

**KNOWLEDGE, ATTITUDE AND PRACTICES ON CERVICAL CANCER SCREENING
AND PREVENTION METHODS AMONG NURSES AT
TWO NAIROBI HOSPITALS IN KENYA**

by

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submitted in accordance with the requirements

for the degree of

MASTER OF ARTS

in the subject

NURSING SCIENCE

at the

UNIVERSITY OF SOUTH AFRICA

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NOVEMBER 2016

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DECLARATION

I declare that **KNOWLEDGE, ATTITUDE AND PRACTICES ON CERVICAL CANCER SCREENING AND PREVENTION METHODS AMONG NURSES AT TWO NAIROBI HOSPITALS IN KENYA** is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references and that this work has not been submitted before for any other degree at any other institution.



15 November 2016

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SIGNATURE

Susan Ndila Kieti

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DATE

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AT TWO NAIROBI HOSPITALS IN KENYA**

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ABSTRACT

Background: Cervical cancer is the second most common cause of death from cancer among women in Kenya. Various international studies indicate that the knowledge level of cervical cancer and its predisposing and preventive measures is low among the nurses as well as general population.

This study aimed to assess knowledge, practices and attitudes of nurses with regards to cervical cancer screening and preventive measures at two Nairobi hospitals in Kenya. Cross-sectional quantitative descriptive study design was used. Convenience sampling method was applied and data were collected from respondents using self-administered questionnaire. About 114 nurses aged 18 years and above participated in the study.

The study revealed that nurses have the information about cervical cancer, available screening tests and the purpose of screening. Nurses have the knowledge that cancer screening could detect this cancer at an early stage; however, uptake is low. Cervical screening services were hampered by barriers relating to health care institutions, nurses perception and fear of screening technique, embarrassment, stigma, social influence, financial costs and available sources of information.

Keywords

Awareness; attitude; cervix, cervical cancer; cervical screening and prevention; cervical screening barriers; Human Papilloma Virus; uptake.

ACKNOWLEDGEMENTS

- I would like to thank the two Nairobi ethical committees, for allowing me to conduct this study.
- I also want to thank the administrators of the two hospitals, for helping me in the conduction of the study in their respective outpatient departments.
- I would like to convey my gratitude to the nurses at the outpatient departments of the two hospitals, for taking part of their precious time to fill in the self-administered questionnaires.
- I would like to thank the Department of Health Higher Degrees Ethics Committee of the University of South Africa (UNISA), for giving me the due permission to conduct this study.
- Last but not the least; my heartfelt thanks go to Professor LM Modiba, who has been giving me invaluable suggestions and comments by revising this study from its proposal up to its final stage.

Dedication

I dedicate this dissertation to my husband Stephen who encouraged me to take this course, and organised for the application and for entrance at the University of South and for financial and moral support, and to my children Eric and Brian for their encouragement, patience and understanding throughout the period of study.

TABLE OF CONTENTS

CHAPTER 1	1
ORIENTATION TO THE STUDY	1
1.1 INTRODUCTION.....	1
1.2 THE BACKGROUND INFORMATION OF THE RESEARCH PROBLEM	2
1.3 STATEMENT OF THE RESEARCH PROBLEM.....	5
1.4 DEFINITIONS OF KEY CONCEPTS.....	5
1.4.1 Conceptual definition.....	5
1.4.2 Operational definitions.....	6
1.5 PURPOSE OF THE STUDY.....	7
1.5.1 Objectives of the study.....	7
1.5.2 The research question.....	7
1.6 THEORETICAL FOUNDATION OF THE STUDY	8
1.6.1 The research paradigm	8
1.6.2 Theoretical framework.....	9
1.7 RESEARCH DESIGN.....	11
1.7.1 Design.....	11
1.7.2 Research methods	13
1.7.2.1 Study population and sample selection	13
1.8 RESEARCH DESIGN AND METHOD	14
1.8.1 The research design	14
1.8.2 Research methods	15
1.8.3 Research setting	15
1.8.4 Data collection.....	15
1.8.5 Data analysis	15
1.8.6 Reliability and validity	15
1.9 SIGNIFICANCE OF THE STUDY.....	16
1.10 ETHICAL CONSIDERATIONS	16
1.11 SCOPE AND LIMITATION OF THE STUDY	17
1.12 STRUCTURE OF THE DISSERTATION	17
1.13 CONCLUSION	18
CHAPTER 2.....	19
LITERATURE REVIEW	19
2.1 INTRODUCTION.....	19
2.1.1 Purpose of literature review.....	19
2.2 CERVICAL CANCER	20
2.2.1 The impact of cervical cancer.....	20
2.2.2 Aetiology of cervical cancer.....	22

