poor people can escape the poverty ensnare through their own personal efforts (such as by developing a positive work attitude, working hard and reducing their family size) along with the help of support systems (such as job creation and food security). The Yoruba believe that job creation is the greatest anti-poverty strategy. They further believe that by removing hunger, poverty becomes irrelevant. However, most of the Yorubas in the community are mostly manual workers (skilled and non-skilled), payment for health services has continued to threaten the consumption and livelihood pattern of the rural dwellers than the urban dwellers, especially as payment for health services reduces the amount available for other household consumption, often throwing the families into perpetual borrowing habit, that is, if they must survive, thus further worsening the poverty level of the population (Babalola, Oni, Atanda, Oyejola-Oshodi, 2009).

1.2.2 A strategic approach to cervical cancer prevention

The cervical cancer prevention and control programme is facilitated by health promotion, which makes use of community information and education, screening services and diagnostic and treatment services (WHO, IARC & APHRC, 2012; Alliance for cervical cancer prevention, 2004). For effective uptake of the services there is a need to train health personnel, and a need for monitoring and evaluation, and policy formulation and implementation (WHO, 2012).

Community information and education*:* It is necessary to create awareness to inform and educate women and men on cervical cancer to encourage and empowerwomen for the uptake of the screening services, and to ensure the programme reaches its coverage goals (WHO, IARC& APHRC, 2012; Logan & Mcilfatrick, 2011). These activities should be implemented in communities, health care facilities, and through various media. There should be collaboration between the community and the health care facilities (WHO, IARC & APHRC, 2012; Alliance for cervical cancer prevention, 2004). Thus far at community level in primary health care facilities of Ibadan, Nigeria, the only forms of prevention of cervical cancer that is available is information and education, although these are not yet effective. Therefore there is a need to increase the level of awareness and knowledge of community members on cervical cancer and its prevention services (Odetola, 2011).

Cervical Screening Services: According to the WHO (2012) screening services involve counseling before and after the procedure. The screening must be made available, accessible and affordable especially at the community level. The test results should be disclosed to all clients after they had been screened, and there should be effective tracking systems for all clients who need rescreening or referral for diagnosis and/or treatment (WHO, 2012). The processing of the samples collected for cytology or HPV DNA tests should have minimal delays, while uniform, standard terminology should be used in its reporting. A good referral

process is needed for effective follow-up, especially between laboratories and the health facilities, and between the various levels of health services (Alliance for Cervical Cancer Prevention, 2004). In secondary facilities in Ibadan, there are only three government hospitals that render screening services. Although these are available at all tertiary institutions and some private hospitals they are not affordable for the community at large and there are usually delays in getting the results of the tests (Oyo state health facility directory, 2012).

1.3 PROBLEM STATEMENT

Cervical cancer is the second-most common cancer among women worldwide. The global disparities in cervical cancer incidence and mortality rates seen between wealthy and poor countries are likely related to lack of prevention and efforts to detect the disease. There is an exponential increase in cervical cancer deaths in Ibadan (Jedy-Agba et al., 2012). The literature (Abdulraheem, Oladipo & Amodu, 2011) suggests that it is most likely as a result of a lack of awareness and knowledge of cervical cancer, a lack of outreach programmes, and the unavailability of prevention services at community level. Community-based interventions have been identified as most suitable for the promotion of cervical cancer prevention programmes 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. The researcher therefore aims to develop a community-based model for promoting cervical cancer prevention among Yoruba women in Ibadan, Nigeria.

1.4 PURPOSE OF THE STUDY

The purpose of this study is to develop a community-based model for promoting cervical **cancer prevention among Yoruba women living in Ibadan, Nigeria.**

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1.5 RESEARCH OBJECTIVES

- Explore the knowledge, practices, beliefs and attitudes of community members on cervical cancer and its prevention.

- Examine the barriers to prevention of cervical cancer among community members.

- Determine ways to promote prevention of cervical cancer in the community.

- Develop a community-based model for the promotion of cervical cancer prevention for Yoruba women in Ibadan, Nigeria.

1.6 SIGNIFICANCE OF STUDY

The information generated by the study will be used to develop a community-based model for promoting cervical cancer prevention that may make the following contributions:

- Bridge the gap in the existing body of knowledge; the studies on promotion of prevention services for cervical cancer at community level in Ibadan, Nigeria are limited.

- Have an impact on Yoruba women and the community at large regarding cervical cancer, thereby building their knowledge and increasing their level of awareness of cervical cancer and its prevention, and health care services in this area.

- Assist health care workers through training to acquire the necessary skills and competencies required to provide promotion of cervical cancer prevention services at community level.

- Offer guidance to the state government on effective implementation of cervical cancer policies at community level as well as at secondary level.

1.7 CLARIFICATION OF CONCEPTS

For the purposes of this study, the following terms were used as defined below:

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Attitude: This is a way of thinking and feeling about someone or something that affects a person's behaviour (Merriam Webster, 2015). In this study, thoughts and feelings about cervical cancer and its preventive measures were described. Here the attitudes of males and females between the ages of 18 and 65, in the selected rural and urban local government areas, were elicited and described.

Belief: This isa feeling of being sure that someone or something exists, or that something is true (Merriam Webster, 2015). For the purpose of this study, feelings about the existence of cervical cancer and its preventive measures were described. The respondents were males and females between the ages of 18 and 65, living in the selected rural and urban local governments.

Cervical cancer prevention: primary and secondary prevention of cervical cancer.

Community: This is a social unit of any size whose members reside in a specific locality, and who share government and common values (Barzilai, 2003). In this study the community included males and females living within Akinyele and Ibadan north-west local government areas, aged 18-65.

Culture: In this context, culture denotes the collective values, norms, and codes that jointly form a group's beliefs, attitudes, and behaviour through their relation in and with their environments (Airhihenbuwa, 1999). For the purpose of this study, Yoruba values, norms and codes that have both negative and positive effects on cervical cancer prevention were described.

Community-based: This refers toa partnership approach that involves community members in decision-making (Israel, Schulz, Parker, Becker, Allen & Guzman, 2008). In this study, community members, health care workers and policy-makers will be involved in the needs assessment of the community around cervical cancer prevention and around acceptable ways of promoting its prevention, and providing services in this regard.

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Comprehensive primary health center: In this study, comprehensive primary health center is referred to asthe model primary health center that renders medical services. These include: management of common health problems; antenatal care; postnatal care; immunization; initial management of complicated pregnancies; and health promotion services for diseases such as cervical cancer. In this study, comprehensive primary health center refers to apex primary health centers in the selected local government areas which render health promotion services in respect of cervical cancer prevention.

Health workers: These are individuals who provide preventive, curative, promotional or rehabilitative health care services in a systematic way to people, families or communities (WHO, 2006). For the purpose of this study, nurse-midwives and community health officers working at health facilities of the selected local government areas will be regarded as health workers.

Nurse-Midwife: This is a professional nurse who has been registered and licensed by the Nursing and Midwifery Council of Nigeria. This person acts as primary care provider for women and newborn infants. She performs wellness checks and provides education on healthy lifestyle, nutrition choices and disease (such as cervical cancer) prevention. In this study, the term "nurse-midwife" refers to nurses who are trained as midwives working at the selected health centres in both rural and urban areas of the region covered by the study.

Community Health Officers: These are health officers trained at health technology schools to work under the supervision of registered nurse-midwives in the communities. They attend to the treatment of minor ailments and also provide health education on diseases such as cervical cancer. In this study, the term "community health officer" refers to persons who are trained to treat minor ailments and who work at the selected centres of both rural and urban areas within the ambit of the study.

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Knowledge: This is awareness**,** facts, information and understanding of something (Merriam Webster, 2015) For the purpose of this study, the level of awareness, facts and information on cervical cancer and its preventive measures, of males and females between the ages of 18 and 65, in the selected rural and urban local government areas, were measured.

Model: A model is the symbolic representation or a conceptual framework that systematically illustrates the relationship between a number of complex perceptual phenomena, related constructs and concepts (Chinn & Kramer, 2008). In this study, a model refers to a diagrammatic representation of identified concepts related to the promotion of prevention of cervical cancer.

Policy-makers: Policy-makers in the context of this study include people who make the decisions for client management such as the Director of Nursing Services (DNS), Primary Health Care (PHC) coordinators, and the Permanent Secretary in the State Ministry of Health.

Director of Nursing Services (DNS): This is a professional registered nurse-midwife, who has been in clinical practice, and is registered with the Nursing and Midwifery Council of Nigeria. The DNS co-ordinates all nursing services at the state and local government level and also organizes training for nurse-midwives on cervical cancer preventive measures. In this study the DNS refers to the DNS for Oyo state, in the Ministry of Health in Ibadan.

Primary Health Care (PHC) Co-coordinators: These are trained doctors who have been inducted and licensed by Nigeria's Medical Council. They oversee and supervise medical services rendered in each local government area and also promote the prevention of diseases such as cervical cancer. In this study the term "PHC coordinators" refers to Medical Officers in charge of the selected rural and urban local governments.

Permanent Secretary (PS): In this study, the term "permanent secretary" refers to a medical doctor employed by the state government in the Ministry of Health overseeing the health care services rendered in the 33 local government areas in Oyo State. The PS co-ordinates all

health care services at the state and local government level. S/he organizes seminars and workshops on cervical cancer prevention services.

1.8 METAPARADIGMATIC PERSPECTIVE

Meta-theoretical assumptions are concerned with reality that directs the researcher to comprehend how things really are and how things really work (Scotland, 2012). The researcher's worldview in this study is that of pragmatism. The proponents of pragmatism are not devoted to any one system of philosophy and reality but promote the use of pluralistic approaches to drive knowledge about a problem (Creswell, 2014.). This ideology holds that objective and subjective views are not mutually exclusive, and therefore a combination of methods is acceptable to understand social phenomena (Wahyuni, 2012).

Adopting a paradigm is a way of observing natural phenomena through a set of philosophical assumptions that direct the observer's approach to the enquiry (Polit & Beck, 2008). Pragmatism advocates for the combination of objectivist and subjectivist ontology and epistemology as a research approach to the comprehension of social phenomena, so as to allow researchers the liberty to choose methods, techniques, and measures that suit their studies' needs and purposes (Creswell, 2014; Wahyuni, 2012).

In approaching this study, this researcher recognized the complexity of the research phenomenon and believes that culture is the basis for health promotion and can be used to measure collection of health behaviour data through their interaction in and with their environments. To this end, the three domains of the PEN-3 model will be utilized in undertaking the study (discussed in detail in Chapter 2). In line with this model the following statements are formulated. The meta-theoretical assumptions underpinning the research are reflected in the researcher's view on cultural identity, relationships and expectations, and cultural empowerment.

a). Cultural identity: cultural identity is an essential or fundamental part of health promotion within a community. The pattern of interaction of women with their immediate family members, extended family members, and community or neighborhoods influences their lifestyle, their level of awareness, knowledge, attitudes, and beliefs regarding cervical cancer.

b). Relationships and expectations: the relationships and expectations of the women in the community operate in three domains: perceptions, enablers, and nurturers. The perceptions are around what they believe cervical cancer is. Enabling factors are those which help to promote cervical cancer prevention services. These include affordability, accessibility, and availability. The nurturer factors are the various kinds of support from family members, most especially husbands, in deciding to use cervical cancer prevention services.

c). Cultural empowerment: Since Yoruba people believe strongly in their culture, we may speculate that some of their cultural practices can promote prevention of cervical cancer and that these practices can be capitalised upon. Negative cultural practices, on the other hand, can be barriers to the promotion of cervical cancer prevention. Those norms, values and beliefs that are prevalent and do not have any negative impact on health, can be encouraged.
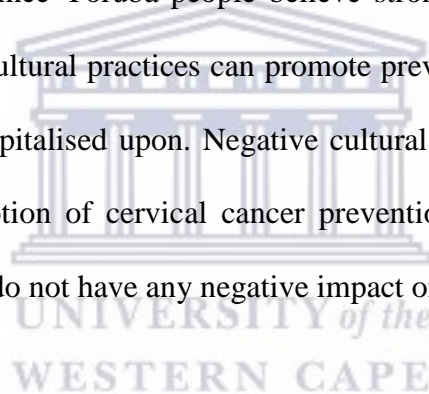
1.9 RESEARCH METHODOLOGY

The research methodology comprises the rational and systematic approaches to conducting a research study.It is an importantpartof theresearch process because it guides and gives direction to a research study (Jonker & Pennink, 2010). A theory-generating design, as suggested by Walker & Avant (2011) and Chinn & Kramer (2008) based on a quantitative, qualitative content analyses, explorative, descriptive research approach was employed for model development. The research methodology is described in detail in Chapter 4.

1.10 DATA ANALYSIS

An inductive and deductive approach to data analysis was used. Descriptive and inferential statistics through the use of the Statistical Package for Social Science (SPSS) Version 21 were used to analyse the quantitative data. Tesch's method of identifying themes in the data was utilised, as well as ATLAS Ti Version 7, for qualitative data. The findings which emerged from Step 1 were employed to develop a community-based model, which is Step 2 of the study. A more detailed description of these steps is provided in Chapter 3.

1.11 ETHICS

The ethical code covers the following areas: authorised voluntary consent, justification of research for the good of society with suitable balance of risk and benefit, sufficient protection of participants from risk or harm, the participant's right to withdraw from the investigation, and adequate scientific qualifications for researchers (Burn & Grove, 2009). Permission to conduct the study in the two selected local government areas was obtained from the community leaders, the medical officers of the selected PHCs and the state Ministry of Health. Also, ethical clearance to conduct this study was received from the University of the Western Cape (UWC) ethics committee. This research was conducted in accordance with international ethical standards outlined in the Belmont Report (Amdur, 2003) as well as the Declaration of Helsinki (World Medical Association, 2008). The following ethical principles governed the research process:

- Respect for persons

The Medical Research Council of South Africa (MRC) (2003) advocates that participants should be recognised and treated as unique individuals. They should be seen within the context of their communities. Prospective participants for this research were community members, health workers and policy-makers. Participants were invited to be part of this

research. A mutual understanding of the roles and interests of the researcher and participants in the research clarified differentiation of roles. Participants were not exposed to "undue influence" to participate (Burns & Grove, 2009). Prospective participants were encouraged to make a voluntary decision to participate in this research. Informed consent was obtained from prospective participants by ensuring that they understood the implications of their decision to participate in the research.

- Confidentiality: Confidentiality was ensured by not using the participants' names in the study. The health workers and policy-makers were given a confidential binding form to sign (Appendix 11). The researcherhad no control over information that was discussed outside the group. The interview tapes were kept in a locked safe and the key was handled by only the researcher. The reporting of the data maintained the anonymity of the participants. An extensive description of ethical considerations in this study is contained in Chapter 4.

1.12 OUTLINE OF THESIS

The chapter sequence of this thesis is as follows:

Chapter 1 provides an orientation and rationale for the study. It also highlights the problem statement, objectives and significance of the study.

Chapter 2 provides the theoretical framework which forms the basis of the study and the literature review.

Chapter 3 refers to the methodology used in the study.

Chapter 4 provides a detailed presentation and an in-depth discussion of the findings. The literature control was used to place the findings in context of other studies in the field.

Chapter 5 deals with the development of the model.

Chapter 6 describes the model and the guidelines.

Chapter 7: contains the conclusion, limitations and recommendations.

1.13 SUMMARY

In this chapter, an overview of the proposed research was presented. The rationale, problem statement, objectives of the research, research approach, paradigmatic perspective, ethical considerations as well as the sequence of chapters were discussed.

CHAPTER 2

THEORETICAL FRAMEWORK

2.1 INTRODUCTION

A theoretical framework is based on propositional statements resulting from an existing theory. It interrelates concepts to create a specific way of looking at a particular phenomenon. By developing a framework within which ideas are organized, the researcher is able to show that the proposed study is a logical extension of current knowledge (Brink, Walt & Rensburg, 2014). The development of the community-basedmodel for promoting cervical cancer prevention among Yoruba women living in Ibadan Nigeria is structured on the PEN-3 cultural model which centres on culture as essential for the reduction of prevalence and death rates attached to cervical cancer.

2.2 PEN-3 CULTURAL MODEL

The PEN-3 cultural model was initially developed by Airhihenbuwa (1989) in reaction to the apparent neglect of culture as a factor in clarifying health outcomes of current health behaviour theories and models (Airhihenbuwa, 1990). The PEN-3 cultural model integrates culture in the study of health beliefs, behaviours relating to these beliefs, and health outcomes (Airhihenbuwa, 1995).

Over the years, verifiable evidence of the influence of culture on health has improved radically (Shaw et al., 2009; Airhihenbuwa, 2007a; Dutta, 2007; Airhihenbuwa & Liburd, 2006). This suggests not only an extensive and increasing interest in the impact of culture, but also the understanding of its significance in eradicating health differences, addressing

knowledge of health, and planning and executing effective public health interventions (Shaw et al., 2009; Airhihenbuwa & Liburd, 2006; Airhihenbuwa & Webster, 2004).

It is presumed that culture is the basis for health promotion (Airhihenbuwa, 2004), and this assumption has been used to measure a collection of health behaviours. Culture in this context denotes collective values, norms, and codes that jointly form a group's beliefs, attitudes, and behaviour through their relation in and with their environments (Airhihenbuwa, 1999). To explore the impact of culture on individual health is 'to recognize that the forest is more important than the individual tree' (Airhihenbuwa, 1999). This indicates that recognizing illness is the responsibility of all rather than that of the person or individual, and that it is the communal task of the community / family members to guide the health practices of individuals. This highlights the significance of joint community responsibility in influencing health-related decisions.This also allows for better understanding and an appreciation of the roles, connections and relationships (whether positive or negative) of an individual's acquaintances, neighbours and the community as a whole in eradicating a disease or condition (Singhal, 2003).

For public health interventions to be actualized and sustainable, cultural dynamics are fundamental. The goal of the PEN-3 model is to address the intricacy of health problems by addressing cultural beliefs and practices that are harmful to health behaviours, and to provide guidelines on which practices should be encouraged, which recognized, and which rejected. The PEN-3 cultural model consists of three interrelated and interdependent primary domains: Cultural Identity, Relationship and Expectations, and Cultural Empowerment. The independent components form the acronym PEN, that is, *p*erson, *e*xtended family, and *n*eighborhood for Cultural Identity; *p*erceptions, *e*nablers, and *n*urturers for Relationships and

Expectations; and *p*ositive, *e*xistential, and *n*egative for Cultural Empowerment (Airhihenbuwa, 2007).

The three components of the domains are:

Cultural Identity

Here there is greater concern about the entry point for the involvement of community members.It could start from the level of **p**ersons (e.g. mothers or health care workers), **e**xtended family members (e.g. grandmothers), or **n**eighbourhoods (e.g. communities or villages). It recognizes the persons, extended family, and neighborhoods that should be given health education. This is so because people in the same community usually share the same beliefs, norms and values and they exercise great influence on one another's health behaviour. Individuals within each category should be educated and empowered to make informed health decisions appropriate to their roles in the family and community (Iwelunmor, Newsome & Airhihenbuwa, 2013).

Relationships and Expectations

These determine the proposed participants' **p**erceptions of health information and the factors that **e**nable and **n**urture health behaviours. They identify the opinions, beliefs or attitudes of people on health issues, and their perceptions or attitudes about health issues. They also identify and examine the societal or fundamental assets such as health care services that support or discourage effective health-seeking practices, as well as the impact of family and relatives in promoting decisions surrounding effective controlling of health issues (Iwelunmor, Newsome & Airhihenbuwa, 2013).

Cultural Empowerment

Health problems are explored first by recognizing beliefs and practices that are **p**ositive, exploring and emphasizing values and beliefs that are **e**xistential and have no detrimental effect on health, before pinpointing harmful health practices that serve as **n**egative influences. In this way, cultural beliefs and practices that influence health are scrutinized, so that positive influences on health are encouraged, those that are not harmful are acknowledged, and finally practices that are detrimental and have negative health consequences (Iwelunmor, Newsome and Airhihenbuwa, 2013) are actively discouraged.
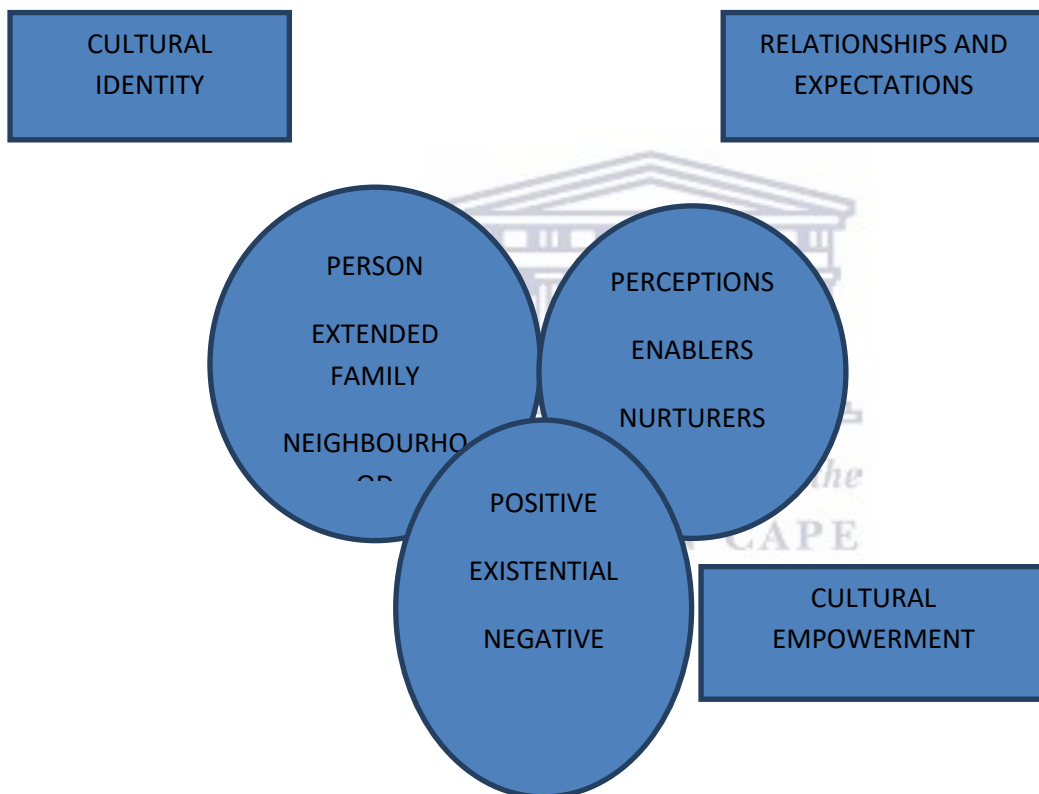
Figure 2.1 PEN-3 Cultural Model (Airhihenbuwa, 1990)

2.3 ASSUMPTIONS OF THE PEN-3 MODEL

The PEN-3 Model is based on the assumption of fundamental differences in values, family and community.

- It identifies the values and relationships that promote the health behaviour of interest to people in the community and the qualities of behaviour that make it unique.

- It assists in identifying health beliefs and actions that are harmful to health and should be changed.

- It assists in identifying a community's positive decisions and practices related to promoting a healthy lifestyle.

2.4 APPLICATION OF PEN-3 MODEL

Cultural Identity

Misconceptions, cultural barriers, and the cultural beliefs and norms that can be modified for the promotion of preventative 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 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 since collectivism is emphasized. Individual identities and roles are embedded in larger social and family structures (Jung, 1998; Chung, 1992).

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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 PHCs of the two local government areas in Oyo state.

Relationships and Expectations

Perceptions

This involves the assessment of the health workers and policy-makers on what the community perceives as cervical cancer, its causes and the practice of cervical cancer screening.

Enablers

This includes 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 of these and their accessibility, as well as the referral system that enables the prevention services of cervical cancer.

Nurturers

These are the reinforcing factors that the target participants receive from their social networks, which can promote the prevention of cervical cancer. The health workers and policy-makers were encouraged to mention Yoruba cultural norms, values and beliefs that encourage prevention of cervical cancer.

v) Health care system

Health care in Ibadan is funded by the state ministry of health. There are three tiers of health care service delivery in Nigeria: tertiary, secondary and primary health care systems.

Tertiary health system

The federal ministry is responsible for the delivery of tertiary health care. The federal ministry of health is accountable for policy and technical support of the total health care

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system, international representation and collaboration on health matters, the national health management information system and the delivery of health care services via the tertiary and teaching hospitals and national laboratories (MOH, 2004). It is the role of the federal ministry of health to formulate policy on cervical cancer and ensure that it is technically supported and well implemented at all levels of care. However, there is presently no policy on cervical cancer. Instead, each state ministry of health has adopted its own policy to managecervical cancer.

Secondary health care system

The state ministries of health (SMOH) are accountable for secondary hospitals and for the supervision and technical support of primary health care services (MOH, 2004). The state ministry of health in Oyo state has no policy on cervical cancer as such but has adopted policies on reproductive health and family planning to tackle cervical cancer in Oyo state.

In the course of family planning sercices given to the women, any abnormality dictected in the cervix is treated and any woman that has been diagnosed of cervical cancer is referred to the tertiary hospital for further management.

Primary health system

Health care facilities such as comprehensive health centers, primary health centers, health clinics and health posts make up the primary health care delivery system. The major aim of the primary health care delivery system is prevention, though some curative services are also provided on a limited scale (Abdulraheem, Oladipo & Amodu, 2011). The aim of primary health care (PHC) was to offer accessible health to all by the year 2000 and beyond. Unfortunately, to date the goal of PHCs offering health care to all is yet to be attained in Nigeria and appears impracticable in the next decade (Abdulraheem, Oladipo & Amodu, 2011). Health care for all has not been attained because health care services rendered have not been made readily accessible, available and affordable to the people in the community.

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This could be attributed to the following factors: political will, shortage of staff, inadequate supply of required equipment, poor infrastructure and a lack of financial support (Oon et al., 2011).

Local government is in charge of primary health care and the health care services are structured through a system of political wards. About seven to fifteen political wards make up a local government. Local government areas are known as districts in other countries. However, the population of a typical local government in Nigeria may vary from 1-2million people (or even more) when compared to the broader international understanding of district, which usually has a population in the range of 150 00 to 200 00 (Nigeria Federal Ministry of Health, 2004).

The purpose of PHC is to provide people in the community with essential health services. Primary health care centres were established in both rural and urban areas in Nigeria to ensure equitable and easy access to health care services. According to a 2009 communiqué of the Nigerian National Health Conference, the health care system in the country remains weak, as evidenced by lack of co-ordination, fragmentation of services, a dearth of resources (including drug and supplies), inadequate and decaying infrastructure, inequity in resource distribution, insufficient access to care and a deplorable quality of care (cited in Osain, 2011). All these factors have led to a lack of strategic direction and an inefficient and ineffective health care delivery system (National Strategic Health Development Plan (NSHDP, 2009). The local government authority through health centers and health posts provides Primary Health Care (PHC). The PHC centers are staffed by nurses, midwives, community health officers, health technicians, community health extension workers, and physicians (doctors). These individuals provide the following services to the people of Ibadan: prevention and treatment of communicable diseases, immunization, maternal and child health care services, family planning, public health education, environmental health and the collection of

statistical data on health and health-related events. Health care delivery in both rural and urban local government areas is headed politically by a supervisory councilor, but is coordinated technically and administratively by a PHC coordinator, assisted by a deputy coordinator (Adeyemo, 2005; Federal Ministry of Health, 2004).

In order to ensure full benefit of the principle of decentralization of health services, so that community members get involved and participate fully in the PHC process, the local government areas are divided into different wards/districts (Abdulraheem, Oladipo & Amodu, 2011). Due to perception of low quality and shortfall of available services, there has been a poor uptake of health care services at PHCs by some rural dwellers (Sule et al., 2008). The following may be reasons for the inadequacy of services provided: limited access to transportation and communication, high rate of illiteracy among rural people, cultural beliefs and the use of traditional healers, inadequate levels of knowledge, and the attitudes of health workers (Adeyemo, 2005).

The only cervical cancer prevention service available at primary health care level is health education and promotion any woman with presentation of signs and symptoms of cervical cancer is referred to the secondary health facility for futher management.

The Nigerian Government has implemented different policies to tackle the issue of health financing, including the National Health Policy, Health Financing Policy, National Health Bill and National Strategic Health Development Plan (2010- 2015) (Uzochukwu et al, 2015), and life expectancy in Nigeria has increased from 41 in 1970 to 53 in 2013 (UNICEF, 2014). Despite this, there continues to be insufficient Government funding for healthcare.

In Nigeria, the major sources of health financing have been recognized as through (i) the tax-based public sector that contains Local, State and Federal Governments (ii) the private sector (including the not-for-profit sector) financing which is done, directly or indirectly through health insurance of their employees (iii) households, through out-of-pocket expenditures,

including user fees paid in public facilities; (iv) other insurance-social and community-based; and (v) external financing (through grants and loans) from donor organizations.

Despite the health financing options so identified in Nigeria, there still exist discrepancies in health system financing. For instance, Olaniyan and Lawanson (2010) observed severe budgetary limitations and unequal allocation of resources among the urban and rural areas with the rural areas mostly affected by unequal budgetary health expenditure allocation. Ichoku and Fonta (2009) had also observed a catastrophic healthcare financing in Nigeria which finally has led to further deprivation of the poor. According to Ichoku and Fonta (2009) Nigeria's health financial arrangement has moved from health provisioning by government as a normal good towards a competitive market where greater fraction of health services are provided by capacity to pay through out of pocket expenses (often referred to as user fee). Onwujekwe, Uzochukwu,, Obikeze, Okoronkwo, Ochonma, Onoka, Madubuko and Okoli (2010) Summarily, it could be argued that the system of health care 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 the urban and rural areas is inequitable (with more health facilities located in the urban areas than the rural areas). Residents of the rural areas often will need towalk over 5km to get to the nearest health facility.

Cultural empowerment: barriers to prevention of cervical cancer were identified through beliefs, as well as some cultural values and practices that have no harmful health consequences. The health workers and the policy-makers were interviewed on perceived cultural beliefs about cervical cancer, of members of the community.

2.5 SUMMARY

The PEN-3 cultural model was selected to guide the assessment of knowledge, practice, beliefs and attitudes of the community on cervical cancer and its prevention, and to identify the barriers and ways to promote the prevention of cervical cancer.

Chapter 3 focuses on the literature review regarding level of awareness and knowledge of cervical cancer, cervical cancer screening methods, and beliefs and attitudes relating to cervical cancer and its preventive services.

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CHAPTER 3

LITERATURE REVIEW

3.1 INTRODUCTION

This chapter presents a literature review of studies that have been conducted on awareness, knowledge, practice, attitudes and beliefs of people about cervical cancer and its prevention services. This discussion will be presented under the following sub-headings: cervical cancer, impact of cervical cancer, awareness and knowledge of cervical cancer, cervical cancer screening, and beliefs and attitudes about cervical cancer.

The following computer-assisted data-based bibliographies were searched: MEDLINE (Medical Literature Online), Academic Search Premier, Nexus and CINAHL (Computer Index to Nursing and Allied Health Literature), Ebscohost, Springer Link, Science Direct and the University of the Western Cape library. Combinations of keywords were used, namely: cervical cancer, prevention services of cervical cancer, Yoruba culture, and health care system in Nigeria, women empowerment, and male involvement.

There is need for reorientation on cervical cancer and how it occurs, in order to have good knowledge of it.

3.2 CERVICAL CANCER AS A DISEASE

Cervical cancer is a slow-growing cancer that starts in the cervix of women and is mostly seen in women over the age of 30 years (CDC, 2012). The cervix is the lower narrow part of the uterus (womb) which connects the vagina to the womb. Both normal and abnormal cells grow, but the abnormal cells may not die as they should (CDC, 2012). The abnormal cells may develop into a mass of tissue that may be benign or malignant. Benign growths do not regularly constitute a health threat and do not attack the surrounding tissues, but malignant growth can turn out to be cancerous (National Cancer Institute, 2008; National Institute of

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Health, 2008). The affected individual with cervical cancer may not feel or have any sign and symptom of cervical cancer in the early stages (Logan & Mcilfatrick, 2011). Nevertheless, as the cancerous cells begin to spread in the body, numerous signs and symptoms may be seen. These include abnormal vaginal bleeding such as bleeding between regular menstrual periods, bleeding after intercourse, heavier and longer menstrual periods, or bleeding after menopause (National Institute of Health, 2008).

3.2.1 Causes of cervical cancer

All cervical cancers are initiated by certain types of the human papilloma virus (HPV), a group of viruses similar to the virus that causes skin or genital warts. Infection with HPV is caused by direct contact and in the case of cervix is mostly stimulated by sexual contact or even by skin-to-skin contact (WHO, 2014; ESMO Clinical Practice Guidelines, 2012).

HPV is very common in the general population. Nearly all adult women have at some time become infected with HPV, but in greater part of cases HPV infection resolves within six months to two years without causing any signs of disease. However, in exceptional cases where HPV infection does not resolve, where the infection is constant, the risk of developing precancerous cervical lesions, which occur before the development of cervical cancer, is higher. A persistent infection with the so called high risk (carcinogenic, cancer causing) HPV types, notably HPV types 16 and 18, which are the most common types seen in cervical cancer cases worldwide, is required for cancer to develop. However, this is not adequate as the development of cervical pre-cancerous lesions and cervical cancer takes several years (decades) to occur (ESMO Clinical Practice Guidelines, 2012).

Other factors are also required for cervical cancer to arise. Those factors are linked either to a risk of being infected with HPV or to a risk of developing cervical cancer once HPV infection is established: Risk factors for being infected with HPV, unprotected sexual

intercourse with multiple partners or sexual intercourse with a man who has multiple sex partners (ESMO Clinical Practice Guidelines, 2012).

Inception of sexual intercourse activity at an early age, long-term use of hormonal contraceptives, multiple pregnancies, poor hygiene, other sexually transmitted genital infections, e.g Chlamydia trachomatis and herpes simplex virus-2, diminished immunological defences such as the immunodeficiency caused by Human Immunodeficiency Virus (HIV) infection or drug treatments that have an effect on the immune system because the immune system usually clears HPV infections, reducing the risk of cancer development. Other factors that weaken the immune system and general health like tobacco smoking, poor diet (e.g low intake of fruit and vegetables), irregular sleeping patterns and lack of excercise (ESMO Clinical Practice Guidelines, 2012).

3.2.2 Risk factors of cervical cancer

Being able to identify the risk factors of cervical cancer at an early age will help women embrace preventive measures more efficiently (Vogtmaet al., 2011). The globally identified risk factors are infection with human papillomavirus (HPV); the virus is seen in 99% of cases worldwide (Tracy et al, 2013; Oche et al, 2013; Garces, 2006). Genital HPVs are extremely contagious, and infection with HPV is the most common viral infection of the genital tract (CDC, 2013; WHO, 2008). Other risk factors for cervical cancer include: smoking, having more than three to four children, weakened immune system, long-term use of birth control pills, exposure to diethylstilbestrol before birth, high risk sexual behaviours, and co-infection with HIV (CDC, 2013; Oche et al., 2013; National Cancer Institute, 2008; Munoz, Castellsagne, Gonzalez, & Gissman, 2006). In addition, intimate partner violence which may result in sexual activity against the woman's will can intensify her risk of developing cervical cancer (Coker, Hopenhayn, DeSimone, Bush, & Crofford, 2009).

The identified risk factors in Nigeria are similar to the global risk factors. Strong risk factors observed in the northern part of Nigeria were early sexual debut and early child birth, evidenced in the practice of child marriage (Nzelu, 2015)., Low socioeconomic level, early age at first sexual intercourse, multiple sexual partners and previous history of sexually transmitted diseases were predisposing factors to cervical cancer among Nigerian women also mentioned by Balogun et al., (2012).

There is need for health education and promotion of awareness on cervical cancer to improve Nigerians' knowledge of cervical cancer. The level of education attained has a great influence on the ability of an individual to identify risk factors of cervical cancer. Illiterate women are at greater risk of contracting cervical cancer than literate ones (Wong, Loke, Chan, 2011). This is evidenced by Ezechi et al., 2014, on the burden, distribution and risk factors for cervical oncogenic human papillomavirus infection in HIV-positive Nigerian women. Cervical cells were taken from 515 (220 HIV-positive and 295 HIV-negative) women recruited during a community cervical cancer screening programme. It was found that women with a high level of education were more likely to cite a risk factor than those with a low level of education. Logan and Mcilfatrick (2011) in exploring women's knowledge, experiences and perceptions of cervical cancer screening in a socially deprived area in the United Kingdom, revealed a lack of awareness of risk factors and the need for cervical screening. Additionally, the majority of women generally expressed a negative attitude towards cervical screening, leading to negative feelings of 'fear', 'embarrassment' and feeling 'stigmatized' (Logan & Mcilfatrick 2011, Labeit et al., 2013).

Awareness and knowledge of cervical cancer is very important for easy recognition and identification of risk factors and the use of prevention services. Knowledge deficits in the community about cervical cancer screening has been recognized as one of the barriers to accessing cervical cancer services in low-resource countries such as Nigeria (WHO, 2012;

Aswathy et al., 2012). This underlines the need to equip the public with knowledge about cervical cancer. A study conducted by Campbell et al. in 2013 on cervical cancer screening among Michigan women yielded the following: Data from 8 023 women (≥40years) were collected and a large number of women 44,7% (n=3 584) demonstrated limited knowledge of cervical cancer and were unable to identify any cervical cancer risk factors.

A community-based cross-sectional survey was conducted from 4 to 16 April, 2010 in Gondar town, north-west Ethiopia, among women. A total of 633 women aged 15 years and over were interrogated using a semi-structuredquestionnaire. Four hundred and ninety-five (78,7%) of the participants had heard about cervical cancer and only 195 (31%) of them were knowledgeable about the disease. On the whole, women's knowledge about cervical cancer was found to be poor (Getahun, Mazengia, Abuhay and Birhanu, 2013).

A study was conducted among women living in the Wielkopolska region (Gniezno district) Poland, on knowledge of risk factors for cervical cancer between March and April 2013. The study group consisted of 100 women, involving schoolgirls from the secondary school in Gniezno (Group I), workers (doctors, nurses and midwives) at two outpatient clinics in the Gniezno district (Group II) and patients at the same clinics (Group III). The result showed that some participants could identify the main cause of cervical cancer as human papillomavirus (Group II – 36%) and genetic predisposition (Group III – 35%). However, 26% of women did not know the risk factors for cervical cancer. There is thus a need to increase awareness through health education which focuses on the leading risk factors of cervical cancer, in ways that would effect a decrease in the morbidity and mortality rates of the condition (Gawdzik, Chmaj-Wierzchowska, Jurczyk, Sporny, Opala, 2015).

A study was conducted by Gu, Chan, Twinn and Choi (2012), on the influence of knowledge and perception of the risk of cervical cancer on screening behaviour in Mainland China. A

self-administered questionnaire was completed by 167 participants (79 non-screened and 88 screened women). The result revealed that average to high levels of knowledge about cervical cancer were significantly associated with undergoing screening for cervical cancer.

The study conducted by Aswathy et al. (2012) on knowledge of women regarding cervical cancer aimed to determine screening practices and determinants and to identify factors for non-screening in India. Eight hundred and nine women were interviewed, of which 89,2% (n=722) were unaware of risk factors of cervical cancer and only 6,9% (n=56) women had undergone cervical cancer screening.

3.2.3 HPV, HIV and Cervical Cancer

Cervical cancer is a significant illness of acquired immunodeficiency syndrome (AIDS) in patients with HIV. Women living with HIV and other immunocompromised women have a greater prevalence of HPV (the risk of infection increases with the degree of immunosuppression) and a higher prevalence of persistent HPV infection and infection with several high-risk HPV types (CDC, 2008).

This increased susceptibility to HPV infection leads to: • a larger risk of pre-cancer and cancer at younger ages, which increases with the extent of immunosuppression; • an increased risk of developing invasive disease up to 10 years earlier than in women not infected with HIV; and • more frequent presentation with advanced disease with smaller chance of survival for five years. The above points sturdily imply the need to develop specific vaccination, screening and treatment protocols for women living with HIV and for all women living in countries or regions with increased prevalence of HIV. Existing protocols are based on experience, and studies are ongoing to ascertain whether or not these protocols comprise the best possible practices (WHO, 2014).

Recommendations for women living with HIV: • Screening for cervical pre-cancer and cancer should be done in women and girls who have are sexually activite as soon as the

woman or girl has tested positive for HIV, regardless of age. • Women living with HIV whose screening results are negative (i.e. no proof of precancer is found) should be rescreened within three years. • Women living with HIV who have been managed for cervical pre-cancer should be given post-treatment follow-up after 12 months. Women living with HIV have a greater risk of having persistent HPV infections, and a higher risk of developing pre-cancer. In addition, women living with HIV are more liable to develop cervical cancer earlier and to die from it sooner. Because they develop pre-cancer at a younger age and the time for pre-cancer to advance to cancer can be shorter, women living with HIV are advised to follow a discrete screening schedule: after a negative screening test result, they should be re-screened within three. HIV screening is not mandatory for cervical cancer screening. However, in an area with increased endemic HIV infection, women should be screened for HIV so that they know their status and, if positive; they should be counselled on the meaning of the test result and be given an appropriate treatment and follow-up care. In countries with a high prevalence of HIV, cervical cancer control services, would benefit patients most if there was two-way integration with HIV services; i.e. women receiving either HIV or cervical cancer screening services, if they were not already aware of their HIV status or had not had latest cervical cancer screening, could be regularly offered screening for the other disease. It is not unusual for a woman to discover for the first time that she is HIV-positive at the time of attending for cervical cancer screening (WHO, 2014).

3.2.4 The incidence of cervical cancer

Cervical cancer is seen worldwide as one of the most critical public health threats to sexually active women and second only to breast cancer as the cause of cancer deaths in women (WHO 2015; Ogunsiji et al., 2012; American Cancer Society, 2011; Logan & Mcilfatrick, 2011; Ferlay et al., 2010).

The International Agency for Research on Cancer (IARC 2011), reported that 61 000 new cervical cases are diagnosed in Europe annually, with a crude mortality rate of 3 per 100 000 women in the United Kingdom (Cancer Research UK, 2014). However, the picture is dramatically different in developing countries, where the bulk (85%) of the global burden of cervical cancer occurs (IARC 2013; Oche 2013; Aswathy et al., 2012; Ogunsiji 2012; Logan and Mcilfatrick 2011; Garces 2006). Asia accounts for about two-thirds (58%) of cervical cancer mortalities globally, that is, 159 800 of 275 000 deaths (Aswathy et al., 2011). Annually in sub-Saharan Africa, 34, 8 new cases of cervical cancer are detected per 100 000 women and 22, 5 per 100 000 women die from cervical cancer, compared with 6, 6 new cases of cervical cancer detected per 100 000 women and 2,5 deaths per 100 000 women from cervical cancer, in North America (IARC, 2013).

3.2.5 Key Components of Comprehensive Cervical Cancer Prevention and Control

A comprehensive programme includes three interdependent components: primary, secondary and tertiary prevention.

a. Primary prevention: reduce the risk of HPV infection

 The public health goal is to reduce HPV infections, because persistent HPV infections can cause cervical cancer. Interventions include: • vaccinations for girls aged 9–13 years (or the age range referred to in national guidelines) before they initiate sexual activity; • healthy sexuality education for boys and girls, tailored as appropriate to age and culture, with the aim of reducing the risk of HPV transmission (along with other sexually transmitted infections, including HIV) – essential messages should include delay of sexual initiation, and reduction of high-risk sexual behaviours; • condom promotion or provision for those who are sexually active; • male circumcision where relevant and appropriate (WHO, 2013).

b. Secondary prevention: screening for and treating pre-cancer

The public health goal is to decrease the incidence and prevalence of cervical cancer and the associated mortality, by intercepting the progress from pre-cancer to invasive cancer. Interventions include: • counselling and information sharing; • screening for all women aged 30–49 years (or ages determined by national standards) to identify precancerous lesions, which are usually asymptomatic; • treatment of identified precancerous lesions before they progress to invasive cancer. Even for women who have received an HPV vaccination, it is important to continue screening and treatment when they reach the target age (WHO, 2013).

c. Tertiary prevention: treatment of invasive cervical cancer

The public health goal is to decrease the number of deaths due to cervical cancer. Interventions include: • a referral mechanism from primary care providers to facilities that offer cancer diagnosis and treatment is essentials for cervical cancer prevention and control programmes • accurate and timely cancer diagnosis, by exploring the extent of invasion; • treatment appropriate to each stage, based on diagnosis: – Early cancer: If the cancer is limited to the cervix and areas around it (the pelvic area), treatment can result in cure; provide the most appropriate available treatment and offer assistance with symptoms associated with cancer or its treatment. – Advanced cancer: If the cancer involves tissues beyond the cervix and pelvic area and/or metastases, treatment can improve quality of life, control symptoms and minimize suffering; provide the most effective available treatment and palliative care in tertiary facilities and at the community level, including access to opioids. • palliative care to relieve pain and suffering (WHO, 2013).

d. The context for delivering the prevention components

The above three prevention components are planned and implemented in conjunction with: • a structured national approach to community education and mobilization strategies and • a national monitoring and evaluation system (WHO, 2013).

3.3 CERVICAL CANCER SCREENING

Cervical screening is conducted to diagnose and get rid of abnormal tissue or cells in the cervix before cervical cancer progresses. By aiming to identify and treat cervical neoplasia early on, cervical screening targets secondary prevention of cervical cancer (CDC, 2007).

Logan & Mcilfatrick (2011) described cervical cancer as a silent killer, because it can take many years to develop and women may not present with any symptoms for a significant period of time during which the disease is active. As a result, most developed countries have adopted mass screening exercises (Pap smear tests) as a preventive measure, and have recorded significant progress in reducing the incidence of and mortality due to cervical cancer (WHO, 2013). In 2010, Latvia, Germany, the United Kingdom, and Norway reported screening coverage of close to 80% of the target population (OECD, 2012). In developed countries, widespread cervical cancer screening has resulted in large declines in the cervical cancer mortality rate. Women in developed countries are screened often for cervical cancer, every one to three years. In such cases, decisions regarding the frequency of screening are based on available resources and on the age range that will result in the largest reduction in cervical cancer incidence and mortality (Denny et al., 2010).

In developing countries, however, it is unclear whether a decline in the rates of cervical cancer can be replicated (Gakidou, Nordhagen & Obermeyer, 2008). The same study found that the rates of crude and effective coverage of cervical cancer screening across all countries were 68% and 40%, respectively. Among 30 developing countries, however, these rates were much lower (45% and 19%, respectively) with the rates of effective coverage as low as 1% in Bangladesh, Ethiopia, and Myanmar. Low average and large inequalities showed that, outside

of developed countries, women at the highest risk of developing cervical cancer are among the least likely to be screened (Gakidou, Nordhagen & Obermeyer, 2008).

3.3.1 Types of cervical cancer screening

Different types of cervical screening for cervical cancer include the Pap smear test liquid-based cytology, HPV DNA testing, and visual inspection with acetic acid. Potential screening methods that can be used in low-resource areas in developing countries such as Nigeria are HPV DNA testing and visual inspection because these are cost effective, and the result is given immediately (WHO, 2014).