2.2.3	Available screening tests.....	23
2.2.4	Screening and utilisation of screening services	24
2.2.5	The impact of screening	25
2.2.6	Knowledge and utilisation of health screening services	27
2.2.7	Contextualising the literature reviewed within the health belief model	27
2.3	SUMMARY.....	28
CHAPTER 3.....		30
RESEARCH METHODOLOGY		30
3.1	INTRODUCTION.....	30
3.2	PURPOSE AND OBJECTIVES OF THE STUDY	30
3.3	RESEARCH DESIGN.....	31
3.3.1	Research method.....	31
3.4	RESEARCH SETTING.....	31
3.5	POPULATION.....	32
3.5.1	Sample and sampling method.....	32
3.5.2	Inclusion and exclusion criteria for respondents	32
3.5.3	Sampling	33
3.6	RESEARCH INSTRUMENTS.....	33
3.6.1	Pre-testing the instrument	34
3.6.2	The data collection process.....	34
3.6.3	Data analysis	35
3.7	VALIDITY AND RELIABILITY OF THE STUDY.....	35
3.7.1	Reliability.....	35
3.7.2	Validity	36
3.8	ETHICAL CONSIDERATIONS	37
3.9	CONCLUSION.....	38
CHAPTER 4.....		39
DATA ANALYSIS AND DISCUSSION.....		39
4.1	INTRODUCTION.....	39
4.1.1	Statement of the research problem	39
4.1.2	Purpose of the study	39
4.1.3	Objectives of the study.....	40
4.2	DATA MANAGEMENT AND ANALYSIS	40
4.3	FINDINGS AND DISCUSSIONS	40
4.3.1	Socio-demographic characteristics.....	41
4.3.1.1	Age	42
4.3.1.2	Marital status.....	43
4.3.1.3	Education.....	43

4.4	KNOWLEDGE OF CERVICAL CANCER AND PREVENTION	44
4.4.1	Cervical cancer symptoms	49
4.4.2	Risk factors of cervical cancer.....	49
4.4.3	Cervical cancer screening	50
4.4.4	Cervical cancer screening programme	52
4.5	ATTITUDE TOWARDS CERVICAL CANCER SCREENING AND PREVENTION..	53
4.5.1	HPV vaccination.....	54
4.6	PRACTICES OF CERVICAL CANCER SCREENING AND PREVENTION	56
4.6.1	Cervical cancer prevention	57
4.6.2	Cervical cancer screening benefits and challenges	58
4.7	CONCLUSION	60
CHAPTER 5.....		61
CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS OF THE STUDY		61
5.1	INTRODUCTION.....	61
5.1.1	Purpose of the study	61
5.1.2	Objectives of the study	61
5.2	SOCIO-DEMOGRAPHIC PARAMETERS	62
5.2.1	Age	62
5.2.2	Marital status.....	62
5.2.3	Education	63
5.3	KNOWLEDGE VARIABLES	63
5.3.1	Detection of cervical cancer using Pap smear.....	64
5.3.2	Early detection of cervical cancer	64
5.3.3	Cervical cancer symptoms	65
5.3.4	Risk factors of cervical cancer.....	65
5.3.5	Cervical cancer screening	66
5.3.6	Cervical cancer screening programmes in health facilities	67
5.4	ATTITUDE VARIABLES.....	68
5.4.1	Attitude towards cervical cancer screening.....	68
5.4.2	Attitude towards prevention of cervical cancer	68
5.4.3	Attitude towards HPV vaccination	69
5.5	PRACTICE VARIABLES	69
5.5.1	Practices of cervical cancer screening	69
5.5.2	Reasons for not having the Pap smear test.....	69
5.5.3	Cervical cancer prevention	70
5.5.4	Cervical Cancer screening benefits and challenges	71
5.6	LIMITATIONS OF THE STUDY.....	72
5.7	RECOMMENDATIONS REGARDING FURTHER STUDIES.....	73