Pap smear tests have been effective in detecting abnormal cell changes in the cervical transition zone and reducing incidence and mortality rates of cervical cancer in developed countries, but not in developing countries because of the costs involved (Denny et al., 2010). The Pap smear is one of the most crucial screening tools for the early detection of cervical lesions and has been found to be the most effective preventive measure (WHO, 2008). The Pap smear is a microscopic examination of cells scraped from the cervix and is used to detect cancerous or pre-cancerous conditions of the cervix or other medical conditions. It has been established that Pap smears reduce cervical cancer risk by 80% and lower mortality rates by 60% to 90% in some developed countries through the detection of premalignant lesions (Wong et al., 2009; Özgül, 2007). Regular Pap smear tests are recommended for all women at age 21 or younger if sexual activities commenced before 18 years (CDC, 2012).

Great success from using Pap smear test Programmes and tasks in executing quality assured programmes have inspired the pursuit of other possible and effective screening approaches to reduce the burden of cervical cancer. Ever since the screening has been effectively established and has proven successful in regions such as Scandinavia in the 1950s and after, there has been a significant decrease in the incidence of and mortality from cervical cancer, a

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statistic that owes its existence to the implementation of Pap smear programmes. (Sankaranarayanan, Anorlu, Sangwa-Lugoma, & Denny, 2013).

A descriptive cross-sectional study carried out in Bugiri and Mayuge districts in eastern Uganda assessed uptake of cervical cancer screening and related factors among women in rural Uganda (Ndejjo, Mukama, Musabyimana, Musoke 2016). A semi-structured questionnaire was used to gather information from 900 women between the ages of 25 and 49 years on cervical cancer screening. Of the 900 respondents, only 4, 8% (43) had ever been screened for cervical cancer. Amongst respondents who were screened, 48,8% (21) submitted to the procedure because it was demanded by a health worker, 39,5% (17) because of related signs and symptoms they associated with cervical cancer, while 37,2% (16) did it willingly because they wanted to know their status (Ndejjo, Mukama, Musabyimana, Musoke 2016).

The uptake of screening for cervical cancer is still low in developing countries. In a study conducted in Ethiopia on cervical cancer screening service uptake and associated factors among age eligible women in Mekelle zone, Northern Ethiopia 1286 women were selected for the study, only 19,8% (235) of eligible women have been able to screen for cervical cancer (Hinsermu, Yibrah, Amlaku & Amare, 2015).

A study conducted in Masaka Uganda among 416 women on understanding the low level of cervical screening, indicated low level of service uptake with 7% (29) (Twinomujuni, Nuwaha & Ndimwibo, 2015). Also a study conducted in north eastern India among 224 nurses in a tertiary hospital showed low level of service uptake with 12% (26)

(Thippeveeranna, Mohan, Singh &Singh, 2013).

The findings from Uganda, Ethiopia and India indicate that use of the Pap smear test in developing countries is less effective than in developed countries due to the lack of trained and skilled professionals required to carry it out, the high cost of Pap smear processing, and

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its confinement to tertiary and secondary hospitals and some private laboratories. There is a need to create greater awareness on cervical cancer and its screening methods and make available the screening services of cervical cancer at affordable cost.

A lack of resources and poorly organized health systems are important factors in the failure of effective screening for cervical cancer in developing countries. Hence there is a need for a low-cost but effective cervical cancer screening programme. Alternative screening approaches such as visual inspection with acetic acid (VIA) or Lugol's iodine (VILI), cervicography and speculoscopy have also been explored in the prevention of cervical cancer in resource-poor settings (Rahatgaonkar, 2012; WHO, 2008). The VIA method was first reported in 1982 by Ottaviano and La Torre, who found equal detection rates of cervical abnormalities when cervical wash with acetic acid were examined visually and colposcopically (Rahatgaonkar 2012). Acetowhite or mustard-yellow areas near the squamocolumnar junction of the cervix indicate cervical intraepithelial neoplasia [CIN] (WHO 2008).

VIA is simple, economical, cost effective, requires little equipment, and provides immediate results. It promotes a "screen and treat" mechanism that entails diagnosis and treatment in a single visit – usually considered the best method for cervical cancer screening in low resource countries (Aswathy, 2012; Rahatgaonkar, 2012; Denny et al., 2010; WHO, 2008). Unlike the Pap smear that requires a sophisticated laboratory for examination of smears, the equipment required for the VIA test are: an examination table, source ofbright light, sterile gloves, Cusco's speculum, 3-5% Acetic acid, cotton-tipped swabs and recording forms. VIA can be performed on women of all age groups after sexual debut up to menopause (Rahatgaonkar, 2012).

HPV deoxyribonucleic acid (DNA) testing, another alternative screening approach, is a new technology that has better sensitivity than cytology and visual tests. It has moderate

specificity, but technical, cost, and infrastructure requirements can make it difficult to implement (National Cancer Institute, 2014). The Food and Drug Administration (FDA) in the USA ratified the use of the HPV DNA test as a first-line primary screening test for women aged 25 and over. This test identifies HPV types 16 and 18 and provides collective results for 12 other high risk HPV types (National Cancer Institute, 2014). While the Pap smear test checks the cervix for abnormal cells that could turn into cervical cancer, the HPV DNA test checks the cervix for the HPV virus that can cause abnormal cells and cervical cancer (CDC, 2012). Several technologies exist such as the HPV DNA test and the COBAS HPV test, for the molecular detection of HPV infection. Most of these technologies, while sensitive and specific, are too costly and cumbersome to incorporate into large-scale screening programmes. However, a cost-effective option, the COBAS HPV test, is now available. It identifies the 14 strains of HPV with the highest cancer risk, comprising two strains (HPV-16 and HPV-18) and the DNA of the cancer causing viruses (Basil et al., 2014; Waters, 2014). In most scenarios, women with positive HPV tests still undergo a Pap smear test or a diagnostic procedure to provide cytological or histological confirmation of their disease status (Malloy et al., 2000). According to CDC (2012), women aged 30 and older can use the HPV test along with the Pap smear test – a testing regime called co-testing.

A study conducted by Tipaya, Chamsai, Jedsada, Bunkerd, Mark and Arkom (2010) on cervical cancer screening in north-east Thailand, used the visual inspection with acetic acid (VIA) test and its relationship to high-risk human papillomavirus (HR-HPV). Cervical cells were obtained from every one of the 160 patients undergoing a Pap smear. VIA was conducted on the cervix of the patients using a 5% acetic acid solution. HPV screening of DNA removed from cytology samples was executed by PCR using the GP5+/6+ primer system followed by reverse line blot hybridization genotyping. Most (96,9%; n=156) of the patients were detected with normal or inflammatory cytologic changes. VIA demonstrated

50% sensitivity and 66,7% specificity for abnormal histology with PPV and NPV values of 50%. A significant proportion of patients with normal or inflammatory cytology were found positive by the use of this test. This indicated that the VIA method of cervical screening is easy to perform, highly effective and cost-effective.

A demonstration project, "Prevention of cervical cancer through screening using visual inspection with acetic acid (VIA) and treatment with cryotherapy" was carried out in six African countries from September 2005 to May 2009. A total of 19 665 women were recruited. The project involved seven sites in six African countries – Madagascar, Malawi, Nigeria, Uganda, United Republic of Tanzania and Zambia. Training of project coordinators took place in the Department of Obstetrics and Gynaecology at the University of Zimbabwe, Harare. Awareness was created in the communities about cervical cancer and its prevention. Women were counselled and 99, 6% (n=19 579) screened using VIA. Patients with positive test result were treated using cryotherapy. Patients who were not eligible for cryotherapy were referred to a higher level of health care for advanced management and treatment. About 87,7% (n=1 737) of all VIA-positive women were eligible for cryotherapy. Most of the women 63,4% (n=1 534) received cryotherapy within one week of first screening. More than 39,1% (n=760) of all clients eligible for cryotherapy did not undergo treatment for different reasons, such as equipment not working well at the time of screening, while some women who required their spouses' permission before treatment could not be attended to.

This demonstration project shows that the "screen and treat" tactic can be integrated into existing reproductive health services in low-resource countries. Screening for precancerous lesions using VIA, and treatment with cryotherapy, is suitable and achievable at low-level health facilities in six African countries. VIA is a viable and attractive alternative to cytology-based screening in low-resource settings (WHO, 2012).

At present in Nigeria, the three types of cervical cancer screening methods are being used. However, most screening services are confined to teaching hospitals or private laboratories in urban areas but are expensive. Maree et al., (2012), allude to the complexity of cytology-based screening (in places where they are accessible). These authors mention such factors as: high cost, delay in obtaining the results of the Pap smear test, and the long wait on appointment date. These challenges (though not exclusive to resource-poor countries) have prompted several studies around optimal strategies for cervical cancer screening using visual inspection with acetic acid [VIA] (WHO 2012; Shuchi, 2012; Maree et al., 2012).

There is a need for accessibility and availability of the screening facilities of cervical cancer at the primary health care level, which is the grassroots level and the main site of contact with the community. Adewole et al. (2005), posit that a single one-time screen could potentially save more than 6 000 Nigerian women annually. Cervical cancer is the easiest of all cancers to prevent, because it has a long pre-invasive state and employs the best cancer screening test in the history of medicine. There is a need for a community-based model that will increase the access and utilization of cervical cancer screening services in Nigeria (Balogun et al., 2012; Nzelu, 2015).

Empirical findings across the globe (WHO, 2012; Consul et al., 2012; Nor &Matejka, 2009) revealed that well-organized screening has substantially reduced the incidence of morbidity and mortality from cervical cancer, notably in developed countries where the proportion of women who are screened by Pap smear tests varies from 68% to 84%. The high risk reduction achieved because of the use of Pap smear tests has led to the conclusion that its infrequent use (in developed countries) and lack of access (especially in developing countries) have been responsible for high incidence and mortality rates as a result of cervical cancer (Ajayi et al., 2013).

In developing countries, structured cervical cancer screening or prevention programmes are the exception rather than the rule, and are yet to be considered by the health policy-makers of such countries. Most screening tests done so far in Nigeria were opportunistic or spontaneous screenings. Women usually present for treatment in the advanced stages of the disease due to a lack of early stage detection through cervical cancer screening (Nwankwo, Aniebue, Aguwa, Anarado, Agunwah, 2011) A decline in both the incidence of and mortality due to cervical cancer has been noticed China after the introduction of national cervical screening programmes, particularly when used with public health measures to intensify disease awareness (Wong, Loke and Chan, 2011).

At risk people should be the focus for primary prevention of cervical cancer and promotion programmes, concentrating on adjusting preventable risks. The main approach should be organized screening and the promotion of safer sex (Wong, Loke and Chan, 2011). For cervical cancer prevention, there should be a combined effort of HPV vaccination along with mass screening by cytologic study on the part of public health professionals.

Cervical cancer screening uptake is high among women in developed countries compared to women in developing countries and this has brought about a great reduction in the incidence and mortality rate of cervical cancer in the developed countries. In a study conducted in the United States on cervical cancer screening in the period from 1993 to 2010, the result showed that 81,3% of respondents reported that they had a Pap smear test done every 3 years, while 6,2% were never screened. To reduce the incidence and mortality rate, women at high risk of contracting cervical cancer should be targeted for screening programmes and adequate treatment (Chen, Kessler, Mori and Chauhan, 2012).

The Nigeria Cancer Registry reports five to six cases every week, where the incidence of cervical cancer is about 25 per 100 000. (Adewole, Benedet, Crain, Follen, 2005).

3.4 BARRIERS TO CERVICAL CANCER SCREENING UPTAKE

3.4.1 KNOWLEDGE OF CERVICAL CANCER

The level of awareness and knowledge of cervical cancer is still very low in developing countries, whereas people in developed countries are aware of cervical cancer and have high levels of knowledge (WHO, 2012). Peer-reviewed studies located in sub-Saharan African (SSA) countries, and focussing on knowledge and awareness of cervical cancer, HPV and HPV vaccine, willingness to vaccinate, and the acceptability of vaccination as a health strategy (1990-2011) were selected from the World Health Organization database and subjected to a systematic analysis. The analysis covered 29 articles, 27 studies, and reference to 13 countries. It showed high levels of willingness and acceptability of HPV vaccine but low levels of knowledge and awareness of cervical cancer, HPV or HPV vaccine. More effective education to enlighten the public about HPV, HPV vaccine, and cervical cancer is an essential prerequisite for the reduction in the incidence of cervical cancer (Perlman, Wamai, Bain, Welty, et al, 2014).

In a study conducted by Nwankwo, Aniebue, Aguwa, Anarado, Agunwah (2011) on knowledge, attitudes and practices of cervical cancer screening among urban and rural Nigerian women, 815 participants, 19 to 50 years of age, were interviewed. Fifty-one comma five per cent (n=420) were from urban areas and 48,5 %(n=395) were from rural areas. About 15.5% (n=126) were aware of cervical cancer screening services, and only 4.2% (n=34) had undergone cervical cancer screening.

There is very poor knowledge and practice regarding cervical cancer among Nigerian women. It is well known that the knowledge of cervical cancer prevention is very low in developing countries because of poor education and lack of awareness programmes (Nwankwo, Aniebue, Aguwa, Anarado, Agunwah, 2011).

The studies conducted in rural areas of the United Kingdom (Campbell et al., 2013; Logan and McIlfatrick, 2011) showed a result similar to that of the study conducted in rural areas of Nigeria. The knowledge of cervical cancer was poor and those who had been screened for cervical cancer before had good knowledge of the issues in both countries. Studies conducted in Ethiopia, Poland, China, Michigan (USA) and Nigeria yielded similar results, indicating that there is still poor knowledge of cervical cancer and level of awareness. However, it can be concluded that people in developed countries have better knowledge of cervical cancer and that this helps them to be accepting of cervical cancer screening initiatives, unlike people in developing countries who still have low levels of awareness and poor knowledge of cervical cancer.

In a study on community education on cervical cancer conducted among urban area market women in Lagos by Wright, Kuyinu and Faduyile in 2010, the level of knowledge of the market women on cervical cancer and its preventive measures was found to be very low. A decade ago, Ogun and Bejide (2006), a study conducted in Ibadan on the assessment of women's awareness and knowledge about cervical cancer and screening, and the barriers to cervical screening in the general female population, aged between 20 and 65 years, in Ibadan, Nigeria, found that 85% (n=480) of women demonstrated very poor knowledge of cervical cancer. Although this study was conducted in Ibadan, it did not involve the community – something which the present study has considered.

In a study conducted in Ogun state on the assessment of women's awareness and knowledge about cervical cancer and screening, and the barriers to cervical screening in Ogun State, Nigeria, 95% of women had very poor knowledge of cervical cancer (Abiodun, Fatungase, Olu-Abiodun, Idowu-Ajiboye and Awosile, 2013). Studies conducted among health care workers and students of higher institutions of learning showed a high level of awareness. Awareness among healthcare workers was high: 80.9% in Ibadan, and 99% in Lagos

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(Arulogun and Maxwell, 2012; & Awodele et al., 2011). This could have been as a result of the level of education of participants, and access to information and the environment in which they live.

In another study conducted by Eyo & Ekpo, 2014 in Akwa Ibom state, among women, on the impact of cervical cancer preventive education on the practice of cervical cancer routine check-up, a total of 314 women between 16 and 45 years of age participated. There was no statistically significant influence of level of education on the knowledge of cervical cancer prevention among women in Akwa Ibom State (df=1 P=0.05 Chi Cri.3.84). However, age and marital status were not significantly associated with risk factor knowledge of cervical cancer in a study conducted on the burden, distribution and risk factors for cervical oncogenic human papillomavirus infection in HIV-positive Nigerian women (Ezechi et al., 2014).

The studies conducted in the regions of Nigeria (Southern, Northern, Eastern and Western parts) indicated the low level of awareness of cervical cancer, poor practice of screening and prevention services of cervical cancer, which are not readily available in either rural or urban areas.

In Nigeria, most women are not aware of the need for cervical cancer screening; most have never had cervical cancer screening in their lifetime (Nzelu, 2015). As a result, cervical cancer kills about one woman every hour in Nigeria (Nzelu, 2015). Women living in rural Nigeria are at higher risk because of the absence of adequate medical facilities for screening, diagnosis and follow-up (Nzelu, 2015). On the other hand, knowledge of cervical cancer screening services alone does not always translate into uptake of screening (Hyacinth et al., 2012, Wright et al., 2013). Findings from several studies *(*Arulogun and Maxwell 2012, Hyacinth et al., 2012) on the utilization of cervical cancer screening among health students and professionals with high levels of awareness (of cervical cancer screening) reveal low levels of utilization, in some cases lower than non-healthcare workers (Chukwuali et al.,

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2003). In a ten-year (1991 to 2000) descriptive study on women's utilization of cervical cancer screening in a highly subsidized screening center in Nigeria, it wasreported that 0.5%(of 815 women) had never had a previous **Papsmear** (a screening procedure for cervical cancer, named after Georgios Papanicolaou, the doctor who determined that this was a useful way to detect signs of cervical cancer smear) and that low awareness of the disease was common in the group. As is the case for most developing countries, Nigeria lacks a national screening programme, resulting in low levels of awareness, high prevalence of advanced invasive disease and low screening rates during sporadic or subsidized screening exercises (Ajenifuja and Adepiti, 2008; Perkins et al., 2007; Chukwuali 2003; Audu et al., 1999*).*

However, Audu et al., (1999), and Ajenifuja and Adepiti, (2008) reported that women in Nigeria had a positive attitude towards the uptake of cervical cancer screening tests when information about cervical cancer and Pap smear tests was explained to them. The majority of them (99,8% and 72,1% respectively) were willing to participate in routine screening exercises.This willingness endorses the need to raise awareness about the availability and value of cervical screening, communicating the severity of the problem if left unattended to, as well as the benefit of preventive measures (WHO 2012; Chukwuali 2003, Audu et al., 1999).

3.4.2 BELIEFS ABOUT AND ATTITUDES TO CERVICAL CANCER PREVENTION

Beliefs and attitudes have a great influence on women's behaviour relating to the uptake of cervical cancer screening (Mosavel, Simon, Oakar & Meyer, 2009). However, beliefs and attitudes concerning cervical cancer, and making use of early detection and screening services are well known to be deeply affected by cultural beliefs and norms (Wong, Wong, Khoo & Shuib, 2008).

A cross-sectional study was carried out by Frida, Lyimo & Beran, in 2012, to recognize the significant factors associated with the use of cervical cancer screening using a sample of 354 women aged 18 to 69 years living in the Moshi Rural District of Tanzania.

Less than one quarter – 22.6%; (n=80) – of the respondents had undergone cervical cancer screening. The following factors, when scrutinized distinctly in relation to the use of cervical cancer screening services, were significant: husband approval of cervical cancer screening, women's level of education, women's knowledge of cervical cancer and its prevention, women's concerns about the embarrassment and pain of screening, women's preferences regarding the gender of the health provider, and women's awareness of and distance from cervical cancer screening services. However, there is a need to equip women with adequate information about cervical cancer. Health education should be given to the public at large on cervical cancer prevention and available screening services, where the latter should be within 5km of where women live.

A study was conducted by Sawadogo, Gitta, Rutebemberwa, Sawadogo & Meda (2014) in Ouagadougou, Burkina Faso in which 840 women aged 20 to 50 years were interviewed in order to determine knowledge, beliefs and practices of women concerning cervical cancer. Of the 840 women enrolled in the study, 64,2% (539) had heard about cervical cancer, 8,5% (n=71) had heard about the human papillomavirus, 69,05% (n=580) did not know that cervical cancer is preventable, 90,4% (n=759) were apprehensive about developing cervical cancer, 96,67% (n=812) agreed to be screened, but only 11,07% (n=93) were actually screened for cervical cancer. Knowledge and belief regarding cervical cancer is limited among Ouagadougou women and the screening rate is low. There is a need to enhance health education regarding human papillomavirus and cervical cancer in this region.

Despite the progress achieved thus far, further developments need to happen in order to increase the coverage of cervical cancer screening, especially in rural areas where the

majority of Nigeria's poor reside. In designing an integrated programme to reach these people, their cultural beliefs need be understood and factored into awareness and invitations to be screened.

The majority of rural dwellers (men and women) are at variance with reality regarding the treatment of terminal diseases like cancer because of the strong belief in the efficacy of traditional African medicine (Ojua et al., 2013). This is possible because traditional African medicine is an integral part of their culture. This culture has tremendous influence on beliefs and attitudes in the community. Cultural beliefs and attitudes about cervical cancer also contribute to low screening rates (Mosavel, Simon, Oakar & Meyer, 2009). Although education has reduced the patronage of traditionalists, rural dwellers are still limited by this barrier. Traditional medicine poses a barrier to screening for cervical cancer, and also to caring for those afflicted with the disease. Traditional medicine and traditional healers might be favoured because they are accessible, culturally important, acceptable, and affordable for all, even for those coming from lower socio-economic classes. Traditional medicine differs greatly from region to region and is often location specific (Erah, 2008; Broome & Broome 2007; Kirksey 2007). The WHO estimated in 2008 that 80% of the African population used traditional medicine for primary health care (Erah, 2008; Wani 2007; Kirksey 2007).

A study was carried out on the awareness of cervical cancer, attitudes towards the disease and screening practice of women residing in two urban slums in Nigeria (Balogun et al., 2012). All respondents (240 women) believed that they were not at risk of developing cervical cancer, while one-third did not see the need for medical check-ups when there were no signs or symptoms of cervical cancer as yet (Balogun et al., 2012). These studies indicate that traditional beliefs and cultural values still exercise a significant influence on women, especially women living in the rural areas of Nigeria.

To modify people's attitudes and beliefs, culturally based strategies such as the use of existing social networks, the use of indigenous community-based health workers, and the inclusion of women of all ages in cervical cancer education because of the roles they have in extended families will go a long way toward creating awareness of cervical cancer and its screening. Awareness will, however, not necessarily result in corresponding action, especially among women who are resident in areas where such services are not provided. Meanwhile, some women in Nigeria literally believe that what you don't know cannot kill you – citing ignorance of the existence of cervical cancer screening (Ndikom & Ofi, 2012). This indicates that prevention services should be made available and accessible to all, especially at the community level. There is also a need to create awareness of cervical cancer to improve the community's knowledge and correct their misconceptions and erroneous beliefs on cervical cancer. Culturally and linguistically appropriate educational interventions are needed to improve knowledge and understanding of cervical cancer (Kim, Lee, Shi, Chea & Tan, 2016). Furthermore, lack of support and encouragement from family members (especially men) and friends may play a role in women attending cervical cancer screening (Julinawati et al., 2013; Oon et al., 2011; Al-Naggaret et al., 2010; Hoffman-Goetz & Friedman 2006). Men are primary decision-makers regarding women and children's health in developing countries, but research into the attitudes of men towards cervical cancer and the uptake of screening services is lacking (Abubakar et al., 2013). In regard to healthy women's uptake of cervical screening, some men believe that it is unwarranted for a healthy woman to submit to any medical check, as she is healthy and strong.

In a study conductedonknowledge about cervical cancer prevention and psychosocial barriers to screening among Mexican women, their beliefs on cervical cancer reflected that men do not want them to have Pap smear tests, and that they believe the test is painful (Marva'n, Ehrenzweig & Catillo-Lopez, 2013: Abotchie & Shokar, 2009).

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In a study conducted on exploringwomen's knowledge, experiences and perceptions of cervical cancer screening in an area of social deprivation in the United Kingdom, the women expressed a negative attitude towards their experiences of cervical screening, describing negative feelings of 'fear', 'embarrassment' and feeling 'stigmatised' (Logan & Mcilfatrick, 2011).

Williams and Amoateng (2012), in a study on the knowledge and beliefs about cervical cancer screening among men in Ghana, reported that men were uncomfortable with a male doctor performing cervical cancer screening on their wives, stating it is taboo for a man, even a doctor, to see another man's wife naked. Singer (2012) observed a similar trend when conducting research into men's perceptions of cervical cancer and cervical cancer prevention services in Nicaragua. The study found that men do not allow their partners to attend cervical cancer screening because of fear of diagnosis, do not want a doctor to look at or touch their partner and are lacking when it comes to valuing their partners.

The influence of screening service providers (the actual doctors and nurses) on women's uptake is a significant factor that needs consideration. Traditionally, this might have been associated with the gender of the smear taker, as some women reported that having a woman conduct the test might help to alleviate the embarrassment of undergoing an invasive procedure and significantly increase the uptake of cervical screening (Williams & Amoateng, 2012).

There are similarities between Nigerian women's beliefs and cultural practices regarding cervical cancer, and those of Mexican women, women living in social deprived areas of the United Kingdom, and women living in Nicaragua and Ghana. This indicates the need to make cervical cancer screening accessible to all women irrespective of where they live, and at affordable or subsidized rates. Men should be involved and participate in the prevention of cervical cancer. Support from men and other family members is very necessary. Men should

be educated on cervical cancer and the benefits of its preventive services. Preferably female health workers should be allowed to attend to the women in order to encourage the uptake of prevention services of cervical cancer, and a long waiting time for screening should be discouraged.

Women have their own perceptions regarding cervical cancer and the Pap smear. Some women believe that attending cervical screening programmes is strongly associated with a permissive sexual lifestyle or with having contracted a sexually transmitted infection (Julinawati et al., 2013). Also, many women believe that there is no need to take preventive health actions (including screening) when they feel healthy, as this is unnecessary and might cause emotional stress, worry and distraction in their family (Wong et al., 2009, Hewitt et al., 2004). There is a need for continuous creation of awareness on cervical cancer to correct the misconceptions of women on cervical cancer.

3.5 SUMMARY

This chapter has summarised the literature related to cervical cancer, the aetiology of the condition, public knowledge about it, levels of awareness, screening programmes, and beliefs and attitudes towards it. The significance of cervical cancer screening and factors associated with screening behaviours was shown to be multi-factorial. The factors impacting on the utilisation of cervical cancer screening were also reviewed. In addition, the risk factors of cervical cancer, relationship between the HPV, HIV and cervical cancer, the key components of comprehensive cervical cancer prevention control were alluded to.

A multi-method design combining quantitative and qualitative research methodologies will be adopted for this study. The research methodology will be discussed in Chapter 4.

CHAPTER FOUR

METHODOLOGY

4.1 INTRODUCTION

This chapter describes the methods used in the study to achieve the aim of the study, namely: to develop a community-based model for the promotion of cervical cancer prevention for Yoruba women in Ibadan, Nigeria, and also answer the following research questions: What are the knowledge, practices, beliefs and attitudes and of community members regarding cervical cancer and its prevention? What are the barriers to the prevention of cervical cancer the community? How can cervical cancer prevention be promoted in the community?

The research methodology comprises rational and systematic approaches to conducting a research study. These approaches are important in the research process because they guide and give direction to a research study (Jonker & Pennink, 2010; Khan, 2008).

The study adopted a multi-method research approach, using both quantitative and qualitative methodologies.

This chapter is structured as follows:

Phase 1: Quantitative approach using a contextual, descriptive design

Phase 2: Qualitative approach using an exploratory, descriptive design

Phase 3: Theory generation research-model development

Step 1: Concept synthesis

Step 2: Statement synthesis

Step 3: Theory synthesis

Multi-method research involves the use of more than one process of data collection in a research study (Johnson & Christensen, 2014; Tashakkori & Teddlie, 2010; Creswell, 2004). The use of multi-method research intensifies the strength and robustness of results because findings can be reinforced through triangulation (Kaplan & Duchon, 1988).   The use of the multi-method approach, and a combination of data sources from community members, health workers and policy-makers allowed the researcher to engage in a holistic examination of the research topic, and enhanced confidence in the comprehensiveness of the study results. This is because different methods and designs generate different kinds of data. The advantages of integrating designs include: complementation of one design by the other, enhanced validity and creation of new information (Polit & Beck 2008).

4. 2 RESEARCH SETTING

Ibadan is the capital city of Oyo State with a population of 5 770 520 (National Population Census, 2007). The metropolitan area of Ibadan consists of 11 local government areas (LGAs) (Federal Republic of Nigeria Official Gazette, 2007). Five of these are in the urban area of Ibadan. These are: Ibadan South-West with a total population of 291 628, Ibadan North-West with a total population of 157 725, Ibadan North with a total population of 316 612, Ibadan North-East with an aggregate population of 340 972 and Ibadan South-East with a total population of 274 559. The other six LGAs are in the rural area, and they are: Egbeda with a total population of 290 583, Oluyole with a total population of 209 212, Lagelu with a total population of 152 692, Ona Ara with a total population of 273 541, Akinyele with a total population of 218, 22 and Ido with a total population of 106 275 (Federal Republic of Nigeria Official Gazette, 2007). The majority of residents of Ibadan metropolitan area are the Yorubas (Lloyd et al., 1967).

One urban and one rural local government area of Ibadan Metropolitan, which has the highest number of women with cervical cancer [130.6 per 100 000 women (Jedy-Agba et al., 2012)] were selected for participation in this study. The urban local government (Ibadan North-West) has a population of 157 725 with 6 Primary Health Centres (PHCs) managed by the local government, 1 Primary Health Care (PHC) co-ordinator, 21 nurse-midwives and 20 Community Health Officers. The rural local government (Akinyele) has a population of 218 122 with 32 PHCs managed by the local government, 1 PHC coordinator, 21 nurse-midwives and 7 Community Health Officers (Oyo State health facility directory, 2008). For this study, one comprehensive primary health center managed by the local government was selected each from both rural and urban LGAs. The comprehensive primary health center is the model primary health center that renders health promotion services for diseases such as cervical cancer.

4.3 PHASE 1 - QUANTITATIVE APPROACH

For this study, a quantitative approach using a contextual, descriptive design was used. This methodology was utilised in order (for the researcher) to understand the whole picture regarding cervical cancer as perceived by the participants in the study (Polit& Beck, 2008).

4.3.1 Research design

A research design outlines the scheme or approach used to investigate a research problem and can be viewed as the blueprint for carrying out a research study (Christensen, Johnson & Turner, 2011).

- **Contextual design**

Contextual design encompasses the personal and organizational concerns or situations of what is naturally happening within the research site and how the participants relate to it. It requires that, if context is essential to researching a phenomenon in its natural context, then

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the use of naturally occurring data is preferred (Lewis, 2003). It also entails the environment and circumstances in which the study takes place, as well as the culture and locality of the participants (Holloway & Wheeler, 2002). This design was appropriate for the study because it was conducted in the two selected local government areas, and the community members are specific to the context because they live within the community and are familiar with Yoruba culture.

- **Descriptive design**

Descriptive designs are concerned with collection of facts from a representative sample of the population (Brink, Walt & Rensburg, 2014). Descriptive designs may be used to recognize problems with current practice, to validate current practice, make judgments or determine what other professionals in related circumstances are doing, or to develop theories (Burns & Grove, 2011; LoBiondo-Wood & Haber, 2010). The focus in the gathering of data in descriptive studies is on structured observation, questionnaires and interviews or survey studies (Brink, Walt & Rensburg, 2014).

This design was appropriate for the study because the researcher assessed the knowledge, practices, beliefs and attitudes of community members regarding cervical cancer and its prevention services, using a questionnaire.

4.3.2 Study population

A population is the aggregate group of people or objects that is of interest to the researcher, that, in other words, meets the standards or conditions that the researcher wishes to study (Burns & Grove, 2011). The population was the community members of the two selected local government areas.

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4.3.3 Sampling strategy and sample size

A sample is a part or fraction of a whole, or a subset of a larger set, a small group of the population selected by the researcher from the population, which she can access to participate in the research study (Polit & Beck, 2008). A sample thus comprises a chosen set of the components or parts of analysis from a distinct population. The sample for this study was made up of women and men in the community of the local government areas selected. These individuals were chosen because they are capable of providing the information needed to provide solutions to the research problem. They live in the community, know what the problems are, and are conversant with Yoruba culture as well.

Sampling is a process of selecting a population on the grounds that they are able to give the required information in tackling the research problem (Oppong, 2013).

A multi-stage sampling technique was used to ensure that a representative sample was selected. The multi-stage sampling technique was chosen because it is highly flexible, cost-effective, time effective, and effective in primary data collection from geographically dispersed participants.

The selected urban (Ibadan North-West) LGA has a total population of 157 725. Males account for 77 721 and females for 80 004. Rural Akinyele LGA has a total population of 218 122 with 109 013 males and 109 109 female.

Step 1: selection of two local government areas

A random sampling technique, the "fishbowl technique" was used. All the names of the eleven local government areas in Ibadan Metropolitan area were written on slips and put in a bowl. The slips were drawn from the bowl one at a time to select the two local government areas required for the study. One urban and one rural local government area were selected to ensure that the areas with the highest prevalence of cervical cancer were selected.

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Step 2: Selection of community participants

A stratified random sampling technique was used. This involves the splitting of the population into subgroups or strata, based on the variables significant to the study, so that each component of the population fits into one and only one stratum. In each stratum, random sampling was carried out, using either the simple or systematic (interval) sampling technique (Brink, Walt & Rensburg, 2014).

A sample frame was made available using the population of each selected local government area and separating females from males on the list (homogenous strata). The sample size was sub-divided in proportion to the population size in each stratum (proportional allocation).

There are 12 wards in each of the local governments. Four were selected from each. For the rural LGA, from the four wards, every other street was selected. From these streets, compounds were selected and, from the compounds, people in the households who met the inclusion criteria were selected for the administration of the questionnaire. For the urban LGA, from the four wards, every other street was selected. From these streets, people in the households who met the inclusion criteria were chosen for the administration of the questionnaire.

Inclusion Criteria

Community members of the selected local government areas comprised women aged 18 to 65. Men in the community between the ages of 18 and 65 were selected for the study. They needed to be part of this study because Yoruba women are dependent on their husbands for permission and support on issues that pertain to them.

Exclusion Criteria

Women: women who are not Yoruba, who were younger than 18 and older than 65, were excluded. Men younger than 18 and older than 65 were excluded.

Sample size

Sample size was calculated based on prevalence of: 50% based on population for rural LGA, and 40% based on population for urban LGA.

n $=$ $\dfrac{(Z\alpha^+ Z\beta)^2 [p1\,(1-p1)+p2(1-p2)]}{(p1-p2)^2}$ (Kirkwood & Sterne, 2003)

$Z\alpha$ $=$ Level of significance (95%), 1.96

P1 $=$ Prevalence of outcome of interest, 50%, 0.5 for rural

P2 $=$ Prevalence of outcome of interest, 40%, 0.4 for urban

n $=$ $\dfrac{(1.96 +0.84)^2 \text{X } 0.5\,(1-0.5)+0.4(1-0.4)}{(0.5-0.4)^2}$

$=$ $\dfrac{7.84\,(0.25+0.24)}{0.01}$

$=$ $\dfrac{7.84+0.49}{0.01}$

$=$ 384.16

To adjust for clustering (design effect)

384 X 1.25

$=$ 480   A total number of **480** respondents were selected

Table 4.1Proportional sample

LGA	Location	Population	Female population	Percentage of females	Sample	Male population	Percentage of males	Sample
Ibadan North-West	Urban	157,725	80,004	80,004/375,847=21.29%	102.17	77,721	77,721/375,847=20.68%	99.25
Akinyele	Rural	218,122	109,109	109,109/375,847=29.03%	139.34	109,013	109,013/375,847=29.00%	129.22
Total		**375,847**						**480**

4.3.4Access to research site

Access to the research setting was obtained from the gatekeepers. Gatekeepers are people who are in charge of entry to a place and the individuals in it (Green & Thorogood, 2009). For this study, the formal gatekeepers were the Ethical Review Committee of the Oyo State Ministry of Health, and the traditional rulers in the selected local government areas. A copy of the research proposal was submitted with a receipt of payment of the fee charged by the Ethical Review Committee for approval. It took about three months before approval was given. Upon receipt of the Ethical Review Committee's approval letter, the researcher made visits to the traditional rulers of the selected local government area in order to gain access to the community.

4.3.5 Data collection methods

A structured questionnaire was used to collect data in this study.

4.3.5.1 Data collection instrument

Questionnaires are simply lists or pre-written questions. Questions may be short or more comprehensive. The questionnaire used in this study included closed questions of the yes/no variety, rating scales, filter questions and forced-choice items. Rating scales require the participants to specify a preference from a limited range of choices, while forced-choice

items set out a likely range of answers from which participants then choose (Walsh, 2001). The researcher adapted questions from studies conducted by others, and included sections pertaining to: demographic characteristics, knowledge and awareness in relation to cervical cancer risk factors, symptoms, and screening (Yare, Ozkilinc, Guler & Oztop, 2008). A structured questionnaire was developed from the literature (See Appendix 8). The questionnaire was translated into Yoruba by the researcher (See Appendix 9) in order to adapt it to the needs of an illiterate community member. Thereafter, it was translated back into English to ensure that the meanings of the questions were retained.

The questionnaire was filled out by the research assistants and the researcher, and the answering of the questionnaire by the participants took between 15 and 20 minutes. The questionnaire had four sections (A, B, C and D). Section A assessed the socio-demographic history and obstetric history of the participants. There were eight (8) questions (Q1 to Q8) on socio-demographic history and six (6) questions (Q9 to Q14) on obstetric history that were answered by only female participants. Section B assessed participants' knowledge of cervical cancer and preventive measures. There were twenty (20) questions in this section (Q15 to Q25). Section C explored the practice of cervical cancer screening in the community and it consisted of five (5) questions (Q26 to Q30). Section D explored the beliefs and attitudes of male participants. It consisted of nineteen (19) questions all together: ten (10) questions (Q31 to Q40) to be answered by male participants; and nine (9) questions (Q41 to 59) to be answered by female participants. In total, sixty (60) questions made up the four sections of the questionnaire.

4.3.5.2 Reliability and validity of the questionnaire

Reliability refers to the consistency of measure obtained by the use of an instrument (Burns & Grove, 2009). The data collection instrument must be proven to produce the same result

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from one research session to another. The questionnaire, on the other hand, must be used for the same type of population in order to ensure that it is reliable. Reliable instruments enhance the power of a study to detect significant differences actually occurring in the population under study. In order to prove that the results were reliable, a pilot study was conducted. The instrument was pre-tested in a pilot study with 30 members of the community with the same characteristics as the target population, at two week intervals, using the test-retest method, with reliability coefficient of 0.7, in order to identify ambiguous questions, sensitive and inappropriat**e** words, and to estimate the appropriateness of the length of time for the interview. It was necessary to estimate the required time for each interview, considering the age and educational background of the subjects.

The scores from questionnaires were evaluated and the tool assessed for consistency and reliability of answers. A comparison of test scores was expressed by a Pearson correlation coefficient, r. The magnitude of the coefficient (r = 0.7) provided support regarding the tool's stability. An r equal to or greater than 0.7 is considered an acceptable value for a tool to be viewed as reliable (Burns and Grove, 2009). Therefore, this result indicated that the questionnaire was a reliable tool. Some questions which were not deemed to generate relevant data were deleted. Questions 9 and 14 were rephrased.

The validity of a study instrument denotes the level to which an instrument in reality throws light on the abstract concept being studied (Burns & Grove 2009). According to Burns and Grove (2009), validity is presently classified as **construct validity**, which comprises **content and predictive validity** as sub-types. Construct validity studies the appropriateness of the conceptual and operational definitions of variables, and verifies whether the instrument truly assesses the theoretical construct that it intends to measure (Burns & Grove, 2009). For this study, face, content and construct validity were used to determine the validity of the quantitative instrument.

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Face Validity: In face validity, the main interest is the degree to which the instrument is assumed to be suitable for the construct to be measured. In this case, face validity depends on the researcher and specialists in the area for their subjective evaluation of the validity of the research instrument (Nachmias & Nachmias, 2004). During this study, face validity of the instrument was enhanced by using ideas from the literature review derived from similar studies. In addition, each question was reviewed against the objectives of the study. The research instrument was also examined by experts in the study areas to ensure that it was appropriate for measuring the construct under study. These experts included a gynaecology oncologist, an oncology nurse, the researcher's supervisor and a statistician.

Content validity: Content validity deals with the appropriateness of coverage of the content on the topic of interest being examined. It assesses the degree to which the statements, questions or indicators contained in the instrument satisfactorily represent the characteristics of the construct being measured (Polit & Beck 2006). In this study, content validity of the instrument was enhanced by incorporating ideas from the literature review of similar studies done by other researchers. Experts (gynecology oncologist, oncology nurse, researcher's supervisor, and a statistician) also helped in the development of research instruments, also analysed the representativeness, adequacy and appropriateness of items representing the construct being tested. In addition, the experts assessed the wording of each item for clarity, sensitivity and bias. Sequence of the items was also assessed so that there was a meaningful order (Polit & Beck, 2006). The review was followed by removal or rewording of inappropriate items. New items were added to enhance content validity of the quantitative instrument.

Construct validity: Construct validity includes linking an instrument to a theoretical framework in order to establish whether the instrument measures the concepts and theoretical assumptions that are employed (Polit & Beck, 2006). It draws attention tothe fact that the

instrument should measure the proposed concept (or construct) and not something else. Construct validation also uses statistical techniques to measure some underlying features in order to differentiate them from measures of other attributes (Polit & Beck, 2006). To enhance construct validity for this study, the researcher identified variables to be measured in relation to the PEN-3 model. These variables guided the development of items for the structured questionnaire, to ensure it measured what it was supposed to measure. These variables included relationships and expectations (perception of health information and the factors that enable and nurture health behaviours such as demographic data and knowledge) beliefs and attitudes about cervical cancer, and cultural empowerment, such as positive practices that prevent cervical cancer.

4.3.6 Pilot study

A pilot study is defined as a smaller version of a proposed study which is conducted to refine the research methodology or strengthen the study design (Burns and Grove, 2009). A pilot study was conducted in the Ibadan North local government district, Oyo state, with due ethical approval granted by the Ethical Review Committee, Ministry of Health, Oyo State. The researcher pilot-tested the questionnaire among 30 people in the community.The aim of the pilot study was to assist the researcher to address the feasibility of the study objectives, resources, research populations, procedures of data collection, the data collection itself, and also address errors that might occur in the main study. The pilot study revealed that the options for Question 9 did not capture all possible experiences as some participants had become sexually active before age 13. This prompted the researcher to change the options to <10; 10-19; 20 and above.

4.3.7 Recruitment and training of research assistants

During Phase 1, the researcher used research assistants for data collection. Two people were recruited and trained as research assistants. To ensure consistent quality of data collection, a

training session was organized. The training took place over a period of three days, and included the following areas: overview of the study, how to recruit subjects, ethical considerations adhered to throughout this study, and how to ensure consistent quality of data collection. The information sheet containing details of the study was given to the participants before the administration of the questionnaire. Knowledge of cervical cancer, the screening methods and the prevention services of cervical cancer were discussed. The researcher reviewed the questionnaire with the two research assistants for their better understanding and clarity, and explained the confidentiality protocol (that codes were given to participants for easy identification, rather than have their real names appear on the questionnaire).

4.3.8 Data collection

Data collection is the specific, orderly collection of information related to the purpose of research or specific objectives, questions or hypothesis of a study (Burns & Grove, 2009). Data collection can be done through forms created or adapted for recording demographic data, information from patient records, observations or values from physiological assessments (Burns & Grove, 2009).

4.3.8.1 Data collection process

Data was collected over a period of 12 weeks (June to August, 2015) by the researcher and two research assistants. Permission was obtained from the traditional rulers of the two selected local government areas. The formal letter of approval from Oyo State ethics committee was taken to the traditional rulers and the research and what the study entails further explained to them. They were satisfied with the legitimacy of the study and granted the researcher entry into the local government districts. The data was first collected from the rural local government area, so that a participant was not interviewed twice. Any houses that

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the researcher and the research assistants had entered were marked with a red marker for easy identification.

4.3.8.2 Data management

Data analysis encompasses four steps: identification of the study objectives, data preparation, implementation of analysis and data presentation (Myatt, 2007). These four steps, as applied in this research study, are discussed below.

- *Data preparation*

The process of data collection and preparation is crucial to the confidence with which conclusions can be drawn. The data is required to be expressed in a tabular format in order to describe all the variables. Data also needs to be cleaned by resolving any uncertainties and errors, and eliminating redundant and challenging data. Details regarding the steps taken to organize data for analysis should be documented. This not only makes available documentation of the activities executed, but also offers a methodology to apply to a related data set in the future (Myatt, 2007).

On collection of the completed questionnaires, the data analysis process started by ensuring that the data was reliable and represented the defined target population. This meant that all questionnaires were checked for comprehensiveness and completeness. In other words, the researcher regularly checked completed questionnaies in order to address missing information or to query unexpected responses. Each questionnaire was inspected to make sure that all the questions were properly answered and completed. The researcher took incomplete forms to the participants so that they could be properly filled in and completed the following day. It was easy for the researcher to locate each participant because there was a code given to them (in other that people will not be able to identify the respondent) and they were interviewed in their house, shop, or neighbourhood.

4.3.9Data analysis

Implementation of data as analysed comprised two major tasks: summarizing the data and finding hidden relationships amongst variables. Quantitative data collected from the participants was analysed using descriptive and inferential statistics, through the employment of the Statistical Package for Social Science (SPSS) Version 21. Data entering and coding was done electronically. Questionnaires were inspected daily to detect and correct errors, and to ensure that they were properly completed by research assistants. Data was sorted and the analysis done based on the research objectives. The ages of the respondents and marital age were recoded to 5 age groups: <20, 20-29, 30-39, 40-49 and >49; 15-20, 20-24, 25-29, 30-34, and >34 respectively. The occupational groups of the respondents were establishedusing the Modified British Registrar General Social Classification (2000).

Descriptive, inferential and logistic regression statistics techniques were used to describe and summarize the data. According to Brown and Saunders (2008), descriptive statistics are concerned with quantitative data and the methods for describing them, whereas inferential statistics make inferences about populations by analysing data gathered from samples, and deal with methods that enable a conclusion to be drawn from this data. Logistic regression statistics quantify relationships within data. The descriptive, inferential and logistic regression statistics that were used were the Chi-square and p value calculations and were applied in Chapter 5 of this study. The p value is frequently presented to illustrate the likelihood of the results of a topic, with its value always being between zero and one. A p value of 0.5 indicates that there is a 1 in 2 probability of the results being due to chance. In such as a case, it would be a mistaketo accept the results of the study as being significant. Conventionally, a p value of 0.05 or below would be accepted as being statistically

significant. Such a *p* value means a probability of 1 in 20 that the result is due to chance (Craig and Smyth, 2007).

The occupations of the participants was classified in the following manner: intermediate occupations signified teachers and civil service occupations; skilled, non-manual occupations signified jobs such as hairdressing, tailoring, etc.; skilled manual occupations referred to carpentry, welding, etc.; and unemployed included students and those still searching for a job (Modified British Registrar General Social Classification, 2000). Knowledge questions for cervical cancer and its preventive measures were scored 1 to 32 for correct responses and 0 for incorrect responses. The maximum obtainable knowledge score was 32. Questions 17 to 23 were used to obtain a knowledge score of cervical cancer and its preventive measures. Scores below 10 were classified as poor knowledge and scores from 10 and above were classified as good knowledge for cervical cancer and its preventive measures. The total attitudinal score ranged from 0-4 for men, while the total attitudinal score for questions asked on beliefs and attitudes of women ranged from 0 to 68. Questions 31 to 40 were used to obtain a total attitudinal score for men and Questions 41 to 59 were used to obtain an attitudinal score for women. Incorrect questions were scored 0 and correct questions were scored 1, for yes and no questions on attitude. Strongly agree correct questions were scored 5, agree 4, undecided 3, disagree 2 and strongly disagree 1. Strongly disagree correct questions were scored 5, disagree 4, undecided 3, agree 2 and strongly agree 1. Those who scored below 40 were rated as having negative attitudes and those who score above 40 were rated as having positive attitudes. Within this study, the Chi-square test of independence was used to explore if there were relationships between the socio-demographic factor, obstetric history and knowledge of cervical cancer and its preventive measures. It was also used to see if there were relationships between the socio-demographic factor, obstetric history and beliefs and

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attitude towards cervical cancer and its preventive measures. A Chi-square p value less than 0.05 was considered statistically significant.