5.8	CONCLUDING REMARKS.....	73
	LIST OF REFERENCES	75
	ANNEXURES.....	83
	Annexure 1: Ethical clearance certificate.....	84
	Annexure 2: Letter requesting permission to conduct the study.....	85
	Annexure 3: Letter of permission to conduct study	86
	Annexure4: Participant consent form.....	87
	Annexure 5: Data collection instrument	88
	Annexure 6: Letter from a statistician	97
	Annexure 7: Editing certificate	98

LIST OF TABLES

Table 4.1	Socio-demographic characteristics of the respondents	41
Table 4.2	Age and Pap smear test cross-tabulation	42
Table 4.3	Marital status and Pap smear test cross-tabulation.....	43
Table 4.4	Level of education and Pap smear test cross-tabulation	44
Table 4.5	Knowledge about cervical cancer screening	45
Table 4.6	Knowledge on cervical cancer prevention.....	46
Table 4.7	Source of information about cervical cancer	46
Table 4.8	Detection of cervical cancer using Pap smear	47
Table 4.9	Early detection of cervical cancer	48
Table 4.10	Risk factors of cervical cancer	50
Table 4.11	Other methods of cervical cancer screening	52
Table 4.12	Methods of cervical cancer prevention.....	58

LIST OF FIGURES

Figure 4.1	Knowledge about cervical cancer screening	45
Figure 4.2	Knowledge on cervical cancer prevention.....	46
Figure 4.3	Source of information about cervical cancer	47
Figure 4.4	Detection of cervical cancer using Pap smear	48
Figure 4.5	Cervical cancer symptoms.....	49
Figure 4.6	Frequency of Pap smear	51
Figure 4.7	Cervical cancer screening programmes in health facilities	53
Figure 4.8	Cervical cancer screening across female groups.....	54
Figure 4.9	Recommendation for HPV vaccine	55
Figure 4.10	HPV vaccine across female groups	55
Figure 4.11	Frequency of Pap smear test among nurses	56
Figure 4.12	Reasons for not having the Pap smear test	57
Figure 4.13	Methods of cervical cancer prevention.....	58
Figure 4.14	Cervical cancer screening challenges and barriers.....	59

LIST OF ABBREVIATIONS

ASIR	Age standardised incidence rate
ASMR	Age standardised mortality rate
CIN	Cervical intra-epithelial neoplasm
HBM	Health Belief Model
HIV	Human Immunodeficiency Virus
HPV	Human Papilloma Virus
IARC	International Agency for Research on Cancer
ICC	Invasive cervical cancer
ICO	Information centre
PAP	Papanicolaou
LUTH	Lagos University Teaching Hospital
MTRH	Moi Teaching and Referral Hospital
MCHFPC	Maternal child Health and Family Planning clinic
NGO	Non-governmental organization
OPD	Outpatient department
RNA	Ribonucleic Acid
SPSS	Statistical Package for Social Sciences
SSA	Sub-Sahara Africa
UNISA	University of South Africa
VIA	Visual inspection with acetic acid
WHO	World Health Organization

CHAPTER 1

ORIENTATION TO THE STUDY

1.1 INTRODUCTION

Cancer of the cervix is a serious burden on the reproductive health of women world-wide, despite the fact that it is preventable. In addition, cervical cancer is the second most common cause of cancer-related deaths among adult women globally. In 2012, there were about 527 624 new cases and more than 265 672 deaths among women that were recorded as a result of this preventable disease (World Health Organization [WHO]/ICO Information Centre on HPV and Cervical Cancer 2007). Organised cytology-based screening programmes to achieve high coverage rates by using Papanicolaou smears and treatment of pre-cancerous lesions has led to a significant decrease in the cervical cancer incidence and mortality in developed countries (WHO 2002; Parkin, Freddie, Ferlay & Pisani 2005:76). However, these successes of organised screening have not been replicated in developing countries reflecting an enormous global-cervical-cancer-burden of 83% (Parkin et al 2005:78). Such imbalances are alarming and literature has shown that developed countries have an average screening coverage of 63%, compared to 19% in developing countries (Gakidou, Nordhagen & Obermeyer 2008:20). Early screening is a proven cost-effective cervical cancer control strategy (Kimani, Sharif & Bashir 2012:11).