4.3.10 Data presentation

Data was summarized using tables and charts. According to Myatt (2007), tables can be used to present both detailed and summary levels information about a data set. It allows the reader to look at individual observation or summaries. Summary tables were used to display the sociodemographic data and obstetric history of the participants. While various graphs can be used to display and summarise data, to ensure consistency, pie charts were used throughout the study to display and summarise the data. Descriptive data were presented as numbers, charts, frequency distribution tables, percentages and proportions. This helped to describe and summarize the data and to provide a pictorial view of the distribution of the study's findings. Data presentation involves setting up a plan to deliver the results of the analysis to the identified consumer, which, in this case, is the reader of the research project. The report of the data analysis is presented in Chapter 5 of this study.

4.4 PHASE 2: QUALITATIVE APPROACH

The research methods used to conduct the qualitative data is described below.

4.4.1 Research design

The qualitativeresearchapproachcentresonexploringandexplainingthe views, opinions and experiences of research participants in actual settings with theintention of understanding the meaning that the participants assign to reality (Harwell, 2011). It also makes use of textual data (the words of the research participants) and normally, research participants are chosen purposefully(Hennink,Hutter&Bailey,2011). Qualitative studies are informative (Creswell, 2009). This study followed aninterpretive paradigm that seeks to comprehend the perception of individuals by receiving theirnarratives directly from them, a process also referred to as the "emic" perspective (Hennink et al., 2011). The researcher took into consideration a

qualitative research design as suitable, owing to the purpose of the research and the nature of the research questions. It allowed the researcher to delve into health workers' understanding of what people in the community regard as barriers to the use of preventive services for cervical cancer and ways of promoting prevention services for cervical cancer.

The following are the characteristics of qualitative research as stated by Marshall & Rossman, 2010:

- Qualitative research is carried out in a natural setting.

- It involves using multiple approaches.

- It involves complex thinking, both inductive and deductive.

- It is sited within the context or setting of participants.

- It is insightful and informative, that is, sensitive to the researcher's biographies/ social identities.

- **Exploratory descriptive design**

Adescriptivedesigninvolvestheresearcherobserving,documenting anddescribingindetailthephenomenonunderstudytothepointwherethefindingscanbe transferred to another social setting (Babbie, 2013). The purpose of descriptive research is to provide a picture of a situation as it naturally happens (Burns & Grove, 2009). The descriptive nature of qualitative research implies that the reality of participants should be clearly described. The focus in qualitative descriptions is thus on a thick description of emerging categories and themes related to the participants' experience of the research phenomenon. The language used by the participants may be used in an attempt to stay true to the meanings created by participants. A clear picture should be created of the current realities of participants, and findings should be supported by evidence reflected in the data gathered through direct quotations of interviews (Babbie & Mouton, 2001).

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4.4.2Study population

Three participants groups participated in this study. These included health workers (nurse-midwives and community health officers) and policy makers. Health workers deal with people in the community and provide health education on cervical cancer. The Model Comprehensive Primary Health Centre for rural local government has 8 Nurse-midwives, 2 Pharmacy Technicians, 11 CHOs, 5 Health Assistants, and 1 Medical Records Officer. The Model Comprehensive Health Centre for the urban local government area has 6 Nurse-midwives, 2 Pharmacy Technicians, 10 CHOs, 5 Health Assistants, and 2 Medical Records Officers. Polic-makers included the representative of the permanent secretary of the Oyo State Ministry of Health (who happens to be the Director for Reproductive Health in the state), the Director of Nursing Services (DNS), the Primary Health Care Coordinator for Akinyele local government area, and the Deputy Director for Primary Health Care (maternal and child health care) in the Ibadan North-West local government area

4.4.3 Sampling strategy and sample

Sampling is procedures that involve choosing cases that represent the total population ofwhom inferences are made (Polit&Beck, 2012). The sample usually constitutes elements that contain the most characteristics, are most representative of, and possess the highest number of attributes of the population under scrutiny. They thus provide the data which best serve the purpose of the study (Grinnell & Unrau, 2008).

A purposive sampling method was used. Purposive sampling is grounded on the judgment of the researcher concerning participants who are knowledgeable about the problem at hand (Brink, Walt & Resensburg, 2014). The entire nurse-midwives cohort and the CHOs in the selected rural and urban LGAs agreed to participate in the study. The nurse-midwives and the CHOs were selected because they provide cervical cancer prevention services to the

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community and thus, having knowledge of cervical cancer, will give in-depth information about it.

The sampling of health care workers was implemented as follows:

Nurse-midwives

Nurse-midwives were recruited after an announcement was made by the researcher at the health centersfrom both the rural and urban local government areas. The aim here was to inform the nurse-midwives of the purpose and objectives of the study, and to request volunteers based on the inclusion criteria (see overleaf for inclusion criteria) and the information sheet (Appendix 6). All eight rural, and five of the six urban nurse-midwives volunteered to participate in the study. The researcher obtained contact details for the nurse-midwives and later contacted each of them. An appointment indicating time, date and venue was set up in order to meet with the nurse-midwives. A total of six of the nurse-midwives in the rural local government finally participated, while four of the nurse-midwives in the urban local government finally participated in the semi-structured interviews.

Community Health Officers (CHOs)

For both the rural and urban local government regions, the CHOs were recruited after an announcement made by the researcher at the health center. The aim was to inform the CHOs of the purpose and objectives of the study, and to request volunteers based on the inclusion criteria and the information sheet (Appendix 6). Nine rural and seven urban CHOs volunteered to participate in the study. The researcher obtained contact details for the CHOs from each of them during the first visit to the local government areas, and later contacted each of them. An appointment indicating time, date and venue was set up in order to meet with the CHOs. A total of five CHOs from the rural, and five CHOs from the urban local government finally participated in the semi-structured interviews.

Policy-makers

A consent form was completed by each participant and an information sheet was also distributed to participantsbefore the commencement of the interview sessions. A total of four interviews were conducted, one with each participant. The interviews lasted for about 20 to 30 minutes each and the discussion was recorded with the permission of the participant. The interviews were conducted in various offices of the policy-makers, which the researcher had already booked an appointment over the telephone.

Table 4.2 shows the number for each participant group.

Table 4.2 Study Participants

Participant group	Number of participants	Interviews-semi structured/key informant
Nurse-midwives	10	10
Community health officers	10	10
Policy-makers	4	4

4.4.4 Data collection methods

This refers to the data collection instrument and the data collection process (semi-structured interviews and key informant interviews) of the study.

4.4.4.1 Data collection instrument

An interview schedule using open-ended questions (Elliot, 2005) was designed for both semi-structured and key informant interviews (Appendix 11) the schedule had two sections. Section A consisted of three (3) questions on barriers to prevention of cervical cancer to achieve Objective 2 of the study. Section B consisted of four (4) questions on ways to promote prevention of cervical cancer to achieve Objective 3 of the study. Open-ended questions were used and probes were used for further explanation and clarification.

4.4.4.2 Semi-structured interviews for the health workers

The nurse-midwives and community health officers were asked the same set of questions (appendix 11). The researcher chose this method of data collection for the nurse-midwives and community health workers, as she needed to obtain a detailed picture of the participants' perception of the community in respect of cervical cancer and its preventive measures. This was undertaken with the aim of finding ways to promote prevention services for cervical cancer. The assumption was that, if the health workers were cognisant of the community members' barriers to cervical cancer prevention services, then they would be able to offer suggestions on how to promote prevention services.

The use of semi-structured interviews

An interview is a mode of gathering data in which an interviewer gets answers from a participant in a face-to-face encounter, using a telephone call or an electronic communication mode. Interviews are regularly used in exploratory and descriptive research, and in case studies. They are the most uninterrupted way of obtaining facts from the respondent. Data-collection interviews are usually classified as either structured or unstructured. The majority of interviews, however, vary between the two categories and are thus called semi-structured interviews. In semi-structured interviews the researcher creates the outline about topics to be covered and the participants' answers determine the kind of information generated by these topics (Green & Thorogood, 2009). These comprise the ability to: structure questions unambiguously (Cohen et al., 2007), listen assiduously (Clough & Nutbrown, 2007), pause, probe or apt correctly (Ritchie & Lewis,), and inspire the interviewee to dialogue freely, "Make it easy for interviewees to respond" (Clough & Nutbrown, 2007).

Advantages of semi-structured interviews

The nature of the semi-structured interview gives the researcher and the participants more flexibility as it allows the researcher to follow up on fascinating information that he/she had not thought of (Greef, 2011).

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Disadvantages of semi-structured interviews

It is easy for a researcher to become side-tracked by trivial issues during the interview (Niewenhuis, 2007). Denscombe (2007) discusses research which demonstrates how people respond differently, depending on how they perceive the interviewer. This phenomenon is referred to as the "interviewer effect".

4.4.4.3 Key informant interviews with policy-makers

Key informant interviews are qualitative interviews with the people who possess a sound and in-depth knowledge of the community. The purpose of key informant interviews is to collect information from a wide range of people, including community leaders, professionals, or residents who have first-hand knowledge about the community. These community experts, with their particular knowledge and understanding, are thus able to provide insight into the nature of problems, and give recommendations for solutions. The policy-makers possess superior knowledge and understanding of cervical cancer and can provide information about it.The researcher chose this method of data collection for the policy-makers because rich data – which would become the basis for theorising – was needed.

When to conduct key informant interviews

-To get information about a pressing issue or problem in the community from a limited number of well-connected and informed community experts.

-To understand the motivation and beliefs of community residents on a particular issue.

-To get information from people with diverse backgrounds and opinions and be able to ask in-depth and probing questions.

-To discuss sensitive topics, get respondents' candid discussion of the topic, or get the depth of information required.

-To get more candid or in-depth answers. The focus group dynamic may prohibit the researcher from candidly discussing sensitive topics or getting the depth of information required. Sometimes the dynamic can prevent some participants from voicing their opinions about sensitive topics (www.healthpolicy.ucla.ed accessed on 8th August, 2016; USAID 1996 retrieved on 8th August, 2016).

Advantages of key informant interviews

-Detailed and rich data can be gathered in a relatively easy and inexpensive way.

-They allow the interviewer to establish a rapport with the respondent and clarify questions.

-They provide an opportunity to build or strengthen relationships with important community informants and stakeholders.

-They can raise awareness of, interest in, and enthusiasm around an issue.

-These kind of interviews allow the researcher can contact informants to clarify issues as needed (www.healthpolicy.ucla.ed accessed on 8th August, 2016; USAID 1996 retrieved on 8th August, 2016).

Disadvantages of key informant interviews
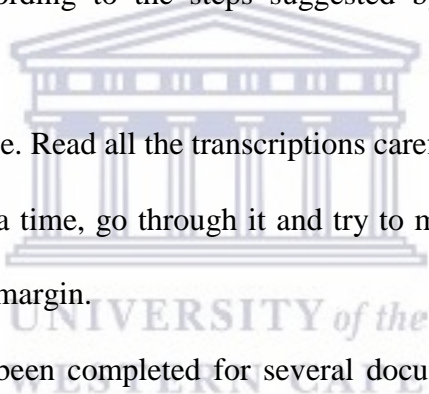
-Selecting the right key informants may be difficult as they represent diverse backgrounds and viewpoints.

-It may be challenging to research and schedule interviews with busy and/or hard-to-reach respondents.

-It is difficult to generalize results to the larger population unless you interview many key informants.

(www.healthpolicy.ucla.ed accessed on 8th August, 2016; USAID 1996 retrieved on 8th August, 2016).

4.5 DATA ANALYSIS

According to Burns & Grove (2011) it would be unrealistic for the researcher to enumerate each piece of gathered data individually. Therefore, he/she must select approaches to exploring and arranging the raw data, as well as analysing and interpreting the data, in order to give them meaning. Babbie(2010)statesthatinductivereasoningorinductionentailsamethodof reasoningthatproceedsfromthespecifictoarriveatthegeneral.Thisconnotesthatreasoning changes from a concrete or specific set of observations to the discovery of a generaltheoreticalpattern or form.

Qualitative data were transcribed by the researcher and analysed using Tesch's method of identifying themes in the data. Tesch provides an 'organizing system' with eight steps that can be used for analysing 'unstructured qualitative data'. The coding process and data analysis were conducted according to the steps suggested by Tesch (1990) in Creswell (2004):

- Get a sense of the whole. Read all the transcriptions carefully and make short notes.

- Pick one document at a time, go through it and try to make meaning of its contents; then write notes in the margin.

- When this action has been completed for several documents, make a list of all the topics. Cluster similar ones together and form them into columns that can be arranged as major topics, unique topics and leftovers.

- Use the list to re-interrogate the data. Abbreviate the topics as codes and write the codes next to the appropriate segments of the text to see whether new categories and codes emerge.

- Find the most descriptive wording for the topics and turn them into categories. Reduce the total list of categories by grouping topics that relate to one another. Lines could be drawn between categories to show interrelationships.

- Make a final decision on the abbreviations for each category and arrange these categories alphabetically.

- Assemble the data material belonging to each category in one place and perform a preliminary analysis.

- Re-code existing data if necessary.

The data analysis process was iterative, and both analysis and interpretation took place concurrently, although it will be presented as a step-by-step approach for interpretation.

Different sets of themes emerged under each component of the PEN-3 model for each participant group and these are presented in Chapter 5. The researcher transcribed all of the interviews verbatim (Appendix 13) as this provided an opportunity to become familiar with, and be immersed in the data. Evolving insights that were created during the course of transcribing were typed, labeled and stored in a file, and were then used during data analysis. An independent coder was employed to increase the trustworthiness of the data analysis process. The transcripts of the audio-taped interviews, the research proposal and a data analysis guide were given to the independent coder who then coded them independently. This was done to ensure trustworthiness of the coding of data. The researcher, the supervisors and the independent coder reviewed the data to make judgments and interpretations of the content and meaning of the material (Patton, 2002). Clarification of the data was done according to agreement between the researcher, independent coder and the supervisor of the study.

4.6 MEASURES TO ENSURE TRUSTWORTHINESS

In a qualitative research design, validity and reliability are shown in terms of the truth value of the outcomes. Trustworthiness is described as the qualitative researcher's degree of certainty in the research discoveries. Qualitative research findings are measured for

trustworthiness using four areas of criteria: credibility, dependability, confirmability and transferability (Polit & Beck, 2010)

4.6.1Credibility

Credibility refers to confidence in the veracity of the data and the interpretation thereof. The investigation must be done in such a way that the outcomes exhibit credibility, in other words, that the reader will believe them (Brink, Walt & Rensburg, 2014).

The researcher ensured prolonged and varied field experience by spending time establishing a rapport with the participants before commencing with the interview so that the participants could become accustomed to the researcher. The researcher also stayed a while after the individual interviews and key informant interviews because participants always continued talking among themselves after the conclusion of the interview. This was important because as rapport increased, participants volunteered different and increasingly sensitive information.

Credibility was also enhanced in the interviewing process as the researcher reframed questions, and repeated or expanded on questions on different occasions during the course of the interview process.

Triangulation is a powerful strategy for enhancing the quality of research (Krefting, 1991). Triangulation of data-gathering methods and sources was utilised to ensure trustworthiness. Both semi-structured interviews and key informant interviews were used to collect data. Data was obtained from two different groups of participants, namely, health workers (comprising two groups, nurse/midwives and CHOs), and policy-makers, in order to cross-check data and interpretation. To further enhance credibility regarding referential adequacy, the researcher recorded all the interviews. Afterwards, the recordings were transcribed verbatim. The data obtained was also analysed twice; that is, by the independent coder and the researcher.

4.6.2 Transferability

Transferability means the ability to relate the findings in other contexts or to other participants. The qualitative researcher is not primarily concerned with (statistically) generalising the outcome, but rather with defining observations within the precise contexts in which they happen (Brink, Walt & Rensburg, 2014).

In this study, a description of the research methodology was provided in addition to an audit trail. The researcher also purposively selected the sample to maximise the range of information from and about the context. The locations were different local government areas and the participants ranged from health workers to policy-makers.

4.6.3 Dependability

This means providing proof in such a way that if the study were to be repeated with the same or comparable participants in the same or similar context, its verdicts would be similar. The term thus refers to the steadiness of data over time (Brink, Walt & Rensburg, 2014). The strategies that were used to ensure trustworthiness included thick description, triangulation and peer review. An independent coder was also used to increase dependability.

4.6.4 Confirmability

This refers to the potential for congruency of data in terms of exactness, relevance or implication. It is concerned with whether the data represent the information supplied by the participants, and whether the explanations of the data are not powered by the researcher's imagination (Brink, Walt & Rensburg, 2014).

To address this, the systematic collection of raw data of field notes, tape-recorded information with nurse/midwives, CHOs and policy-makers was presented. Furthermore, recorded information was transcribed, synthesized and presented in the form of common themes and definitions for easy understanding.

4.6.5 Reflexivity

This is a procedure during which a qualitative researcher deliberately acknowledgeshisorher personal thoughts and feelings that might affect the study. These thoughts and feelingsare considered in the understanding of the study (Burns & Grove, 2011; Green& Thorogood,2009).Intheexplanatoryapproachtoresearch,itisrecognizedthat research participants all have their subjective opinions of the world, as doesthe researcher.Hencetheresearcher'sbackground,emotionsandpositionareimportant influencesin thecourseofdata collection and interpretation, thattheresearcheris required tobeawareof (Hennink et al, 2011; Polit & Beck, 2012). The researcher has seven years of clinical experience as a research nurse and she is knowledgeable about, and conversant with Yoruba culture. The researcher was mindful of the purpose of the research study. The researcher also kept a self-reflective journal throughout the research study to acknowledge prior assumptions and experience.

4.6.6 Field notes

Field notes are detailed written descriptions of the events that take place during the study, and the experiences of a researcher throughout the research process. They are used to help a qualitative researcher to recollect and explore an interview more comprehensively (Given, 2008). It can comprise information such as: the number of participants, their demographic characteristics, the setting, the behaviour of the participants, and the thoughts and feelings of the researcher (Myers, 2013; Sharan, 2009). They can also encompass the summary or highlights of the discussions between the researcher and a participant during the interview process (Polit & Beck, 2012). Maree (2010) suggests that qualitative researchers should write down field notes during an interview in order to capture the key highlights of the interview and to note the non-verbal cues shown by the participants. According to him, this aids the accuracy of research findings. Nonetheless, Jacob and Furgerson (2012) advise that

a researcher should be careful when taking down field notes during the interview session in order to avoiddisruptionfromandinterferencewiththenaturalflowofaconversation.

The researcher therefore made field notes after each individual interview. These included:

- the date, time and place of observation

- specific facts, numbers and details of what happened at the site

- seating arrangements

- sensory impression

- striking themes

- non-verbal behaviours (Myers, 2013;Sharan, 2009).

These explanatory notes assisted the researcher to develop classifications in initial concepts synthesis (Walker & Avant, 2010).

4. 7 PHASE 3: THEORY GENERATING PROCESS

Theory-generating studies are meant to develop new models and theories to describe a specific phenomenon (Mouton, 2003). Chinn & Kramer (2008) view theory as "systematic abstraction of reality that serves some purpose". They assert that a theory-generating method is envisioned to discern and depict relationships without allowing predetermined ideas to impede the meaning of the phenomenon. In real life, however, it is challenging to observe a phenomenon without preconceived ideas.

Synthesis was used as an approach to model development in this study. This approach was deemed appropriate for the study because the researcher planned to develop a community-based model for promoting cervical cancer prevention among Yoruba women in Ibadan,

Nigeria, based on empirical data obtained from the field and a review of the relevant literature (Walker & Avant, 2014).

4.7.1 Step 1: Concept synthesis

According to Walker and Avant, (2014) concept synthesis is a process whereby concepts are developed from empirical evidence. Concepts are the essential building blocks of theory (Hardy, 1974), in Walker & Avant, (2014) and are mental pictures of occurrences, ideas, or constructs in the mind about a thing or an action. Walker & Avant (2014) describe the process of synthesis to involve examining raw data obtained from the semi-structured and key informant interviews, to develop new insights or concepts to add to theoretical development. In this study, the researcher began synthesis by identifying concepts that emerged from the empirical evidence gathered through the exploratory, descriptive research study in phase 2.

4.7.1.1 Identification of the concepts and main concepts

The main concepts in the model were identified by means of inductive reasoning. Concept selection is guided by the purpose of the study and the researcher's beliefs and attitudes about nursing. Concepts that are extremely abstract are too broad in meaning likewise concepts that are too narrow and concrete are usually not suitable for model development (Chinn & Kramer, 2015). A total of twenty eight concepts were identified from six concluding statements which were developed from the horizontal themes which emerged from the analysis of the semi-structured and key informant interviews of the three participant groups.Concept synthesis was done by recognizing patterns (ie similarities and difference) amongst the observations (Walker & Avant, 2014) which resulted in six main concepts. These six main concetps were used to develop a

community-based model for promoting cervical cancer prevention among Yoruba women in Ibadan, Nigeria.

4.7.1.2 Classification and definition of concepts

Qualitative data were put side by side and compared and inferences were made from the data. Generalization from specific inferences to more abstract inferences was facilitated by the literary method process. Only statements derived from or supported by empirical evidence were used in this study (Walker & Avant, 2011). Qualitative data were classified into horizontal and vertical themes while there was clustering and comparing each classificationbytheresearcher, using visual inspection.

Classification: The researcher conducted expert reviews with policy-makers and an oncologist based on the vertical themes that emerged. The group consisted of 5 representatives – the Director for Reproductive Health in Oyo State, two primary health coordinators of the selected local government areas, a gynecological oncologist and a nurse-midwife. In order to identify the main concepts of the model to be developed, the six vantage points of surveying activity, together with the six aspects of activity as listed by Dickoff et al., (1968) were used. These are:

Agency: Who or what performs the activity?

Patiency or recipiency: Who or what is the recipient of the activity?

Framework: In what context is the activity performed?

Terminus: What is the end point of the activity?

Procedure: What is the guiding procedure, technique or protocol of the activity?

Dynamics: What is the energy source for the activity?

Several strategies were used to define the concepts including dictionary definitions, literature and the input of policy makers - to determine whether the concepts were fit for purpose. Various definitions of the concepts from the different sources were then synthesized to arrive at a definition which could be contextualised and which could give meaning to the model.

4.7.2 Step 2: Statement synthesis

A statement is an exceptionally significant element in building a scientific body of knowledge. It is the mortar that cements the concepts together (Walker & Avant, 2014). The researcher employed statement synthesis to specify relationships between two or more concepts which were derived from the concept identification stage, and their relationship to the six elements of the survey list (Walker & Avant, 2011). Relational statements were used to declare a relationship of some kind between two or more concepts.

4.7.3 Step 3: Theory synthesis

A theory is an internally constant group of relational statements that denotes a logical idea about a phenomenon and is useful for description, explanation, prediction and prescription or control (Walker & Avant, 2011). The aim of theory synthesis is construction of a theory or in the case of this study a model (Walker & Avant, 2014). The process of model development included the use of concepts which were identified and defined in step 2.

4.7.4 Model description

Theory is a "creative and rigorous structuring of ideas that projects a tentative, purposeful and systematic view of phenomena"(Chinn & Kramer, 2008).

Population: the researcher used two nominated representatives of the expert review participants to achieve this.

Sample: Among the expert review participants, the gynaecology oncologist and the nurse/midwife were considered because of their years of experience and exposure to cervical cancer. Also, they both work in tertiary institutions and have been able to conduct free cervical cancer screening through the support of some NGOs and the organizations with which they work.

Sampling technique: Purposive sampling was used in selecting the gynaecology oncologist and the nurse/midwife, due to their years of experience and professional skills in oncology in both rural and urban areas.

Data-collection process

The following questions were asked in order to structure the model that was developed for promoting prevention of cervical cancer among Yoruba women:

   i)   What is the purpose of this model?

This question specifies the context and situations to which the theory applies. The representative of the expert review participants agreed that the model formulated is specifically for Yoruba women and that it is to promote prevention of cervical cancer.

   ii) What are the concepts of this model?

Concepts must be examined for quantity, character, emerging relationships and structure. The representative of the expert review participants identifies the ideas that are structured within the model.

   iii) How are the concepts defined?

The representative of the expert review participants ensured that the definitions – defined explicitly or implicitly, and based on the concepts in the model – are consistent with explicit or implicit definitions.

   iv) What is the nature of the relationships?

The theoretical purpose and assumptions are ascertained from cues in the way that the relationships emerge. The representative of the expert review participants evaluates how concepts are linked together and ensured that no concept is omitted. The theoretical purpose and the assumptions were ascertained from cues in the way that the relationships emerged.

v)   What is the structure of the model?

The structure of the theory gives overall form to the conceptual relationships within it.

vi) On what assumptions does the model build?

This addresses the basic truths taken to underlie theoretical reasoning. To uncover the assumptions, the question that needs to be asked is: What is the researcher taking as an accepted truth? (Chin & Kramer, 2008)

4.7.5 Guidelines to operationalize the model

Deliberative application and validation implies using "empiric knowledge to direct practice and practice-oriented methods that add to empiric knowledge development" (Chinn and Kramer, 2008). There are three subcomponents in the deliberate application of the model which was used in this study:

- Selecting the communities – The communities for deliberative application for this research were identified by the participants in Step 1 of this study

- Determining outcomes variables – The outcomes variables for this study ensured that a model for promoting prevention of cervical cancer meets the needs of Yoruba women.

- The model that was developed was not implemented or tested in this study, as this was beyond the scope of this study. Guidelines were developed to operationalize the model.

4.8 RESEARCH ETHICS

The word ethical is defined as being compliant with the principles of conduct of a givenprofession or group (Babbie, 2010).

4.8.1 Permission to conduct the study

Ethical clearance of the proposal was obtained from the Ethics Committee of the University of the Western Cape. The project was also registered (appendix 1) with the University of the Western Cape (15/4/29).

The proposal was submitted together with the ethics letter from the Biomedical Research Committee of the University of the Western Cape, to Oyo State Ethical Committee, Ibadan, Nigeria, to secure approval to use facilities in its LGAs so that research could be conducted.

A letter of permission was written to the community leaders of each LGA to secure entrance into the community. Prior to the commencement of data collection, informed consent was obtained from each respondent.

4.8.2 Informed consent

Participants' information sheets (Appendix 6) were distributed to all participants, explaining the purpose, ethical considerations and guidelines for participation in the study. Participants were informed of the audio-taping and permission was obtained before that was done. Participants were informed that participation in the study was voluntary. They were informed of their right to withdraw from the study at any stage of the process, without prejudice. This was especially stressed to the members of the community, health workers and policy-makers. All participants signed a voluntary consent form (Appendix 7) indicating their willingness to participate in the study.

4.8.3 Anonymity and confidentiality

Confidentiality was ensured by not using the participants' names in the study. The health workers and policy-makers were given informed consent forms to sign (Appendix 7). The

researcherhad no control over information that was discussed outside the group. The interview tapes were stored in such a way that only the researcher had access to them. The manner in which the data was reported maintained the anonymity of the participants.

4.8.4 The Principle of Beneficence

The right to protection from discomfort or harm in a research study is based on the ethical principle of beneficence, which states that no participant should be harmed. It is recommended that no human research should ever injure or cause damage in any form to the study participants, regardless of the fact that they volunteered to participate in the study (Burns& Grove, 2011; Babbie, 2010).

The researcher ensured that no participant was subjected to any harm, exploitation or any risks. This was ensured by obtaining informed consent and recognising that all research participants were autonomous, that they had the right to refuse to participate, and that they could withdraw from the research project at any time. A counsellor was available for the participants in case they became distressed, but at no time were his services required. Anonymity was maintained. The participants' actual names were not mentioned; rather, a code was assigned to each participant. There was therefore no chance of participants being identified for victimisation if they happened to make negative comments.

4.9 SUMMARY

The aforementioned discussion is an in-depth description of the sequential multi-method research design and methods used to conduct this research. The purpose and research objectives are stated within the context of the research and the ethical principles are outlined and discussed.

The next chapter of this study, Chapter 5, presents the results of the findings from the gathered data.

CHAPTER FIVE

PRESENTATION OF RESULTS AND DISCUSSION

5.1 INTRODUCTION

This chapter presents and discussed the results of the analysed data collected from participants in phase one and phase two of the study in response to the following research purpose:

- To develop a community-based model for promoting cervical cancer prevention among Yoruba women living in Ibadan, Nigeria.

Phase 1 will present the quantitative results using tables and charts. This will be followed by a discussion of the findings.

Phase 2 will present the qualitative results that emanated from the semi-structured interviews with the nurse/midwives and the community health officer participants as well as key informant interviews conducted with the stakeholder participants will be presented in tables. This will be followed by a narrative with verbatim quotations. A discussion of the qualitative results will follow after.

5.2 PHASE 1 —QUANTITATIVE RESULTS

This section presents the results of the survey conducted among the community members to address the following objective:

Explore the knowledge, practice, beliefs and attitude of community members on cervical cancer and its prevention.

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A total of 480 community members were approached to participate in the study, 5 of the participant did not respond fully to the questionnaire, while 6 refused to participate in the study giving a response rate of 95%.

The results are presented as follows:

- Socio-demographic characteristics

- Knowledge of cervical cancer and the preventive measures

- Practice of cervical screening

- Beliefs and attitudes about cervical cancer and the preventive measures

The dependent variables are the knowledge and attitudinal scores of the respondents on cervical cancer and the preventive measures. The independent variables are the socio-demographic characteristics.

5.3 SOCIO-DEMOGRAPHIC CHARACTERISTICS

The socio-demographic characteristics of the respondents are displayed in tables 5.1a to 5.1g and depict their age, educational status, marital status, marital age, family type, religion, and occupation.

Table 5.1 Age distribution of respondents (*N*=469)

Socio-demographic characteristics			Number of responses					
Item	Age		Female (*n*=237)		Male (*n*=232)		Total (*N*=469)	
			F	%	f	%	F	%
1	Age (in years) Mean age = 35.2	<20	27	11.4	23	9.9	50	10.7
		20-29	62	26.2	50	21.6	112	23.9
		30-39	54	22.8	78	33.6	132	28.1
		40-49	60	25.3	53	22.8	113	24.1
		>49	34	14.3	28	12.1	62	13.2
		Totals	237	100	232	100	469	100.0

In Table 5.1 above it is clear that the age distribution of participants ranged from younger than 20 to older than 49. Eleven per cent (n=27) of female; and 9.9% (n=23) of male

respondents were in age group younger than 20. Twenty-six per cent (n=62) and 21.6% (n=50) of female and male respondents respectively were between 20 and 29 years of age. About 23% (n=54) and 33.6% (n=78) of female and male respondents respectively were between 30 and 39 years of age. Twenty-five per cent (n=60) and 22,8% of female and male respondents respectively were between 40 and 49 years of age; 14.3% (n=34) and 12.1% (n=28) of female and male respondents respectively were in an age group older than 49.

The sample contains an equal number of males and females as males are involved in the decision-making on all issues relating to women. Additionally, for the good uptake of any reproductive health services, there needs to be male involvement and participation (WHO, 2012).

The age distribution of both the female and male respondents is inconsistent with the National Demographic and Health Survey (NDHS) 2013, 56% (21,722) female and 54% (9,268) male are under age 30. The age of the respondents is essential for interpreting the current study's results as their age impacts on their intention to seek cervical cancer screening services. Women in developing countries are more likely to die from cervical cancer because elderly women (55 years of age and above) might be less likely to use cervical cancer screening services (Tsu & Levin 2008).

Table 5.2 Educational statusof respondents (N=469)

Socio-demographic characteristics			Number of responses					
Item	Educational status		Female (*n=237*)		Male (*n=232*)		Total (*N=469*)	
			F	%	F	%	F	%
2	Educational Status	Non-literate	8	3.4	7	3.0	15	3.2
		Primary education	34	14.3	52	22.4	86	18.3
		Secondary education	110	46.4	125	53.9	235	50.1
		Tertiary education	85	35.9	48	20.7	133	28.4
		Totals	237	100	232	100	469	100.0

In Table 5.2 above it is clear that only 3,4% (n=8) and 3,0% (n=7) of females and males respondents respectively were non-literate. Fourteen per cent (n=34) of females and 22,4% (n=52) had primary education. Forty-six per cent (n=110) of female and 53.9% (n=125) of male respondents had secondary education. About 36% (n=85) and 20,7% (n=48) of female and male respondents respectively had tertiary education.

The educational status of the female and male respondents is consistent with the National Demographic and Health Survey (NDHS) 2013, which shows that 38% (14,729) of females and 21% (3,685) of males have no education, while 45% (17,485) of females and 62% (10,767) of males have a secondary or higher education.

Low educational levels might impact negatively on respondents' comprehension about the necessity for preventive health care services such as cervical cancer screening. They might be unable to benefit from health promotion messages in newspapers or client information brochures. They might also have more problems understanding the aetiology and risk factors for cervical cancer compared to respondents with higher education levels. People with college education might enjoy a greater probability of being employed compared to those with primary or no education at all.

Table 5.3Marital status of respondents (*N*=469)

Socio-demographic characteristics			Number of responses					
Item	Marital status		Female (*n*=237)		Male (*n*=232)		Total (*N*=469)	
			F	%	f	%	F	%
3	Marital status	Single	46	19.4	78	33.6	139	29.6
		Co-habiting	7	3.0	7	3.0	14	3.0
		Married	173	73.0	144	62.1	302	64.4
		Divorced	1	0.4	2	0.9	3	0.6
		Widowed	9	3.8	1	0.4	10	2.1
		Separated	1	0.4	0	0	1	0.2
		Totals	237	100	232	100	469	100.0

In Table 5.3 above 19,4% (n=46) and 33,6% (n=78) of female and male respondents respectively were single. Only 3,0% per cent (n=7) of both female and male respondents were co-habiting. Seventy-three per cent (n=173) of female and 62.1% (n=144) of male respondents were married. Only 0,4% (n=1) of female and 0.9% (2) of male respondents were divorced. About 4% (n=9) and 0,4% (n=1) of female and male respondents respectively widowed and only 0,4% (n=1) was separated.

The marital status of the female and male respondents is consistent with National Demographic and Health Survey (NDHS) 2013, which shows that a high proportion of respondents – 71% (27,043) of females and 50% (8,520) of males – are currently married. The importance of male participation and involvement in female reproductive health issues cannot be over-emphasized. There is a need for men to support their wives to ensure the proper uptake of cervical cancer prevention services available to them. In developing countries, men are the primary decision-makers regarding women and children's health. (Abubakar et al., 2013). Lack of support and encouragement from family members (especially men) and friends may play a role in women non-attendance of cervical cancer screening initiatives (Julinawati et al., 2013; Hoffman-Goetz & Friedman 2006).

Table 5.4 Marital age of respondents (*N*=302)

Socio-demographic characteristics			Number of responses					
Item	Marital age		Female (*n*=169)		Male (*n*=133)		Total (*N*=302)	
			F	%	f	%	F	%
4	Marital age (in years) Mean = 24.91	15-19	37	21.9	17	12.7	54	17.8
		20-24	53	31.4	27	20.3	80	26.5
		25-29	57	33.7	52	39.1	109	36.1
		30-34	10	5.9	28	21.1	38	12.6
		>34	12	7.1	9	6.8	21	7.0
		Totals	169	100	133	100	302	100.0

In Table 5.4 above it is clear that the marital age distribution of participants ranged from younger 15 to older than 34. About 22% (n=37) of female and 12.7% (n=17) of male respondents' marital age was between 15 and 19. Thirty-one per cent (n=53) and 20,3% (n=27) of female and male respondents' marital age was between 20 and 24, respectively. About 34% (n=57) and 39,1% (n=52) of female and male respondents' marital age was between 25 and 29, respectively. Six per cent (n=10) and 21, 1% (n=28) of female and male respondents' marital age was between 30 and 34, respectively; while 7.1% (n=12) and 6,8% (n=9) of female and male respondents' marital age was in the older-than-34 age group, respectively.

The marital age of the female and male respondents is consistent with the National Demographic and Health Survey (NDHS) 2013, which shows that median age at first marriage for both female and male was 24,2years.

Table 5.5 Type of family of respondents (*N*=469)

Socio-demographic characteristics			Number of responses					
Item	Type of family		Female (*n*=237)		Male (*n*=232)		Total (*N*=469)	
			f	%	f	%	F	%
5	Type of family	Nuclear	172	72.6	151	65.1	323	68.9
		Extended	65	27.4	81	34.9	146	31.1
		Totals	169	100	133	100	469	100.0

Table 5.5 above shows the type of family of the female and male respondents. About 73% (n=172) of female and 65.1% (n=151) of male respondents lived in a nuclear type of family. Twenty-seven per cent (n=65) of female and 34,9% (81)of male respondents lived in an extended type of family.

Table 5.6 Religion of respondents (*N*=469)

Socio-demographic characteristics			Number of responses					
Item	Religion		Female (*n*=237)		Male (*n*=232)		Total (*N*=469)	
			f	%	f	%	F	%
6	Religion	Christianity	157	66.2	121	52.2	278	59.3
		Islam	79	33.3	110	47.4	189	40.3

		Traditional	1	0.4	1	0.4	2	0.4
		Totals	169	100	133	100	469	100.0

In Table 5.6 above depicts the religion of the female and male respondents. Sixty-six per cent (n=157) of female and 52,2% (n=121) of male respondents are Christians. Thirty-three per cent (n=79) of female and 47,4% (110) of male respondents are Muslims, while only 0,4% (1) of female and 0,4% (1) of male respondents are traditionalist.

The religion of the female and male respondents is inconsistent with the National Demographic and Health Survey (NDHS) 2013, which shows that 52% (8,907) of female and 51% (20,149) of men are Muslims. Certain cultural and religious restrictions interweave to form a unique tradition and lifestyle that shapes women's actions, behaviors, health practices, beliefs, expectations, gender roles, and self-care (Williams, 2006). Some religions provide guidelines to their members regarding health care issues. It is not unreasonable to assume that followers of every religion believe in their religious leaders, a reality that might have a great influence on women's uptake of cervical cancer screening services (Williams & Amoateng, 2012).

Table 5.7 Occupation of respondents (N=469)

Socio-demographic characteristics			Number of responses					
Item	**Occupation**		**Female** (*n=237*)		**Male** (*n=232*)		**Total** (*N=469*)	
			f	**%**	**f**	**%**	**F**	**%**
7	Occupation	Intermediate Occupation	46	19.4	28	12.1	74	15.8
		Skilled non-manual	151	63.7	41	17.7	192	40.9
		Skilled manual	22	9.3	138	59.5	160	34.1
		Unemployed	18	7.6	25	10.8	43	9.2
		Totals	237	100	232	100	469	100.0

In Table 5.7 above 19,4% (n=46) of female and 12,1% (n=28) of male respondents had an intermediate occupation. About 64% (n=151) of female and 17,7% (n=41) of male

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respondents had skilled non-manual occupations. Nine per cent (n=22) of female and 59,5% (n=125) of male respondents had skilled manual occupations. About 8% (n=18) of female and 10,8% (n=25) of male respondents were unemployed.

The occupation of the female and male respondents is consistent with the National Demographic and Health Survey (NDHS) 2013, which shows that 62% (22,789) of females and 65% (12,876) of males are currently employed.

The occupations of the respondents reflect their socio-economic status. This data were collected from respondents in order to determine their ability to pay for transport to health facilities and for available cervical cancer preventive health services. Lack of finances for transport to a health facility or for basic needs at home could be associated with low intention to use preventive health services. Tsu and Levin (2008) state that having unemployed partners might imply less financial support for the women, implying less money for transport to access cervical cancer screening services.

Summary of the socio demographic data

In the sample of the research study, the following socio-demographic data was noted:

- there were almost an equal number of female and male respondents;

- 28% were aged between 30 and 39**;**

- 50% had secondary education;

- 40,9% were skilled non-manual workers.

- 64,4% were married

- 36,1% got married between the ages of 25 and 29;

- 69% lived in a nuclear type of family;

- 59,3% were Christians.

The obstetric history of the female respondents are displayed in table 5.8 and depicts whether respondents ever had sexual intercourse, their age at first sexual intercourse, the number of sexual partners, the number of pregnancies, their age at first childbirth and the number of abortions.

Table 5.8Obstetric history of respondents (*N=237*)

Item	Obstetric history		Number of responses	
			Total (*n=237*)	
			F	%
10	Have you ever had sexual intercourse	Yes	222	93.7
		No	15	6.3
11	Age at first sexual intercourse	<10	10	4.2
		10-19	106	44.7
		20-29	102	43.0
		>29	4	1.7
		NA	15	6.3
12	Number of pregnancies	None	50	21.1
		1	31	13.1
		2	40	16.9
		≥3	116	48.9
13	Age at first child birth	18-25	87	49.2
		26-33	83	46.9
		>33	7	4.0
14	Number of abortions	None	148	62.4
		1	58	24.5
		≥2	31	13.1
15	Number of sexual partners	None	15	6.3
		Single	204	86.1
		Multiple (≥2)	18	7.6

Most of the female respondent – 93,7% (n= 222) – reported having had sex at some point in their lives. Out of these, 44,7% (n=106) of the respondents reported age at coitarche to be

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between the 10 to 19 years. Less than half – 48.9%(n=116) – of the respondents had ≥3 number of pregnancies.

The obstetric history, age at first sexual intercourse of the female respondents is consistent with the National Demographic and Health Survey (NDHS) 2013, which shows that the age at first sexual intercourse for females is 18. Women and men in Nigeria tend to engage in sexual activity before marriage (NDHS, 2013).

The fertility rate of Nigerian women as reported by the NDHS (2013) is 5,5 births per woman. The report of this study showed that 48.9%(n=116) of females have three or more children. This is consistent with the NDHS, 2013.

Less than half – 46.9%(n=83) – of the respondents gave birth to their first child when they were between the ages of 26 and 33 and very few – 4.0% (n=7) – of the respondents had their first child at the age of 34 and above. Sixty-two per cent (n=148) indicated having had no abortions.

According to the NDHS (2013) 23% (7,820) of women aged between 15 and 19 have already begun childbearing and about one third –32% (31,128) – of women between the ages of 20 and 49 have had a birth by the age of 18. The result of this study is inconsistent with the documentation from NDHS (2013) in respect of respondents' age at first birth.

Most – 86.1% (n=204) – of the female participants of this study reported to having a single sexual partner. Sexual monogamy can reduce the risk of contracting sexually transmitted infections such as HPV which might later cause cervical cancer. Having only one sexual partner can also be attributed to Yoruba culture which declares having multiple sexual partners taboo. This aspect of Yoruba culture can be used to promote cervical cancer prevention.

Summary of the obstetric history

- 93,7% of the female respondents have had sexual intercourse

- 44,7% of the female respondents had sexual intercourse between the ages of 10 and 19

- 48,9% of the female respondents have been pregnant three and more times

- 49,2% of the female respondents experienced their first child birth between the ages of 18 and 25

- 62,4% of the female respondents have never had an abortion

- 86,1% of the female respondents have a single sexual partner

5.4 KNOWLEDGE OF CERVICAL CANCER

In this section, the results depict the respondents' knowledge of cervical cancer, the sources of information about cervical cancer and the preventive measures and the knowledge about cervical cancer.

Figures 5.1 and 5.2 below reflect, in percentages, the type of knowledge respondents have about cervical cancer.
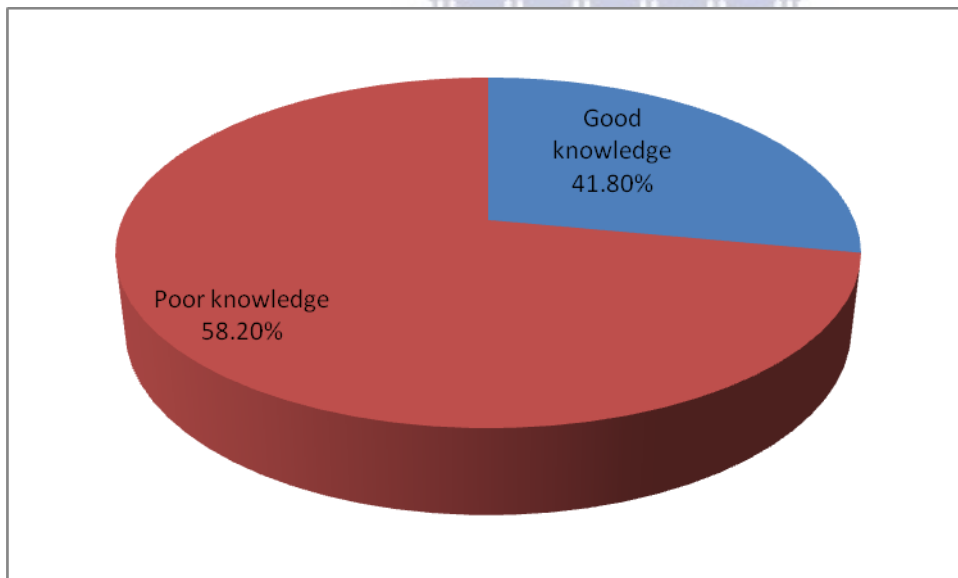
Figure 5.1: Female type of knowledge about cervical cancer

Figure 5.1 above shows the classification of female respondents' knowledge of cervical cancer. This was calculated using the mean knowledge score of the respondents (9.96±8.70), which can be seen on page 14 of Chapter 4 (methodology). About 42% (n=99) of the

respondents had good knowledge of cervical cancer while 58.2% (n=138) had poor knowledge of cervical.
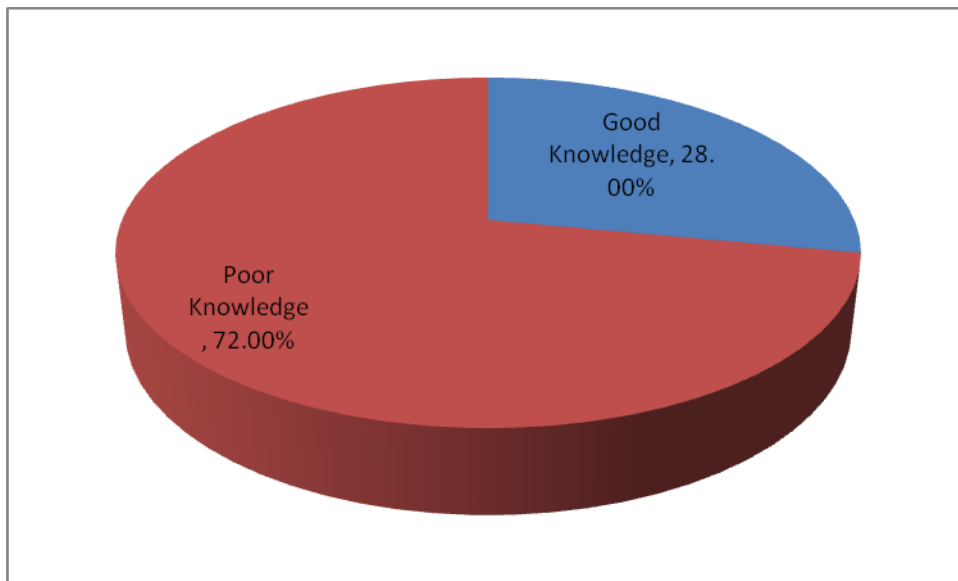
Figure 5.2Male type of knowledge of cervical cancer

Figure 5.2 above shows the classification of male respondents' knowledge of cervical cancer. This was calculated using the mean knowledge score of the respondents (9.96±8.70), which can be seen in page 14 of Chapter 4 (methodology). Twenty-eight per cent (n=65) of the respondents had good knowledge of cervical and 72% (n=164) had poor knowledge.