Cancer of the cervix and Human Immune Virus (HIV) are both important public health problems in developing countries. The Human Papilloma Virus (HPV) is the known major etiologic agent for the development of cervical cancer. Normally, in immune competent subjects, HPV infections clear in 6–24 months in 70% of females. Studies have shown that women infected with HIV have a higher prevalence of HPV infection and are more likely to develop persistent HPV infection. In addition, these women are more frequently infected with multiple HPV types and thus are at greater risk (10 times increased risk) of developing cervical intraepithelial. Besides HIV, low CD4+ cell count and high HIV-RNA level correlate to HPV-infection risk and cytological abnormalities. Dysplasia has been reported in 15 to 40% of HIV infected women and these rates are 10–11 times higher than those observed among HIV negative women. Mortality has

declined markedly in most industrialised countries mainly due to extensive screening programmes.

The trend of cervical cancer being most prevalent among women in low resource settings is not unique to Africa, but is also seen in other developing parts of the world (Haiti 93 per 100 000; Zimbabwe 52 per 100; Malawi 56 per 100; Swaziland 52 per 100). In contrast, very low rates are seen in developed countries. Cancer of the cervix forms in the tissues of the cervix. It is usually a slow-growing cancer that may not have symptoms but can be found with regular Pap tests. Cancer of the cervix is almost caused by HPV infection. Cervical cancer is malignant neoplasm of the cervix uteri or cervical area. Cervical cancer can be present with vaginal bleeding; symptoms may not be present until at an advanced stage (WHO/ICO Information Centre on HPV and Cervical Cancer 2007). Treatment of cervical cancer consists of surgery (including local excision) in early stages, and then chemotherapy and radiotherapy in the advanced stages. Pap smear screening can identify potentially precancerous changes. The development of cancer can be prevented by the treatment of high grade changes.

1.2 THE BACKGROUND INFORMATION OF THE RESEARCH PROBLEM

Cancer is a leading cause of death worldwide and has accounted for 7.6 million deaths. Approximately 13% of these deaths are from developing countries (IARC 2005:3). The majority of cervical cancer-related deaths occur in developing countries. According to AIRC (2005:3) and Parkin, Bray and Devesa (2001:6), 80% of the 233 000 deaths out of 471 000 new cases globally were from developing countries. This is the most common cancer among women. The highest incidence rates are observed in Latin America and the Caribbean, sub-Saharan Africa, and south and south-east Asia. Cervical cancer is less common in the developed countries, where it was estimated to comprise about 4% of cancers in women in the year 2000, ranking sixth in importance (IARC 2005:3). More than 70% of these deaths occurred in low and middle income countries where resources available for prevention, diagnosis and treatment of cancer are limited (IARC 2005:3).

In sub-Saharan Africa cervical cancer is the second most common cancer and in Kenya cervical cancer is the most common cancer (IARC 2005:6). It has been reported that there are 15 cases of cervical cancer reported in Nairobi each week (Nairobi Cancer

Registry 2000–2002). Early diagnosis and management is paramount, the strategic plan 2012–2015 in Kenya states that even in centres where these facilities are available, there is very low screening rates (Kimani et al 2012).

Cervical and breast cancer are a great concern in the health sector since they are rated as the most common concern in the developing countries (IARC 2005:6). Cervical cancer is the commonest malignancy of the female genital tract in the developing countries and the second common in the world. This is due to lack of precursor screening. Variable factors have been blamed on low screening and these include low literacy levels, poverty ignorance, lack of equipment and lack of trained medical staff (Udigwe 2006:40). In any community, trained nurses and midwives constitute a knowledgeable class with regards to medical information and intervention. It is against this background that the strategic plan 2012–2015 focuses on appraising knowledge and practice of nurses who work in tertiary health care setting with regard to cervical cancer screening (Kimani et al 2012).

The WHO estimated that cervical cancer was the second most common cancer among women in Kenya in 2008. If screening and treatment remains low in Kenya the number of deaths resulting from cervical cancer will double by 2025 (Sudenga, Rositch, Otieno & Smith 2013:896). Fortunately, cervical cancer can be prevented by detecting it in its pre-invasive stage with the help of Pap smear test. The test can also decrease mortality by diagnosing cervical cancer at any stage (Shrestha, Saha & Tripathy 2013:31).