Both open- and closed-ended questions were used to assess the respondents' knowledge of cervical cancer and the preventive measures associated with it. The following were the indirect correct answers given by the respondents to the question of what they think cervical cancer is:

- it is a disease that kills people

- it is due to promiscuity

- it is an infection

- it affects the cervix

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Some of the respondents said that they did not know what the answer is. This is indicated in table 5.9. From their answers, it is clear that the respondents focused on the causes of cervical cancer rather than what it is.

Table 5.9 below shows the frequencies and percentages of the respondents' knowledge of cervical cancer which focuses on the causes and its prevention measures.

Table 5.9Respondents knowledge of cervical cancer (*n*=469)

Item	Knowledge of cervical cancer		Number of responses					
			Female (n=237)		Male (n=232)		Total (N=469)	
			f	%	f	%	F	%
15.	Have you ever heard of cervical cancer	Yes	166	70.0	148	64.7	314	67.0
		No	71	30.0	82	35.3	155	33.0
18.	Causes of cervical cancer							
a.	Many sexual partners	Yes	121	51.1	95	40.9	216	46.1
		No	12	5.1	11	4.7	23	4.9
		I don't know	104	43.9	126	54.3	230	49.0
b.	Sexually transmitted diseases	Yes	104	43.9	78	33.6	182	38.8
		No	25	10.5	21	9.1	46	9.8
		I don't know	108	45.6	133	57.3	241	51.4
c.	HIV infection	Yes	80	33.8	56	24.1	136	29
		No	33	13.9	32	13.8	65	13.9
		I don't know	124	52.3	144	62.1	268	57.1
d.	Infection with a certain virus	Yes	77	32.5	65	28.0	142	30.3
		No	27	11.4	25	10.8	52	11.1
		I don't know	133	56.1	142	61.2	275	58.6
e.	Infection with a certain bacteria	Yes	86	36.3	69	29.7	155	33
		No	26	11.0	18	7.8	44	9.4
		I don't know	125	52.7	145	62.5	270	57.6
f.	Spiritual attack	Yes	87	36.7	56	24.1	143	30.5
		No	25	10.5	23	9.9	48	10.2
		I don't know	125	52.7	153	65.9	278	59.3
g.	Using oral contraceptives for more than 10years	Yes	88	37.1	50	21.6	138	29.4
		No	27	11.4	23	9.9	50	10.7
		I don't know	122	51.5	159	68.5	281	59.9
h.	Smoking of cigarette/tobacco chewing	Yes	86	36.3	50	21.6	136	29
		No	28	11.8	23	9.9	51	10.9
		I don't know	123	51.9	159	68.5	282	60.1
i.	Having first sexual intercourse before age 16years	Yes	92	38.8	52	22.4	144	30.7
		No	20	8.4	21	9.1	41	8.7
		I don't know	125	52.7	159	68.5	284	60.6
j.	Late age at getting married (40years above)	Yes	80	33.8	48	20.7	128	27.3
		No	28	11.8	25	10.8	53	11.3
		I don't know	129	54.4	159	68.5	288	61.4
19.	Do you think cervical cancer can be prevented?	Yes	150	63.3	126	54.3	276	57.8
		No	4	1.7	11	4.7	15	3.2
		I don't know	83	35.0	95	40.9	178	38.6
20.	Do you think cervical cancer can be treated?	Yes	145	61.2	126	54.3	271	57.8
		No	6	2.5	13	5.6	19	4.1
		I don't know	86	36.3	93	40.1	179	38.2
21.	Do you think cervical cancer kills?	Yes	155	65.4	140	60.3	295	62.9
		No	3	1.3	0	0	3	0.6
		I don't know	79	33.3	92	92	171	36.5

22.	Do you believe if diagnosed early, cervical cancer could be cured?	Yes	144	60.8	107	46.1	251	53.5
		No	9	3.8	10	4.3	19	4.1
		I don't know	84	35.4	115	49.6	199	42.4
23.	Do you know of any screening method for cervical cancer?	Yes	54	22.8	40	17.2	94	20.0
		No	183	77.2	192	82.8	375	80.0

Table 5.9 reveals respondents' knowledge regarding cervical cancer. Sixty-seven per cent (n=314) of both male and female respondents have heard of cervical cancer. About half – 51,1% (n=121) – of female and 40,9% (n=95) of male respondents reported that cervical cancer was caused by having multiple sexual partners. About 44% (n=104) of female and 33,6% (n=78) of male respondents were of the opinion that the disease is transmitted through having sex (STDs), and 32,5%(n=77) of female and 28.0% (n=65) of male respondents were of the opinion that cervical cancer was caused by an infection of a certain virus. Approximately 37%(n=87) of female and 24,1% (n=56) of male respondents believed that cervical cancer was caused by a spiritual attack, while 37,1%(n=88) of female and 21.6% (n=50) of male respondents were of the opinion that the use of oral contraceptives for over 10 years could also be a cause of cervical cancer.
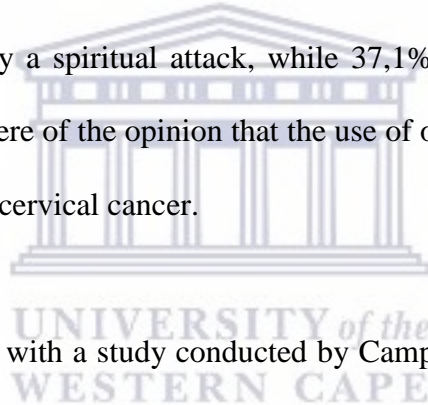
The result above is consistent with a study conducted by Campbell et al., (2013) on cervical cancer screening among Michigan women. A special cancer behavioural risk factor survey was carried out from 2004 to 2008. Data from 8,023 women (≥40years) were collected and a large number of women 44.7% (n=3,584) demonstrated limited knowledge of cervical cancer and were unable to identify any cervical cancer risk factors. The result of this study is also concurs with a community-based cross-sectional survey conducted in Gondar town,north-west Ethiopia, among women. A total of 633 women aged 15 and over were interrogated using a semi-structuredquestionnaire. Four hundred and ninety-five (78,7%) of the participants had heard about cervical cancer and only 195 (31%) of them were

knowledgeable about the disease. On the whole, the women's knowledge about cervical cancer was found to be poor (Getahun, Mazengia, Abuhay and Birhanu, 2013).

There is need for awareness creation and health education on cervical cancer in communities at large. This will enable both males and females to recognize and identify the risk factors of cervical cancer and the prevention services available for their benefit (WHO, 2012; Aswathy et al., 2012).

Sources of cervical cancer information

The frequencies and percentages of the respondents' sources of cervical cancer information is shown in table 5.10 below.

Table 5.10Source of respondents cervical cancer information (*N*=314)

Socio-demographic characteristics		Number of responses					
Item	**Source of cervical cancer information**	**Female (*n*=166)**		**Male (*n*=148)**		**Total (*N*=314)**	
		f	**%**	**f**	**%**	**F**	**%**
25	Through the media: television, radio, newspaper	100	60.2	88	59.5	188	59.9
	Through a health care provider	30	18.0	10	6.8	40	12.1
	Through friends	10	6.0	15	10.1	25	8.0
	Through neighbours	5	3.1	5	3.4	10	3.2
	Through relatives	5	3.1	7	4.7	12	3.8
	Through a church programme	4	2.4	12	8.1	16	5.1
	Through a school programme	12	7.2	11	7.4	23	7.3
	Totals	166	100	148	100	314	100.0

According to table 5.10 above, the media was the major source of information on cervical cancer mentioned by both female and male respondents at 60,2% (n=100) and 59,5% (n=88) respectively. This is followed by information obtained from health care providers (female respondents 18.0% (n=30), male respondents 6,8% (n=10); information obtained through friends (female respondents 6% (n=10), male respondents 10,1% (n=15), and information obtained through school programmes (female respondents 7,2% (n=12), male respondents 7,4% (n=11) .

The result above concurs with the NDHS 2013 report, which reveals that mass media happens to be major source of information for Nigerian men and women. Exposure to information on television and radio and in the print media can increase people's knowledge and awareness of new ideas, social changes, and opportunities as well as affect their perceptions and behaviours, including those related to health. There is also a significant disparity in levels of exposure to mass media according to place of residence, education, and wealth.

5.5 PRACTICE OF CERVICAL SCREENING

In this section, female respondents were asked questions about having undergone cervical screening for cancer, the type of cervical screening for cancer they underwent, the last time it was done, the person who influenced them to undergo the screening and, for those who had not yet done the screening, what prevented them from undergoing it.

Figure 5.3 below indicates the percentages of respondents' knowledge of cervical cancer screening methods.
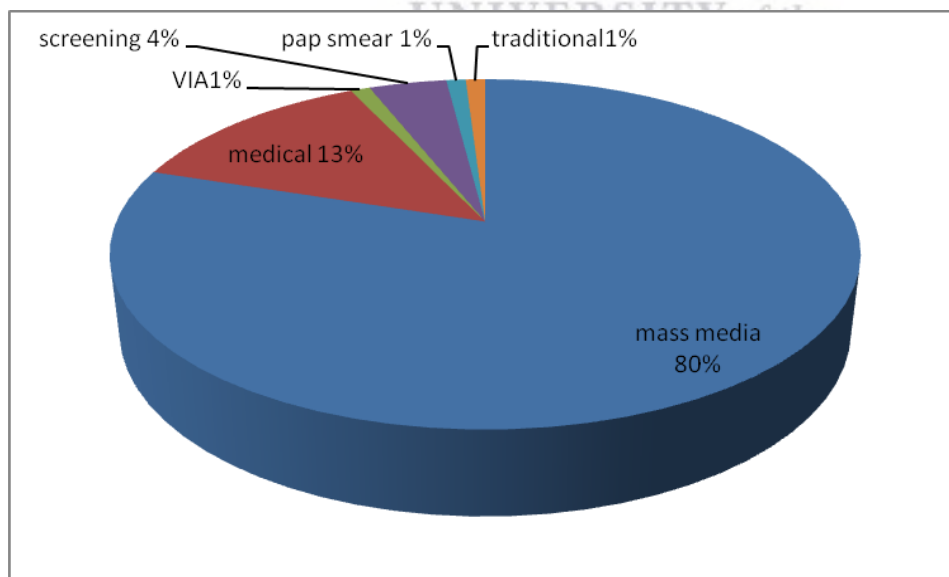
Figure 5.3 Knowledge of screening method

Figure 5.3 above shows the screening methods mentioned by the respondents in answer to an open-ended question on the issue. The majority of the respondents – 80% (n=375) – did not know any of screening method for cervical cancer, while 13% (n=61) of the respondents mentioned medical test as a screening method for cervical cancer.

The result above revealed a lack of awareness and knowledge of cervical cancer prevention services. Knowledge deficiency among community members about cervical cancer screening has been documented as one of the barriers to accessing cervical cancer services in low-resource countries and minority women (WHO 2012, Aswathy et al 2012).

The frequencies and percentages of the respondents' cervical screening practice focused on the number of respondents who have had cervical screening done, the method underwent and the last time it was done. These results are indicated in table 5.6.

Table 5.11Cervical screening practice (N=237)

Item	Practice of cervical screening			Number of responses	
				Total (*n*=237)	
				F	%
26	Have you had cervical screening for cancer done?	Yes		35	14.8
		No		202	85.2
27	If **yes** to Q**26**, which screening method did you undergo?	Pap smear		5	2.1
		VIA		23	9.7
		Other (traditional)		7	3.0
		Not applicable		202	85.2
28	If **yes** to Q**26**, what influenced you to undergo the screening for cervical cancer?	My doctor		2	0.8
		My friends/ relatives		6	2.6
		Personal decision		14	5.9
		Other	Media	9	3.8
			Church	5	2.1
		Not applicable		201	84.8
29	If **yes** to Q**26**, when was the last time you did the screening?	<1 year		2	0.8
		1-5years		33	13.9
		>5 years		1	0.4

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		Not applicable	201	84.8
30	If **no** to Q**26**, why didn't you do any of the screening tests?	Unaware	94	39.7
		Unavailable	29	12.2
		Too expensive	7	3.0
		Religious taboo	1	0.4
		Other (various reasons)	71	44.7
		Not applicable	35	14.8

Table 5.11 shows that the majority of the respondents – 85,2% (n= 202) – have not had cervical screening for cancer done, while only 14,8% (n= 35) had undergone the screening. Among the minority who had gone for screening, 11,8% (n= 28) had undergone the VIA type, followed by 3,4% (n= 8) underwent the pap smear type of screening. Respondents who took a personal decision to go for screening amounted to 5,9% (n= 14), followed by those who were influenced by church programmes 3.8% (n= 9), those influenced by friends/relatives 26% (n= 6) and those advised by their personal doctors 0.8% (n=2). Respondents also gave reasons for not availing themselves of any of the screening exercises, while 39,7% (n= 94) said they were not aware of the screening exercises, and a few – 0.4% (n=1) – said screening was a religious taboo.

The result above is consistent with study conducted among women on uptake of cervical cancer screening and related factors. Nine hundred women between the ages of 25 and 49 were interviewed on cervical cancer screening. Of the 900 respondents, only 4,8% (43) had ever been screened for cervical cancer. Of the respondents who were screened, 48,8% (21) submitted to the procedure because it was demanded by a health worker, 39,5% (17) because of related signs and symptoms they associated with cervical cancer, while 37.2% (16) did it willingly because they wanted to know their status (Ndejjo, Mukama, Musabyimana, Musoke 2016).

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5.6 BELIEFS AND ATTITUDE TOWARD CERVICAL CANCER

The attitude and beliefs of men on cervical cancer were assessed. The total attitudinal score of the respondents ranged from 0 to 4. Questions 31 to 42 were used to obtain a total attitudinal score. Incorrect questions were scored 0 and correct questions were scored 1 for question on attitude and beliefs. Those who scored below 2 were rated as having negative attitudes and beliefs regarding cervical cancer while those who scored above 2 were rated as having positive attitudes and beliefs regarding cervical cancer and its preventive measures. Figure 5.4 below illustrates men's attitudes towards cervical cancer as percentages of a whole
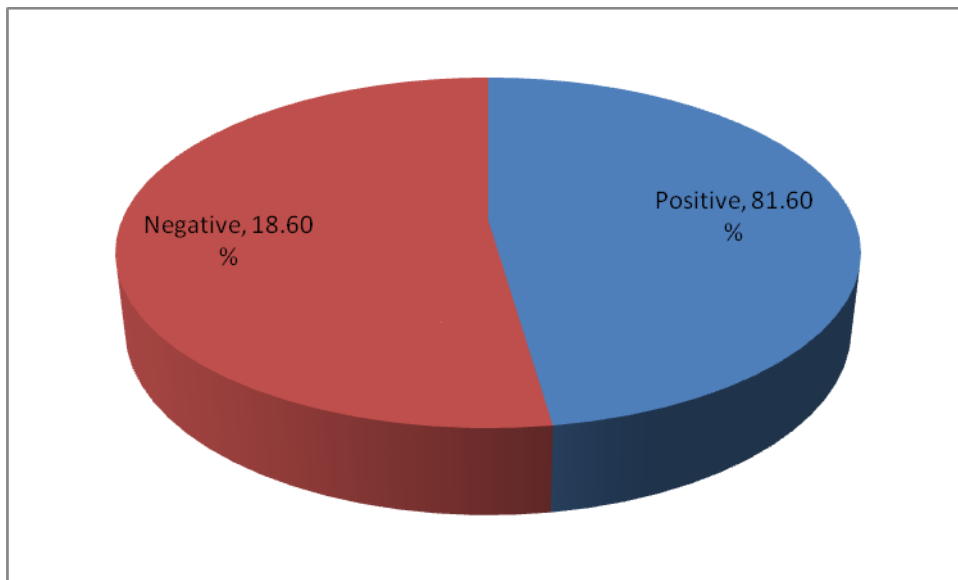
Figure 5.4 Attitude of men towards cervical cancer

Figure 5.4 above shows the classification of the respondents' attitudinal score on cervical cancer. This was calculated using the mean attitudinal score of the respondents (1.46±1.20), which can be seen on page 14 of Chapter 4 (methodology). About 81.6% (n=191) of the respondents had negative attitudes towards cervical cancer and only 18,4% (n=41) had positive attitudes towards cervical cancer.

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Table 5.12 below shows the frequencies and percentages of beliefs and attitudes of men towards cervical cancer.

Table 5.12Attitudes and beliefs of men towards cervical cancer (*N*=232)

Item	Attitudes and beliefs		Number of responses	
			Total (*N*=232)	
			F	%
31	Cervical cancer is a result of promiscuity.	Yes	78	33.6
		No	52	22.4
		I don't know	102	44.0
32	Cervical cancer is punishment from gods	Yes	24	10.3
		No	128	55.2
		I don't know	80	34.5
33	Cervical cancer has no cure	Yes	88	37.9
		No	54	23.3
		I don't know	90	38.8
34	Cervical cancer cannot be prevented	Yes	49	21.1
		No	94	40.5
		I don't know	89	38.4
35	Cervical cancer may lead to death	Yes	318	67.8
		No	2	0.4
		I don't know	149	31.8
36	Cervical cancer may lead to a woman removing her womb	Yes	102	44.0
		No	12	5.2
		I don't know	118	50.9
37	Cervical cancer is a serious health problem	Yes	151	65.1
		No	5	2.2
		I don't know	76	32.7
38	Cervical cancer can be cured by traditional doctors	Yes	52	22.4
		No	88	37.9

		I don't know	92	39.7
39	Would you allow your wife or sister to undergo cervical screening?	Yes	183	78.9
		No	4	1.7
		I don't know	45	19.4
40	Would you allow your wife to be seen by a male doctor for any genital examination?	Yes	145	62.5
		No	21	9.1
		I don't know	66	28.4

In table 5.12 above, the mean attitude score was 1.46±1.20. A third – 33.6% (n= 78) – of the respondents believed that cervical cancer was a consequence of promiscuity while almost a quarter of the respondents – 37.9% (n= 187) – reported that they believed that there was no cure for cervical cancer. A larger proportion – 65.1% (n= 151) – of respondents also believed that cervical cancer is a serious health problem and may lead to death. A large percentage – 78.9% (n=183) – of the respondents indicated that they would allow their wives or sisters to undergo cervical cancer screening and 62.5% (n=145) indicated that they would allow their wives to be examined by a male doctor for any genital examination.

The above result is inconsistentwith studies conducted byWilliams & Amoateng (2012) on the knowledge and beliefs about cervical cancer screening among men in Ghana, and Singer (2012), on men's perceptions of cervical cancer and cervical cancer prevention services in Nicaragua. The findings of those studies revealed that men were uncomfortable with a male doctor performing cervical cancer screening on their wives, stating it is taboo for a man, even a doctor, to see another man's wife naked.

The attitudes and beliefs of women towards cervical cancer were assessed. The total attitudinal score for questions asked on beliefs and attitudes of women only ranged from 23 to 64. The mean attitudinal score was 41,56±7,36. Those who score below 42 were rated as having negative attitude and belief of cervical cancer and those who score above 42 were

rated as having positive attitude and beliefs of cervical cancer and its preventive measure. Questions 31-39 and 43 were used to obtain total attitudinal score. Incorrect questions were scored 0 and correct questions were scored 2 for question on attitude and belief with yes, no and I don't know answers. Strongly agreed correct questions were scored 5, agreed 4, undecided 3, disagree 2 and strongly disagree 1 and strongly disagree correct questions were scored 5, disagree 4, undecided 3, agree 2 and strongly agree 1.

Figure 5.5 below illustrates women's attitudes towards cervical cancer as percentages of a whole.
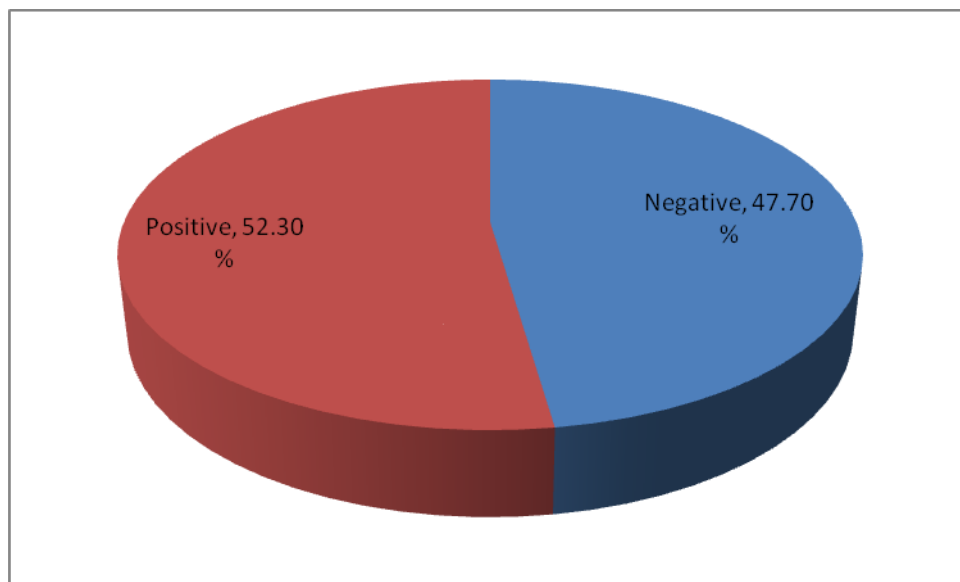
Figure 5.5 Attitudes of women towards cervical cancer

Figure 5.5 above shows the classification of the respondents' attitudinal score on cervical cancer. This was calculated using the mean attitudinal score of the respondents (41.56±7.36). About 52.3% (n=125) of the respondents had a positive attitude towards cervical cancer and 47.7% (n=112) had a negative attitude towards cervical cancer.

The attitudes and beliefs of the female respondents are displayed in tables 5.13 and 5.14

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Table 5.13 Attitudes and beliefs of women towards cervical cancer (*N*=237)

Item	Attitudes and beliefs		Number of responses	
			Total (*N*=237)	
			F	%
31	Cervical cancer is a consequence of promiscuity.	Yes	74	31.2
		No	67	28.3
		I don't know	96	40.5
32	Cervical cancer is punishment from the gods	Yes	21	8.9
		No	146	61.6
		I don't know	70	29.5
33	Cervical cancer has no cure	Yes	99	41.8
		No	61	25.7
		I don't know	77	32.5
34	Cervical cancer cannot be prevented	Yes	64	27.0
		No	95	40.1
		I don't know	78	32.9
35	Cervical cancer may lead to death	Yes	169	71.3
		No	67	28.3
		I don't know	1	0.4
36	Cervical cancer may lead to a woman's womb being removed	Yes	132	55.7
		No	8	3.4
		I don't know	97	40.9
37	Cervical cancer is a serious health problem	Yes	167	70.5
		No	8	3.4
		I don't know	62	26.2
38	Cervical cancer can be cured by traditional doctors	Yes	36	15.2
		No	109	46.0
		I don't know	92	38.8

Table 5.14Attitudes and beliefs of women towards cervical cancer (*N*=237)

Item	Attitudes and beliefs		Number of responses	
			Total (*N*=237)	
			F	%
42a	If I don't have symptoms of cervical cancer I don't need to be screened	**Strongly agree**	11	4.6
		Agree	11	4.6
		Undecided	19	8.0
		Disagree	34	14.3
		Strongly disagree	162	68.4
B	I have not given birth so I don't need cervical screening	**Strongly agree**	5	2.1
		Agree	4	1.7
		Undecided	16	6.8
		Disagree	47	19.8
		Strongly disagree	165	69.6
C	Getting a cervical cancer screening would only make me worry and fearful if I eventually find out that I have the disease	**Strongly agree**	60	25.3
		Agree	43	18.1
		Undecided	16	6.8
		Disagree	41	17.3
		Strongly disagree	77	32.5
D	The screening is painful	**Strongly agree**	28	11.8
		Agree	32	13.5
		Undecided	136	57.4
		Disagree	23	9.7
		Strongly disagree	18	7.6
E	It is too expensive to have any genital examination done	**Strongly agree**	12	5.1
		Agree	15	6.3
		Undecided	147	62.0
		Disagree	40	16.9
		Strongly disagree	23	9.7
F	I feel embarrassed to undergo any genital examination	**Strongly agree**	32	13.5

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		Agree	34	14.3
		Undecided	21	8.9
		Disagree	92	38.8
		Strongly disagree	58	24.5
G	I do not know where to go for cervical screening because it is not available everywhere	Strongly agree	29	12.2
		Agree	65	27.4
		Undecided	64	27.0
		Disagree	55	23.2
		Strongly disagree	24	10.2
H	My culture is against women going for genital screening	Strongly agree	99	41.8
		Agree	56	23.6
		Undecided	12	5.1
		Disagree	40	16.9
		Strongly disagree	30	12.6
I	Going for cervical screening is a waste of time since cancer has no cure	Strongly agree	5	2.1
		Agree	6	2.5
		Undecided	6	2.5
		Disagree	102	43.0
		Strongly disagree	118	49.9
J	I do not need cervical cancer screening as I am not promiscuous	Strongly agree	3	1.3
		Agree	7	3.0
		Undecided	8	3.4
		Disagree	94	39.6
		Strongly disagree	125	52.7
K	Cervical cancer screening will affect my privacy and I don't like that	Strongly agree	32	13.5
		Agree	10	4.2
		Undecided	9	3.8
		Disagree	88	37.2
		Strongly disagree	98	41.3

Table 5.13and 5.14 shows the beliefs and attitudes of women towards cervical cancer. A larger proportion of respondents – 62,4% (n= 148) – believed that permission had to be obtained from their husbands before accessing cervical cancer services. More than two thirds of the respondents – 68,3% (n= 162) and 69,9% (n=165) – strongly disagreed with the view that being symptom-free or not having given birth are good reasons not to be screened for cervical cancer.

However, 27,5% (n= 65) of the respondents strongly agreed with the fact that they don't know where they could go for cervical screening since it is not available everywhere, while 41,9% (n= 99) of the respondents strongly agreed with the opinion that their culture is against women going for genital screening.

The result above is consistent with a study which exploredwomen's knowledge, experiences and perceptions of cervical cancer screening in an area of social deprivation in the United Kingdom. The women who participated in that study expressed a negative attitude towards their experiences of cervical screening, describing negative feelings of 'fear', 'embarrassment' and feeling 'stigmatised' (Logan & Mcilfatrick, 2011).

Women have their own perceptions regarding cervical cancer and the Pap smear. Some women believe that attending cervical screening programmes is strongly associated with a permissive sexual lifestyle or with having contracted a sexually transmitted infection (Julinawati et al., 2013). Also, many women believe that there is no need to take preventive health actions (including screening) when they feel healthy, as this is unnecessary and might cause emotional stress, worry and distraction in their family (Wong et al., 2009, Hewitt et al., 2004). There is a need for continuous creation of awareness on cervical cancer to correct the misconceptions of women on cervical cancer.

5.7 BIVARIATE AND MULTIVARIATE RESULTS

The frequencies, percentages and significant values of the respondents association between socio-demographic characteristics and knowledge of cervical cancer and the preventive measures are shown in Table 5.15.

Table 5.15 Socio-demographic characteristics and knowledge of cervical cancer and its preventive measures (N=469)

Items	Socio-demographic characteristics	Knowledge of cervical cancer		Number of responses	
		Poor (n=305)	Good (n=164)	Total	p-value/ X^2
1	**Gender** Female	138(45.2)	99(60.4)	237(50.5)	0.002 9.75
	Male	167 (54.8)	65 (39.6)	232 (49.5)	
2	**Age (in years)** <20	46 (15.1)	4 (2.4)	50 (10.7)	
	20-29	89(29.2)	23(14.0)	112(23.9)	
	30-39	78(25.6)	54(32.9)	132(28.1)	P<0.0001 40.46
	40-49	58(19.0)	55(33.5)	113(24.1)	
	>49	34(11.1)	28(17.1)	62(13.2)	
3	**Educational status** Non-literate	13(4.3)	2(1.2)	15(3.2)	
	Primary education	62 (20.3)	24 (14.6)	86 (18.3)	
	Secondary education	161(52.8)	74(45.1)	235(50.1)	0.001 15.15
	Tertiary education	69(22.6)	64(39.0)	133(28.4)	
4	**Marital age (in years)** 15-19	35(11.5)	19(11.6)	54(11.5)	
	20-24	43(14.1)	37(22.6)	80(17.1)	
	25-29	67(22.0)	65(39.6)	132(28.1)	P<0.0001 36.76
	30-34	25(8.2)	13(7.9)	38(8.1)	
	>34	135(44.3)	30(18.3)	165(35.2)	
5	**Type of family** Nuclear	198(64.9)	125(76.2)	323(68.9)	0.012 6.35

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	Extended	107(35.1)	39(23.8)	146(31.1)	
6	**Religion** Christianity	173(56.7)	105(64.0)	278(59.3)	0.125 2.36
	Islam	130(43.6)	59(36.0)	191(40.7)	
	Traditional	2(0.7)	0 (0)	2 (0.4)	
7	**Occupation** Intermediate occupation	31(10.2)	43(26.2)	74(15.8)	P<0.0001 54.02
	Skilled non-manual	107(35.1)	85(51.8)	192(40.9)	
	Skilled manual	127(41.6)	33(20.1)	160(34.1)	
	Unemployed	40(13.1)	3(1.8)	43(9.2)	

Table 5.15 above shows the association between respondents' socio-demographic characteristics and their knowledge of cervical cancer and its preventive measures.

All of the characteristics of respondents except religion were found to be significantly associated with knowledge of cervical cancer and its preventive measures. A higher proportion – 60,4% (n=99) – of the female respondents had good knowledge of cervical cancer and its preventive measures compared to their male counterparts – 39,6% (n= 65). However, more than two thirds – 66,6% (n=109) – of the respondents higher proportion of those that were between 40 and 49 years of age had good knowledge of cervical cancer and its preventive measures compared to those that were in the other age categories – 33,5% (n=55) p<0.0001. All those with a secondary education – 45,1% (n=74) – and tertiary education – 39.0% (n=64) – had good knowledge of cervical cancer and its preventive measures compared to those that had no formal education/primary education – 15,9% (n= 26) p=0.001. Also, 51,8% (n=85) respondents who were skilled non-manual workers had good knowledge of cervical cancer and its preventive measures compared to those in the Intermediate – 26,2% (n=43) – skilled manual – 20,1% (n= 33) – and unemployed – 1,8% (n=3) – categories, p<0.0001.

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Table 5.16 below shows the association between respondents' obstetric history and their knowledge of cervical cancer and its preventive measures.

Table 5.16 Obstetric history and knowledge of cervical cancer and its preventive measures (N=237)

Item	Obstetric history	Knowledge of cervical cancer		Number of responses	
		Poor (n=138)	Good (n=99)	Total	p-value/ X²
1	**Have you ever had sexual intercourse?** Yes	123(89.1)	99(100.0)	222(93.7)	0.001 11.49
	No	15(10.9)	0 (0)	15(6.3)	
2	**Age at first sexual intercourse** <10	7(5.7)	3(3.0)	10(4.5)	0.245 2.81
	10-19	63(51.2)	43(43.4)	106(47.7)	
	20 & above	53(43.1)	53(53.5)	106(47.7)	
3	**Number of pregnancies** None	44(31.9)	6(6.1)	50(21.1)	P<0.0001 23.63
	1	17(12.3)	14(14.1)	31(13.1)	
	2	21(15.2)	19(19.2)	40(16.9)	
	≥3	56(40.6)	60(60.6)	116(48.9)	
4	**Marital age (in years)** 15-19	35(11.5)	19(11.6)	54(11.5)	P<0.0001 36.76
	20-24	43(14.1)	37(22.6)	80(17.1)	
	25-29	67(22.0)	65(39.6)	132(28.1)	
	30-34	25(8.2)	13(7.9)	38(8.1)	
	>34	135(44.3)	30(18.3)	165(35.2)	
5	**Age at first child birth** 18-25	47(55.3)	40(43.5)	87(49.2)	0.089 4.84
	26-33	37(43.5)	46(50.0)	83(46.9)	
	>33	1(1.2)	6(6.5)	7(4.0)	
6	**Number of abortions** None	86(62.3)	62(62.6)	148(62.4)	0.373 1.97
	1	37(26.8)	21(21.2)	58(24.5)	
	≥2	15(10.9)	16(16.2)	31(13.1)	
7	**Number of sexual partners** None	8(5.8)	7(7.1)	15(6.3)	0.762 0.54
	Single	115(83.3)	89(89.9)	204(86.1)	

| | Multiple (≥2) | 15(10.9) | 3(3.0) | 18(7.6) | |

Table 5.16 above shows the association between respondents' obstetric history and their knowledge of cervical cancer and its preventive measures.Of all the obstetric history questions asked of respondents, 'have you ever had sexual intercourse' and 'number of pregnancy' remained the only obstetric characteristics which were significantly associated with knowledge of cervical cancer and its preventive measures. Those who have had sexual intercourse had good knowledge of cervical cancer and its preventive measures compared to those who had never had sexual intercourse, p=0.001. A higher proportion – 60,6% (n=60) – of the female respondents who had >3 number of pregnancies had good knowledge of cervical cancer and its preventive measures compared to those who had experience of 2 pregnancies –19,2% (n=19) – those who had experience of 1 pregnancy – 14,1% (n=14) – and those without the experience of pregnancy – 6,1% (n=6), P<0.0001.

The frequencies, percentages and significant values of the male respondents showing the association between their socio-demographic characteristics, and their beliefs and attitudes towards cervical cancer and its preventive measures are shown in Table 5.17.

Table 5.17 Socio-demographic characteristics of men, and their beliefs and attitudes towards cervical cancer and its preventive measures

Items	Socio-demographic characteristics	Belief & attitude		Number of responses	
		Negative(n=191)	Positive(n=41)	Total	p-value/ X^2
1	**Age (in years)** <20	18 (100.0)	0 (0.0)	18	
	20-29	43 (86.0)	7 (14.0)	50	
	30-39	61 (73.5)	22 (26.5)	83	0.058 9.136
	40-49	41 (80.4)	10 (19.6)	51	
	>49	26 (87.5)	2 (12.5)	30	
2	**Educational status** Non-literate	8(4.3)	0(0)	8	0.160 5.165

	Primary education	46 (23.0)	7(17.0)	53	
	Secondary education	102 (53.4)	20(53.0)	122	
	Tertiary education	35(18.3)	14(30.0)	49	
4	**Marital age (in years) (n=144)** 15-19	8(80.0)	2(20.0)	10	
	20-24	28 (82.4)	6(17.6)	34	0.118 7.360
	25-29	56(87.9)	8(12.1)	66	
	30-34	18 (64.3)	10(35.7)	28	
	>34	6(85.7)	1(14.3)	7	
5	**Type of family** Nuclear	122(63.9)	27(65.9)	149	0.065 0.195
	Extended	69(36.1)	14(34.1)	83	

Table 5.17 depicts the association between the socio-demographic characteristics of male respondents and their beliefs and attitudes towards cervical cancer and its preventive measures. None of the characteristics of respondents was found to be significantly associated with attitude and belief towards cervical cancer and its preventive measures. The majority – 81,6% (n=191) – of the respondents have negative attitude towards cervical cancer.

The frequencies, percentages and significant values of the women respondents showing the association between their socio-demographic characteristics and their beliefs and attitudes towards cervical cancer and the preventive measures are indicated in Table 5.18.

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Table 5.18Socio-demographic characteristics of women, belief and attitude of cervical cancer and the preventive measures

Items	Socio-demographic characteristics	Belief & attitude		Number of responses	
		Negative(n=112)	Positive(n=125)	Total	p-value/ X^2
1	**Age (in years)** <20	20 (17.9)	6 (4.8)	26	P<0.0001 27.004
	20-29	39 (34.8)	23 (18.4)	62	
	30-39	22 (19.6)	31 (24.8)	53	
	40-49	15 (13.4)	47 (37.6)	62	
	>49	16 (14.3)	18 (14.4)	34	
4	**Marital age (in years) (n=144)** 15-19	19 (17)	16 (12.8)	35	P<0.0001 23.239
	20-24	28 (25)	29 (23.2)	57	
	25-29	17 (15.2)	49 (39.2)	66	
	30-34	3 (2.7)	7 (5.6)	10	
	>34	45 (65.2)	24	69	
5	**Occupation** Intermediate	15(13.4)	29 (23.2)	44	0.006 16.383
	Skill non-manual	11(9.8)	21 (16.8)	32	
	Skilled manual	17 (15.2)	4 (3.2)	21	
	Unskilled	55(49.1)	63 (50.4)	118	
	Unemployed	14 (12.5)	8 (6.4)	22	
6	**Type of family** Nuclear	71(63.4)	100 (80.0)	171	0.003 8.562
	Extended	41 (36.6)	25 (20.0)	66	

In table 5.18 above, all of the characteristics of respondents except occupation were found to be significantly associated with attitude and belief towards cervical cancer and its preventive measures. Approximately 38,0% (n= 47) of those that were in the 40 – 49 years age category had positive beliefs and attitudes towards cervical cancer and its preventive measures, compared to those that were in the other age categories, p<0.0001. There were more respondents who had good attitudes and beliefs towards cervical cancer and its preventive measures in the nuclear type of family – 80,0% (n=100) – compared to the extended type –

20,0% (n=25), p<0.0003. On the other hand, those in the age category 25 – 29 who were married – 39,2% (n= 49) – had good attitudes and beliefs towards cervical cancer and its preventive measures, compared to the other ages at marriage, p<0.0001.

The association between the frequencies, percentages and significant values of women's obstetric histories and their beliefs and attitudes towards cervical cancer and its preventive measures are indicated in Table 5.19.

Table 5.19 Obstetric history, belief and attitude of cervical cancer and its preventive measures (N=237)

Item	Obstetric history	Beliefs& attitude		Number of responses	
		Negative (n=112)	Positive (n=125)	Total	p-value/ X^2
1	**Have you ever had sexual intercourse?** (n=222) Yes	99 (88.4)	119 (95.2)	218	P<0.0001 12.191
	No	13 (11.6)	2 (1.6)	15	
2	**Number of pregnancies** None	35 (31.3)	16 (32.7)	51	0.0002 15.397
	1	19 (17.0)	12 (9.6)	31	
	2	15 (13.4)	22 (17.6)	37	
	≥3	43 (38.4)	75 (60.0)	118	
3	**Number of abortions** None	73 (65.2)	76 (60.8)	149	0.5111 1.345
	1	27 (24.1)	30 (24.0)	57	
	≥2	12 (10.7)	19 (15.2)	31	
4	**Number of sexual partners** None	23 (20.5)	20 (16.0)	43	0.6941 0.731
	Single	85 (75.9)	98 (78.4)	183	
	Multiple (≥2)	4 (3.6)	7 (5.6)	11	

Table 5.19 above shows the association between the obstetric characteristics of respondents and their beliefs and attitudes towards cervical cancer and its preventive measures.The questions"ever had sexual intercourse" and "number of pregnancies" were significantly

associated with beliefs and attitudes towards cervical cancer and its preventive measures. This was not true of the questions "number of abortions" and "number of sexual partners" Those who have had sexual intercourse had positive beliefs and attitudes towards cervical cancer and its preventive measures, compared to those who had never had sex, p=0.001. A higher proportion – 60,0% (n= 75) – of female respondents who had ≥3 number of pregnancies had positive beliefs and attitudes towards cervical cancer and its preventive measures, compared to those who had experienced 2 pregnancies – 17,6% (n= 22) – those who had experienced 1 pregnancy – 19,6% (n= 12) – and those without the experience of pregnancy – 32,7% (n= 16), p=0.0002.

The multivariate analysis of the respondents' socio-demographic characteristics and knowledge of cervical cancer and the preventive measures is indicated in Table 5.20.

Table 5.20 Socio-demographic characteristics and knowledge of cervical cancer and its preventive measures

Item	Socio-demographic characteristics	Odd ratio	p-value	95%C.I
1	**Gender** Female	1.12	0.696	0.63-2.01
	Male	Ref		
2	**Age (in years)** <20	3.44	0.081	0.86-13.80
	20-29	2.02	0.112	0.85-4.77
	30-39	1.00	0.998	0.49-2.05
	40-49	0.72	0.362	0.36-1.45
	>49	Ref		
3	**Educational status** Non-literate	2.03	0.034	1.03-3.59
	Primary education	2.22	0.037	1.05-4.69
	Secondary education	1.07	0.819	0.60-1.89
	Tertiary education	Ref		
4	**Marital age (in years)** 15-19	0.78	0.627	0.29-2.11

	20-24	0.75	0.536	0.30-1.86
	25-29	0.77	0.548	0.33-1.80
	30-34	1.61	0.383	0.554-4.65
	>34	Ref		
5	**Type of family** Nuclear	0.99	0.960	0.58-1.68
	Extended	Ref		

Multivariate analysis of socio-demographic characteristics and knowledge of cervical cancer and its preventive measures

The result of table 5.20 indicates that females are more likely to have a better knowledge of cervical cancer and its preventive measures compared to males (OR=1,12, 95% CI 0,63-2.01).

Among other socio-demographic variables, the illiterate/primary education category is being associated with an increased likelihood of not having good knowledge of cervical cancer and its preventive measures (OR=2.2, 95%CI 1.05-4.69). Also, those younger than 20 years are over three times more likely to have poor knowledge of cervical cancer and its preventive measures (OR=3.44, 95%CI 0.86-13.80).

The multivariate analysis of the respondents' obstetric history and knowledge of cervical cancer and the preventive measures is indicated in Table 5.21.

Table 5.21 Obstetric history and knowledge of cervical cancer and its preventive measures

Item	Obstetric history	Odd ratio	p-value	95%C.I
1.	**No of pregnancies** None	0.25	0.016	0.08-0.78
	1	0.23	0.007	0.08-0.67
	2	Ref		

		0.19	0.001	0.08-0.50
2.	**Have you ever had sexual intercourse?** Yes	0.00	0.998	0.000
	No	Ref		

Multivariate analysis of obstetric factors and knowledge of cervical cancer and its preventive measures

The data in table 5.21 shows that having experienced pregnancy more than once, among other obstetric factors, is also associated with a decreased likelihood of the respondents not having good knowledge of cervical cancer and its preventive measures (OR=0.19, 95%CI 0.08-0.50). The multivariate analysis of the socio-demographic factors and beliefs and attitudes of women respondents towards cervical cancer and its preventive measures is indicated in Table 5.22.

Table 5.22 Socio-demographic, belief and attitude of women towards cervical cancer and its preventive measures

Item	Socio-demographic characteristics	Odd ratio	p-value	95%C.I
1	**Age (in years)** <20	0.240	0.06	0.055-1.047
	20-29	0.444	0.120	0.159-1.235
	30-39	0.718	0.499	0.275-1.875
	40-49	2.260	0.092	0.875-5.832
	>49	Ref		
2	**Marital age (in years)** 15-20	1.032	0.951	0.370-2.883
	20-24	0.621	0.338	0.235-1.646
	25-29	1.701	0.305	0.617-4.690
	30-34	1.245	0.795	0.239-6.494
	>34	Ref		
3	**Type of family** Nuclear	1.899	0.075	0.938-3.845
	Extended	Ref		

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Multivariate analysis of the socio-demographic characteristics of women and their beliefs and attitudes towards cervical cancer and its preventive measures

The result depicted in table 5.22 indicate that, in respect of socio-demographic variables, the lower ages are associated with an increased likelihood of not having a positive belief and attitude towards cervical cancer and its preventive measures (OR=0.240, 95%CI 0.055-1.047). The results also yield a finding that the extended type of family is associated with a decreased likelihood of participants not having positive beliefs and attitudes towards cervical cancer and its preventive measures (OR=1.899, 95%CI 0.938-3.845).

5.8 DISCUSSION OF FINDINGS

This descriptive quantitative study was conducted to determine the levels of awareness and knowledge, and the practices, beliefs and attitudes of community members towards cervical cancer and its preventive measures. The study was conducted among community members of Akinyele local government area and Ibadan North-west local government area, Ibadan.

5.8.1 Socio-demographic characteristics

The mean age of the respondents was 35.3 ± 11.7 years. This concurs supported by a study conducted by Wright et al (2010) on cervical cancer amongst market women in an urban area of Lagos, Nigeria. From a total of 350 women consisting of 175 participants from each model market; the mean ages of respondents were 34.9 ± 12.7 and 33.4 ± 10.7 in both the experimental and control groups respectively.

Education is an important determinant of an individual's attitudes and outlook on various aspects of life. Educational attainment in Nigeria is fairly high. Forty-six per cent (n=110) of female and 53,9% (n=125) of male respondents had secondary education and the majority (52,9%) of the respondents resided in rural area. This is inconsistent with the report from the

National Demographic and Health Survey of 2013 which revealed that 45% of women and 62% of men have a secondary or higher level of education.

Obstetric history of female respondents

Women of reproductive age are the most exposed to the risk and predisposing factors of cervical cancer. The low age at coitarche as well as sexual liberalism are the notionalcauses of the increased incidence of cervical cancer, especially as the causative agent, the human papilloma virus, is sexually transmitted. Findings from this study suggest a high level of sexual activity among the participants. Most – 93,7% (n= 222) – are sexually active and about 44,7% (n=106) become active between the ages of 10 and 19 in Ibadan. This is comparable to the findings from a similar study (Akintayo et al, 2013) on awareness of cervical cancer and its prevention among young women in Ekiti State. Four hundred and forty-four women were recruited into the study. The study showed that 69,4% (n=308) were sexually active and that 28,6% (n=88) had become sexually active between the ages of 10 and 19. This indicates that some of the female participants in this current study are at risk of cervical cancer. Such women need to be educated about the risk factors of cervical cancer.

More than one quarter of the female respondents had been pregnant 3 or more times. The number of children a woman has might be associated with her intention to utilize cervical cancer screening services. Women have a significant influence on family life and welfare, playing a central role in ensuring that food is available, as well as taking care of children, grandchildren and those who are ill (Tsu & Levin 2008).

However, 77,6% of the women participants had a single sexual partner. This may be attributed to Yoruba culture, which frowns upon promiscuity and encourages high moral values. Early exposure to sex may further result in early marriage. Early marriages, polygamy, remarriages and multiple sexual partners are high risk factors for cervical cancer as they increase the duration of exposure to and the probability of contracting an HPV

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infection. This finding is in consonance with a 6-year study of the clinical presentation of cervical cancer conducted in a state teaching hospital in South-east Nigeria. Seventy-six cases were managed and 80,3% (n=61) were available for the study. All the women in that study were married. The majority – 75,4% (n=46) – were illiterate. The significant risk factors identified were early marriage – 24,6% (n=15) – polygamous marriage – 16,4% (n=10) – repeat marriage – 6,6% (n=4) – and multiple sexual partners – 26,2% (n=16) (Eze et al, 2013). Basically, these findings support the causal association between sexual activity and cervical cancer as they increase the duration of exposure to and the probability of contracting an HPV infection (Abiodun et al, 2013).

5.8.2 Knowledge of cervical cancer

Knowledge of cervical cancer is very important for the use of the prevention services. Good knowledge of cervical cancer and its preventive measures is important in influencing the uptake of cervical cancer prevention services.

Knowledge deficiency about cervical cancer screening among community members has been documented as one of the barriers to accessing cervical cancer services in low-resource countries (such as Nigeria) (WHO, 2012; Aswathy et al; 2012). Most of the respondents could not correctly identify the risk factors, symptoms and means of prevention of cervical cancer. About 65% respondent had poor knowledge of cancer cervix. This is inconsistent with a study on community education on cervical cancer conducted among urban area market women in Lagos by Wright, Kuyinu & Faduyile, 2010. Three hundred and fifty women were recruited with 175 participants from each model market. There was low knowledge of cervical cancer at baseline, with only about 15% (n=26) and 21.7% (n=38) of the intervention and control group respectively possessing good knowledge of cervical cancer. A different study conducted in Ogun state by Abiodun et al (2013) assessing women's awareness and knowledge about cervical cancer and screening and barriers to cervical screening is in accord

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with the result of this study. Two thousand women (aged between 20 and 64) were selected across 20 local government areas in Ogun state. The majority 95.7% (n=1912) of the women had poor knowledge of cervical cancer.

In the bivariate association between sociodemographic characteristics of respondents and their knowledge of cervical cancer and its prevention; as far as their knowledge of cervical cancer was concerned there was little difference between the rural and urban community members. This finding was somewhat unexpected, but might be as a result of previous services related to cervical cancer which were provided to this rural community through non-governmental organizations. Knowledge attitude practice (KAP) studies from other Asian countries have also revealed a similar homogeneity between the rural and urban populations as far as their knowledge of common cancers are concerned (Tran et al, 2011, and Basu et al, 2014). All other sociodemographic characteristics were significantly associated with knowledge of cervical cancer and its prevention. All those with a secondary education (45,1%) tertiary education (39,0%) had good knowledge of cervical cancer and its prevention. This finding is similar to the study conducted by Ezechi et al. (2014) on the burden, distribution and risk factors for cervical oncogenic human papilloma virus infection in HIV-positive Nigeria women, which showed that women with a high level of education were more likely to cite a risk factor than those with a low level of education. This is inconsistent with the study conducted by Eyo and Ekpo (2014) on Impact of Cervical Cancer Preventive Education on the Practice of Cervical Cancer Routine Checks-Up in Akwa Ibom state among women. The study showed that level of education had no significant influence on the knowledge of cervical cancer prevention among the women (df=1 P= 0.05 Chi Cri. 3.84). Age and marital status were significantly associated with knowledge of cervical cancer and its prevention. This conflicts with the results of a previous study conducted by Ezechi et al. (2014) on the burden, distribution and risk factors for cervical oncogenic human papilloma

virus infection in HIV positive Nigeria women, where age and marital status were not significantly associated with risk factor knowledge of cervical cancer (P>0.05).

5.8.3 Practice of cervical screening

Most (80%) of the community members are not aware of the screening methods available for cervical cancer. Only 20% of women in the study know of a screening method for cervical cancer. This finding is inconsistent with a study conducted by Ezeruigbo and Udenebonta (2015) in Enugu Nigeria among secondary school teachers on the impact of health education on attitudes towards and knowledge and practice of cervical cancer screening. Three hundred and eighty female teachers participated. However, 41% (n=154) of the respondents had heard about cervical cancer screening, a fact which may be related to the educational status of the secondary school teacher as cervical screening is not frequently practiced as health-seeking behavior. This fact is borne out by the high proportion of women (98,6%) who had not undergone cervical cancer screening. This serves as an indicator of the magnitude of cases of cervical cancer which go undiscovered at least until the disease is in an advanced stage (Abiodun et al, 2013).

In Nigeria, most women are unaware of the need for cervical cancer screening, and most have never had cervical cancer screening in their lifetime. As a result, cervical cancer kills about one woman every hour, with women living in rural Nigeria at higher risk because of the absence of adequate medical facilities for screening, diagnosis & follow-up (Nzelu 2015). Only a few (14,8%) of the respondents have had cervical screening for cervical cancer done. Although the figure is still very low, it is a bit higher compared to other parts of the country. This may be attributed to the support received from the non-governmental organization which conducted free cervical screenings for women in some local government areas of Ibadan. The figure is also in tune with the screening coverage levels in Nigeria and most of sub-Saharan Africa, which is generally below 10% (Wamal et al, 2012). The screening coverage ranges

from 5,2% in Ibadan, 4,7% in Ago-iwoye, 8,7% in Sagamu and 4,4% in Sokoto 31-34 % (Ogun Bodede & Ayinde, 2005; Ogunbowale & Lawoyin, 2008; Adefuye, 2006; Nwobodu & Malami, 2005, and Abiodun et al, 2013) Ago-Iwoye has a university, while Sagamu is home to the teaching hospital. Ago-Iwoye and Sagamu are both towns in Ogun state (Abiodun et al, 2013). Despite the existence of a national screening programme for cervical cancers in South Africa, the screening rate has been reportedly low (Albrecht (2006, Maree et al 2011). A lack of motivation to be screened, misunderstanding about cervical cancer and the screening thereof, anxiety and the way in which the screening results are given to women, perceptions that the test might be painful and embarrassing, access and transport problems were identified as barriers to cervical cancer screening uptake (Pillay 2002; Maree and Wright 2007; Issah *et al*. 2011). Misunderstanding about cervical cancer and the screening, perceptions that the test might be painful and embarrassing were amongst the reasons for screening refusal given by women dying from cervical cancer the UK (Maree et al 2012)

The most recognized source of information for cervical screening is through the media (65%). Exposure to information via mass media outlets can improve peoples' knowledge and awareness of latest notions, social changes, and opportunities as well as influence their perceptions and behaviours, including those related to health. The level of exposure to mass media is low in Nigeria, especially exposure to print media (NDHS, 2013).

The findings of the study further revealed poor cervical cancer screening practice, as the majority of the women in the community – 85.2% (n= 202) – had never undergone cervical cancer screening. This corroborates the findings of a study conducted by Ezeruigbo and Udenebonta (2015) in Enugu, Nigeria, among secondary school teachers on the impact of health education on knowledge, attitude and practice of cervical cancer screening, in which the researchers found that the majority of the participant – 87,1% (n=284) – had never undergone cervical cancer screening.

In a study conducted by Mupepi et al. (2011) among 514 community women in Zimbabwe on knowledge, attitude, and demographic factors influencing the cervical cancer screening behavior of Zimbabwean women, the majority of the participants – 90,1% (n=463) – had never accessed cervical screening. This finding is similar to those of other researchers in sub-Saharan countries such as Zimbabwe, Botswana, Cameroon, Kenya, Tan zamia, Uganda, South Africa, Ghana (Ezeruigbo & Udenebonta, 2015; Abotchie & Shokar, 2009; Hairies & Barone, 2009; Tebeu el al., 2008; Mmiro & Weider, 2006; Gatune &Nyamongo, 2005; McFarland, 2003). Non-use of screening methods implies that cases are more likely to present or be discovered late, at a time when the sufferers are less likely to benefit from commonly available management options.

5.8.4 Beliefs and attitude towards cervical cancer

Regarding the beliefs and attitudes of the respondents towards cervical cancer and its prevention, the summary of the findings showed that most of the respondents (67,4%) have negative attitudes about and beliefs towards cervical cancer. This is inconsistent with the findings of Saad, Kabiru, Suleiman and Rukaya who, in 2013, conducted a study on knowledge, attitude and practice of cervical cancer screening among 260 market women in Zaria, Nigeria. That study showed that 80,4% (n=154) of the women had good attitude towards cervical cancer screening. Culture encompasses much more than racial and ethnic background because it can include socioeconomic status or class, community (urban, rural and community), education, religious traditions and beliefs (O'Connor et al (2007). The influence of the socio-cultural environment on beliefs and values are obvious when health behaviour decisions are made, including the decision to undergo cervical cancer screening (Hoffman-Goetz and Friedman (2006). Having a positive attitude towards cervical cancer prevention services may diminish if it is not provided with accessible, culturally acceptable and affordable services. This underscores the need for immediate action.

A high proportion of the women in the study believes that cervical cancer is a consequence of promiscuity and that it has no cure and can lead to death. Women sometimes have their own view concerning cervical cancer and the Pap smear test (Khoo et al, 2011). Some women believe that women go for screening programs because they have been involved in an active sexual lifestyle or get infected by a sexually transmitted infection (STI) (Julinawati et al, 2013). Because of this view, many women do not go for screening until the symptoms are well recognized and the situation is life threatening (Julinawati et al, 2013). Some women also dodge cervical cancer screening as they want to prevent emotional stress and anxiety, believing that testing will only bring a burden upon their family (Wong et al, 2009). This belief might also come about as a result of health workers who are inadequately educated on the importance of enlightening the community on cervical cancer and its prevention (Igwilo et al., 2012). Women have their own perceptions regarding cervical cancer and the Pap smear test. Some women believe that attending cervical screening programs is strongly associated with an active sexual lifestyle or with them having contracted a sexually transmitted infection (STI) (Julinawati et al 2013). This is a barrier to screening uptake, early detection and treatment of cervical cancer. As a result most cases presented (after experiencing significant clinical symptoms including yellowish discharge or bleeding from the vagina) are well established, increasing the risk of mortality. Also, many women believe that there is no need to take preventive health actions (including screening) when they feel healthy, as this is unnecessary and might induce emotional stress, worry and be a source of distraction for their family (Wong *et al.*, 2009, Hewitt et al., 2004). Many adopt the adage "what you don't know cannot hurt you", believing that women who go around seeking for what is not will find it.

A larger proportion of the women believed that permission must be sought from their husbands before accessing any medical care. Men's opinions of and decisions affecting women and children's health in developing countries cannot be over-emphasized as they are the primary decision-makers (Abubakar et al., 2013). Furthermore, a lack of assistance and reassurance from family members (especially men) and friends may play a role in women's decision to attend cervical cancer screening programmes (Julinawati et al., 2013).

Some reported that the screening facility is not accessible to them and that Yoruba culture is against women undergoing genital screening. In a study conducted by Ndikom and Ofi, (2012) on awareness, perception and factors affecting utilization of cervical cancer services among women in Ibadan Nigeria, eight focus group discussions was conducted among women in selected health facilities in Ibadan. Eighty-two participants were recruited. The respondents reported not being aware of cervical cancer and were not utilizing the services. Although they did not know what cervical cancer services entailed, they still believed that it is important. It is also believed that the cervical cancer screening test is underutilized because it is not a prerequisite test at health clinics, unlike the HIV test (Ndikom and Ofi 2012). Screening services at primary health care facilities in rural and urban areas are mainly restricted to urinalysis and blood pressure measurement (Ajayi et al., 2013). The majority of the rural dwellers do not have access to the screening nor do they have enough money to pay for they cannot afford the cost(Igwilo et al., 2012).

Most of the women in the study were of the view that, if they don't exhibit symptoms of cervical cancer and if they have not given birth, then they don't need the screening. This is in contrast with findings from a study conducted by Balogun, et al. (2012) among 240 women residing in two urban slums in Lagos Nigeria on awareness of cervical cancer, attitudes towards the disease and their screening practice. All the respondents in that study (240 women) believed that they are not at risk of developing cervical cancer, with one third

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revealing that they did not see the importance of medical check-ups when everything is alright (Balogun et al., 2012).

5.9 SUMMARY

The quantitative aspect of the study revealed that the level of awareness and knowledge of the community members regarding cervical cancer and its preventive measures is very low. However, the majority of the women have not been screened before for cervical cancer. The reasons offered for this is that the screening is not accessible, is not readily available and is not affordable. A considerable number of the women respondents reported the need to secure their husbands' permission before they could go for cervical cancer screening. Some women also agreed with the view that their culture is against women going for genital screening. More than half of the women have poor attitudes and beliefs about cervical cancer and its preventive measures. The majority of respondents affirm that they do not need cervical screening.

5.10 PHASE 2- QUALITATIVE RESULTS

The purpose of this section is to present and discuss the results that emanated from the semi-structured interview with the health workers and from key informant interviews with the policy makers. The semi-structured and key informant interviews results being presented address two objectives, namely:

- to identify the barriers to prevention of cervical cancer amongst women in the community.
- to identify ways to promote prevention of cervical cancer in the community.

The researcher asked the following research questions in order to determine the aforementioned objectives:

- *What do women understand as cervical cancer?*

☐ *What do community's perceive to be the barriers to the prevention of cervical cancer?*

  ☐ *Can you tell me about policies available on cervical cancer?*

  ☐ *Can you tell me how effectively the policies available can be implemented?*

  ☐ *How do you think men understand cervical cancer?*

  ☐ *In your opinion, in which way(s) should males be involved in cervical cancer prevention?*

  ☐ *What strategies will you recommend to improve cervical cancer prevention at community level?*

The PEN-3 model (Airhihenbuwa, 1989) [see Chapter 2] was used as a guide to address the objectives of this study and capture the range of responses of the nurse-midwives, community health officer and policy maker participants groups. The following are the PEN 3 categories under which the results are presented:

- **Cultural identity: misconceptions and cultural barriers that resist cervical cancer prevention**.

Cultural identity refers to the misconceptions, cultural barriers, and whether the community might be supportive and/or likely to resist cervical cancer prevention.

- **Relationships and expectation: perception of cervical cancer and its preventive measures**

Relationships and expectations refer to community members' perception of cervical cancer and of the factors that enable and nurture health behaviours which promote or discourage cervical cancer prevention services. Enablers in this study are the community members, and societal or structural resources such as health care services that promote or discourage

effective health seeking practices. Nurturers in this study include the influence of family and kin in supporting decisions surrounding the uptake of cervical cancer prevention services.

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

Cultural empowerment encompasses the positive, existential and negative dimensions of a person's culture that can be used to empower individuals to adopt healthy behaviors. 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. 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 which can be used to empower their women to adopt and participate in the cervical cancer prevention services available.

Phase 2 results are presented and discussed in two sections as follows:

Section 1 presents and discusses the vertical themes that emerged from the analysis of the three participant groups - namely nurse-midwives, community health officers and policy makers.

Section 1A presents the vertical themes and categories obtained from the analysis of the semi-structured interviews with nurse-midwives.

Section 1B presents the vertical themes and categories obtained from the analysis of the semi-structured interviews withcommunity health officers.

Section 1C presents the vertical themes and categories obtained from the key informant interviews with policy makers

Section 2 presents a summary of the themes and categories for all the participants groups, in tabular form, as well as the horizontal themes which cut across the vertical themes of all participants groups presented in section one; this is followed by anintegrative discussion of the findings and literature is presented. A summary of the themes and categories for all participant groups is presented in tabular form at Table 5.27

5.10.1Section 1A: Results of semi-structured interviews with nurse-midwives

A total of ten nurse-midwives participated in semi-structured interviews. Five nurse-midwives were chosen from primary health centres in the selected rural and urban primary health centres. All the interviewed nurse-midwives were females. Five chief nursing officers, two principal nursing officers and three nursing officers were interviewed. The participants were between the ages of 28 and 58 and the average age of participants was 39.2 years.

The researcher followed a rigorous data analysis process to generate categories and themes from the data collected (see Table 5.23). The themes represent the group responses. Verbatim quotes were used to support the generated themes.

Table 5.23 Nurse-midwives themes and categories

THEMES	CATEGORIES
PEN-3 model- Culturalidentity	
Theme 1A:Cultural beliefs, myths and practices about cervical cancer prevention.	1.1AFear of death and surgical removal of the uterusprevented the utilisation of cervical cancer prevention services. 1.2ACervical cancer was perceived to be a hereditary condition of a spiritual origin. 1.3ACervical cancer was believed to be non-existent, insignificant and as a death sentence. 1.4A Traditional medicine was preferred for health related issues as opposed to the prevention services for cervical cancer.
PEN-3 model: Relationships and expectations	

Theme 2A: Environmental and societal beliefs influenced awareness and knowledge of cervical cancer and the preventative measures.	2.1ACommunity members were perceived to be ignorant and unaware of cervical cancer due to their poor knowledge 2.2AEnvironmental and societal exposure to cervical cancer affected community members' beliefs about cervical cancer
Theme 3A: Quality of cervical cancer services was influenced by availability of services, infrastructure and resources	3.1AInfrastructure and material resources were perceived to be lacking. 3.2ALack of financial and human resources was perceived to have a negative impact on the quality of the service provided to the community. 3.3A Non-affordability due to poverty and inaccessibility of the cervical screening resulted in the underutilization of cervical cancer prevention services. 3.4A Inadequate training of health personnel resulted in inadequate provision of cervical cancer services.
Theme 4A: Nonexistence of cervical cancer policy	4.1A The target audience perceived the lack of policy on cervical cancer as negative influence on the quality of services.
Theme 5A: Male attitude and influence on health care decision making	5.1A Male dominance over female and health care personnel decision-making negatively influenced female reproductive health issues. 5.2A Males were perceived as being unconcerned about cervical cancer, regarding it as a female issue.
PEN-3 model: Cultural empowerment	
Theme 6A: Collaborative approach and cultural sensitivity in the prevention of cervical cancer	6.1A Stakeholder collaboration to create awareness of cervical cancer. 6.2A Free vaccination against HPV to prevent cervical cancer. 6.3A Availability of cervical cancer screening services for effective implementation of prevention services. 6.4A Prompt treatment; follow-up care and referral of women to tertiary care services for further management. 6.5A The target audience perceived the embrace of Yoruba moral cultural values to increase the use of prevention services. 6.6ASpousal financial and emotional support was perceived as being vital for the uptake of cervical cancer prevention services.

Theme 1A: Cultural beliefs, myths and practices about cervical cancer

This theme comprises four categories relating to cultural beliefs, myths and practices about

cervical cancer.

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Category 1.1A Fear of death and surgical removal of the uterus prevented the utilisation of cervical cancer prevention services.

Cultural beliefs regarding removal of body parts played a significant role in the lives of Yoruba women. Participants reported that women were afraid to access cervical cancer screening because of the potential of a positive cancer result. Fear ruled community members as the consequences of cervical cancer may have meant the surgical removal of the uterus. The community felt that that those who underwent such a procedure would have an incomplete physical body. They held strong cultural beliefs about the necessity of being a complete body at the time of death. In the words of a participant:

"They also believe if they go for the test and it come out positive that their wombs will be removed, so they want to return to God complete and not without a womb" (NSG 004).

Category 1.2A Cervical cancer was perceived to be a hereditary condition of a spiritual origin.

This community believed certain myths regarding the origin of or reasons for cervical cancer such as hereditary, and these were mostly spiritual in nature.

"Yes a woman that have traces of cervical cancer from her family background can have it o, in fact they usually have it I have seen cases like that; it can also be an arrow from the evil ones, giving it a second thought it is spiritual" (NSG 008).

Category 1.3A Cervical cancer was believed to be non-existent, insignificant and as a death sentence.

Some community members believed that cervical cancer did not exist while others believed cervical cancer was a result of punishment from God and an attack by the spiritual beings.

"they believe there is nothing of such they will say "Allah mi o je" " Jesu mi o je" so far that they don't care. And those who believe see it as attack from the spiritual beings like witches, cultist etc (NSG 006)".

Category 1.4A Traditional medicine was preferred for health related issues as opposed to the prevention services for cervical cancer.

Community members regarded seeking treatment for illnesses from traditional healers as acceptable because the treatment was seen as accessible and affordable.

"Uh UN, I don't think they believe there is anything because they don't believe cancer of cervix exists so I can't say there is a barrier to it what you don't know you can't prevent, but if they have symptoms of any sickness at all they usually go to the traditional healers because they are within their reach and cheap" (NSG 004).

Theme 2A: Environmental and societal beliefs influenced awareness and knowledge of cervical cancer and the preventative measures.

This theme comprises of two categorises relating to environmental and societal beliefs on cervical cancer and the preventive measures.

Category 2.1A Community members were perceived to be ignorant and unaware of cervical cancer due to their poor knowledge.

The participants alluded to ignorance and a lack of awareness of cervical cancer on the part of community members as being major contributors to poor knowledge of cervical cancer. Ignorance related to the community members' belief that cervical cancer did not exist. Due to this belief, female community members may have contracted cervical cancer, but be unaware of their status. However, participants asserted that even some of their peers disputed that cervical cancer is fatal, not that it did exist. The following excerpt alludes to a health care worker who said:

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"Yes but not everybody, few people are aware of this. We who have majority have cervical cancers who do not know they are having it. Uh can we say lack awareness or ignorance? It is ignorance because even if you tell them they believe there is nothing of such they will say "Allah mi o je (ALLAH will not accept)" "Jesu mi o je (JESUS will not allow that)" so far that they don't care. Even the health workers, some health worker that are working do not care about it [cervical cancer], *they believe that it cannot occur nor kills" (NSG 001).*

Category 2.2A Environmental and societal exposure to cervical cancer affected community members' beliefs about cervical cancer.

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

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

This theme comprises of four categorises relating to quality of cervical cancer services.

Category 3.1A Infrastructure and material resources were perceived to be lacking.

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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).

Category 3.2A Lack of financial and human resources was perceived to have a negative impact on the quality of the service provided to the community

A shortage of staff and poor financial support from the government has been preventing the community members from accessing the services.

"ha we are very few here and the work load here is much, so we need more hands, more staff should be employed. The services available now is poorly financed by the state government" (NSG 004).

Category 3.3A Non-affordability due to poverty and inaccessibility of the cervical screening resulted in the underutilization of cervical cancer prevention services.

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 socioeconomic status" (NSG 006).

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Category 3.4A Inadequate training of health personnel resulted in inadequate provision of cervical cancer services.

Participants perceived themselves to be ill-equipped to conduct cervical cancer prevention services as they had not received training. They also mentioned the sporadic training given by researchers who were conducting research on cervical cancer. They felt that training was inadequate to meet their needs.

"No we have not been well trained for prevention of cervical cancer, it's only the researchers who have been coming around to give some training and this is not adequate" (NSG 002).

Theme 4A: Nonexistence of cervical cancer policy

This theme comprise of one category relating to nonexistence of cervical cancer policy.

Category 4.1A The target audience perceived the lack of policy on cervical cancer as negative influence on the quality of services.

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 a participant, who said:

"There are no policies per say, 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" (NSG 003).

Theme 5A: Male attitudes had an influence on health care decision-making

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This theme comprises of two categorises relating to male attitudes on health care decision-making

Category 5.1A Male dominance over female and health care personnel decision-making negatively influenced female reproductive health issues.

Males are regarded as the head of the household of Yoruba in Ibadan, and are hence responsible for making decisions regarding the reproductive health of their wives. Yoruba women need to obtain their husbands' consent to seek medical assistance for health issues. Men also decided on the gender of the health personnel treating their wives, showing preference for female health care workers.

"For any married woman living under same roof with his husband, she does not have any right to take [make] decisions without informing her husband, therefore there is need for women to take [obtain] permission from their husbands before going to the hospital " (NSG 003).

Category 5.2A Males were perceived as being unconcerned about cervical cancer, regarding it as a female issue.

However, participants reported that men do not see reproductive health issues affecting women as their problem. For some men, cervical cancer did not exist. Women who were diagnosed of cervical cancer may thus be stigmatized and even be abandoned by their husbands.

"and some men do not even believe that cervical cancer exist and their wives must not be seen by male doctors for examination they don't like it" (NSG 003)

Theme 6A: Collaborative approach and cultural sensitivity in the prevention of cervical cancer

This theme comprises of six categories relating to collaborative approach and cultural sensitivity in the prevention of cervical.

Category 6.1A *Stakeholder collaboration to create awareness of cervical cancer.*

Participants identified various strategies which could be useful in the implementation of cervical cancer prevention services. Participants referred to collaboration between various stakeholders such as the government, non-governmental organizations and community members by means of financial support and participation in providing cervical cancer services to the community. This quotation demonstrates this:

"There should be volunteers that will be ready to support the implementation. Then Government should help us create more space and train health personnel on cervical cancer, because they can get into the community to educate the community members. Government should also support financially and provide all the necessary equipment's required for the prevention services of cervical cancer" (NSG 006).

Category 6.2A Free vaccination against HPV to prevent cervical cancer.

The nurse-midwives participant group articulated the importance and necessity of empowering women to prevent cervical cancer. They identified strategies which were deemed to lead to the empowerment of Yoruba women. The empowerment strategies included the following: offering free cervical cancer screening and vaccination against HPV to women to detect cervical cancer timeously and also to prevent the occurrence of the disease; offering health education and promotion of cervical cancer prevention programmes; a campaign for girl children against HPV; and prompt treatment of women positively diagnosed with cervical cancer. A participant said:

"Also women empowerment is very important and necessary this can be done through free screening, vaccination especially for all girl child starting from primary school and prompt treatment of the affected women with cervical cancer" (NSG 003).

Category 6.3A Availability of cervical cancer screening services for effective implementation of prevention services

The participants made several recommendations regarding cervical cancer screening services. These include making cervical cancer screening services available at primary health care centres; petitioning government and other stakeholders to subsidize cervical cancer screening; treating affected women promptly; and ensuring follow-up care and referral of positively diagnosed women to tertiary care services.

"Since there is poverty generally, so if government can introduce cervical screening facility at the grass root level it will be nice and the screening should be done to create more awareness of cervical cancer" (NSG 004).

Category 6.4A Embracement of Yoruba moral cultural values to increase the use of prevention services.

Participants felt that community members should embrace the moral cultural values and norms to address cervical cancer prevention services utilization. The cultural values of Yoruba culture that were identified as preventative strategies in the fight against cervical cancer include retaining virginity till marriage and monogamy.

"let's go back to Yoruba culture and promote virginity till marriage. Multiple sexual intercourse should be discouraged, however, all girl child[ren] *should be vaccinated with HPV vaccine as well as women who have been screened and came out negative" (NSG 008).*

6 .5A Prompt treatment; follow-up care and referral of women to tertiary care services for further management.

The participants' emphazise the need for early treatment of women who have cervical cancer, they should be follow-up after treatment and for further management they should be referred totertiary health facilities.

"any women who test positive to cervical cancer should be attended to for immediate treatment and their should be follow-up care for such women; also for continuity of care they should be referred to tertiary health facilities for further management" NSG 006.

Category 6.6A Spousal financial and emotional support was perceived being vital for the uptake of cervical cancer prevention services.

The participants pointed out that perceived spousal, financial and emotional support for women were vital in cervical cancer prevention services. The participants asserted that there was a need for men to get involved in their wives' reproductive health issues. As the head of the family in Yoruba culture, it is the responsibility of every man to supply all the essential basic needs of the children and the wife. Financial support to access the services was deemed vital in the prevention of cervical cancer. However, the participants asserted that even though women were given money to access prevention services, women's low socio-economic status compelled them to spend the money caring for their families. Participants were also of the opinion that Yoruba could support Yoruba women psychologically, emotionally and morally by accompanying them to the health care facilities when they access cervical cancer prevention services.

5.10.2 Section 1B: Results of semi-structured interviews with CHOs

A total of ten Community Health Officers participated in semi-structured interviews. Five community health officers were chosen from the primary health centres in the selected rural and urban primary health centres. Six of the interviewed community health officers were females and four were males. Five were senior community health officers, while the other five were junior community health officers. The participants were between the ages of 30 and

55 and the average age of participants was 42.5 years. Table 5.24 depicts the categories and themes which emerged during data analysis.

Table 5.24Community health officers themes and categories

THEMES	CATEGORIES
PEN-3 model - Cultural identity.	
Theme 1B: Cultural beliefs, myths and practices of cervical cancer.	1.1BThe target audience believed cervical cancer to be hereditary and spiritual in origin. 1.2B The target audience used traditional medicine to treat cervical cancer.
PEN-3 model -Relationships and expectations	
Theme 2B: Literacy level and health information impacted on awareness and knowledge.	2.1B: Literacy level and health information impacted on awareness and knowledge 2.2B The target audience consider literacy levels and exposure to health information as having an influence on beliefs about cervical cancer 2.3B Unaffordability and inaccessibility of cervical screening services resulted in community members not using them
Theme 3B: Nonexistence of cervical cancer policy	3.1B The absence of policy was perceived as having a negative impact on service delivery.
Theme 4B: Male attitude had an influence on health care decision making	4.1B Yoruba men were perceived to have power over women's decision-making regarding health care.
PEN-3 model - Cultural empowerment	
Theme 5B: Collaborative approach and Cultural sensitivity in health education, promotion and prevention.	5.1B Policy makers to increase access to information and services through health education and promotion. 5.2B Empowerment of women through free cervical screening and vaccination against HPV. 5.3BIncreasing male knowledge about cervical cancer was perceived to aid female attendance of cervical cancer prevention services. 5.4B Human resource and infrastructure provision was important to render quality cervical cancer prevention services. 5.5B The target audience regarded the acceptance of Yoruba moral cultural values as a means to increase the uptake of prevention services. 5.6BSpousal involvement regarding financial support, consent and involvement in the provision of cervical cancer services as important.

Theme 1B: Cultural beliefs, myths and practices of cervical cancer.

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This theme comprises of two categories relating to cultural beliefs, myths and practices about cervical cancer.

Category 1.1B The target audience believed cervical cancer to be hereditary and spiritual in origin.

Community health officer participants commented that community members hold superstitious beliefs. They, for example, believe that cervical cancer is an attack from either their enemies, an idol, from a hereditary origin or from 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, since 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 believe that there is nothing called cervical cancer while those who believe it exist see it as death sentence" (CHO 005)

Category 1.2B The target audience used traditional medicine to treat cervical cancer.

Yoruba culture allows for beliefs and myths which conceive of sickness and disease as a punishment from God or as proof of having been bewitched. In such cases it is believed that medical treatment cannot resolve the affliction. The Yoruba community therefore avails itself of traditional healers for treatment. They regard traditional healers as their healers as they are always present in the community, and their services are cheap and cultural based. The Yoruba community believes that traditional healers are able to cure any kind of disease.

"Here community members prefer to go to the traditional healers rather than coming to us here in the hospital because they see it as been spiritual and believe it can only be cured in a spiritual way" (CHO 002)

Theme 2B: Literacy level and health information impacted on awareness and knowledge.

This theme comprises of three categories relating to literacy level and health information impacted on awareness and knowledge.

Category 2.1B Literacy level and health information impacted on awareness and knowledge.

Literacy level refers to the level of educational attainment of the participants, while health information refers to the information about cervical cancer given to community members

The community health officer participant group perceived community members to be ignorant and unaware of cervical cancer due to their limited knowledge.

"Well where there is no much knowledge or awareness about something itself is a barrier because it is what you know that you can avoid so without its knowledge, the fact that they are not aware of it is enough barrier" (CHO 001)

Category 2.2B The target audience consider literacy levels and exposure to health information as having an influence on beliefs about cervical cancer.

The community health officers explained further that community members' literacy levels and exposure to health information influence their beliefs about cervical cancer.

"Majority of them does not believe but few of them do, and the few who believe are the educated ones [people] among them" (CHO005).

Category 2.3B Unaffordability due to poverty and inaccessibility of the cervical screening services resulted in community members not using them.

Cancer prevention services were perceived to be unaffordable and inaccessible. Cervical cancer services available to the community members were deemed to be inaccessible due to

the location in which the services were provided and due to the high cost of the screening service for cervical cancer.

Many of the community health officers pointed out that the unaffordability of the screening service is a consequence of the community's poverty, and low socio-economic status. At the same time, the inaccessibility of the cervical screening is a consequence of the geographical location of health facilities and a poor road network, which resulted in the underutilization of prevention services for cervical cancer.There was, for example, no screening facility at the primary health care level which is the first contact to the people at grassroots level.

In the words of one participant:

"Cervical cancer screening is not available and accessible to the community members, the screening services are mostly seen in the urban areas where there are secondary and tertiary health facilities and the screening is even costly, just too expensive"(CHO 001).

Theme 3B: Nonexistence of cervical cancer policy

This theme comprise of one category relating to nonexistence of cervical cancer policy.

Category 3.1B The absence of policy was perceived as having a negative impact on service delivery.

Community health officers stated that they were unaware of a policy on cervical cancer at the primary health care services. The reproductive health services did, however, accommodate women who sought assistance for female health issues.

"I am not aware of any policy on cervical cancer it is not available, but in this facility we are at primary level, I think the best we can use is around the family planning section that's the best we can provide because it is one of the female section so because of our level at which we operate around here so the best they can get here is at the family planning unit" (CHO 005)

Theme 4B: Male attitude had an influence on health care decision making.

This theme comprise of one category relating to male attitude on health care decision making.

Category 4.1B Yoruba men were perceived to have power over women's decision-making regarding health care.

In the Yoruba community, decision-making regarding females' use of preventative cervical cancer services was under the control of male members of the community. However, males believed that cervical cancer was a consequence of promiscuity, a view which usually resulted in the abandonment of the women who tested positive for cervical cancer. A husband's permission is required even if the woman is ready to go to the hospital; if the husband does not give consent then such a woman cannot go. Going against a husband's wishes would cause the Yoruba community to regard such a woman as a rebel.

"Ha! No woman in Yoruba community dare make any decision with her husband it is a taboo, but most men believe that any woman who have cervical cancer is promiscuious, and such a woman will be left alone. There is no how a woman will go to the hospital to receive care without her husband's permission it is not done in Yoruba land" (CHO 008)

Theme 5B: Collaborative approach and cultural sensitivity in health education, promotion and prevention

This theme comprises of six categories relating to collaborative approach and cultural sensitivity in health education, promotion and prevention.

Category 5.1B Policy makers to increase access to information and services through health education and promotion.

The participants identified various strategies which were deemed important for implementing cervical cancer prevention services. Sustained health education and awareness-raising campaigns about cervical cancer were identified as ways to increase access to information and services.

"Mainly what carries the idea is awareness, you know usually during immunization day we have town cries (announcements), mobilizes that go around the areas, you know if such things is done towards this like mobilization, creating awareness help to correct their rough ideas on cervical cancer, retraining personnel, encouraging personnel to do it, those are some of the things that can be done" (CHO 006).

Category 5.2B Empowerment of women through free cervical screening and vaccination against HPV.

Cultural sensitivity focused on the empowerment of females in a patriarchal society. The participants identified strategies which would raise cervical cancer awareness. These strategies included the health education of females and males. The education of males focused primarily on information about cervical cancer with the aim of obtaining buy-in which would translate to men encouraging women to attend cervical cancer services.

"Women can be empowered through health education, creation of awareness on it, educating pupils in schools, screening and vaccination if possible" (CHO 001).

Category 5.3B Increasing male knowledge about cervical cancer was perceived to aid female attendance of cervical cancer prevention services.

Community health officers are of the opinion that increasing male's knowledge about cervical cancer would aid female attendance of cervical cancer prevention services. This can be done through health education and promotion and by organizing seminars for women, and creating awareness. This will build their knowledge of cervical cancer and help them to educate their wives and encourage them to accept the cervical cancer prevention services.

"So our government should also endeavor to organize seminars for men too not only women all the time, to improve their knowledge" (CHO 003).

Category 5.4B Human resources and infrastructure provision was important to render quality cervical cancer prevention services.

Resources included human resources, and infrastructure. The community health officers indicated the need for resources to enable the effective implementation of cervical cancer prevention services. Human resources involve employing adequate skilled staff to coordinate the cervical cancer prevention services, and to train health workers on cervical cancer prevention strategies such as conducting cervical cancer screening. The participants also mentioned the need to have the equipment to render a service.

"To employ more staff because we have insufficient of staff and shortage of staff now, so they should employ more staff to cater for that unit" (CHO 008)

"They should make equipment available at all the health facilities to make work easy for the health personnel" (CHO 006).

Category 5.5B The target audience regarded the acceptance of Yoruba moral cultural values as a means to increase the uptake of prevention services.

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 guide 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 there been 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).

Category 5.6B Spousal involvement regarding financial support, consent and involvement in the provision of cervical cancer services as important.

Spousal involvement in terms of consent gaining, financial and involvement in the provision of cervical cancer services was deemed important by the community health officers. Husbands can accompany their wives to hospital for cervical cancer screening. This will give women reassuring psychological support (Williams, 2014). The men can as well encourage their female siblings and mother as well as their female friends to partake in the screening. This will encourage more women to participate if their husbands are involved (Williams, 2014).

"They can be involved yes they can be involved because if they don't have a wife they have a mother, sister, they have em....., they have friends, school mates that are female, so in that aspect they can help, encourage them to go for the test encourage them financially and also give their wives consent" (CHO 004)

5.10.3 Section1C: Results of key informant interviews with policy-makers

A total of four policy makers participated in semi-structured interviews. Three of the four interviewed policy-makers were males. The four policy-makers included the coordinator of reproductive health for Oyo state, representing the permanent secretary for the Ministry of Health in Oyo state; the director of nursing services Oyo state; and two primary health coordinators for the two selected local government areas. The participants were between the ages of 45 and 50 and the average age of participants was 47,2 years. Table 5.24 depicts the categories and themes which emerged during data analysis.

Table 5.25 Policy makers themes and categories

THEMES	CATEGORIES
PEN-3 model- Cultural identity.	
Theme 1C: Community members' cultural beliefs about cervical cancer.	1.1C Male myths and woman's fear of cervical cancer negatively impacted on the uptake of cervical cancer prevention services.
PEN-3 model - Relationships and expectations	
Theme 2C: Education level and environment influenced awareness and knowledge of cervical cancer and the preventative measures	2.1C The target audience perceived community members as having limited or lacking awareness of cervical cancer due to poor knowledge
	2.2C he target audience perceived the education level of community members as having an effect on their beliefs about cervical cancer
	2.3CThe target audience perceived environmental influences as influencing the beliefs of cervical cancer
Theme 3C: Physical, financial and human resources	3.1C The lack of physical resources such as building and equipment resulted in the unavailability of screening services.
	3.2C Inadequate financial and human resources negatively impacted service provision.
Theme 4C: Nonexistence of cervical cancer policy	4.1C Adoption of reproductive health and family planning policies in the absence of a cervical cancer policy.
PEN-3 model - Cultural empowerment	
Theme 5C: Awareness raising of cervical cancer through stakeholder collaboration, male involvement and cultural sensitivity.	5.1C Awareness creation through community campaigns and through health education and health promotion will assist in increasing community members' knowledge of cervical cancer.
	5.2C Women empowerment through peer influence to educate females about cervical cancer would increase knowledge and service utilization.
	5.3C Financial assistance and the involvement of government and private stakeholders in the provision of cervical cancer services as a necessity.
	5.4C Community dialogue as a means of getting the community members involved in the prevention of cervical cancer.
	5.5C Embracement of Yoruba moral cultural values and family support as a means to address cervical cancer prevention.
	5.6C Provision of free or affordable cervical cancer screening services through subsidizing cost will assist the implementation and uptake of prevention services.
	5.8CProvision of physical resourcessuch as infrastructure and equipment will promote cervical cancer prevention services.
	5.9C Spousal financial assistance, consent and involvement in cervical cancer prevention services to increase the uptake of such services

Theme 1C: Community members' cultural beliefs about cervical cancer

This theme comprise of one category relating to community members' cultural beliefs about cervical cancer.

Category 1.1C Male myths and woman's fear of cervical cancer negatively impacted on the uptake of cervical cancer prevention services.

Males were perceived by the community as being unconcerned about cervical cancer because it is a women's issue. In Yoruba culture, men do not discuss issues pertaining to women those are seen as women's problems. In Yoruba culture, women need to obtain their husbands' consent over any life issue. For example, a woman must secure her husband's permission in order to attend a cervical cancer screening session. However it is believed that if a woman does not show any signs and symptoms, there is no point in her going to a hospital to be screened. There is a need to educate men about the causes and risk factors that can predispose women to cervical cancer and to correct their wrong beliefs.

"most men may not see any issue about it because it doesn't affect them, mark my word my own opinion might be subjective I am not talking about anecdotal data or based on any previous studies but generally that is the impression whatever that doesn't affect you, you don't get worried about it, so provided there is no signs of cervical cancer it is seen as not been necessary to go to the hospital and no woman can also take a decision without her husband's input. Also men don't like their women being examined by male health personnel. I think men need to be educated over this (PCY 003)"

Theme 2C: Education level and environment influenced awareness and knowledge of cervical cancer and the preventative measures

This theme comprise of three categories relating to education level and environment on awareness and knowledge of cervical cancer and the preventive measures

Category 2.1C The target audience perceived community members as having or lacking awareness of cervical cancer due to poor knowledge.

Community members' level of education in terms of educational achievement has great influence over community members' level of awareness and their knowledge of cervical cancer.

Policy-makers perceived community members to have limited or lack awareness of cervical cancer due to poor knowledge. Information on cervical cancer is yet to be well spread in the community. People really don't have an idea of what it entails. To reduce the prevalence and mortality rate of cervical cancer there is need for health education and promotion in the community.

"*You see the level of awareness like I said earlier is still very low be it among the women or even men, you understand, so many people have not even heard of cervical cancer before even if they have heard of it they don't have deep knowledge of it you know, of what predisposes somebody to it, this and that, and a lot needs to be done in that regards*" (PCY 002).

Category 2.2C The target audience perceived the education level of community members as having an effect on their beliefs about cervical cancer.

Policy-makers perceived that community members' level of education affect their beliefs regarding cervical cancer. Educated community members tend to access health information and are more concerned about their state of health. At the same time, some literate community members still lack knowledge of cervical cancer while some illiterate community members are concerned about their health and still collect some information on cervical

cancer, but, for the most part, the educated community members usually have access to better information than those who are illiterate.

"It depend on kind of women you are referring to, may be the educated ones, they know most of the not educated/ or uneducated ones may not really know the importance or what cervical cancer is all about, only very few may be aware, but those who have good education might have heard it one time or the other, so it's a mixed thing (PCY 001)".

Category 2.3C The target audience perceived environmental influences as influencing the beliefs of cervical cancer.

Policy-makers were of the opinion that geographical location influenced community members' beliefs around cervical cancer. People living in rural areas do not having access to information and health care services due to deficient transport infrastructure, poor social amenities such as bad roads, and the long distances between the communities and where the health facility is located. People residing in urban areas are easily able to access care and get information on cervical cancer through the media and even at the health facilities.

"Well yes the elite do, about 50% of the elite are aware of cervical cancer however the people or women in the rural area are not aware of it. A larger percentage of the rural women are not aware of cervical cancer. You know it's not a common disease like malaria, HIV that people know" (PCY 004).

Theme 3C: Physical, financial and human resources

This theme comprise of two categories relating to physical, financial and human resources

Category 3.1C The lack of physical resources such as building and equipment resulted in the unavailability of screening services.

A lack of physical resources in terms of space and equipment resulted in the unavailability of screening services. Most of the health facilities do not have sufficient space. This means these

health care facilities are unable to allocate space solely for the provision of cervical cancer prevention services. Yet, even if dedicated space could be allocated, there still remains the problem of a lack of the specific equipment required for cervical cancer screening. These two factors have made cervical cancer prevention services unavailable and inaccessible at primary health care level.

"from my own perspective, one of the major barriers the community perceived is lack of accessibility to the diagnostic Centre and there are no equipment for the health workers to use (PCY 004)".

Category 3.2C Inadequate financial and human resources negatively impacted service provision

The policy-makers perceived financial and adequate human resources to be lacking in the health facilities in the community. This affects the quality of the service provided to the community. The cost of cervical cancer screening where it is available – basically at the secondary and tertiary levels – is expensive. Most of the women cannot afford it. Furthermore, only a few health workers have been trained on cervical cancer prevention programme and even the few that have been trained are not evenly distributed. The majority of them are found at secondary and tertiary health facilities.

"We have trained some of them but very minute of them, and we plan to train more by God's grace and we need financial support to finance the cervical cancer prevention programme (PCY 001)".

Theme 4C: Nonexistence of cervical cancer policy

This theme comprise of one category relating to nonexistence of cervical cancer policy

Category 4.1C Adoption of reproductive health and family planning policies in the absence of a cervical cancer policy.

The policy-makers confirm that there is presently no policy on cervical cancer in place. The adopted policies of family planning and reproductive health are not well interpreted and implemented at all levels, especially not at the community level. The resources required for the implementation of a dedicated policy on cervical cancer prevention and treatment should be provided and the services related to it should be made accessible and free.

"There is no policy on cervical cancer yet in Nigeria but the Oyo state government has adopted the national policy of reproductive health and family planning which emphasize on free access, free services and free commodities at all the health facilities in Oyo state; but this policies are yet to be implemented especially at the community level (PCY 001)".

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

This theme comprise of eight categories relating to awareness raising of cervical cancer through stakeholder collaboration, male involvement and cultural sensitivity.

Category 5.1C Awareness creation through community campaigns and through health education and health promotion

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).*

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Category 5.2C Women empowerment through peer influence to educate females about cervical cancer would increase knowledge and service utilization.

Peer education – in which women educate other women about cervical cancer – would increase knowledge and service utilization and empowerment women.

"the peer influence goes along way, because they still have cascade of groups, you talk about the mother- in-law, you talk about the young adolescence, and all of them cluster together. So when you cascade it or segregate the information or in the area you engage them it can go a long way to influence what they have to do" (PCY 003).

Category 5.3C Financial assistance and the involvement of government and private stakeholders in the provision of cervical cancer services as a necessity.

The participants mentioned the need to address cervical cancer prevention at primary level. They reported that the government and stakeholders such as non-governmental organizations should collaborate to provide physical, human and financial resources for the prevention of cervical cancer. The provision of free or subsidized cervical screening for women at all levels of care and discouraging all negative beliefs about cervical cancer are believed to aid in the prevention of cervical cancer.

"Apart from government taking a bold step, some NGOs should also come out they have been doing that to ensure that at least the idea of going to the hospital, they should start by educating our women, they should conduct investigation for women for free because the poverty level in the rural area is so great and high. So if the test is free I believe women will not delay or waste time on going to the hospital to conduct any investigation" (PCY 004).

Category 5.4C Community dialogue as a means of getting the community members involved in the prevention of cervical cancer.

Participants identified the need for community dialogue as a means of getting community members involved in cervical cancer prevention. Community dialogue will create the space

for community members to discuss what they feel their problems are and how those problems can be solved. That knowledge will allow policy-makers to identify the most preferred ways to lower the incidence of cervical cancer.

"there should be awareness about it on television, radio, jingle(information inform of play lets and songs), then community dialogue is very important, like you now as a student you can go into the community and dialogue with them and tell them about cervical cancer" (PCY 002).

Category 5.5C Embracement of Yoruba moral cultural values and family support as means to address cervical cancer

Embracing Yoruba moral cultural values and family support to address cervical cancer prevention was perceived to increase the prevention services utilization. Yoruba culture frowns on adultery, fornication, and extramarital affairs – all activities known to increase females' risk of contracting HPV and, ultimately, cervical cancer.

"Yoruba doesn't actually encourage extra marital affair[s], or multiple sexual partner[s] it does not mean individuals do not do that but the culture doesn't do that, they don't expect you to be sleeping around with any man so we can act more on that, moral it might go way to help us "(PCY 003).

Category 5.6C Provision of free or affordable cervical cancer screening services through subsidising cost will assist the implementation and uptake of prevention services.

The policy makers indicated the need for free and affordable cervical cancer screening services by subsidizing the cost of the services to what the community members can afford and this will aid the implementation and sustainability of cervical cancer services.

"Just as HIV screening and treatment is free, family planning uptake too is free, this should be extended to the cervical cancer prevention services and programme; or the services

should be rendered at a subsidized rate and this will help in the implementation and uptake of the services" PCY 003.

Category 5.7C Provision of physical resources such as infrastructure and equipment will promote cervical cancer prevention services

Participants affirmed that there is need to have a physical infrastructure as well as equipment required for rendering cervical cancer prevention services most especially in the community.

"Government and NGOs should assist the health facilities in the communities by making physical infrastructure and equipment available; this will help in promotion of cervical cancer prevention services" (PCY 004).

Category 5.9C Spousal financial assistance, consent and involvement in cervical cancer prevention services to increase the uptake of such services.