Cervical cancer screening methods available in Kenya which were part of the Ministry of Health's National Cervical Cancer Prevention Strategic Plan from 2012–2016 include Pap smear test, visual inspection with acetic acid visual inspection with lugol iodine. However, uptake of these methods remains low (Sudenga et al 2013:896). Risk factors of cervical cancer include early age at first intercourse or multiple sexual partners (Al-meer, Aseel, Al-Khalaf, Al-Kuwari & Ismail 2011:856). According to Nairobi Cancer Registry (2000-2002), the most common cancer reported among women was breast cancer at 23.5% followed by uterine cervix cancer at 20.0% of all the reported cases within Nairobi. Health care workers are important components in cancer prevention. Their knowledge and attitude towards the screening method and process can influence the people with which they interact either positively or negatively. Studies conducted in foreign countries have indicated that knowledge of cervical cancer is necessary to

improve screening coverage. Such knowledge includes an understanding of the causes of cervical cancer, the utility and purpose of cervical cancer screening, test methods, and information on "when" and "where" screening is conducted, and the associated risk factors for cervical cancer. As nurses play an integral role in educating women in prevention of diseases and health promotion, they influence cervical cancer screening adherence and health activities among most women. Moreover, it has been shown that recommendation of cervical cancer screening to individuals by medical professionals including nurses, effectively improves screening coverage among the general population. Therefore, nurses should have current and accurate knowledge about HPV to promote informed decisions about cervical cancer screening.

Factors identified by researchers as responsible for non-utilisation of screens services include diagnosis of cancer concerns, cultural-based embarrassments, fear and hopelessness, cost and access, lack of physical referral, perception of test as being uncomfortable and unnecessary. Despite cervical cancer being the commonest genital cancer in Kenya, there are no properly organised opportunistic screening programmes for cervical cancer in the two Nairobi hospitals. Data from population based cancer registry indicate high rate in advanced stage of cervical cancer. The researcher has observed that deaths from cervical cancer related illness are high and this could be reduced by screening, early detection and early interventions.

Other factors of low screening rate include perception that one cannot get that disease and fear of vaginal exposure (Oche, Kaoje, Gana & Ango 2013:189). Since health care workers unconsciously and positively act as role models in health-related attitude and behaviour to members of the large society, the health workers need to be encouraged on the importance of taking the Pap smear test so that they can convince other women with whom they interact in the process of discharging their professional duties (Oche et al 2013:187). Oche et al (2013:13) study was conducted at Sonkoto, Nigeria. The study investigated 240 female health care workers regarding knowledge attitude and practice of cervical cancer screen as a screening procedure for cervical cancer. The findings of the study indicates that 98.6% had heard about Pap smear, 98.6% had good knowledge about cervical cancer and 90.5% knew that cervical cancer can be detected by Pap smear. However, only 10% had ever done a screening test. The health care workers were significantly aware of the preventable nature of the cancer of the cervix but few were willing to utilise the service. Low screening coverage among the health care

workers coupled with unwillingness to be screened poses a problem in the early detection of the disease (Oche et al 2013:189).

1.3 STATEMENT OF THE RESEARCH PROBLEM

Although it is well-known that health care workers play a vital role in the screening and that they influence cervical cancer screening adherence and health activities among most women, there are few studies on actual cervical cancer screening adherence of nurses in Kenya. One would expect that they have current and accurate knowledge to promote informed decisions about cervical cancer screening due to their key roles as educators in disease prevention and health promotion. The researcher thought that it would be interesting and important to explore the nurses' own knowledge, attitude and practices concerning cervical cancer screening, which may in turn indirectly influence their patients' understanding and practice of cervical cancer screening.

Nurses need to play an important influential role in educating, encouraging and informing women to be screened for cervical cancer. Nurses combine their knowledge of health care and available screening services to educate women about cervical cancer. The low rates of screening among women coupled with the high incidence of cervical cancers indicated the importance of performing this study.

1.4 DEFINITIONS OF KEY CONCEPTS

Concept is an abstraction inferred from observation of behaviours, situations or characteristics. Key concepts here are cervical cancer, knowledge, practice and attitude.

1.4.1 Conceptual definition

Conceptual definition delimits the meaning of a word in terms of its sense and reference and provides theoretical meaning of a concept (Polit & Beck 2008:59). For the purpose of this study, the following terminology is defined and further explained.

Awareness

Awareness is the state or ability to perceive, to feel, or to be conscious of events, objects, thoughts, emotions or sensory pattern (*Oxford Advanced Learner's Dictionary of Current English 2005*).