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. These 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)

5.10.4 Section 2: Discussion of themes and categories for all the participants groups

The following section is a discussion of the findings across all participant groups according to the PEN-3 model, which was used to structure the findings. In presenting the findings the themes are carefully cross-referenced against each other to identify possible horizontal

themes which would serve as concluding statements. The purpose of this section is to capture the experiences of the nurse-midwives, community health officers and policy makers about thebarriers to prevent cervical cancer amongst women and to identify ways to promote prevention of cervical cancer in the community.

A summary of the themes and categories of all participant groups is depicted in table 5.24 below

Table 5.24 Summary of themes relating to the experience of all participant groups and the concluding statements

Nurse midwives	Community health officers	Policy-makers	Concluding statements
Theme 1A: Cultural beliefs, myths and practices about cervical cancer prevention.	**Theme 1B:** Cultural beliefs, myths and practices of cervical cancer.	**Theme 1C:** Community members' cultural beliefs about cervical cancer.	**Statement 1:** Community member's cultural beliefs, myths and practices and women's fears about cervical cancer negatively affected the use of cervical cancer prevention services.
Theme 2A: Environmental and societal beliefs influenced awareness and knowledge of cervical cancer and the preventative measures.	**Theme 2B:** Literacy level and health information impacted on awareness and knowledge.	**Theme 2C:** Education level and environment influenced awareness and knowledge of cervical cancer and the preventative measures	**Statement 2:** Knowledge and awareness of cervical cancer and preventative measures were influenced by environmental factors and societal beliefs, education and literacy levels and availability of health information.
Theme 3A: Quality of cervical cancer services was influenced by availability of services, infrastructure and resources		**Theme 3C**: Physical, financial and human resources	**Statement 3**: Quality of cervical cancer services were influence by the availability, affordability and accessibility of the service; physical, financial and human resources
Theme 4A: Nonexistence of cervical cancer policy	**Theme 3B**: Nonexistence of cervical cancer policy	**Theme 4C:**Nonexistence of cervical cancer policy	**Statement 4:** Cervical cancer policy were nonexistent
Theme 5A: Male attitude had an influence on health care decision making	**Theme 4B:** Male dominance in decision-making		**Statement 5**: Male dominance and attitude influenced women's health care decision-making.
Theme 6A: Collaborative approach and cultural sensitivity in the prevention of cervical cancer	**Theme 6B:** Collaborative approach and cultural sensitivity in health education, promotion and prevention.	**Theme 5C**: Awareness raising of cervical cancer through stakeholder collaboration, male involvement and cultural sensitivity	**Statement 6**:Stakeholder collaboration, including male involvement, and cultural sensitivity in the health eduction, promotion and prevention of cervical cancer.

5.10.4.1 Concluding statement 1

Community member's cultural beliefs, myths and practices and women's fears about cervical cancer negatively affected the use of cervical cancer prevention services

The purpose of this section is to identify and understand the barriers, beliefs and attitude of community members that can prevent them from the uptake of prevention services of cervical cancer. To ensure the increase in the participation rate of people in cervical cancer prevention programs 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 (Farooqui et al., 2013).

Health workers and policy-makers mentioned cultural beliefs as an obstacle in that 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 been embarrassing if a male doctor examine their wives. In Yoruba culture it is a taboo for a man, even a medical doctor or a nurse, to see another man's wife nakedness, except for 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 occurs completely and solely between a husband and his wife (Kwok et al., 2011). Most Yoruba women are thus socialised into feeling embarrassed by the idea of undergoing a vaginal examination by a medical practitioner (Modibbo, 2016; Oon et al., 2011).

The distribution of doctors by gender in Nigeria is as follows: male doctors = 153 247; female doctors = 127 725 (NMA, 2016). Screening by male doctors may prevent some women from presenting for examination and listening to a discussion about it (Al-Naggar, 2012; Redhwan Ahmed, 2012). Some women also avoid cervical cancer screening as they want to avoid the ensuing emotional irritation, interruption of communal life, and fear it will bring upon their families (Wong et al., 2009).

Some community members were perceived by nurse-midwives, community health officers and policy makers to believe that cervical cancer does not exist. Others, however, believe that cervical cancer came from the gods to serve as a punishment for humanity. These people believe that the disease condition is spiritual and can lead to death (Modibbo et al., 2016). The Yoruba people believe illnesses or disease conditions have been caused by supernatural, preternatural or mystical and natural forces (Ojua &Omono, 2012; Obot, 2012; Ojua,Ishor& Ndom, 2013; Yorupedia,2016; Jeged, 2002; Oke, 1982; Erinoso, 1978).

A study conducted on Zambian women showed that the majority of the participants did not know or comprehend anything of cervical cancer. They believed instead that they were bewitched and rather consulted traditional healers and used orthodox medicines (Maree & Kaila, 2014).

The Yoruba women have similar cultural values as the Zambian women. They too prefer traditional healers to medical health personnel because they believe disease is a result of spiritual attack. In these communities, when it comes to health issues, there is a clear preference for traditional medicine over Western medicine services. All the participant groups asserted that community members preferred orthodox medicine to medical treatment because of the former's accessibility, affordability, and availability. In addition, traditional healers and medicine formed part of their cultural belief system.

Members of such traditional communities also perceive there to be advantages to accessing traditional medicine as it involved non-invasive methods of diagnosis, no screening was done and medication was dispensed based on signs and symptoms. The reality is that this method of consultation could encourage harmful traditional practices and, if care is not taken, a wrong diagnosis might be given (Ojua &Omono, 2012; Jegede, 2002). This may result in the late presentation of cases at the hospital which will reduce the survival of such an individual and thus lead to death. It is this ironic twist of events which makes people from traditional

communities refers to hospitals as houses of death (Yorupedia, assessed on 5 April, 2016; Jegede, 2002).

In order to reduce cervical cancer in women, health workers have been trying to create awareness about cervical cancer and screening services by offering health education at clinics and at the outpatient departments of various hospitals. One such method mentioned by the nurses target audience is that they present general health talks about cancer to women who visit clinics and hospitals for antenatal care, postnatal care and immunization. Such health talks are of a general nature and do not specifically concentrate on cervical cancer. Another awareness-creating method is to scan a female's cervix before the scheduled insertion of an intrauterine device.
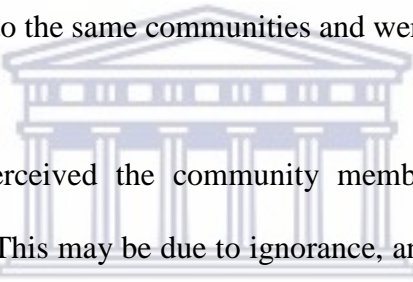
Summary

The need exists to create greater awareness of cervical cancer among the community members. One such awareness-creating method is by educating the entire community on the causes of cervical cancer and promoting the preventive services available in the community. Doing so will correct misconceptions community members have about cervical cancer. Additionally, the federal government of Nigeria should endeavour to formulate national policy on cervical cancer prevention and treatment and should ensure that it is properly implemented at three tiers or level of care. Interventions to increase cervical cancer awareness and screening uptake in multicultural and multireligious communities need to take into consideration the different cultural and religious beliefs in order to design and implement effective cervical cancer screening intervention programmes.

5.10.4.2 Concluding statement 2

Knowledge and awareness of cervical cancer and preventative measures were influenced by environmental factors and societal beliefs, education and literacy levels and availability of health information.

The purpose of this section is to assess the perceptions and attitudes of community members towards cervical cancer and its preventive measures as observed by the nurse-midwives, community health officers and policy-makers.

Cervical cancer has been described by various authors (Ferlay, Soerjomataram, Ervik, et al., 2012; Jedy-Agba, Curado Ogunbiyi, et al., 2012) as the second most common cancer in women worldwide and the most common among women in developing countries such as Nigeria. Its prevalence is due to socioeconomic factors such as poverty, poor knowledge and the inaccessibility if its prevention services. The rationale behind ascertaining participants' perception 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 groups also belong to the same communities and were Yoruba people.

All the participant groups perceived the community members to have limited or lack 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 the rural areas. Even in the urban areas, many people lack information about cervical cancer (Ali-Risas, Mulumba, Verdonck et al., 2014; Ndikom, 2014; Ndikom & Ofi, 2012; Hyacinth et al., 2012; Odetola, 2011). There is a need to create ways of ensuring that information about cervical cancer and its prevention spreads to grassroots communities across Nigeria and sub-Saharan Africa to lessen the preventable morbidity and mortality. Emphasis on the 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 (Wright, Aiyedehin, Akinyinka & Ilozumba, 2014).

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 mobilization and the use of educational resources to increase the awareness and knowledge of cervical cancer in the community (Durowade, Osagbemi, Salaudeen , Musa, Bolarinwa, Babatunde, Adebola, Abubakar-Akanbi, Ano-Edward, Fasiku, 2013).

A study conducted on barriers to cervical cancer screening among Nigerian women over the age of 18 – of which 27 were Christian and 22 Muslim – shows that awareness of cervical cancer was not uniform among different groups of women. Christian women possess better knowledge and a fair level of awareness of cervical cancer, due to exposure to information about cervical cancer in their church activities, it may also be extent of social and subsidiary programmes that accompany the practices of Christianity compared with Islam in the study communities. There was also higher prevalence of unwillingness to engage with the healthcare system among Muslim participants. Religious and cultural factors could have significant influence on health seeking behaviours that should not be underestimated. However, the lack of knowledge about cervical cancer may be linked to the hidden anatomical position of the cervix in contrast with that of the breast which is found on the surface and familiar to most of the participants (Modibbo, 2016).

All the health workers asserted that the government and non-governmental organizations were not financially supportive and resources were not allocated to non-communicable diseases but rather to communicable diseases on the basis of the view that communicable diseases can be spread easily. Insufficient knowledge and lack of awareness can become obstacles to cervical cancer prevention for both community members and health workers (Al-Naggar, 2012; Al Sairafi & Mohamed, 2009). In a study conducted in four rural local

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government areas of north-eastern of Nigeria to assess the knowledge, attitude and practice of rural women pertaining tocervical cancer, 1600 rural women aged 15-55 were randomly selected from 28 villages. About 28,4% (n=454) had heard of cervical cancer, while 22,4% (n=358) knew the location of the cervix. The knowledge 43,6% (n=198) and the practice 38,8% (176) towards prevention of cervical cancer was low due to the poor knowledge and lack of awareness of the disease (Omotara, Yahya, Amodu and Bimba, 2013). Continuous increased awareness and knowledge of cervical cancer through health education focusing on barrier-specific counseling as well as community-based interventions approach was deemed to be useful (Umar, 2014).

However, a study conducted in a community in Tshwane, South Africa revealed there to be a lack of awareness of cervical cancer. As a means of addressing this situation, a community health worker was trained to create awareness about the cervical cancer and screening services available. The initiative failed to raise the level of awareness of cervical cancer (TUM, Maree, Clarke, 2013). This could be due to the fact that the services are not accepted by the community members which have relatively affected the uptake of the services. The cultural beliefs and norms of the community members should also be brought into consideration in order to gauge the cultural acceptability of the services being offered.

If cervical cancer is taken seriously in the way that other communicable diseases and family planning services Nigeria are, whereby pictorial pamphlets, playlets on television and radio are available, then the level of awareness of cervical cancer will increase and, concomitantly, the knowledge of the community members. Nigeria initially experienced low levels of awareness of HIV/AIDS as well as family planning, and it took years before family planning services were accepted by community members, but, at the time, an effort was made to create awareness and a better understanding of the services and the need for them (Ndikom & Ofi, 2012; Odetola, 2011).

The health workers and policy-makers perceived attained level of education and exposure were to have effect on the knowledge and level of awareness of the community level. The level of education in terms of literacy level will affect the knowledge of cervical cancer positively. Most times, the uneducated usually lack information about things except for few among them who are exposed; probably those who live around the educated ones may get to have information.

The environment of the community members has a great influence on their knowledge and level of awareness of cervical cancer (Durowade et al; 2013; Odetola, 2011). For example, urban communities are more informed than rural communities. This may be attributed to social amenities such as an electricity supply which is available in urban areas but often not in the rural areas. Even if information on cervical cancer is made available on social media but there is no power supply, then the purpose may not be achieved except for those who have transistor radio. Transportation to and from health facilities in rural areas can also be a major problem preventing rural community members from having access to adequate information about cervical cancer and cervical cancer prevention services. In most rural areas there road network between available health centres and the communities is bad. Also the distance to the health centres or health posts in the rural areas is usually great and many community members get discouraged. However, in the urban area there are good network roads, electricity supply or use of generator. Consequently, urban communities have access to information on cervical cancer. Also there are more health facilities in the urban area such as primary, secondary and tertiary health facilities that render cervical cancer prevention services (Abdulraheem, Oladipo & Amodu, 2011). A study conducted by Oon et al (2011) among 44 Kelantanese women in Malaysia on pap smear screening revealed that women in the rural areas have difficulty of gaining access to health facilities due to lack and cost of transportation compared to those based in urban areas (Oon et al., 2011) . There have been

barriers to the uptake of cervical cancer screening facilities because most health centres that provide the service are located in areas unreachable by transportation.

At the health facilities, the community members are supposed to have access to information about cervical cancer through health education. However, cervical cancer has not been consistently integrated into other health services rendered at the health facilities (Ndikom &Ofi, 2012; Odetola, 2011). Cervical screening should be integrated into pre-existing health services in tertiary institutions, to encourage awareness and practice of it (Oyebode et al; 2015)

Ndikom et al (2014) suggested that facts on cervical screening should be given frequently to women. There is an exigent need for an aggressive awareness campaign and the delivery of a national cervical cancer screening program in Nigeria.

Summary

The participants affirmed that community members are still lack knowledge about cervical cancer, and lack its awareness. There is need for continuous health education and public campaigns on cervical cancer and its prevention services so as to curtail the morbidity and mortality rate of the disease condition.

5.10.4.3 Concluding statement 3

Quality of cervical cancer services were influence by the availability, affordability and accessibility of the service; physical, financial and human resources

Nurse-midwives, the community health officers and the policy-makers mentioned lack of resources. This lack has prevented the effective practice of cervical cancer screening of women in the community.

The most important barrier to cervical screening is lack of awareness and knowledge of cervical cancer and screening (Fort, Makin, Siegler, Auit & Rochat, 2011; Were, Nyaberi, Buziba, 2011). Other factors found to be barriers to cervical screening are lack of interest,

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lack of access to screening, cost and quality of services, and lack of time. (Modibbo et al., 2016; Abiodun, Fatungase, Olu-Abiodun, Idowu-Ajiboye & Awosile, 2013; Abiodun, Fatungase, Olu-Abiodun, Isowu-Ajiboye & Awosile, 2013; Arulogun & Maxwell, 2012).

The following were the resources mentioned by the nurse-midwives and the community health officers that are presently lacking in the health facilities of Akinyele and Ibadan North-west comprehensive health centres.

Lack of physical resources: There is no physical building or space in the two local government areas presently allotted to cervical cancer prevention services. It was further mentioned by nurse-midwives that the cervical cancer prevention services are not available at the primary health centres. Only a few secondary health facilities have a section for cervical cancer programs and services while the only tertiary institution available in Oyo state – the university College Hospital – offer services related to cervical cancer. The majority of the population – that is, the people living in rural areas – are, however, not aware of it. Some private hospitals in Ibadan also render cervical cancer prevention services, though this has not been effective (Odetola, 2011).

Additionally, the health facilities that have space for the programme do not have the equipment required for cervical screening. This has made the screening not to be readily available to the community members. The majority of the community members are not even aware of the screening for cervical cancer, unlike the case of diseases such as HIV which has become part of the routine tests in most if not all health facilities (Ndikom and Ofi, 2012).

Lack of financial resources: The few people who have been able to undergo cervical screening for cancer in this study had it done for free, with the screening being organized and conducted by some non-governmental organizations and religious bodies. Where it is available in the government hospitals, it is too costly and women cannot afford it. Moreover, men did not regard cervical screening for cancer has been important as they regarded it as women's problems. Cervical screening for cancer can be made readily available, accessible

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and affordable to the women if government, philanthropist and NGOs can be as supportive as they been in the cases of HIV, tuberculosis and family planning services (Ndikom & Ofi, 2012). All the services are rendered free of charge and have even been made readily available at primary health centres. However, unaffordability due to high levels of poverty in the community resulted in the underutilization of the few services available for cervical cancer at the secondary and tertiary level. In more developed countries, coverage levels for cervical cancer screening were found to be low among women of low socioeconomic status (Ndikom & Ofi, 2012; Behbakht, Lynch, Teal, Degeest, Massad, 2004; Coughlin, king, Richards et al; 2002). Various studies conducted in Nigeria (Modibbo, 2016; Ndikom & Ofi, 2012; Balogun et al., 2012) recommended that efforts be made to increase the awareness of cervical cancer and encourage low-cost cervical cancer screening among the underserved population at high risk for cervical cancer.

Cervical cancer screening services should be integrated into family planning services, and should be made available and accessible to all women at affordable prices (Ndikom et al, 2014). Government should increase the health care budget and rank cervical cancer prevention higher by instituting a national awareness campaign that promotes screening services all over the country (Umari 2014).

Lack of human resources: the important role of health workers cannot be overlooked in creating awareness on cervical cancer and getting people to embrace the screening programs (Akinlaja & Anorlu, 2014). However, there is a shortage of health workers in all the health facilities. Some of the health workers do not know much about cervical cancer. The nurse-midwives, the community health officers and the policy-makers affirm that only few health workers have been trained on preventive services for cervical cancer although they usually but irregularly educate patients who attend the center for things like antenatal, postnatal, family planning and immunization on cancer because it is not part of their health talk routine. Most times, cervical cancer is not discussed specifically. For a country to achieve its set

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health goals, it must depend on the knowledge, skills, motivation and development of health workers in organizing and delivering health services (WHO, 2009). Many countries lack the human resources required to deliver vital health interventions for a number of reasons, such as inadequate production volume, relocation of health workers within and across countries, poor mix of skills and demographic imbalances (WHO, 2009).

In the study conducted on health care financing and health outcomes in Nigeria in Cross River state, it was perceived that the spatial spread of health facilities between the urban and rural areas is inequitable, with more health facilities situated in the urban areas than the rural areas. This meant that inhabitants of the rural areas will frequently need to walk over 5km to get to the closest health facility. This distance does not encourage community members to access health care services, and instead results in them seeking health services from other closer and cheaper forms health care providers, whose products and methods are, more often than not, hostile to their health (Riman and Akpan, 2012; Sule et al., 2008). This barrier was also evident in a Zimbabwean study where rural women had inadequate access to health facilities providing cervical cancer screening, due to the long distance that needed to be travelled to get to the site where the services are being rendered (Mupepi et al, 2011).

Summary

The nurse-midwives, community health officers and policy-makers identified barriers to the uptake of cervical cancer screening services. These are lack of awareness and knowledge of the screening for cervical cancer; inaccessibility and unavailability of thescreening services for rural and even urban women, the high cost of the screening services; and the poor attitude of the health workers conducting the procedure. All these barriers should be taken into consideration and addressed before there will be an improvement in the uptake of the screening facilities. There is also a need for a well-implemented national screening programme in Nigeria, especially at community grassroots level.

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5.10.4.4 Concluding statement 4

Cervical cancer policy were nonexistent

All participant groups mentioned the need for policy on cervical cancer and regulations to guide the implementation thereof in Nigeria. In the current absence of policy on the prevention and treatment of cervical cancer, Oyo sate Ministry of Health has adopted policies on reproductive health and family planning as mentioned by the policy-maker group. The national policy on reproductive health and family planning emphasizes free services. The adopted policies of reproductive health and family planning are yet to be fully implemented in Oyo state, especially at the primary level (Oyo state health facility directory, 2008). The World Health Organization recommends the formulation and implementation of cervical cancer prevention and treatment policies in all African countries. The implementation of such policies should occur at all levels of care, but most especially at the primary health care or grassroots level which has the largest population (WHO, 2012).

Summary

The participants affirmed the nonexistent of the policy on cervical cancer prevention services. The government should make available, the adopted policies of family planning and reproductive health at all level of health care.

5.10.4.5 Concluding statement 5

Male dominance and attitude influenced women's health care decision-making.

Nurse-midwives, community health officers and policy-makers identified male dominance as a perceived barrier. In Yoruba culture, men are regarded as the heads of families. This means that, once a woman is married, she is expected to respect her husband decisions, and she can no longer decide on her own without her husband's opinion or contribution. Men operate according to traditional cultural values and their gender role within the family is culturally specified. Yoruba women are usually less vocal and prejudiced about their health care needs

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or concerns. They usually spend their time, energy and attention attending to the needs of their children, their husbands and the extended family. They have more helpful roles acting more as caregivers accountable for wellbeing of the children and the family. The role of men and husbands in Yoruba culture is very significant and influential. Part of men's responsibility is to provide food and shelter for the family, as well as education for their children. The grave consequences for Yoruba women who are perceived to be disrespectful towards their husbands because they failed to adhere to decisions taken on her behalf include divorce from both the husband and his family. The result of divorce is that the women are perceived to be poorly raised which tarnishes her family's reputation (Dogo, 2014; Akintan, 2013).

Before marriage, a woman is regarded as still being under the guardianship of her parents or relatives, but, once she is married, the woman becomes the property of her husband. In the marriage, and provided that all the traditional obligations have been fulfilled by the husband to the parents of his wife, the husband then make all decisions pertaining to the marriage, including decisions affecting his wife. Such a wife must be able to meet the needs of her husband and be obedient to him. This is called being a "good wife". In this sense then, it is clear that women in Yoruba culture are regarded as legal minors and inferior to men in terms of social status (Yorupedia, assessed on 5April, 2016; Dogo, 2014; Akintan, 2013).

In a study conducted on barriers to cervical cancer screening among Nigerian women, 27 Christian and 22 Muslim women over the age of 18 with no diagnosis of cancer were interviewed. Most of the participants indicated that they would need their husbands' permission before undergoing screening (Modibbo, 2016).

A study was conducted among women attending an academic hospital in Tshwane, South Africa to access care. Seventeen (*n* = 17) women were interviewed. The assistance these women received from their spouses as they underwent treatment for cervical cancer varied.

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Some were totally supported, others received inadequate support while some were even abandoned (Maree, 2013).

This indicates the need for spousal support by women diagnosed with cervical cancer. Such support could be emotional, psychological and/or financial.

In Africa, men have a significant role to play in improving the acceptance of screening programmes and health interventions. This means that health education programmes for women's health should involve women's partners in order for such programmes to increase their chances of success (Hossain, Mani, Sidik et al., 2014; Ezeonwu, 2014).

Yoruba men believe cervical cancer to be an exclusively female issue. By withdrawing themselves from the dialogue around it, men do thus not inform themselves sufficiently to realize the enormity of the illness. Male influence has a profound effect on females and their health care decisions. Nurse-midwives, community health officers and policy-maker mentioned that the majority of men believe cervical cancer to be a women's health problem or issue which does not affect them in any way. This ignorance of reality allows such men to regard those women who test positive for cervical cancer as having multiple sexual partners or as being promiscuous. Moreover, these men believe that a woman who tests positive for cervical cancer is receiving the reward of her sexual misconduct (Modibbo et al., 2016).

Women who are positively diagnosed with cervical cancer are at risk of being abandoned by their husbands and stigmatized by community members. Some men regard cervical cancer as a death sentence and may end up discarding a wife so diagnosed and marry another woman (Modibbo et al., 2016).

Summary

Cultural concerns of modesty, the gender of health care providers, the fear of disclosure of results, and the need for spousal approval could serve as barriers to the uptake of cervical

cancer prevention services. All male in the community should be enlightened on cervical cancer prevention, this will enable them have better knowledge of cervical cancer.

5.10.4.6 Concluding statement 6

Stakeholder collaboration, including male involvement, and cultural sensitivity in the health education, promotion and prevention of cervical cancer.

All the participants mentioned that there is need for stakeholder collaboration. The stakeholders included public (i.e. governmental) and private organizations. The immediate Ministries such as the Ministry of Health should collaborate with other Ministries like the Ministry of Information, Ministry Of Women Affair, Ministry Of Education and youth development agencies, 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. (Sakeah, 2014; Nwaze, 2013). These leaders should first be made to see the importance of good knowledge and awareness of cervical cancer as well as the risks of its late discovery. Once they have good knowledge of it they can increase the level of awareness of cervical cancer and also correct the misconception of it. This approach has been applied to other programs such as antenatal care whereby the respected religious leaders and traditional rulers were used on media to publicize the importance of antenatal care and that they are in full support of it. This encouraged women to turn up for antenatal care and delivery at health care facilities instead of opting for home delivery or care and delivery at traditional birth attendant places. This has caused a reduction in maternal mortality. This same strategy can be applied to cervical cancer (Ndikom & Ofi, 2012).

The nurse-midwives and policy-makers recommended the need for financial support and involvement of the stakeholders in the delivery of cervical prevention services. The philanthropists, religious bodies, traditional rulers and private bodies need to support the government financially in making cervical cancer prevention services a reality. At present, it is not done for free in Oyo state, but the adopted policy affirmed that if the government can be supported financially to get the required materials and equipment for the procedure, more women will make use of it. Due to their low socioeconomic status, most women are dependent on men, a situation which causes them to regard screening as not being a priority. This is due to its cost – the majority of the women cannot afford it. Screening is also not readily available and accessible. Therefore, even if the women have the money for the test, they are put off by the distance to the screening facility and the stress of travelling there. This causes them not to make use of the screening facility. Therefore financial support of both private and public organizations will definitely increase the uptake of screening services, and will even make it readily accessible and available once there are proper implementation of services at all the levels of care.

Involving stakeholders in the development and implementation of prevention programs and anchoring a program on existing social networks and institutions may facilitate woman's ability to make informed decisions about their health. Working with the community at large encourages local ownership of prevention programs and may enhance their sustainability (Wallerstein & Duran, 2010; Agurto et al., 2005).

Community involvement and participation through community dialogue was deemed necessary by the nurse-midwives and policy-makers for effective cervical cancer prevention services. Community-based participation will help community members to recognize their needs, and how they want those needs to be met. It will also aid in the approval of the approaches that need be designed to meet their requirementsbecause it is their notion and

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view, therefore it will be long term use for the provided approaches (Sakeah, 2014; Nwaze, 2013).

Prevention of cervical cancer services should be adapted and designed to be culturally sensitive (local needs) and aimed to motivate women to make use of cervical cancer screening (WHO, IARRC & APHRC, 2012). There is need for the community to know the importance, benefits and availability of cervical cancer prevention services. Culturally appropriate cervical cancer intervention programs delivered in a manner and through channels that Yoruba women in Ibadan, Nigeria prefer may increase their awareness of cervical cancer and cervical cancer risk factors. Subsequently, cervical cancer screening rates will increase and disparities in cervical cancer incidence and mortality rates will decrease.

The most effective ways to increase women's voluntary participation in prevention programs have been integratedinto a community involvement policy framework that includes listening to and learning from the community, involving community stakeholders in program development and implementation, and responding to the needs of the community (ACCP, 2005).

Women empowerment through capacity-building by the stakeholders will build their knowledge of cervical cancer and also reduce women's dependency on their husbands. It is the function of both public and private organizations to empower the women. Such empowerment can be achieved by organizing seminars for women in public places such as markets, churches; mosques etc. Such seminars will deal with cervical cancer, risks, predisposing factors, the screening process and treatment of women already tested as positive. Educating, training and motivating health care providers to play a significant role in providing knowledge to women is also an important component of improving women's knowledge levels (Di, Rutherford, Wu, Song, Ma, Chen, Chu, 2015). Starting at secondary school level, girl children should also be included in education on cervical cancer.

Researchers are of the view that it is better to introduce girl children to the knowledge of cervical cancer in the early stages of their life, so that they can then spread the news better by telling their mothers, sisters, aunties, grandmothers and even their brothers and fathers.

Public and private organizations can also empower women through the provision of cervical screening at subsidized rates or fee. The HPV vaccine can be given to girl children. There is thus a need for government to add the vaccine to immunizations given to children. The women who screened negative can also be given the HPV vaccine. The capacity of the women can be built by helping them to acquire vocational skills and jobs. This will lessen their dependence on their husbands for all their needs. However, they will still need their husbands' support, no matter how little that may be.

The communication of appropriate messages that address women's concerns and corrections of misconceptions may enhance the likelihood that women will adopt prevention behaviours (WHO, IARC, APHRC, 2012; Williams, 2014). Peer support and women empowerment will encourage women to make use of cervical cancer screening services (Logan & Mcilfatrick, 2011).

Policy implementation: the nurse-midwives, community health officers and policy-makers identified the need for effective implementation of the adopted reproductive and family planning policies to address cervical cancer prevention. The implication of these policies is that every woman has right to reproductive health services at an affordable cost or even free of charge. Every one of the services should be available at grassroots level, underscoring the need to integrate the cervical cancer prevention services into services provided at primary health centres.

There should be a facility for prompt treatment of affected women, and if a woman is referred for proper management at secondary and tertiary level, she should, after treatment, be referred back to the primary level for proper follow-up care.

Continuous health promotion, public enlightenment and public campaigns about cervical cancer are the key to the creation of awareness and improvement of community members' knowledge about cervical cancer. This can be done through the use of media, postal bills, hand bills, flyers and pamphlets, ensuring that the information is typed using the local language (Yoruba) for proper understanding. Non-verbal, picture-based media can be used to accommodate the illiterate (WHO, 2013).

Male participation: the role of men in Yoruba culture ensures that no married woman can ignore their husband over any issue. For proper turn-out for and uptake by women of cervical cancer prevention services, male involvement and participation is required. Due to the significant cultural role of men in Yoruba culture, it is important to educate them on early detection of cervical cancer. Awareness of cervical cancer should start early for both men and women (Thiel de Bocanegra et al., 2009).For men to fully participate, they need to have good knowledge of cervical cancer and its prevention services, and they must be aware of it. Education can be done at public places where men can easily gather, or through the media, via handbills, jingles etc (WHO, 2013).

Seminars on cervical cancer can be organized for men to increase their knowledge. Men can also participate by supporting their wives financially. Undergoing a cervical cancer screening procedure requires money as the procedure is not free and women have to bear the cost of transport to and from the health care facility. Therefore, men should endeavour to support their wives financially as most Yoruba women are financially dependent of their husbands. Men can also accompany their wives to the hospital for the screening process in order to show their concern. Women also need psychological, moral and emotional support of their husbands. When they have such support from their husbands, they will emboldened to undergo the screening, while their fear of stigmatization and abandonment by their husbands will be allayed, even if they should test positive.

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Embracement of moral cultural values and family support to address cervical cancer prevention: the moral cultural values of Yoruba frown upon sexual promiscuity, adultery and fornication. Even though polygamy is accepted in Yoruba culture, men who marry more than one woman may not behave in a sexually promiscuous manner, as extramarital sexual intercourse is highly prohibited in Yoruba culture. These values can actually help to limit or eradicate the HPV. However, the notion of men marrying more than a wife should be corrected in Yoruba culture (Dogo, 2014, Akintan, 2013; Familusi, 2012; Alaba, 2004; Jegede, 2002). In Yoruba culture, family ties are highly cherished and they all believe in one another's opinion and way of life. There is need to publicize and create awareness of cervical cancer and its preventive measures in entire families, the neighbourhood and the community at large. When everyone is all well informed, they will support and encourage their women and girl children in the uptake of cervical cancer prevention services. Family structure in Yoruba culture is community based and a form of grassroot government, highlighting the need for community mobilization, involvement and participation in the promotion of cervical cancer prevention services at community level (Yorupedia, assessed on 5th April, 2016).

It should be noted that active involvement of community groups and members is necessary to increase the uptake rate, and will also encourage women to return for subsequent screening. The use of peer education, empowerment and community development involvement, media campaigns will ensure the acceptance and use of cervical cancer prevention services (Logan & Mcilfatrick, 2011).

5.11 SUMMARY

Several ways of promoting cervical cancer prevention were mentioned by the nurse-midwives, the community health officers and the policy makers. There is need for continuous campaigns on cervical cancer, community mobilization and participation, male involvement, collaboration from the religious bodies, community leaders, government and non-

governmental bodies, women empowerment and promotion of Yoruba culture in order to support the prevention of cervical cancer.

CHAPTER 6

DEVELOPMENT AND DESCRIPTION OF A COMMUNITY-BASED MODEL FOR PROMOTING CERVICAL CANCER PREVENTION AMONG YORUBA WOMEN IN IBADAN

6.1 INTRODUCTION

In chapter five the results of the quantitative survey (Phase 1) were described and corroborated against existing literature on the topic. The results of the semi structured interviews (Phase 2) with nurse midwives and community health workers in addition to the key informant interviews with policy makers were alluded to and placed within empirical literature. The findings in phase 1 served as baseline data to give context to the topic. The findings in phase 1 and phase 2 of the study are used in phase 3, where the main concepts will be identified from the data collected in phase 2. Creating conceptual meaning from the identified concept will provide a foundation for the development of a community-based model for promoting cervical cancer prevention among Yoruba women. The emphasis of this chapter will therefore be a discussion of the process of the development, and description of the aforementioned model.

This phase follows a series of steps outlined in Walker and Avant (2011), Chin and Kramer and Dickoff, James and Wiedenbach (1968). The chapter is structured in the following steps which guide model development:

Step 1: Concept synthesis- Identification of conceptswhich includes the main and related concepts

Step 2: Development of relational statements

Step 3: Theory synthesis- Model development

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Following step 3, model description is structured according to the following sub-headings: overview of the model, context, purpose and assumptions on which the model is based. The structure, definition, relation statements and a process description of the model is given.

6.2 STEP 1: CONCEPT SYNTHESIS

Concepts are mental images of a phenomenon which help to organize or categorize environmental stimuli (Walker & Avant, 2011). The process of concept development is a two-step process involving the identification ofmain and related concepts, followed by the classification and definition ofthose concepts which are necessary for the development of the model.

Identifying, classifying and defining the main concepts facilitated the creation of conceptual meaning, which is a theory-building approach. According to Chinn & Kramer (2015), conceptual meaning is the process whereby individuals use ideas, thoughts or feelings to represent their experiences which would not likely to be expressed through the definitions. These thoughts are expressed in everyday language. Whilst conceptual meaning is complex, it displays a mental picture of what the phenomenon is like and how it is perceived in human experience — the context determines the meaning given (Chinn & Kramer, 2015).

6.2.1 Identifying main concepts

The identification of main concepts for the development of the model occurred from the results of the analysis of both the quantitative and qualitative data that emerged from semi-structured interviews with the community members, health workers (nurse midwives and community health officers) and key informant interviews conducted with policy makers. The process of identification of concepts began by critically looking at, and deriving meaning from the seven concluding statements which were generated from the themes that cut across all participants groups during the qualitative data analysis in phase two of the study.

Guided by the purpose of the study, concepts were identified by the 'searching out' of words and groups of words that represent the phenomena and their related actions (Chinn & Kramer, (2015) in the sixconcluding statements and concepts from the expert review conducted. A total of 28concepts were identified. These concepts were further synthesized by examining their similarities and differences, a process which finally resulted in the deductive formation of six main concepts. These main concepts were used to develop a community-based model for promoting cervical cancer prevention among Yoruba women in Ibadan Nigeria. Themain conceptsas depicted in Table 6.1 are:

1. Enabling environment

2. Cultural norms & values

3. Stakeholder collaboration

4. Sustained cervical cancer prevention program

5. Services

6. Activities
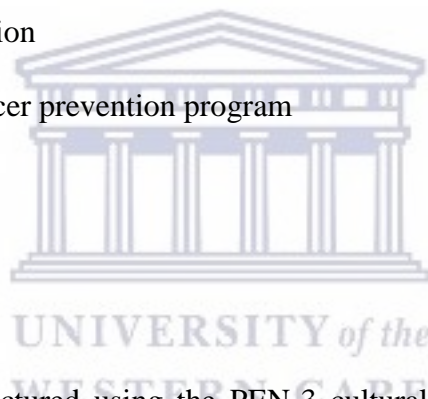
The main concepts were structured using the PEN-3 cultural model as per Airhihenbuwa (1989) as a framework (see table 6.2) to capture the level of awareness knowledge, practice, beliefs and attitude of community members to cervical cancer, barriers to prevention of cervical cancer and ways to promote the prevention of cervical cancer.

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Table 6.1 Process of identifying and classifying conceptsand main concepts

PEN-3 model	Concluding statements based on horizontal themes	Concepts	Main concepts
Cultural identity	**Statement 1:** Community member's cultural beliefs, myths and practices and women's fears about cervical cancer negatively affected the use of cervical cancer prevention services.	Myths Cultural beliefs Cultural practices Women's fears	1. Enabling environment 2. Cultural norms & values
Relationship & expectation	**Statement 2:** Knowledge and awareness of cervical cancer and preventative measures were influenced by environmental factors and societal beliefs, education and literacy levels and availability of health information.	Knowledge Awareness Preventative measures Environmental factors Societal beliefs Education level Literacy level Health information	3. Stakeholder collaboration 4. Sustained cervical cancer prevention program 5. Services 6. Activities
	Statement 3: Quality of cervical cancer services were influence by the availability, affordability and accessibility of the service; physical, financial and human resources	Quality of cervical cancer services Availability of service Affordability of service Accessibility of service Physical resources Financial resources Human resources	
	Statement 4: Cervical cancer policy were nonexistent	Cervical cancer policy	
	S**tatement 5**: Male dominance and attitude influenced women's health care decision-making.	Male dominance Male attitude Health care decision-making.	

Cultural empowerment	**Statement 6**:Stakeholder collaboration, including male involvement, and cultural sensitivity in the health education, promotion and prevention of cervical cancer.	Stakeholder collaboration Male involvement Cultural sensitivity Health education Health promotion and prevention	

6.2.2 Concept classification

Concepts were classified according to the survey list developed by Dickoff et al (1968) and through the expert review conducted; and defined according to dictionary and subject definitions in the section that follows.

Six questions relating to the activity aspects are used to survey activity. These questions are:

1) Agent - *Who or what performs the activity?*

2) Recipient - *Who or what is the recipient of the activity?*

3) Context - *In what context is the activity performed?*

4) Procedure - *What is the guiding procedure, technique or protocol of the activity*

5) Dynamics - *What is the energy source for the activity?*

6)Terminus- *What is the end point of the activity*

6.2.2.1 Expert Review

The researcher conducted an expert review to review the concepts identified in order to structure the model. Purposive sampling was used to select policy-makers.   Seven invitation letters were sent out to policy-makers to invite potential participants to participate in the expert review. All seven policy-makers accepted the invitation to participate in the expert review but only five participants were able to attend the expert review meeting. The group consisted of a reproductive health director, two primary health coordinators of the selected local government areas, a gynecologist oncologist and a nurse-midwife. The researcher first presented the overview of the study and the conclusion statements from both quantitative and qualitative data collected to the participants. The importance of the expert review meeting was to identify the components of the model and formulate it together with the policy-makers in Oyo state Ministry of Health and the selected local government areas in which the study was conducted. The expert

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review was conducted for two hours thirty minutes in a board room at the state Ministry of Health. Consent form (Appendix 7) was given to each participant to sign.

The researcher asked the participants permission to audiotape the discussion.Three participants declined thus the researcher gave them paper and pens to write down their contribution independently. Participants were asked to write down their opinion based on the questions (Appendix 17) asked and content synthesis was done using deductive reasoning. This was achieved by drawing findings from individuals studying together. The survey list, developed by Dickoff et al (1968), was used to derive main and key concepts from the concepts respectively. The key concepts werecross-checked with the conclusion statements in order to ensure that there were no omissions.

Demographic characteristics of the expert review participants

Of the six participants in the nominal group technique, three were male and female respectively. All the participants are health professional and work with the government. Two of the participants work at the primary health care (PHC), one at the secondary level of care and two at the tertiary level care. The ages of the participants range from 37 to 48 years, and their work experience ranges from 10 to 20 years. Collectively the participants had more than 10 years working experience in providing health services to Yoruba women.

The researcher's reasoning map related to the survey list as depicted in figure 6.1below will

show how the main and related concepts were classified.

AGENT:	RECIPIENT:
Professionals/ non-professionals	females, family, collaborators, cultural v

CONTEXT

Health facilities

Social organizations

DYNAMICS

Stakeholder collaboration

PROCEDURE

Services/activities

Resources

TERMINUS

Sustained cancer cervical prevention programme
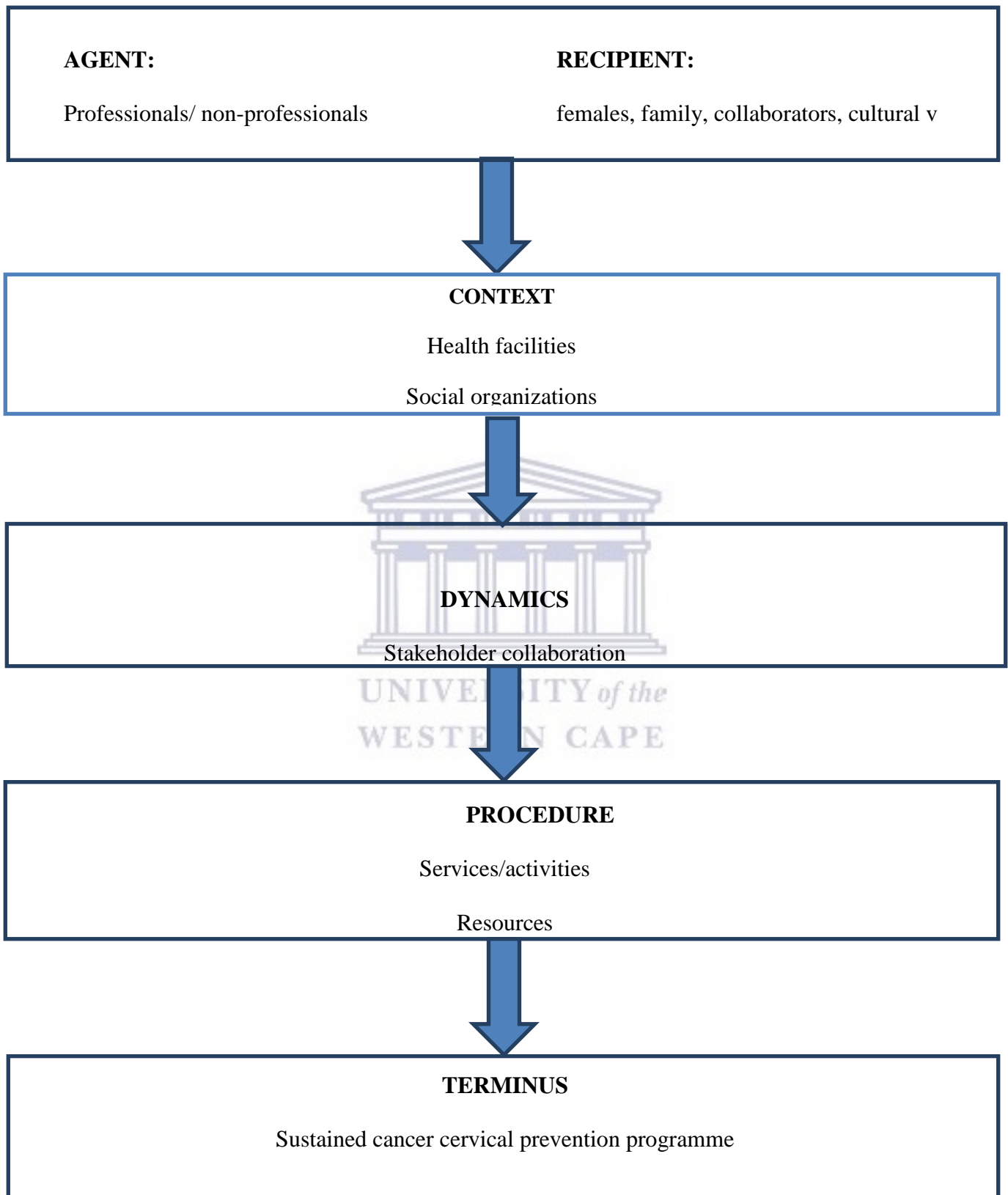
Figure   6.1:   Reasoning   map   (adapted   from   Dickoff   et   al.   1968)

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6.3 RESPONSE TO SURVEY LIST QUESTIONS

A brief explanation is given below of how the concepts and the main concepts were used to answer the questions in the survey list. In other words, the arrows seen at Table 7.3 now point back towards opposite direction.

i) Agent

Who will be responsible for the promotion of cervical cancer prevention services? In this model the agentsare initially the professionals and non-professionals who are responsible for the provision of cervical cancer prevention services as well as the dissemination of information on cervical cancer and its prevention services. The professionals include doctors, nurses, and epidemiologists, whilst the non-professional includes educationists and the mass media. The Yoruba women and family members will eventually also becomes the agents when they assume responsibility for their own wellnessand when the identified barriers are addressed. The key concepts identified during the classification process pertaining to the *agent* are:

- Professional health care staff
- non-professionals

ii) Recipient

Who will benefit from a community-based model for promotion of cervical cancer prevention? In this model, the females, family and collaborators are the recipients who need to have access to information, services and activities involved in the prevention services of cervical cancer. However, when the required needs of the females, family and collaborators are met, they will participate fully and will accept the programme and regard it as their own. This will create the possibility for the sustainability of the cervical cancer prevention

programme. The key concepts identified during the classification process pertaining to the *recipient* are:

- females (women)

- family

- collaborators

iii) Context:

In what context will the community-based model for promotion of cervical cancer prevention be developed and described? In this study there are two contexts. The first context referred to the specific rural local government area (Akinyele local government) and the urban local government (Ibadan North-west) where the study was conducted. The second context is the specific health facilities where the women in the community receive treatment and social organizations where community members are found. This is known as an enabling environment. Specific knowledge practice beliefs and attitudes towards cervical cancer and prevention servicescan be found in both contexts. Some of these beliefs, attitudes and attitudes operate as barriers to cervical cancer prevention services and the ways to promote its prevention services. These barriers thus illustrate the need for women and community members to be aware and have good knowledge of cervical cancer and its prevention services (women in the community) in order to uptake the services (health facilities). The assumption is then that the participants of this study indicated their cultural identity, their practice, barriers, cultural empowerment to the promotion of cervical cancer prevention services. The key concepts identified during the classification process pertaining to the context are:

- Health facilities

- Resources

- Stakeholder collaboration

- Positive attitude

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iv) Procedure

What will the techniques, procedures and protocols associated with a community-based model for promoting cervical cancer prevention among Yoruba women are?Dickoff et al (1968) statethat procedure refers to the path, steps or general patterns on the way to the accomplishment of the goal. The procedure will involve the services/activities that involve the provision of national screening, outreaches, vaccinations awareness creation, and the making available of the necessary required resources.Thekey concept identified during the classification process pertaining to the procedure is:

- range of cervical cancer services

- activities related to cervical cancer

v) Terminus

The terminus is the end point or purpose of the activity. In this study, the uptake of cervical cancer prevention services require teamwork between the community as a whole, traditional leaders, religious leaders, and family members, and the specific involvement, support and participation of males, health workers and government and non-governmental organizations. The main concept identified during the classification process pertaining to the *terminus* is:

- sustained cervical cancer prevention programme

6.4 DEFINITION OF CONCEPTS

Main concepts are defined by way of dictionary and subject definitions. Both definitions are synthesized to give a synopsis of the definitions. Defined concepts are contextualized for this study so that they give meaning to the various aspects within the community-based model for promoting prevention of cervical cancer among Yoruba women in Ibadan Nigeria. The related concepts are referred to but will be integrated into the discussion of the structure (6.3) and processes of the community-based promotion model (6.11)

i) Enabling Environment

The first main concept, enabling environment, has related concepts which are: resources, policy, stakeholder collaborations and context.

Dictionary definition of the concept: enabling environment

The Cambridge Business English Dictionary (2016) defines *enabling* as the means of making something possible or easier.

Environment may refer to physical, social and cultural surroundings (Kernerman Webster's College Dictionary, 2010).

Enabling environment thus refers to the physical, social and cultural surroundings that make things possible or easier.

Subject definition: enabling environment are places where people live, work, feel safe enough to develop relationships, and come together for a specific purpose (www. Rcpsych.ac.uk. accessed on 28 March, 2017).

Summary

An enabling environment refers to policy on cervical cancer, physical infrastructure, human and financial resources, cultural norms and values and stakeholders collaboration that need to be in place for people to uptake cervical cancer prevention programme.

ii) Stakeholder collaboration

The Cambridge Online Dictionary (http//: www. Cambridge online dictionary.com) defines *stakeholder* as a person such as an employee, customer, or citizen who is involved with an organization, society, etc and therefore has responsibilities towards it and an interest in its success.

Collaboration is the situation of two or more people working together to create or achieve the set goals (http//: www. Cambridge Online Dictionary.com).

Subject definition: stakeholder collaboration depicts the involvement of individuals, organizations, professional health care workers and non-professionals working together to create awareness of cervical cancer, provide supports in terms of physical, financial and human resources to ensure availability, accessibility, affordability and sustainability of the cervical cancer prevention program at a grassroots level.

Family

A *family* is a group of people who are related to each other, such as a mother, a father, and their children (http//: www. Cambridge Online Dictionary.com).

Subject Definition: The Yoruba have a family organization that is very distinctive. It is distinctive in the sense that it is community based and a form of grassroots "government".There are two levels of family organization among the Yoruba people: the immediate or nuclear family level and the kinship or extended family level. These two levels focus on both blood and marital relationships (Yorupedia, assessed on 5th April, 2016).

Summary: the agent of the cervical cancer prevention programme will be family members, which include the women, men, community members and children. They shall receive community education, HPV vaccination and cervical cancer screening.

Females

This relates to women or the sex that can give birth to young or produce eggs (http//: www. Cambridge online dictionary.com).

Subject definition: females are girls (9 to 13years of age) who will receive HPV vaccination and health education on cervical cancer, and women (older than 30 years) for screening and treatment as needed (WHO, 2013).

Summary: stakeholder collaboration involves community participation and involvement through community advocacy and dialogue; male involvement and participation through the support of wives and daughters by giving consent; government and non-governmental

organizations through the provision of physical structure, supply of equipment, training of professionals and non-professionals on cervical cancer; financial support by subsidizing the screening or doing it for free.

iii) Sustained cervical cancer prevention program

The second concept – cervical cancer prevention program – has related concepts which are: awareness creation, services and activities.

Sustained means continuing for a long time (Cambridge Advanced Learner's Dictionary, 2016).

Programme is defined by the Oxford Dictionary (2016) as a set of related measures or activities with a particular long-term aim.

Cancer starts when cells in the body begin to grow out of control (CDC, 2012)

Cervix is the lower narrow part of the uterus (womb) which connects the vagina to the womb (CDC, 2012).

Subject definition: cervical cancer prevention programmes refer to a set of continuous services and activities involved in the prevention of cervical cancer.

iv) Activities

*Activity*is defined as something that is done for enjoyment, especially an organised event (http//: www. Cambridge Online Dictionary.com).

Subject definition: cervical cancer activities depict the training of health workers and traditional healers on the causes of cervical cancer, its predisposing factors, its risk factors and the services available for its prevention. The health workers will be trained on the cervical cancer screening services, specifically on how to conduct it and who to refer for further management.

v) Services

Service is an act of helpful activity, help and aid (www.define service at dictionary.com)

Screening is a preliminary procedure, such as a test or examination, to detect the most characteristic sign or signs of a disorder that may require further investigation (Mosby's Medical Dictionary, 2009).

Screening of cervical cancer should be available, accessible and affordable to women at all levels, but most especially at the community level. There should be provision of physical infrastructure, equipment, human resources and financial support by the stakeholders.

Services involved in cervical cancer prevention program are: community education, social mobilization, HPV vaccination, screening, treatment and palliative care (WHO, 2013). Subject definition: Cervical cancer services in this context involve health education, cervical cancer screening and HPV vaccination.

Summary: Sustained cervical cancer prevention program involves health education and promotion, HPV vaccination, screening services, follow-up care, training of health workers and traditional healers in an enabling environment.

vi). Cultural norms and values

Culture is a set of attitudes, behaviours, and symbols shared by a large group of people and usually communicated from one generation to the next (Shiraev and Levy, 2014).

Norms are cultural products (including values, customs, and traditions) (Sherif, 1936).

Values are beliefs of a person or social group in which they have an emotional investment (either for or against something) (the online Merriam Webster's Dictionary http//:www.merriam Webster.com).

Subject definition: cultural norms and values are the rules that a specific group uses for stating what is seen as appropriate and inappropriate behaviours, values, beliefs and attitudes.

Summary: cultural norms and values involve male participation and involvement, community involvement, uptake of the cervical cancer prevention programme females and family members.

Summary: The recipients of the programme are females, who will be empowered against cervical cancer through health education and promotion, HPV vaccination, screening and follow-up care. The major aim is to prevent them from been infected with HPV and not having cervical cancer.

6.5 STEP 2: STATEMENT SYNTHESIS

According to Walker and Avant (2005) re relation statements are statements that indicate which concepts are linked or relate to each other. Relational statements are based on statement synthesis. The relational statements of the model were developed by means of identifying the relationship between the concepts and the six elements on the survey list and are as follows:

- An **enabling environment** is attained through the stakeholders' collaboration, formalized policy for cervical cancer, provision of resources, good attitude of health workers and Yoruba cultural norms and values.

- **Cultural norms and values** result in positive actions and practices that can empower women, men, family and community members to participate in the cervical cancer prevention programme.

- **Stakeholder collaboration** occurs between an enabling environment, all the activities involved in the cervical cancer programme, cervical cancer prevention services, cultural norms and values of the Yoruba's to facilitate a sustained cervical cancer prevention programme.

- A **sustained cervical cancer prevention programme** is the outcome of collaboration between the enabling environment, professional and non-professional supportive intervention, services and activities of cervical cancer prevention, and **cultural norms and values** of the Yoruba's.

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- **Cervical cancer services** will be rendered through collaborative liaison between the stakeholders, enabling the environment to render effective cervical cancer prevention in relation to the cultural values and norms of the Yoruba women, to facilitate the uptake of the prevention services rendered to the women and their family members.

- **Activities** are sustained through collaborative liaison between the stakeholders, the family members, and also by ensuring an enabling environment for the uptake of the available services of cervical cancer prevention.

6.6 STEP 3: THEORY SYNTHESIS

The process of model development included the use of concepts which were identified and defined. Relational statements which link the concepts were then developed. Theory synthesis is often presented in an expository form, however graphic representation and conceptual frameworks also depict the relationships within and among statements which represent the theory (Walker & Avant, 2011). An objective of this study was to develop community-based model for promoting cervical cancer prevention among Yoruba women in Ibadan.

6.6.1 Overview and purpose of the model

The overview of the model is based on the model depicted in figure 6.1 which serves as a reference framework for the community-based model for promoting cervical cancer prevention among Yoruba women in Ibadan. It became evident throughout the study that there is no policy on cervical cancer in place in Nigeria yet, but that the Oyo state Ministry of Health has adopted policies of reproductive health and family planning in place of cervical cancer policy. The health workers and policy-makers perceived that community members have poor knowledge of cervical cancer as a result of lack of awareness. Their geographical location influences their exposure to health information on cervical cancer. There is a need

for a cervical cancer prevention programme with screening services, HPV vaccination, health education and promotion. Such a programme's activities will involve the training of the health workers and traditional healers, and follow-up care.

Collaborative support through stakeholder collaboration was identified as crucial in attempts to sustain the cervical cancer prevention program. The various types of collaborative support identified were community participation and involvement, male involvement, family support, use of professionals and non-professionals to render services and activities of cervical cancer prevention programme, and the provision of resources such as physical infrastructure, human resources and financial resources.

The purpose of the model is to serve as a reference model for promoting cervical cancer prevention, specifically for Yoruba women in Ibadan, Nigeria. It is anticipated that the professionals and non-professionals would facilitate the cervical cancer program and, over time, the women, men and community members will get involved for the acceptance and sustainability of the program. The purpose of the model is realized through the guidelines for its operationalization.

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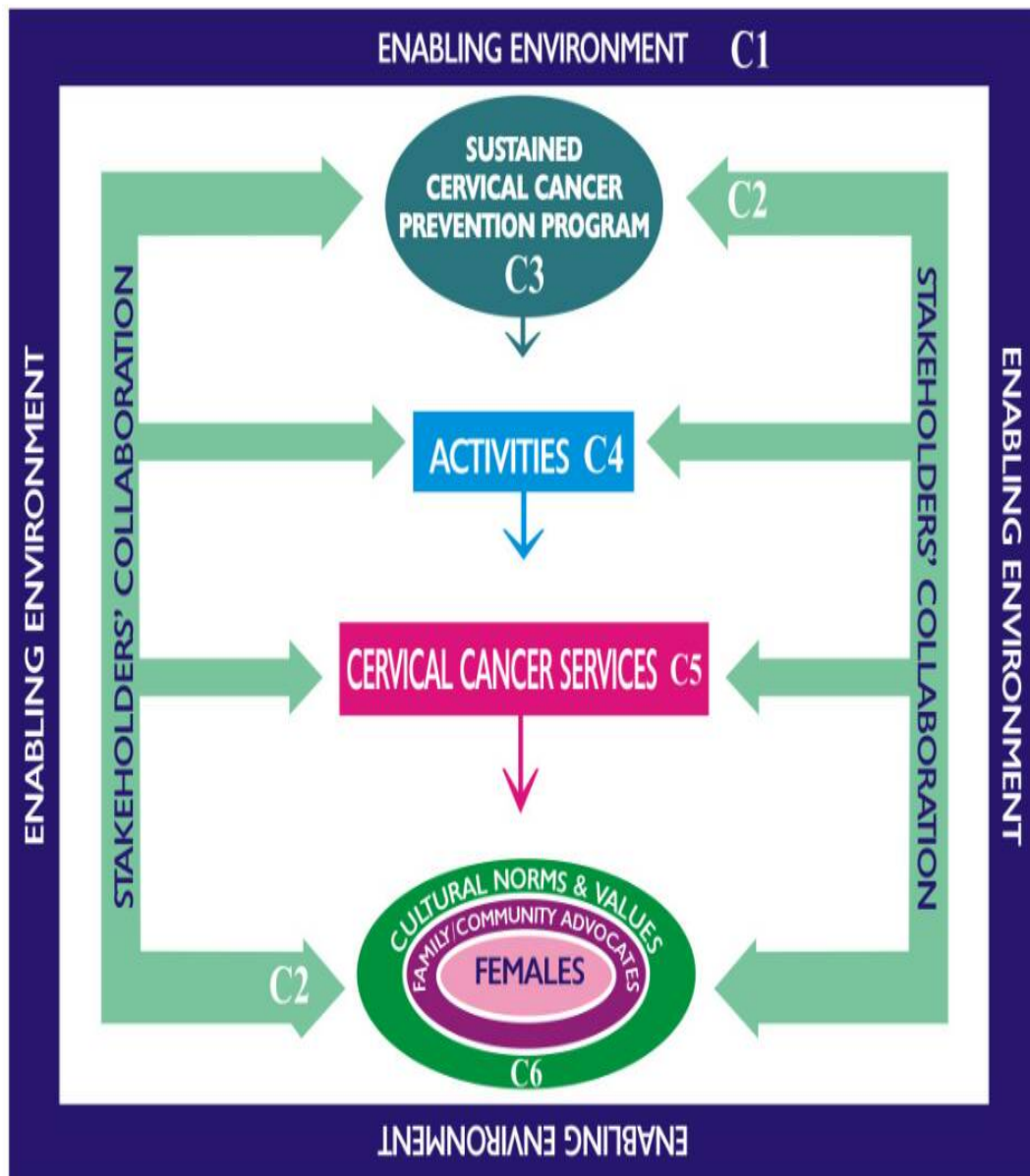
COMMUNITY-BASED MODEL FOR PREVENTION OF CERVICAL CANCER FOR YORUBA WOMEN IN IBADAN, NIGERIA.

6.6.2 Context of the model

The context of the community-based model is that it will be based at health facilities and at social environments. Health facilities include the primary health care centres in the community places. The social places are schools, market places, churches, and mosques. The community-based model for promoting cervical cancer prevention is culturally based as it depicts the interaction between the cultural norms and values, and between women, family and collaborators to realize the goal of making the cervical cancer prevention programme sustainable. The programme is highly multifaceted and it is therefore challenging to include the enabling environment which may be deemed essential to achieve a long-term programme. The model therefore depicts the process of promoting cervical cancer prevention and anticipating that it might be viewed as culturally based.

6.4.3 Assumptions of the model

The community-based model for promoting cervical cancer prevention among Yoruba women in Ibadan is based on the following philosophical assumptions taken from the PEN-3 Model (Airhihenbuwa, 1990) as discussed in Chapter 2 and serves as a point of departure.

- The model is based on the assumption that promoting cervical cancer prevention among Yoruba women should identify the cultural norms and values of Yoruba culture that promotes healthy behaviour.

- Identify women-positive decisions and practices related to the promotion of cervical cancer preventive services, and negative decisions that serve as barriers to appropriate preventive measures.

- Women will likely participate in screening if they understand the risk and benefit of such procedures.

- Women will uptake cervical cancer prevention services if they have their husbands' permission.

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- Positive cultural beliefs will modify and change the attitude of men about decision-making and support towards the promotion of cervical cancer prevention services.

- Women, family, community will embrace cultural norms and values in the context of the model.

6.6.4 Structure of the model

Chinn and Kramer (2008) state that the concepts must be given a structural form in order to identify relationships between them. Structural forms assist in shaping perceptions of reality. The structure of the model emerged from the recommendations made by participants. The structure of the model is thus based on the result from the study which shows relationships between the 4 concepts, namely, enabling environment, cervical cancer prevention program, stakeholder collaboration and cultural norms and values. The model depicted in figure 6.1 is divided into its different parts according to the main concepts (from the study result and recommendations from the expert review conducted), to assist in the meaning of the discussion and to explain the interaction between the concepts.

The main concepts are depicted by the letter C meaning "concept". For example, enabling environment is depicted as C1 and is hence concept 1. The numbering of the concepts such as concept 1, concept 2, and so on are in no order of significance as the process of facilitating promotion of cervical cancer prevention in Yoruba women is iterative.

An enabling environment (C1) captures the required and essential components that have to be in place before a prevention program can take place and be sustained. They are: education/literacy, social development, formalized policy, resources, context, stakeholders' collaboration and cultural norms and values.

Formalized policy: there is need for the federal Ministry of Health of Nigeria to formulate policy on cervical cancer. The World Health Organization (2012) recommended that the

Ministry of Health in African countries should review and update policies and strategies on cervical cancer and develop national guidelines based on WHO standards. Its implementation should comprise connections with HIV and sexual and reproductive health, as well as related programmes. It is also the duty of the Ministry of Health to allocate funds at the national, state and local government levels for effective provision of cervical cancer services. The financial phase of the implementation of the policy can be collective. The government, non-governmental organizations, community members can choose to sustain the implementation with their money. However, it should be well scrutinized and controlled such that it caught across the three levels of care.

Resources

The resources needed for the promotion of cervical cancer prevention are: physical infrastructure, equipment, human resources and financial resources. Physical structures should be put in place especially at primary health care level. There is also a need for adequate staffing and extra equipment. Developing countries like Nigeria that do not, as yet, have policies that focus on the prevention of cervical cancer, and whose governments do not have the budgets to fund cervical cancer prevention programmes, should turn to substitute funding sources such as NGOs and the private sector. As an additional preventive measure, cervical cancer screening should be integrated into the family planning and antenatal services rendered at primary health care centres (WHO, 2012).

Context

The context indicates where the cervical cancer services can be rendered and provided to the community. For the purposes of this study, the health care facility will be the primary health centres and social places such as schools, markets, mosques and churches.

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Stakeholders' Collaboration (C2)

Without the collaboration of the stakeholders, the provision of cervical cancer services becomes difficult and its sustainability might not be possible. For the prevention of cervical cancer program for Yoruba women to be sustained there is a need for male involvement, community participation, involvement of religious bodies and traditional leaders, and support from NGOs and the private sector. Collaborative support would be required in the following areas: Advocacy and awareness creation on cervical cancer, provision of equipment and financing the program (WHO, 2012). Every stage of the model requires collaboration. Without collaborative support, the sustainability of the program will be in jeopardy.

Activities (C3)

The activities of cervical cancer prevention program involve the training of health workers and traditional healers, referral and follow-up care.

Training of health workers: health workers should be trained on cervical cancer, its causes, risks and predisposing factors, and its prevention programme. The screening aspect is very important. Health workers (nurse-midwives and community health officers) should be trained on how to conduct VIA for women, and any woman with an abnormality should be referred to a secondary health facility for further treatment and management. Required equipment for the screening should be supplied by the stakeholders.

Training of the traditional healers: Given that traditional healers play a significant role in treating people in Nigeria, they need to be trained on the causes, risk and predisposing factors of cervical cancer, and its prevention strategies. They should, however, be encouraged to refer any detected case to the hospitals rather than managing it using herbs. Female traditional healers can be trained on how to conduct cervical screening.

Follow-up and Referrals: Special attention should be paid to treating women who tested VIA positive. Active follow-up of treated women should be in place so that they are

reviewed after one year. A referral and feedback system should be developed to facilitate follow-up of patients (WHO, 2012).

Sustained Cervical cancer prevention program [build on 4pillars: cultural values and norms, collaborating stakeholders, screening, and activities]

The cervical cancer prevention program involves services and activities.

Cervical cancer services (C5)

There are three phases involved in the services

1. Primary prevention: this comprises health education and promotion, and HPV vaccination.

2. Secondary prevention: it encompasses "screen and treat" with low-cost technology VIA followed by cryotherapy.

3. Tertiary prevention: this implies treatment of invasive cancer at any age; ablative surgery, radiotherapy and chemotherapy (WHO, 2013).

The community-based model will only focus on primary and secondary prevention which are health education, health promotion and cervical cancer screening.

Health education and promotion: National campaigns should be established to intensify community awareness about cervical cancer and its prevention services (WHO, 2012). These campaigns should create culturally specific communication campaigns, social mobilization and education through mass media. The Yoruba language should be used to print the handbills, postal, jingles on radio and television, and be used at social places such as schools, markets, churches, mosques so as to increase awareness of cervical cancer, its risk factors and its means of prevention (WHO, 2013).

HPV Vaccination: HPV vaccine overview through educational enlightenment is deemed necessary in order to establish and increase community members' knowledge ofcervical cancer and its prevention. Cautiously planned messages are required to educate communities,

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parents, teachers, adolescents and other stakeholders about HPV Vaccine, HPV infection, cervical cancer and its prevention services. It is also necessary to carry the parents (father and mother) and boys along (WHO, 2013). However, there is a need for collaborative financial support of the stakeholders due to the high cost of the vaccine and the fact that the majority of the community members have low-socio-economic status.

Secondary Prevention

Screening and treatment: Cervical cancer screening is the orderly application of a test to recognise cervical anomalies in an asymptomatic population. Women earmarked for screening may truly feel perfectly healthy and see no need to visit health facilities. In this model, the screening services will be provided as both organized and opportunistic. It is opportunistic in the sense that it would take advantage of a woman's visit to the health facility for another purpose, and then also screen such a woman for cervical cancer (WHO. 2013).

Before cervical cancer screening is done, there should be time for counselling. The content and information of such counselling should be standardized and translated into the Yoruba language which is the local language of Ibadan (WHO, 2012).

Cryotherapy should be prescribed for the treatment of precancerous lesions discovered in the process of cervical cancer screening.

Cultural norms and values (C6)

For any health promotion program to be effective, the culture of the people in the community must be considered, specifically its influenceon their health (Shaw et al, 2009; Airhihenbuwa, 2007a). Culture is presumed to be the basis of health promotion, and can also be used to measure collective health behaviours. To explore the impact of culture on individuals' health and way of life, the community and family members should be considered because they influence health-related decisions of an individual (Airhihenbuwa, 1999). In other words, to

prevent a disease condition, entire community (i.e. individuals, family, neighbours) should be involved in the process (Singhal, 2003). To actualize the uptake and sustainability of the cervical cancer prevention program for Yoruba women, cultural norms and values are the basic and highly essential. The people in the community share the same beliefs, norms and values. They have great influence on one another's health behavior, so the entire community should be involved in a cervical cancer prevention program for its acceptability.

This model will correct misconceptions and some negative beliefs about cervical cancerheld by the Yoruba community at large. The positive cultural beliefs of Yorubas that can promote the prevention of cervical cancer should be strengthened and encouraged for effective eradication and reduction in mortality and incidence rate of cervical cancer among Yoruba women in Ibadan.

6.7 PROCESS DESCRIPTION OF THE MODEL

The model will be described using the following process of service delivery:

1.   Plan for delivery

2.   Communicate value

3.   Initiate service and deliver

Plan for delivery

Before the delivery of cervical cancer prevention services, an assessment of whether the required components are in place will be undertaken.

There should be formalized policy on cervical cancer, and since this does not yet exist in Nigeria, the family planning and reproductive health policies adopted by Oyo state Ministry of Health should be made available to all health care workers who are the service providers and it should be ensured that the policies are well implemented at all levels of care in Oyo state, most especially at the grassroots level which is primary health care.

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To have an effective and efficient cervical cancer prevention programme resources on the ground are needed. The resources include the physical infrastructure and equipment specifically required for the cervical cancer prevention programme to be in place at all locations where the services and activities of the program will be rendered. There is also need for financial resources to get the required reagents and some other equipment for the procedures involved in the cervical cancer prevention programme. The last resource required for cervical cancer prevention programme is human resources. Professionals and non-professionals need to be in place at grassroots level to render the services of the cervical cancer prevention programme to the community members. The health workers who are the professionals should endeavour to have positive attitudes because their attitudes will determine whether the community members will uptake the services or not.

Stakeholder collaboration is the backbone of this model. In order for the cervical cancer prevention programme to be a sustained there is need for collaborative support from the stakeholders.

Communicate values

The importance and benefits attached to the cervical cancer prevention programme should be communicated to all the community members, such that it could be accepted by the community members. The communication of value can be done through health education and through the promotion of cervical cancer preventive services available at public places. The cultural norms and values such as male involvement and participation, community involvement and participation can be used to empower community members regarding the importance and benefits attached to the cervical cancer prevention programme.

Initiate service and deliver

The services of the cervical cancer prevention programme are health education in the community and HPV vaccination for girls aged 9 to 13. This can be achieved through

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stakeholder collaboration and provision of cervical cancer screening to all women in premenopausal, menopausal and post-menopausal stages.

The activities of cervical cancer prevention programmes entails the training of health workers and traditional healers, referral of positive diagnosed cases to secondary and tertiary levels of care. There should be follow-up and feedback of all women referred to other levels of care for proper treatment and management.

6.8 GUIDELINES FOR THE OPERATIONALIZATION OF THE MODEL

Broad guidelines for operationalizing the community-based model for promotion of cervical cancer prevention for Yoruba women will be described within the context of the health facilities and social organizations. The guidelines will be discussed using the service delivery process namely: 1) plan for delivery 2) communicate value and3) initiate service and deliver. Objectives and strategies to address the objectives will be mentioned.

Plan for delivery

GUIDELINE 1: **Health workers, stakeholders and women must create an enabling environment to ensure that women uptake the cervical cancer prevention programme.**

Objective (i)

- To ensure that there is a formalized policy for cervical cancer prevention programme

Strategy

- Depending on the time it will take to formulate policy on cervical cancer prevention, it should be ensured that the adopted family planning and reproductive health policies are well implemented at the state and local level in Oyo state.

- It should be made known to all health workers both in public and private services that family planning and reproductive health policies have been adopted for the provision of the cervical cancer prevention programme.

- There should be proper interpretation and implementation of the adopted policies at all levels of care.

- Stakeholder collaboration for effective implementation of the policies.

- Policy and guidelines on cervical cancer prevention strategies should be developed in collaboration with the federal Ministry of Health and other stakeholders.

- Implementation of the policy should be ensured at state and local government levels.

- Stakeholders should be called on for collaboration in terms of resources in order to ensure the effective use of the policy

Objective (ii)

- To ascertain resources

Strategy

- Government, through stakeholder collaboration, should provide physical infrastructure.

- Supply of the essential and necessary equipment for provision of cervical cancer prevention services by the stakeholders

- Provision of human resources required to provide cervical cancer prevention services by the stakeholders

- Women and the community members' socio-economic need should be met through collaborative supports of the stakeholders in subsidizing or by providing the cervical cancer prevention services at no cost.

Objective (iii)

- To provide stakeholders support

Strategy

- Supply resources needed for promotion of cervical cancer prevention services and activities.

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- Provide technical support for the implementation of formalized policy at all levels.

- Provide support for health education and promotion of cervical cancer prevention strategies.

- Establish collaborative support for the sustenance of a cervical cancer prevention programme.

Objective (iv)

- **Positive attitude of health workers**

Strategy

- Ensure that health workers are equipped with information on cervical cancer and its prevention services.

- Ensure that health workers have good interpretation of the formalized policy.

- Ensure that health workers undergo the screening of cervical cancer, so that they can act as role model to the women in the community.

- Design an appropriate referral process for women who are diagnosed with cervical cancer.

- Establish a counseling service for diagnosed women and their husbands.

- Ensure that women who have come to access cervical cancer prevention servicesreceive prompt attendance.

Communicate value

GUIDELINE 1: Health education and promotion of cervical cancer and its prevention services in the community

Objective (i)

- **To establish awareness creation of cervical cancer**

Strategy

- Professionals who are the health workers at all health facilities present health talks on cervical cancer and its prevention to the patients who have come in for medical treatment.

- Public awareness and campaigns are organized of at social places such as markets, schools, churches and mosques

- Family life education is taught at schools

- Use of mass media such television and radio stations, use of hand bills and postal and other social networks such as Facebook

- Use of town criers in the community to facilitate information on cervical cancer

- Local language that is understood by the community members should be used in giving information on cervical cancer

Objective (ii)

- To establish cultural norms and values

Strategy

- Promote male involvement and participation in cervical cancer prevention services

- Encourage men to support to their wives in the uptake of cervical cancer prevention services.

- Organize seminars for men on cervical cancer to correct their misconceptions and beliefs about cervicalcancer

- Promote community dialogue and advocacy to correct misconceptions and beliefs about cervical cancer and its prevention

- Promote positive cultural empowerment such as a prohibition on extramarital affairs and multiple sexual partners, and remaining a virgin until the wedding night

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- Create awareness in traditional leaders, men and women leaders through the collaborative support of stakeholders

- Ensure the acceptance and sustainability of the cervical cancer prevention programme by facilitating community participation and involvement

Initiate service and delivery

GUIDELINE 1: Cervical cancer prevention services and activities

Objective (i)

- **To provide cervical cancer screening services**

Strategy

- Create awareness for screening for cervical cancer

- Health workers should give health education on the importance of cervical cancer screening before subjecting the client to the procedure

- Provide counselling before and after the screening procedure

- The screening of cervical cancer should be accessible, available and affordable at the community level

- The screening of cervical cancer should be conducted by female health workers preferably

- Stakeholders should provide collaboration through the provision of the resources required for the procedure

- Only trained or skilled and friendly health workers should be allowed to carry out the screening procedure

- Integrate cervical cancer screening into family planning and antenatal care services

Objective (ii)

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- **To provide HPV vaccination**

Strategy

- Promote awareness creation on HPV vaccination, its benefits and importance for teachers, parents, adolescent and the entire community

- Due to the high cost of the vaccine,stakeholders should give financial support to ensure that all female children between the ages of 9 and 13 are vaccinated

- Ensure that the cold chain is not broken in order to safeguard the potency of the vaccine.

Objective (iii)

- To conduct trainings on cervical cancer prevention services

Strategy

- Train health workers on cervical cancer and its prevention services.

- Give thorough teaching to health workers on how to carry out the screening procedures.

- Teach health workers on how to give counselling before and after the screening process.

- Train traditional healers on cervical cancer and its prevention in order to correct their misconceptions and negative beliefs about the disease

- Encourage traditional healer to refer any case of cervical cancer seen to the right service provider (traditional healers should not be trained on how to conduct screening procedures).

- Stakeholders should support collaboration by providing training materials required

Objective (iv)

- To establish an appropriate referral and follow-up process

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Strategy

- Any diagnosed women with cervical cancer should be referred to secondary and tertiary health facilities for good management and treatment.

- There should be proper documentation of the referred clients.

- After the clients might have received good management and treatment at the secondary and tertiary health facilities, such a client is expected to be referred back to the primary health facility for feedback and follow-up care.

6.9 EVALUATION OF THE MODEL

The developed model was evaluated by two members of the expert review panel as agreed by the other members. A guide for the reflection was adopted from Chinn & Kramer (2015) to evaluate the community-based model for prevention of cervical cancer among Yoruba women. This model will be evaluated in terms of the following characteristics: clarity, simplicity, generality and accessibility.

6.9.1 Clarity

How clear is the model? Addressing this question means that the researcher and the representatives of the experts review panel considered semantic clarity, consistency and structural clarity. Clarity also enquires whether the model conveys new knowledge and whether the main concepts and key concepts have been defined in a manner relevant to the context. The structural description of the model is constant with the description of the model.

6.9.2 Simplicity

The model is simple because it only has six main conceptually identified relationships which are easily identified and explained to health care workers who participate in the services.

6.9.3 Generality

The six key major concepts are applicable and significant for the prevention of cervical cancer for Yoruba women in Ibadan and can also apply to women in Nigeria. The process of service delivery is applicable to Yoruba culture and their way of life. It can also be applied to other types of cancer.

6.9.4 Accessibility

The aim of this study is to develop a community-based model peculiar to Yoruba in Ibadan to prevent cervical cancer. It is envisaged that the model will be acceptable given that its development is a product of a consultative process in which a range of people participated. This should ensure that the cervical cancer prevention services will be up taken by the women and their relatives.

6.9.5 Importance

The model is important because of the high death rate associated with cervical cancer and the paternalistic society.

6.10 SUMMARY

In this chapter, the community-based model for the prevention of cervical cancer was developed using the theory-generating process of concept development, model development, model description and development of guidelines to operationalize the model.

Chapter 7contains the summary, conclusion, limitations and recommendations of the study.

CHAPTER 7

SUMMARY, CONCLUSION, LIMITATIONS AND RECOMMENDATIONS

7.1 INTRODUCTION

A description of the structure of a community-based model for promotion of prevention of cervical cancer was provided in Chapter 6. Guidelines for the operationalization of the model and the validation of the model were also provided in Chapter 6.

The focus of the conclusions in this chapter is whether the study objectives were met. The study limitations and recommendation based on the findings of the study will be provided.

7.2 SUMMARY AND CONCLUSION

The purpose of this research was to obtain informationfrom the health workers (nurse-midwives and community health workers) and the policy makers on the knowledge, practice, and beliefs regarding cervical cancer and its prevention among the community members, as well as the barriers to the prevention of cervical cancer and ways to promote its prevention in the community. The information obtained was used to develop a community-based model for prevention of cervical cancer in Yoruba women. This model would assist government, non-governmental organizations, health workers and community members to improve their knowledge of cervical cancer and the prevention services available, reduce the mortality rate of cervical cancer by facilitating the early diagnosis of cervical cancer for effective treatment and management. The purpose of the model is to serve as a reference model for the promotion of cervical cancer prevention, specifically for Yoruba women in Ibadan, Nigeria. The objectives to attain the aim of the study were:

- To explore the knowledge, practice, beliefs and attitude of community members regarding cervical cancer and its prevention.

- To examine the barriers to prevention of cervical cancer among the community members.

- To determine ways to promote the prevention of cervical cancer in the community.

- To develop a community-based model for the promotion of cervical cancer prevention in Yoruba women in Ibadan Nigeria.

A multi method approach was employed to achieve the above- mentioned aim and objectives. The study was conducted in three phases.

Phase one was a descriptive survey design during which data was collected from community members. The data was analysed quantitatively and provided baseline data on knowledge, beliefs and attitude of community members on cervical cancer and its prevention.

Phase two was the qualitative, exploratory, descriptive design during which data was collected from nurse-midwives, community health workers and policy makers. The data was analysed inductively and a number of categories in each participant group culminated into vertical themes for each participant group. These themes were then used to generate horizontal themes which cut across the participant groups.

Phase 3 was the theory generative phase which was followed by Walker and Avant (2014), Chinn and Kramer (2015) and Dickoff et al (1968) for the development of a community-based model for the prevention of cervical cancer. Phase 3 consisted of three steps which included concept synthesis, statement synthesis and theory (model) synthesis.

A visual representation of the structure of a community-based model for prevention of cervical cancer was given and described. The model was also described using the process of a service delivery, namely, plan for delivery, communicate value, initiate service and deliver.

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Guidelines for the implementation of the community-based model for prevention of cervical cancer were developed. A critical reflection of the model according to Chinn & Kramer, (2015) was conducted.

It can therefore be concluded that the aim and the objectives for this research has been achieved, as the researcher succeeded in:

- collecting the appropriate data from the participant groups that assisted her in identifying the main concepts for the intended model;

- defining and classifying the main concepts;

- describing relational statements;

- developing and describing a community-based model for prevention of cervical cancer which would assist Oyo state government and Nigeria to facilitate the cervical cancer program and for the women, men and community members, over time, to get involved for the acceptance and sustainability of the program.

- describing the guidelines which were necessary to operationalize the implementation of the model.
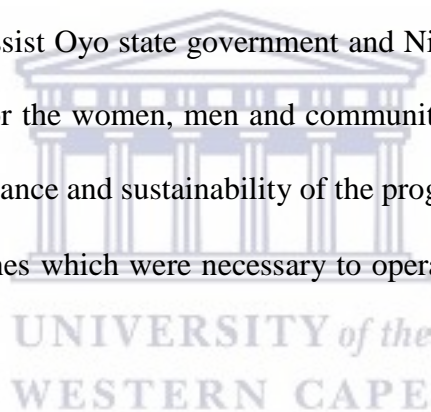
In conclusion, the purpose of this research has been achieved because the researcher succeeded in developing a community-based model for prevention of cervical cancer. The model is clear, simple, understandable and important for use at primary, secondary and tertiary health institutionsand levels of care.In the provision of cervical cancer prevention services, the model's focus is the community level.

7.3 LIMITATIONS

The following limitations to this study are reported:

- The researcher was unable to conduct focus group discussions, because only limited number health workers were found at the study site and their schedules could not

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accommodate the research timetable. In other to prevent issue of data quality, the researcher resolved this obstacle by conducting semi-structured interview with the available health workers who volunteered.

- There was issue of representativeness; male nurses were not represented in the semi-structured interview which was conducted. This could be a consequence of nursing usually being regarded as a female-dominated profession.

- The study and model were conducted and developed using only participants from Ibadan north-west and Akinyele local government areas, because Ibadan is the largest city in West Africa and due to lack of funds. The study results cannot therefore be generalized.

- There was issue of self-reporting on knowledge, practise, beliefs and attitude of community members on cervical cancer and its prevention.The researcher therefore encountered difficulty in verifying reports.
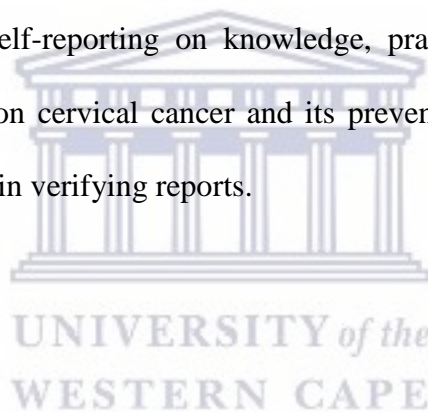
7.4 RECOMMENDATIONS

The following recommendations are made for nursing practice, nursing education, and nursing research.

7.4.1 Recommendations for nursing practice and education

- Cervical cancer prevention and management should be part of nurses' curriculum and should be updated regularly for effective management of patients.

- Student nurses and midwives should be trained on how to conduct cervical screening for cervical cancer.

- Nurses should endeavour to give pre- and post-screening counselling to the patients.

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7.4.2 Recommendations for nursing research

- Implement the community-based model for prevention of cervical cancer at the primary health care level, and evaluate and refineits effectiveness through post-doctoral research;

- Formulate policy for cervical cancer in Nigeria and implementation of it in all states.

- Reduce inequalities in socio-economic conditions through team work between hospitals, government, non-governmental organizations, philanthropists and community membersso as to reduce cervical cancer rates.

- Empower women.

- Conduct further research on the application of the community-based model for prevention of cervical cancer in other ethnic groups in Nigeria.
  Research topics identified include:

- Male involvement and participation in cervical cancer prevention services and management.

- Knowledge, barriers, and motivators related to cervical cancer screening.

- The design of the implementation of the developed model to determine if the model does decrease the incidence and prevalence of cervical cancer.

- Community-based participatory research on cervical cancer screening

- A qualitative study on mothers' attitude towards the prevention of cervical cancer through human papilloma virus

7.5 SUMMARY

This final chapter has provided an overview of the research process, which reflected on the purpose of the research and the objectives being achieved. Limitations of the study were

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mentioned. Recommendations were made for potential research topics which were considered suitable for research.

In conclusion, the study has shown that there is still low awareness of cervical cancer and its prevention services at the community level. This could be due to the poor accessibility and availability of such services. It is the researcher's 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 to the community members. However, in order to achieve this outcome, there is a need for stakeholder collaboration.

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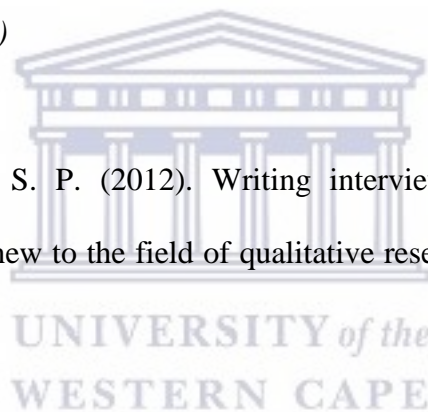
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APPENDICES

Appendix 1

OFFICE OF THE DEAN
DEPARTMENT OF RESEARCH DEVELOPMENT

UNIVERSITY *of the*
WESTERN CAPE

15 June 2015

To Whom It May Concern

I hereby certify that the Senate Research Committee of the University of the Western Cape approved the methodology and ethics of the following research project by:
Mrs AD Olanlesi-Aliu (School of Nursing)

Research Project: Development of a community-based model for promoting cervical cancer prevention among Yuruba women in Ibadan, Nigeria

Registration no: 15/4/29

Any amendments, extension or other modifications to the protocol must be submitted to the Ethics Committee for approval.

The Committee must be informed of any serious adverse event and/or termination of the study.

Ms Patricia Josias
Research Ethics Committee Officer
University of the Western Cape

A place of quality,
a place to grow, from hope
to action through knowledge

Permission to conduct the study in Ibadan   Appendix: 2

MINISTRY OF HEALTH
DEPARTMENT OF PLANNING, RESEARCH & STATISTICS DIVISION
PRIVATE MAIL BAG NO. 5027, OYO STATE OF NIGERIA

Your Ref. No. ....

All communications should be addressed to

the Honorable Commissioner quoting

Our Ref. No.   AD 13/ 479/____

September, 2015

The Principal Investigator,
University of Western Cape,
Cape Town,
South Africa.

Attention:Olalesi-Aliu Adedoyin

ETHICAL APPROVAL FOR THE IMPLEMENTATION OF YOUR RESEARCH PROPOSAL IN OYO STATE

This is to acknowledge that your Research Proposal titled: "Development of a Community-based Model for Promoting Cervical Cancer Prevention among Yoruba Women in Ibadan, Nigeria." has been reviewed by the Oyo state Review Ethical Committees.

2.   The committee has noted your compliance. In the light of this, I am pleased to convey to you the full approval by the committee for the implementation of the Research Proposal in Oyo State, Nigeria.

3.   Please note that the National Code for Health Research Ethics requires you to comply with all institutional guidelines, rules and regulations, in line with this, the Committee will monitor closely and follow up the implementation of the research study. However, the Ministry of Health would like to have a copy of the results and conclusions of findings as this will help in policy making in the health sector.

4.   Wishing you all the best.

Sola Akande (Dr)
Director, Planning, Research & Statistics
Secretary, Oyo State, Research Ethical Review Committee

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Permission to conduct the study in comprehensive health center Moniya, Ibadan

UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa

Tel: +27 21-9593303 Fax: 27 21-9592679

E-mail:adedoyinomidokun@yahoo.com

08028718961.

The Medical Officer,

Comprehensive Health Center,

Moniya.

Dear Sir,

LETTER OF INTRODUCTION

I am Olanlesi-Aliu Adedoyin a PhD student of Faculty of Community and Health Sciences School of Nursing, University of Western Cape, Cape Town South Africa. I intend to conduct two focus group discussion on cervical cancer, with each group comprising of eight Nurses and eight Community Health Officers of this your health facility. The proposed title of the study is **"Development of a community-based model for promoting cervical cancer prevention among Yoruba women in Ibadan, Nigeria"**.

I will be grateful if my request is granted. Thank you for your anticipated cooperation.

Yours faithfully,

Olanlesi-Aliu Adedoyin.

Permission to conduct the study in comprehensive health center Oniyanrin, Ibadan

UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa

Tel: +27 21-9593303 Fax: 27 21-9592679

E-mail:adedoyinomidokun@yahoo.com

08028718961.

The Medical officer,

Comprehensive Health Center,

Oniyanrin.

Dear Sir,

LETTER OF INTRODUCTION

I am Olanlesi-Aliu Adedoyin a PhD student of Faculty of Community and Health Sciences School of Nursing, University of Western Cape, Cape Town South Africa. I intend to conduct two focus group discussion on cervical cancer, with each group comprising of eight Nurses and eight Community Health Officers of this your health facility. The proposed title of the study is **"Development of a community-based model for promoting cervical cancer prevention among Yoruba women in Ibadan, Nigeria"**.

I will be grateful if my request is granted. Thank you for your anticipated cooperation.

Yours faithfully,

Olanlesi-Aliu Adedoyin.

Letter from the Editor Appendix: 5

DECLARATION OF EDITORIAL INTERVENTION AND EDITOR'S PROFICIENCY

TO WHOM IT MAY CONCERN:

This serves to confirm that I, Nigel R van Ster (the undersigned):

- have subjected to editorial scrutiny a text submitted to me by Ms Adedoyin Deborah Olanlesi-Aliu, said text being a thesis entitled *"Development of a community-based model for promoting cervical cancer prevention among Yoruba women in Ibadan, Nigeria"* in fulfilment of a PhD degree read under the auspices of the School of Nursing, Faculty of Community Health, at the University of the Western Cape, in South Africa;

- by virtue of my academic qualification and professional experience, am qualified to subject texts written in English to editorial scrutiny.

SIGNED:	
FULL NAMES:	Nigel Reginald van Ster
PROFESSIONAL CAPACITY:	Senior Language Practitioner (English), Parliament of the Republic of South Africa
CONTACT DETAILS:	nigelvanster024@gmail.com
DATE:	12 April 2017

Participant information sheet Appendix: 6

<u>INFORMATION SHEET</u>

Project Title:Developing a Community-based model for Promoting Cervical cancer among Yoruba Women in Ibadan Nigeria

What is this study about?

This is a research project being conducted by **Olanlesi-Aliu Adedoyin,** a postgraduate student of University of the Western Cape to develop a community-based model for promotion of cervical cancer prevention among Yoruba women in Ibadan Nigeria. We are inviting you to participate in this research project because you are a community member/ health worker/ policymaker of cervical cancer preventive services in Ibadan.The purpose of this research project is to assess the knowledge, practice, belief and attitude of community members on cervical cancer, Identify barriers to prevention of cervical cancer, and identify ways to promotion of prevention of cervical cancer (community stakeholders, health workers and policy makers) in Ibadan Oyo state. The information that would be gathered will be used to develop community-based model for promotion of cervical cancer prevention among Yoruba women. The broad aim is to provide cultural competent maternal health care that will enhance promotion of preventive services of cervical cancer in order to reduce prevalence and mortality rate of cervical cancer in Ibadan Nigeria.

What will I be asked to do if I agree to participate?

You will be asked to respond to question items in the questionnaire and/or participate in an interactive group discussion, which will involve 10people in a group. The filling of the questionnaire will last about 10minutes, while discussion session will last 20 to 30 minutes. The questionnaire is to assess knowledge, practice, belief and attitude of community members on cervical cancer and its preventive measures while the focus group discussion is to identify barriers to prevention of cervical cancer and identify ways to promote prevention of cervical cancer from community stakeholders, health workers and policy makers.

Would my participation in this study be kept confidential?

We will do our best to keep your personal information confidential. To help protect your confidentiality, your name and name of the facility you are going to talk about will not be required.

This research project involves making*audiotapes/videotapes/photographs*of you, if you are participating in FGDs. The purpose of these recording media is to help the researcher to

remember all useful information that may be lost, if only writing which may be very slow sometimes is used for documentation. Only the researcher and research Supervisor will have access to them. They will be stored in a folder and kept under lock and key in a cabinet. All will be destroyed after using them for transcription and report writing.

Audiotapes and videotapes will not be play for any other person apart from the researcher who will use it for transcription and reporting.

If we write a report or article about this research project, your identity will be protected to the maximum extent possible.

In accordance with legal requirements and/or professional standards, we will disclose to the appropriate individuals and/or authorities information that comes to our attention concerning potential harm to you or others.

What are the risks of this research?

There is no apparent risk associated with this research apart from your participation, which will take between 10 and 30 minutes from you. No invasive procedure will be introduced into this study.Your participation is voluntary and you have the right to withdraw from the research if you so wish. You have nothing to lose if you decide to withdraw or not to participate again. Also, if you do not feel comfortable in answering any of the questions will not be forced to respond to such questions. The audiotapes and videotapes that will be taken will not be shown to any person. Only the researcher and the supervisor will have access to the tapes. They will be destroyed as soon as the research process is over.

What are the benefits of this research?

This will not be an immediate benefit from the study; however the finding of this study will be used to develop a community-based model for promotion of cervical cancer in Nigeria. We hope that when the developed model is been put to use, you and other people may benefit from this study through community-based model for promotion of cervical cancer in Nigeria.

Do I have to be in this research and may I stop participating at any time?

Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.

What if I have questions?

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This research is being conducted byMrs. **Olanlesi-Aliu Adedoyin Deborah,** a Doctoral student of the School of Nursingat the University of the Western Cape. If you have any questions about the research study itself, please contact **Olanlesi-Aliu Adedoyin** at: University College Hospital, Ibadan, Oyo State; GSM: 08029718961 E-mail: adedoyinomidokun@yahoo.com

Should you have any questions regarding this study and your rights as a research participant or if you wish to report any problems you have experienced related to the study, please contact:

Head of Department: **Prof. K. Jooste**

University of the Western Cape

Private Bag X17

Bellville 7535

Telephone: **021-959 2274**

E-mail: **kjooste@uwc.ac.za**

Dean of the Faculty of Community and Health Sciences: **Prof. J. Frantz**

University of the Western Cape

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Bellville 7535

Telephone: **021-959 2631**

E-mail: **jfrantz@uwc.ac.za**

This research has been approved by the University of the Western Cape's Senate Research Committee and Ethics Committee.

Participant consent form Appendix: 7

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E-mail: adedoyinomidokun@yahoo.com

CONSENT FORM

Project Title: The Development of a Community-Based Model for Promotion of Cervical Cancer Prevention for Yoruba Women in Ibadan Nigeria

The study has been described to me in a language that I understand and I freely and voluntarily agree to participate. My questions about the study have been answered. I understand that my identity will not be disclosed and that I may withdraw from the study without giving a reason at any time and this will not negatively affect me in any way.

☐ **Participant's name: ………………………..**

☐ **Participant's signature: ……………………………….**

☐ **Witness's name: ………………………..**

☐ **Witness's signature: …………………..**

☐ **Date: ………………………**

Should you have any questions regarding this study or wish to report any problems you have experienced related to the study, please contact the researcher:

Researcher: Adedoyin Olanlesi-Aliu.

University of the Western Cape

Private Bag X17, Bellville 7535

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Cell: 08029718961

Fax: (021) 959- 2679

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QUESTIONNAIRE

Appendix: 8

NUMBER

E-mail:adedoyinomidokun@yahoo.com

08029718961

KNOWLEDGE, PRACTICES, BELIEFS AND ATTITUDES TOWARDS CERVICAL CANCER AND ITS PREVENTIVE MEASURES

Dear Participants,

I am a PhD student enrolled at the School of Nursing, Faculty of Community Health, at the University of the Western Cape, South Africa. I am conducting a study on the topic: Development of a community-based model for promoting cervical cancer prevention among Yoruba women in Ibadan.I would like you to participate in this exercise.

The purpose of this questionnaire is to assess the knowledge, practices, beliefs and attitudes of the Yoruba communityin Ibadan towards cervical cancer and its preventive measures. The data generated by this questionnaire would be used to develop the model.Completing this questionnaire will only take 15 to 20 minutes. Your information is critical for the development of this model but your participation is voluntary and you can therefore withdraw from it at any time you feel like doing so.

The result will only be used in an aggregate form and therefore your anonymity and the confidentiality of your responses are assured. The completed questionnaires will be stored and will be available only to the researcher.

Your participation is appreciated.

Thank you for your time.

SECTION A: SOCIODEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

S/N	Questions	Coding Categories	Code
1.	Gender	1. Female 2. Male	
2.	Age at last birthday	_____years	
3.	Education Status	1. Non-literate 2. Primary Education 3. Secondary Education 4. Tertiary Education	
4.	Marital status	1. Single 2. Co-habiting 3. Married 4. Divorced 5. Widowed	
5.	Marital age	_____years	
6	Type of family	1. Nuclear 2. Extended	
7	Religion	1. Christianity 2. Islam	
8	Occupation	_____	
9	Have you ever had sexual intercourse?		
10	Age at first sexual intercourse	1. <10 2. 10-19 3. 20-29 4. >29 5. NA	
	If male please skip to Question13		
11	Number of pregnancies	1. None 2. 1 3. 2 4. ≥3	
12	Age at first childbirth	1. <18 2. 18-25 3. 26-35 4. >35	
13	Number of abortions	1. None 2. 1 3. ≥2	
14	Number of sexual partners	1. None 2. Single 3. Multiple (≥2)	
15	Do you smoke and/or chew tobacco?	1. Yes 2. No	

SECTION B: AWARENESS AND KNOWLEDGE OF CERVICAL CANCER AND ITS PREVENTIVE MEASURES

16.	Have you ever heard of cervical cancer?	1. Yes ( ) 2. No ( )	
17.	If so, how?	1. Through media: television, radio, newspaper 2. Froma health care provider 3. Through friends 4. Through a neighbour 5. Through relatives	
18	What is cervical cancer		

				Yes	No	I don't know
		_____ _____				
19.	What do you think causes cervical cancer?	Statement		Yes	No	I don't know
		1. Many sexual partners 2. Sexually transmitted diseases 3. HIV infection 4. Infection with a certain virus 5. Infection with a certain bacteria 6. Spiritual attack 7. Using oral contraceptives for years 8. Smoking of cigarettes/tobacco chewing 9. Having first sexual intercourse before the age of 16 10. Late age at getting married				
20.	Do you think cervical cancer be prevented?	1. Yes ( ) 2. No ( ) 3. I don't know ( )				
21.	Do you think cervical cancer be treated?	1. Yes ( ) 2. No ( ) 3. I don't know ( )				
22.	Do you think cervical cancer kills?	1. Yes ( ) 2. No ( ) 3. I don't know ( )				
23.	Do you believe, cervical cancer can be cured if diagnosed early?	1. Yes ( ) 2. No ( ) 3. I don't know ( )				
24.	Do you know of any screening method for cervical cancer?	1. Yes ( ) 2. No ( )				
25.	Mention any of the methods you know of.	_____ _____				
26.	What is the source of your information?	1. The media: television, radio, newspaper 2. A Health care provider 3. Friends 4. Neighbour 5. Relatives				
If male go to Q32						
SECTION C: PRACTICE OF CERVICAL SCREENING						
27	Have you ever had cervical screening for cancer done?	1. Yes ( ) 2. No ( )				
If No skip to Q31						
28.	Which screening test did you undergo?	1. Pap Smear ( ) 2. VIA ( ) 3. Other (specify) …………………..				
29.	When was the last time you underwent a screening?	Please specify in years ………………………..				
30.	Who influenced you to undergo the screening for cervical cancer?	1. My doctor ( ) 2. My friends/relatives ( ) 3. Personal decision after becoming aware of the test and the benefit of the test ( ) 4. Other (specify please) ………………………				
31	If no to Q26, why didn't you do any of the screening tests?	1. Lack of awareness ( ) 2. Unavailable ( ) 3. Too expensive ( ) 4. It is against my religion /belief ( ) 5. Other (please specify) ……………………				
If female please skip to Question Q42						
SECTION D: BELIEFS AND ATTITUDES OF MALES TOWARDS CERVICAL CANCER AND ITS PREVENTIVE MEASURES						

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32.	Cervical cancer is a consequence of promiscuity.	1.Yes ( ) 2. No ( ) 3.I don't know ( )	
33.	Cervical is punishment from the gods.	1. Yes ( ) 2. No ( ) 3. I don't know ( )	
34.	Cervical cancer has no cure.	1. Yes ( ) 2. No ( ) 3. I don't know ( )	
35.	Cervical cancer cannot be prevented.	1. Yes ( ) 2. No ( ) 3. I don't know ( )	
36.	Cervical cancer may lead to death.	1. Yes ( ) 2. No ( ) 3. I don't know ( )	
37.	Cervical cancer may lead to the removal of a woman's womb.	1. Yes ( ) 2. No ( ) 3. I don't know ( )	
38.	Cervical cancer is a serious health problem.	1. Yes ( ) 2. No ( ) 3. I don't know ( )	
39.	Cervical cancer can be cured by traditional doctors.	1. Yes ( ) 2. No ( ) 3. I don't know ( )	
40.	Would you allow your wife or sister to undergo cervical screening?	1. Yes ( ) 2. No ( )	
41.	Would you allow your wife to be seen by a male doctor for a genital examination	1. Yes ( ) 2. No ( ) 3. Not applicable ( )	
BELIEFS AND ATTITUDE OF FEMALE TOWARDS CERVICAL CANCER AND ITS PREVENTIVE MEASURES			
42.	Cervical cancer is a consequence of promiscuity.	1.Yes ( ) 2. No ( ) 3.I don't know ( )	
43.	Cervical is punishment from the gods	1. Yes ( ) 2. No ( ) 3.I don't know ( )	
44.	Cervical cancer has no cure.	1. Yes ( ) 2. No ( ) 3.I don't know ( )	
45.	Cervical cancer cannot be prevented.	1. Yes ( ) 2. No ( ) 3.I don't know ( )	
46.	Cervical cancer may lead to death.	1. Yes ( ) 2. No ( ) 3.I don't know ( )	
47.	Cervical cancer may lead to the removal of a woman's womb.	1. Yes ( ) 2. No ( ) 3.I don't know ( )	
48.	Cervical cancer is a serious health problem.	1. Yes ( ) 2. No ( ) 3.I don't know ( )	
49.	Cervical cancer can be cured by traditional doctors.	1. Yes ( ) 2. No ( ) 3.I don't know ( )	
50.	Do you have to obtain permission from your husband before accessing any medical care?	1. Yes ( ) 2. No ( ) 3.I don't know ( )	
51a.	If I don't have symptoms of cervical cancer I don't need to be screened.	1. Strongly agree ( ) 2. Agree ( ) 3. Undecided ( ) 4. Strongly disagree ( ) 5. Disagree ( )	
51b.	I have not given birth I don't need cervical screening.	1. Strongly agree ( ) 2. Agree ( ) 3. Undecided ( ) 4. Strongly disagree ( )	

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		5. Disagree ( )	
51c.	Getting a cervical cancer screening would only make me worry and fearful if I eventually find out that I have the disease.	1. Strongly agree ( ) 2. Agree ( ) 3. Undecided ( ) 4. Strongly disagree ( ) 5. Disagree ( )	
51d.	The screening is painful.	1. Strongly agree ( ) 2. Agree ( ) 3. Undecided ( ) 4. Strongly disagree ( ) 5. Disagree ( )	
51e.	It is too expensive to have any genital examination done.	1. Strongly agree ( ) 2. Agree ( ) 3. Undecided ( ) 4. Strongly disagree ( ) 5. Disagree ( )	
51f.	I feel embarrassed to have any genital examination.	1. Strongly agree ( ) 2. Agree ( ) 3. Undecided ( ) 4. Strongly disagree ( ) 5. Disagree ( )	
51g.	I do not know where I could undergo a cervical screening test because it is not available everywhere.	1. Strongly agree ( ) 2. Agree ( ) 3. Undecided ( ) 4. Strongly disagree ( ) 5. Disagree ( )	
51h.	My culture is against women going for genital screening.	1. Strongly agree ( ) 2. Agree ( ) 3. Undecided ( ) 4. Strongly disagree ( ) 5. Disagree ( )	
51i.	Going for cervical screening is a waste of time since cancer has no cure.	1. Strongly agree ( ) 2. Agree ( ) 3. Undecided ( ) 4. Strongly disagree ( ) 5. Disagree ( )	
51j.	I do not need cervical cancer screening as I am not promiscuous.	1. Strongly agree ( ) 2. Agree ( ) 3. Undecided ( ) 4. Strongly disagree ( ) 5. Disagree ( )	
51k.	Cervical cancer screening will affect my privacy. I don't like that.	1. Strongly agree ( ) 2. Agree ( ) 3. Undecided ( ) 4. Strongly disagree ( ) 5. Disagree ( )	

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Translated Yoruba questionnaire   Appendix: 9

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NOONBA

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AKORI IWADI:ITOPINPIN IJINLE TO NI SE PELU OYE, IGBAGBO ATI IWUWASI LORI AARUN JEJERE ENU ILE OMO ATI AWON ONA TI AFI LE DENA RE

FOOMU PE MOGBA

ORO ASOSIWAJU: Oruko mi ni **OLANLESI-ALIU ADEDOYIN,** mo je omo ile-iwe giga ti ilu Cape Town ni orilede South-Africa ni eka to n mojuto ilera ara-ilu (Noosi). Mo n se iwadi lenu awon ara-ilu ni ijoba ibile Akinyele ati Ibadan North-East lori akole yi; 'itopinpin ijinle to ni se pelu oye ati iwuwasi awon ara ilu lori aarun jejere enu ile omo. ldi pataki ti mo fi n se iwadi yi ni lati mo oye awon ara-ilu lori aaru jeje enu ile omo ati awon ona lati dekun re, eyi yoo ran wa lowo lati mo awon ona lati fi polongo awon ona lati fi deena aarun yi.

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ORO IYANJU:Mo ma bere awon ibere to ni se pelu ara yin, mo si fi dayin loju pe gbogbo awon idahun yin ni a ma pamo daradara, a ko si ni lo fun nkan miran leyin iwadi yi.a ko ni ko oruko yin si ori iwe yi atipe a ko ni lati da awon oro enu yin mo yato si awon yo ku.e ni anfani lati ma dahun awon ibere ti ko ba wuyin dahun atipe e le fopin si iforowanilenuwo yi nigbakugba to ba wu yin. E jowo e fi so kan pe a le lo ninu awon idahun yin fun akojopo ati ipolongo iwadi wa. Sugbon, ma ni ayo lopolopo fun awon idahun tooto ti e ma fun wa. Iwadi yi yo gba to iseju meedogun si ogun.

Ewu

Iwadi yii ko mu ewu kan kan besini ikopa yin ko ni gba ju iseju melo kan ninu akoko yin. Gbogbo awon akojopo ibeere ti e dahun ni pipe ni a o fun ni onka number, beeni akiyio koruko sii. Oruko tabi ohun idanimo kankan ko ni si lori akojopo ohun ti a ba ko nipa yin ninu iwadi yi. Ikopa ninu iwadi yi kii se afipamuni bi ko se afinufundo se.

Gbolohun eni ti ongba ifowosi (toni imo) eniti ofe kopa.

Mo ti se alaye nipa iwadi yii ni kikun fun eni ti yoo dahun awon akojopo ibeere yii, mosi ti se alaye to peye nipa ewu ati anfaani ti yio mu se pelu lakaaye lati kopa.

Deeti:_____

Fifi owo siwe:_____
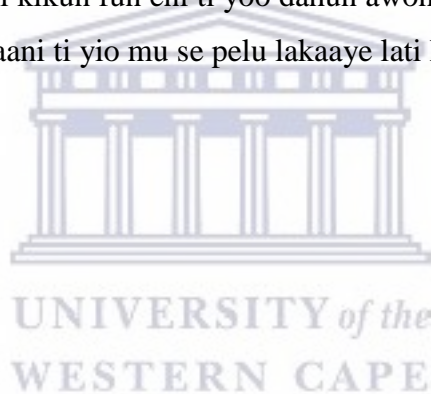
IPELE KINNI: AWON NKAN TI OSE PATAKI NIPA OLUDAHUN			
S/N	Ibeere	Coding Categories	Code
1.	Okunrin abi Obirin	1. Obinrin 2. Okunrin	
2.	Ojo ori	………………………..ni odun	
3.	Iye iwe ti e eka	1. Mi o ka iwe rara 2. Alakobere 3. Ile-iwe girama 4. Ile-iwe giga	
4.	Ipo igbeyawo yin bayi	1. Apon sin i mi 2. An gbe papo sugbon aati se igbeyawo 3. A ti se igbeyawo 4. A ti ko ara wa sile 5. Opo ni mi	
5.	Ojo ori nigbati e koko se igbeyawo	……………………ni odun	
6	Iru Idile	1. Emi ati awon omo ati iyawo mi 2. Emi ati awon omo, iyawo ati awon ebi mi 3. Omiran eso ----------------------	
7	Esin	1. Onigbagbo 2. Musulumi 3. Awon esin miran-------------------------	
8	Iru ise ti e nse	……………………………………………….	
9	Ojo ori nigbati e koko mo okunrin	--	
Ti o baje Okunrin elo si ibeere ketala			
10	Oyun melon i eti ni ri	1. Kosi 2. Eyokan 3. Meji 4. Meta ati jubee lo	
11	Ojo ori nigbati e koko bimo	5. <18 6. 18-25 7. 26-35 8. >35	
12	Iye oyun ti ose lara yin	1. Kosi 2. eyo kan 3. Meji ati ju bee lo	
13	Iye eni ti eti ejo n ni asepo	1. Kosi 2. eyo kan 3. won po (Meji ati ju bee lo)	
14	Se e n mu taba	1. beeni 2. beeko 3. awon omiran ese---------------------------	
IPELE KEJI: OYE NIPA AARUN JEJERE ENU ILE OMO ATI AWON ONA LATI DENA RE			
15.	Se eti gbo nipa aarun jejere enu ile omo?	3. Beeni ( ) 4. Beeko ( )	
16.	Ti o ba je beeni nipa bawo ni ese gbo?	6. Nipa amohun maworan, Nipa asoro magbesi, Nipa iwe iroyin 7. Nipa osise alaabo ilera 8. Nipa awon ore 9. Nipa awon aladugbo 10. Nipa awon molebi mi 11. Omiran eso o-------------------------	
17	Kini aarun jejere enu ile omo?	_____	
18.	Kini erope onfa aarun jejere enu ile omo?	Gbolohun Bee Beeko M	

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			ni		i o m o
		1. biba okunrin pupo ni asepo 2.aisan ti eeyan ko nipa nini asepo pelu okunrin 3. Kokoro HIV 4. Aisan ti kokoro virosi fa 5. Aisan ti kokoro bacteria fa 6. Ogun oju emi 7. Lilo fetosi onikoro fun odun pipe 8. Mimu siga tabi taba 9. Nini ajosepo pelu okunrin ki oto di omodun merindinlogun 10. Late age at getting married _____			
19.	Nje aarun jejere enu ile omo se deena?	1. Beeni ( ) 2. Beeko ( ) 3. Mi o mo ( )			
20.	Nje aarun jejere enu ile omo se wo?	1. Beeni ( ) 2. Beeko ( ) 3. Mi o mo ( )			
21.	Se e rope aarun jejere enu ile omo se wo?	1. Beeni ( ) 2. Beeko ( ) 3. Mi o mo ( )			
22.	Se e rope ti won ba tete se ayewo fun aarun jejere ile omo ni iwosan?	1. Beeni ( ) 2. Beeko ( ) 3. Mi o mo ( )			
23.	Se o moa won ayewo fun aarun jejere enu ile omo?	1. Beeni ( ) 2. Beeko ( )			
24.	So won ayewo ti o	_____			
25.	Nipabawo ni ese moa won ayewo fun aarun jejere enu ile omo?	1. Nipa amohun maworan, Nipa asoro magbesi, Nipa iwe iroyin 2. Nipa osise alaabo ilera 3. Nipa awon ore 4. Nipa awon aladugbo 5. Nipa awon molebi mi 6. Omiran eso o--------------------------			
Ti o baje okunrin e lo si ibeere Ookanlelogbon					
IPELE KETA: SISE AYEWO FUN AARUN JEJERE ENU ILE OMO					
26	Se etigbo nipa ayewo fun aarun jejere enu ile omo?	1. Beeni ( ) 2. Beeko ( ) 3. Mi o mo ( )			
Ti o baje beeko elo si ibeere ogbon					
27.	Ewo ni eyin se ninu awon ayewo na?	1. Pap Smear ( ) 2. VIA ( ) 3. Omiran esoo o …………………..			
28.	Igbawo ni ese ayewo na kanyin?	Ejowo eso ni odun ………………………..			
29.	Ta ni oje ki elo se ayewo fun aarun jejere enu ile omo?	1. Dokita mi ( ) 2. Awon Oremi/ Ebi mi ( ) 3. Emi fun ra mi nigbati mo gbo nipa iwulo ayewo na ( ) 4. Omiran eso o ………………………			
30	Ti o ba je beeko ni esi yin si ibeere Kerindilogbon, kini idire ti eko ti se ayewo fun aaru jejere enu ile omo?	1. Mi o gbo nipa re ( ) 2. Ko sin i agbegbe mi ( ) 3. Oti han ju ( ) 4. Esin ati igbagbo mi o fi aye gba ( ) 5. Omiran eso o…………………….			
IPELE KERIN: IGBAGBO ATI IHU WA SI AWON OKUNRIN NIPA AARUNJEJERE ENU ILE OMO ATI AWON ONA TI AFILE DENA RE					
31.	Aarun jejere enu ile omo n sele nipa isekuse	1 Beeni ( ) 2. Beeko ( ) 3.Mi o mo ( )			

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32.	Aarun jejere enu ile omo je ijiya lati odo olorun	1 Beeni ( ) 2. Beeko ( ) 3.Mi o mo ( )	
33.	Aarun jejere enu ile omo ko ni iwosan	Beeni ( ) 2. Beeko ( ) 3.Mi o mo ( )	
34.	Aarun jejere enu ile omo ko se e dena	1. Beeni ( ) 2. Beeko ( ) 3.Mi o mo ( )	
35.	Aarun jejere enu ile omo le pani	1.Beeni ( ) 2. Beeko ( ) 3.Mi o mo ( )	
36.	Aarun jejere enu ile omo le ki Obinrin yo ile omo re	1.Beeni ( ) 2. Beeko ( ) 3.Mi o mo ( )	
37.	Aarun jejere enu ile omo je aaru ti oburu jayi	1.Beeni ( ) 2. Beeko ( ) 3.Mi o mo ( )	
38.	Awon oloogun ibile leewo aarun jejere enu ile omo	1.Beeni ( ) 2. Beeko ( ) 3.Mi o mo ( )	
39.	Nje elee gba iyawo yin tabo aburo yin obinrin laye lati se ayewo fun aarun jejere enu ile omo?	1.Beeni ( ) 2. Beeko ( ) 3. ko ba miwi ( )	
40.	Nje ele gba ki dokita okunrin se ayewo oju ara fun iyawo yin	1.Beeni ( ) 2. Beeko ( ) 3. ko ba miwi ( )	

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SEMI-STRUCTURED INTERVIEW CONFIDENTIALITY BINDING FORM

Project Title: The Development of a Community-Based Model for Promotion of Cervical Cancer Prevention for Yoruba Women in Ibadan Nigeria

The study has been described to me in a language that I understand and I freely and voluntarily agree to participate. My questions about the study have been answered. I understand that my identity will not be disclosed and that I may withdraw from the study without giving a reason at any time and this will not negatively affect me in any way. I agree to be audio-taped during my participation in the study. I also agree not to disclose any information that was discussed during the interview

☐ **Participant's name: ………………………..**

☐ **Participant's signature: ……………………………….**

☐ **Witness's name: ………………………..**

☐ **Witness's signature: …………………..**

☐ **Date: ………………………**

Should you have any questions regarding this study or wish to report any problems you have experienced related to the study, please contact the researcher:

Researcher: Adedoyin Olanlesi-Aliu.

University of the Western Cape

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Cell: 08029718961

Fax: (021) 959- 2679

Email: adedoyinomidokun@yahoo.com

Interview schedule Health workers and Policy makers   Appendix: 11

These questions are the themes but specific probing questions regarding barriers to prevention of cervical cancer and ways to promote prevention of cervical cancer, to obtain rich information.

Questions	Probes
Section A 1. What do women understand as cervical cancer? 2. What do community's perceive to be the barriers to the prevention of cervical cancer? **3.** Can you tell me about policies available on cervical cancer? **Section B** 4. Can you tell me how effectively the policies available can be implemented? 5. How do you think men understand cervical cancer? 6. In your opinion, in which way(s) should males be involved in cervical cancer prevention? 7. What strategies will you recommend to improve cervical cancer prevention at community level?	Tell me more about that? What do you mean?

Example of interview with the nurse-midwife   Appendix: 13

Archival #: NSG: 010
Site: Ibadan Northwest local government Oniyanrin
Data Collector (s): A.D Olanlesi-Aliu
Date of data collection:28th August, 2015
Transcriber: A.D Olanlesi-Aliu

INTERVIEWER (I): Good morning ma I am Mrs Olanlesi-Aliu Adedoyin, I am a PhD student conducting research on cervical cancer. I will be asking you questions on barriers to prevention of cervical cancer and ways to promote prevention of cervical cancer. Can I meet you ma?

NSG010: Mrs. A.M. Adedigba, work at family planning unit, I am CNO

I: Do you think women believe there is a condition such as cervical cancer?

NSG010: They are aware of it

I: What do you think community perceived as barriers to prevention of cervical cancer?

NSG010: I will still put it as ignorance and lack of, you know we don't take our health serious, I think that is it, and the fact that so many of them don't visit the hospital

I: So what do you now think have been stopping them or preventing them from visiting the hospitals?

NSG010: First and foremost their economic status and secondly, their still ignorant and also they complain about attitude of health workers so that's another reason why they don't visit

I: Can you tell me more about policies available on cervical cancer?

NSG010: There are no policies per say, 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.

I: Can you tell me how effectively the policies available can be implemented?

NSG010: You know I said it that there is no special, or written policy, but all we do is when we have a client for IUD, we usually examine the cervix. We should create more awareness, we are still talking about awareness, even though it is on ground but not yet as strong as it should be, because we found out that whatever will make people to open up themselves, they don't usually like it that is why we have very few numbers of people inserting IUD and that is

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majorly how we discover that they have something like that they should still create awareness that there is no big deal about somebody examining you, you going for test, and that cervix is just like any other part of the body. So awareness is the major thing we can do, then health practitioner should be trained also, they should know, we still have health practitioners especially those who are not nurses, they still cannot identify the cervix and they are collecting big salary, and they are not properly trained. So staff training should be among and then the policy itself should be making known to all health workers. Because even if you want to take care or assist someone with it you should still know the rules that guide your services to render to the client, you know what is expected of you. Those policies that we are talking about should be making known to the health workers.

I: How do you think men perceive cervical cancer in general?

NSG010: Laughs! Laughs, do you think men are concerned about anything like that? They are not, especially in this environment, is none of their business all they want to do is to sleep with their wives and if she is not ready there will be trouble so how will you tell such person of cervical cancer when we even have men who will sleep with their wives when menstruating. We have quite a number of them; these clients come and tell us a lot of things so how will you talk of cervical cancer to such a person. They don't even know anything about it let me say that. Their business with their wives is lay and sleep with them and if you have problem go and settle the problem when you come back in the night let me have you. That is their attitude. So this cervical thing does not really concern them.

I: In your own opinion how do you think males can be involved in cervical cancer prevention?

NSG010: May be we should. Media will do a lot, then meeting with the artisans because men are still artisans and it is these artisans that are not really interested. If the person is educated, the person can sit down in front of computer to get some information, but these artisans, if there could be a period of time holding meetings with them, if they don't even know cervix is there how can you now talk of cancer that affects it, so they don't even know anything about it let me say that. Their business with them, if they don't even know cervix is there how can you now talk of cancer that affects it, so they need to know the anatomy of the women in their house

I: Thank you ma, apart from getting them aware and been knowledgeable about it what other ways can we get them involved.

NSG010: Well, they just have to know about it first, that's the major thing and if their wives have any problem, their wives should tell them and then if the woman have problem along

that line, the men should follow them to the hospital and also assist them and also provide for them. So women when they have their problem like that, even if they have money they can't go to the hospital because the man is not providing for the home so if the man is not providing for the home, the little money she has, she will think of using the money in talking care of the family first, but when a woman has a problem even when it is not cervical cancer and she wants to go to the health facility and she tells the man please I need money and the man is able to make available for the woman at least to some extent, I think that will help the woman.

Also if there is need for the facilities to invite the men, they should be invited so when they come they see for themselves what is going on and they won't start telling that the woman is pretending, you know men don't like anything that will give them stress they don't that any form of liability so when they come and the health worker explain to them, this is what is wrong with your wife, it requires so amount of many to take care of her this is the attention that she needs these are the things that should be done, may be that will help them.

I: What will you recommend for improving cervical cancer prevention at the community level?

NSG010: Improving it abi?

I: Yes

NSG010: Health education, you have to health educate them, they have a lot of myths and misconceptions about things and that creates some awareness you this local women they believe in something called "ayedina" that is what they call cervix especially when they want to deliver and the cervix is not dilating, we can just tell them that thing you call ayedina is the cervix, so it can be affected one way or the other. They need to know about their anatomy themselves, the women; they need the knowledge of it they need to visit the hospital for examination. These days we no longer have them demanding for IUD, so the few ones that have complaints, may be complaint of lower abdominal pain should be examined, so if you see anything you recommend pap smear for that individual and must follow them up, there must a way of following them up because that's the problem we have here. I think as many of that I have referred for this pap smear, only one person came back you know if you refer out there must be a way of following up to find out whether the person have actually gone for the test or not, and if government can make it cheaper I can't remember how much they are doing it at university college Hospital the government should make it cheaper if not free. You know this test should take may be periodically, so government should organize programmed may be for all these women to come and do pap smear for them so that if there is any problem

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even though if it is not cervical cancer or if it an early stage it could be discovered when it is still very early so something could be done. Then they should get the community leaders involved especially the women so they can talk to their young ones that you should come for examination that there is something we call cervix, that needs to be examined because there is something we call cervical cancer that can affect it and you don't see it, it's someone that we see it for you and tell you.

Example of interview with the community health Officers (CHOs)   Appendix: 14

Archival #: CHO 0003
Site: Akinyele local government Moniya
Data Collector (s): A.D Olanlesi-Aliu
Date of data collection: 6th October, 2015
Transcriber: A.D Olanlesi-Aliu

INTERVIEWER (I): Good morning ma I am Mrs Olanlesi-Aliu Adedoyin, I am a PhD student conducting research on cervical cancer. I will be asking you questions on barriers to prevention of cervical cancer and ways to promote prevention of cervical cancer. Can I meet you ma?

CHO002: Thank you, 2 years ago this cervical cancer killed my sister at UCH, em as at that time I know much about it because I don't want that kind of sickness to tamper with me again so well I don't know how to………

I: You can speak Yoruba

CHO002: Then she was complaining of stomach ache so I brought to General hospital here. She was treated but later we were told to go to UCH on getting to UCH she was admitted at Radiotherapy unit on the ward, a sample was taken from her and were told to come back for the result. After that I went back for the result and I was told she already have cancer cervix. She was fat and by then she was already losing weight. Later she was vomiting and she was been given an injection I have forgotten the name of the injection to stop the vomiting. We spent a lot so many properties were sold we even went on air at radio station for assistance, as she is been given blood, she kept losing it, but later she eventually died. So since then, the screening was brought to LGA Akinyele at the multipurpose hall that all women should come for screening, something was inserted into our private part and removed and I was told I don't have it so since then I have been very observant about myself in fact I have been wanting to repeat the test now, so we are now pleading to our government to please help us because they said the money for those tests is very expensive so they should please help us. I am the one taking care of my sisters children now because she lost her husband and long time ago. It is with this Health assistance job that I have been using to cater for those children and mine.

I: Please ma tells us your initials and the type of job you do here.

CHO002: I can even tell you my name because the sickness is very bad I am Ayoola funmilayo I am CHO here in CHM.

I: Please ma do you think that women believe that there is a condition such as cervical cancer?

CHO002: Those who believe are not much some even say cancer is spiritual can attack from the evil one but I know it is cancer because I was the one who dressed up my sister when she died. I believe it is cancer and it exists because my sister was taken to UCH and a sample was collected from the mouth of her womb, before it was taken to the laboratory. But those who believe in this country are not much and it is killing women so much.

I: So you have said they did not believe because they think it is an attack from the evil one (ise ayeni)

CHO002: They will say what cervical cancer is spiritual, and in the past there was nothing like that, this is not supposed to be so, and the women should be enlightened about this cancer cervix. Many even run away when they are been called upon for screening and it is killing a lot of women.

I: Why do you think these women are running from the screening?

CHO002: Uh for example if a person is been told she has cancer cervix, she will keep thinking and it may be this that will kill her and some are even afraid (fear of unknown). It is just like HIV you understand, for some to go for the screening, he or she may be afraid and if it not done there won't be solution. If one knows that " boni mora kin pa o n I aisan je, somi sita kintu o sile "(Haber sickness and die, get to know about it and die, get cure). Once one knows about it and get treated such a person will be fine. Hadn't been that my sister speak out on time and we were not moving up and down, assuming we went directly to UCH, before it had advanced and her womb was removed. It wasn't much at early stage but she didn't speak out until it had already advanced. And she stopped childbearing early so we need government to really assist all women.

I: Thank you ma, what do you think community perceived as barriers to prevention of cervical cancer?

CHO002: You see "oju ti dudu ju" (ignorance) and we are opportune that you have come to us; there are some people who have never heard of cancer cervix. If government can assist us, every village should be go to such that the people in the villages are enlightened about cancer cervix, it should be done always not once or twice a year many don't know about it in fact if they have any sign in the private part they can be using "ose dudu" (traditional soap) for it and when someone is having constant stomach ache you know she is to do investigations,

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then poverty level is so high even more than necessary that even if someone have decided to go for the screening there may not be money and there is nobody to assist in fact the poverty is killing a lot of people because during my sister's time (Radio station) that Nigerians should assist us, before we could even get money for the operation it was already late (otibosori) poverty is much in Nigeria may God help us.

I: Do you mean that the community members have trust in the traditional healers than the health care provider?

CHO002: Yes. Do you know that when someone assisted my late sister with money her daughter told me that some will help them do it, and the person collected then money from them and gave them " nkan dudu" Traditional medicine this traditional medicine eventually destroyed my sister such that her stomach decayed totally.

I: Thank you ma, so can you tell me more about policies available on cervical cancer?

CHO002: Our family planning unit provider are really trying because that is the major place that women do go especially when they want to do family planning. The family planning providers always tell the women that if they observe anything in their private part, they should not be quite about it but rather come quickly to the hospital. So they talk to them about it.

I: Apart from health education, do you do screening in this your hospital.

CHO002: Uh ah! I don't think so, the family planning unit, they do if they want to insert something into the private part of the woman, if anything is detected they will inform the woman.

I: Thank you ma. What do you think men perceive cancer cervix in general

CHO002: Based on what happened to my sister and since I have stopped child bearing, and based on information that I have heard that once one is done with child bearing that is it better to remove ones womb for proper prevention. So many husbands are afraid, like my husband he is afraid that maybe we should even remove this thing if it is what will cause cancer cervix that I should get it removed, so I have been thinking of getting my womb removed because I am not bearing children again my last child is about resuming school of nursing, and one is about graduating at university of Ilorin and I have just three kids. So I am thinking of removing it before something is attached to it. So many men believe that once the women are no longer bearing children again, it should be removed.

I: So do you mean that men also believe cancer cervix exist?

CHO002: Yes they do believe, because it has made many husbands widower.

I: As you have mentioned that men believes, so in what ways can men be involved in prevention of cervical cancer?

CHO002: A man who is exposed and well to do, who has money will help his wife, asking his wife the last time he did cervical screening, and he will remind her. Some men it could be from their been promiscuous which is the most common, he would have infected the wife with different kind of disease. See in my church, I attend Deeper life they do women meeting, so there was a day I asked why they don't do men's meeting, so many men are promiscuous majority of what women are going through are caused by men because they don't have good knowledge of it. So our government should also endeavor to organize seminars for men too not only women all the time, to improve their knowledge.

I: Thank you very much ma. What will you recommend for improving cervical cancer prevention at the community level?

CHO002: Ha, they said once one is infected, the person is infected, so I am pleading that our government should further research on it what can be done that women will not be having cancer cervix again, that cervical cancer will not exist again, and if it is that once women have finished child bearing, that the womb should be removed and some women wouldn't have finished child bearing before they get it I even know of the rich women in this town who still died of cervical cancer so if they are saying it is not curable cancer cervix is that bad, you know HIV has drug and can be controlled but cervical cancer they say anyone that gets it have it. So government should organize seminars on cervical cancer, signs and symptoms etc. especially the women you know and can quickly go for treatment, so they should go round the hospitals, as they have created awareness on HIV, this one is even worse than HIV, so they should create more awareness on it. It is not suppose be just once a year. That us what killed my blood sister.

I: Thank you very much ma.

Example of transcript interview with Policy maker   Appendix: 15

Archival #: PCY 0003
Site: Akinyele local government Moniya
Data Collector (s): A.D Olanlesi-Aliu
Date of data collection:20th October, 2015
Transcriber: A.D Olanlesi-Aliu

Introduction: Good afternoon sir, I am Olanlesi- Aliu Adedoyin I'm a student conducting reach on barriers to prevention of cervical cancer and ways to promote prevention of cervical cancer. Sir can I meet you?

PCY003: My name is Dr Olatunji Muhydeen Babatunde the medical officer in charge for Akinyele local government.

I: Do you think that women believe that there is a condition such as cervical cancer?

PCY003: It depend on kind of women you are referring to, may be the educated ones, they know most of the not educated/ or uneducated ones may not really know the importance or what cervical cancer is all about, only very few may be aware, but those who have good education might have heard it one time or the other, so it's a mixed thing.

I: Sir what do you think community perceived as barriers to prevention of cervical cancer?

PCY003: Well when you talk about community it depends on the kind of community you are referring to, when you look at the homogeneous community whereby you have the educated ones may know about cervical cancer, the uneducated ones who don't even know about it, what will they perceive as a barrier? So those that know within the community might have issue about the prevention, one the education about it is not enough, when there is no enough education, prevention then becomes an issue so basically education is not enough, people may not see the reason why they have to make prevention because the full knowledge about the whole issue is not well educated

I: Apart from education that is not enough on cervical cancer what other thing can be barrier(s) among those who are aware

PCY003: Now what I think now is, we could do a community screening, but the logistic to do that is not as much as it ought to be then like I talk about education initially every women that knows that she has a need to screen at least once in a year for prevention may not do it because of the cost of doing the screening. Apart from not knowing, even those that know

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may not have enough means to do it. Then three, some may know it and may even have money to do it but the zeal may not be there to go for it. Then the spouse effect too is there, the husband, and if the wife doesn't know and the man knows he can encourage and ask her to go for screening. The health workers also need to do enough as people come to the facilities you ask them, you educate them even during the time they have antenatal clinic and postnatal care as well, you can give them awareness, must times this is not there, then in most hospitals the manpower to do the baseline screening may not be there for them most of our hospitals are not where they supposed to be and most of the inputs that we need to work in the hospital may not be there and that becomes a limiting factor for anyone that even want to campy out screening, even when they have clients that wants to sort for such services so by and large, those are the major issues now. Then coming down to the country, many people are even busy all through to find the way to survive rather than do things that will address issues of their health, response to health on safeguarding health living in this country is not good as it ought to be because you should be able to look at your health holistically the way and manner your health campaign, the logistics, the fund and the facilities the services there are far from what we need.

I: Sir in Akinyele local government have you been carrying out screening?

PCY003: Yes we have done it in partnership with non-governmental organization, and there was another time we did general awareness on it and we invited some people to come and do cervical screening for women, those were the only opportunities we have utilized and people in the community actually came out.

I: Was it free?

PCY003: Of course it was free then and that was why people came out in large numbers, it was campaign now so nobody collected money, those NGOs provided the logistic requirement only what they did was to present themselves for screening, and even that period we tried to do capacity building for the health workers to know to carry it out

I: Can you tell me more about polities available on cervical cancer?

PCY003: Well in Nigeria fine, it's that every woman like a policy statement on health that encourages every women to do screening at least once a year just in same line when we talk about the prevention of breast cancer that you should do self-breast examination at least once a month or every three month along that line this issue of cervical screening comes line as one of the cardinal way of preventing some cancers that is common in woman, every federal policy is adopted at almost every state of the federation as well, so not that we so aggressive about it but the feeble policy that the state has as well that encourage every woman to do

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screening at least once in a year, how, where they will do it may be another boil game entirely.

I: Apart from the mentioned policy are there other ones?

PCY003: That's the only one that I am aware of when you talk about prevention of cancer in women

I: Can you tell me how effectively the policies available can be implemented?

PCY003: The only way it can be well implemented is to have more on health education. Go to the community create that awareness so that people can actually come out and see the need to do it, and when you do such an awareness campaign you don't it to women alone you involve the two gender, male and female so that one can be an augmenter for the other so to motivate. So if we can be aggressive in creating awareness in the community, people will surely respond because each time you say you want to do free screening for them they turn out in large number, that they need to do issue on their health so the only thing for them is to assess the health facility, when they get to the health facility we should put the right impute there that can actually be used to carry the services.

I: How do you think men perceive cervical cancer in general?

PCY003: Well I have not seen any study that says this is the way men perceive it so whatever I say may be subjective but most men may not see any issue about it because it doesn't affect them, mark my world my own opinion might be subjective I am not talking about anecdotal data or based on any previous studies but generally that is the impression whatever that doesn't affect you, you don't get worried about it

I: In your own opinion how do you think male's population should be involved in cervical cancer prevention?

PCY003: The same approach, create awareness health educate the men for and the need for them to join hands with women folks with that we need is health education

I: Sir this research is basically for Yoruba women, how you think Yoruba culture can assist or can influence the prevention of cervical cancer?

PCY003: Well I don't know the aspect of Yoruba culture you are making reference to but basically, part of the tradition of Yoruba is that your health is your wealth and you don't play around with the issue of your health and nobody wants to die young, another issue is that anything that has to do with the reproductive area is held in secrecy and kept with care so the only way Yoruba culture can help deal with that one is to use what they believe in, women to women talk, women groups, women organizations. So if it's among the women that discuss it they are free to discuss and can easily disseminate the information that might be in line with

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the culture that they live within their own group. Also the peer influence goes along way, because they still have cascade of groups, you talk about the mother- in-law, you talk about the young adolescence, and all of them cluster together. So when you cascade it or segregate the information or in the area you engage them it can go a long way to influence what they have to do. But basically like I have said keep on use health education as the broad base we can achieve a lot through that I don't know any aspect of Yoruba culture that will say o promote cervical cancer except of other factors that we know may be a predisposing factor, such as multiple sexual partners all those stuff. Yoruba doesn't actually encourage that, it does not mean individuals do not that but the culture doesn't do that, they don't expect you to be sleeping around with any man so we can act more on that, moral it might go way to help us.

I: Sir now that we are talking about women do you thinks it is necessary to start from primary school to involve our girl child even boys?

PCY003: That is absolutely perfect, like Muslims will say "it is from childhood you teach your children how to recite in silence" so you can start like in the days of old teaching civic in primary school, so anything that has to do with health education should start from primary school. But in primary school the time they will appreciate it more is from primary 5, then SS1-3 and above, create that awareness in them not only on cancer but on any of cancer predisposing factors we don't lose anything in doing that

I: How do you think this can come into play?

PCY003: We can always adjust our school curriculum, the ministry of health can make a policy statement, get the input of the governor and send it as policy to the state ministry of education, ministry of education will now disseminate to all the schools in the state to imbibe that in their entire curriculum so it is as simple as that. All we need is for the ministry of health initiate it and give idea based on solution or data gather from people such like you and I, then we prepare our report and the state will see if it can be impactful, with such evidence presented to them and lot of pressure on them, advocacy can make them to involve such a policy disseminated to all part of the state.

I: Do we have any vaccine for HPV in Oyo state; do we give it at all?

PCY003: We don't give it as a routine, may some people wants to source for it, but I am not sure if I have seen any.

I: Is it available at all in Oyo state?

PCY003: It is not readily available

I: Why is not readily available?

PCY003: Well the state governments do not see it as one of the vaccines to procure; we only focus now on childhood killer disease.

I: What will you recommend for improving cervical cancer prevention at the community level?

PCY003: Health education, health education, health education and awareness so if we do that everybody will be on level, and then if we create much health education, the issue of vaccine preventable will come in and make sure the vaccines are available.

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28th January, 2016

The Director,

Reproductive Health,

Ministry of Health,

Oyo State.

EXPERT REVIEW MEETING

I humbly invite you as a stakeholder and policy maker in reproductive health care in Oyo State to be part of expert review for the data collected toward the development of a community-based model for promotion of cervical cancer prevention for Yoruba women in Ibadan Nigeria

Date: 19th February, 2016

Venue: Ministry of Health, Secretariat, Ibadan.

Time: 10am prompt

Your participation is highly essential, please notify on or before 11th February, 2016 your acknowledgment of participation

Thank you for usual cooperation**.**

Adedoyin Olanlesi-Aliu
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Example of Expert review Activity sheet   Appendix: 17

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Expert Review Activity

Topic: Development of a community-based model for promoting cervical cancer prevention among Yoruba women in Ibadan

Objective: Concept identification and classification

Step 1. Identify the concepts from quantitative and qualitative data

Step 2. Determine the content of the following in relation to concept identification

1. Agency-*Who or what performs the activity?*

2. Patiency or recipiency-*Who or what is the recipient of the activity?*

3. Framework- *In what context is the activity performed?*

4. Terminus-*What is the end point of the activity?*

5. Procedure-*What is the guiding procedure, technique or protocol of the activity?*

6. Dynamics-*What is the energy source for the activity?*

Definition of terms according to Dickoff, James and Wiedenbach (1968)

1. Agent: the "agent" can be a person or point of service that carries out activities within an organization. The nature of the "agent" stimulates activities that are creative, constructive and significant within performance that is aimed at goal achievement.

2. Recipient: The 'recipient' can be any person or an unspecified object that is the receiver of the activity by the agent

3. Context: include the „setting, location, the physical structure of ward, hospital, or medical centre, time, space, or structure☐ that constitute different elements of the situation in which the activity occurs.

4. The terminus: refer to the goal that represents the point of accomplishment of the activity' whereby the activity is characterized in terms of its end point. The characteristics of the goal as unifying all activities as achievable through organization

and structure so that the agent acts by visualizing the end product. They elaborate on visualizing the goal whereby it facilitates the performance of the 'agent' to consider how best to describe an activity's end point.

5.   The procedure: refers the features, steps, instructions or patterns on how the activity is to be performed. The procedure include stating the facets include principles, sets of rules, routine or particular features that contribute a series of actions aimed at the goal that is to the advantage of the recipient

6.   The dynamics: comprise of the vivacity of influence as an energy origin and an attribute associated with capacity to execute activities. The possible origin of functioning could be physical, physiological or psychological and is relevant only to person's functioning as 'agent', 'recipient' or within the context□. In relation to merely functioning the authors specify that it must be purposeful, goal-directed, have drive, impetus or direction.

1. Agency-*Who or what performs the activity?*

① Health Education and Awareness of Cervical Cancer prevention Can be given by Nurses and Other Community Health workers in the Local Govt Health Centres, state and federal.

② Vaccination with HPV Vaccines should be done by Trained Nurses.

③ VIA and pap smear can effectively be Performed by Trained Nurses at each level of care.

2. Patency or recipiency-*Who or what is the recipient of the activity?*

① Recipients of Cervical prevention programme Shall generally be women of reproductive age, seeking Maternal & Child health Care, postnatal, FIP, Gynae clinic, Preconception care Clinic, Immunization clinic etc) Services

② Recipient can also be extended to men as male Involvement in reproductive health issues is of Importance.

③ Recipient of Health Education & Awareness can also be extended to girls at Secondary School levels.

3. Framework- *In what context is the activity performed?*

1. Health Education and promotion Can take place in schools, Churches and Co-operate organizations including market places.

2. Health Education & promotion Can also take place in Local Govt Health Centres (PHC), General hospitals, Comprehensive health centres and Tertiary Institution where women access reproductive Health Services

③ Vaccination can take place at Secondary and Tertiary Centres

④ VIA Can take place in PHC and Secondary health care centers

⑤ Pap smear Can take place in Secondary and Tertiary Health Centres as their would be a need for Pathologist to read Samples collected which may not be present in some PHC and Secondary Centres.

Private Hospitals Can also be Involved in this Collaborative eff...

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4. Terminus-*What is the end point of the activity?*

Cervical prevention, Screening and awareness is a
Continuous activity as women will have to
be Followed up and Test done Once every
3 years until age 65yrs of which previous
3 smear test, done has been Satisfactory.

5. Procedure-*What is the guiding procedure, technique or protocol of the activity?*

In health Education and Awareness, Attension of the audience
Can be sought by Jingles and postal display to suit the
audience.

VIA procedure is similar to Pap smear. (Not done when
a woman is menstruating)
- Ensure privacy
- Use Cuscos speculum to expose the Cervix with the woman
  In lithotomy position.
- Paint with 65% acetic acid or collect Pap smear
  with Ayres spatular or Cytobrush and spread on glass
  slide.
- Fix sample & send to the lab.

6. Dynamics-*What is the energy source for the activity?*

Federal Governmet
Non-Governmental Organization
Donor - Agencies

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