A **risk factor** is any attribute, characteristic or exposure of an individual that increases the likelihood of developing a disease or injury; for example, Smoking is a risk factor for lung cancer (*Oxford Advanced Learner's Dictionary of Current English 2005*).

Cervix

The cervix is the lower part or neck of the uterus between isthmus and the opening of the uterus into the vagina (Harvey 2005:124).

Cervical cancer

Cervical cancer is a disease in which the cells of the cervix become abnormal and start to grow uncontrollably forming tumours (Harvey 2005:124).

Human Papilloma Virus

Any numerous species that causes warts particularly plantar and viral warts on the skin and mucous membranes in human transmitted by either direct or indirect contact (Miller-Keane 2005).

1.4.2 Operational definitions

Operational definition refers to a concept or variable in terms of the procedure by which it will be measured (Polit & Beck 2008:736). Therefore, operationalisation is the process of translating research concepts into measurable phenomena.

Awareness

For the purpose of this study awareness entails having knowledge about cervical cancer among women.

Uptake

In this study, it is an act of taking in or absorbing information.

Cervical screening

For the purpose of this study, cervical screening relates to early detection of pre-cancer lesions through a Pap smear.

1.5 PURPOSE OF THE STUDY

The purpose of this study is to determine the level of knowledge, attitude and practices on cervical cancer and Pap smear among the health care providers in two Nairobi hospitals.

1.5.1 Objectives of the study

To meet the purpose of the study, the following objectives were formulated:

- To identify and characterise socio-economic demographic factors associated with knowledge, attitudes and practices among nurses with regards to cervical cancer and preventive measures.
- To assess the knowledge, attitude and practices of cervical cancer and preventive measures among nurses at Nairobi hospitals.
- To assess cervical cancer screening practices amongst nurses at two Nairobi hospitals.

1.5.2 The research question

The study aimed at answering the following questions:

- What are the socio-economic demographic factors associated with knowledge, attitudes and practices among nurses with regards to cervical cancer and preventive measures?
- What are the knowledge, attitudes and practices among nurses with regards to cervical cancer and preventive measures among nurses at the two Kenyan hospitals?
- What measures could be put in place to improve cervical cancer screening practices among nurses at two Nairobi hospitals?

1.6 THEORETICAL FOUNDATION OF THE STUDY

1.6.1 The research paradigm

The research is a positivist tradition which will assert cause and effect of the variables. Within the positivist tradition, research activity is directed at understanding the underlying cause. Each illness is believed to have a specific cause and if the causative factors can be manipulated, future similar illness can be either be eliminated or managed. This view forms the basis for scientific research to discover the cause and develop preventive health care strategies and treatment protocols. The principle of reductionism has been applied by breaking human function into knowledge, attitude and practice. The principle of determinism has been applied in investigating the influence of knowledge and attitude to practices.

This was a quantitative study based on positivism and guided by empiricism, quantification deductive, reasoning, objectivity and reasoning. The researcher conducted structured data collection using a questionnaire which will enable quantification of the responses and conduct statistical data analysis. Using of questionnaires has ensured researchers' detachment from the respondents thus maintaining objectivity (Polit & Beck 2008:12).

The researcher will apply quantitative research process to explore and measure in order to derive their conclusion from the analysed data and provide statistics to support the findings evidence.

This will be a knowledge, attitude and practice study of a specific study population that aims to collect data on what is known, believed and done in relation to cervical cancer screening. This study falls in the category of applied research because it will focus on finding a solution on to the high prevalence of cervical cancer. The survey study data will help to inform policy makers, plan, implement and evaluate programmes and identify knowledge gaps and perception of preventive measures of cervical cancer that may facilitate or impede the success of a programme (Burns & Grove 2009:34).

1.6.2 Theoretical framework

The Health Belief Model (HBM) provides a framework for studies investigating health behaviour. It predicts changes in health behaviour from pre-determined scales namely; *perceived susceptibility*, *perceived severity*, *perceived benefits*, and *perceived barriers self-efficacy*. The rationale for using the HBM in the current study of cervical cancer screening and the historical development of the model and its components are analysed. Examples of studies using the HBM as a theoretical framework provide concrete examples of the relevance and significance of the model.

The Health Belief Model (HBM)

The HBM was initially developed in the 1950s in the United States of America (USA) by a group of social psychologists trying to explain the failure of people to respond to, and participate in, disease prevention programmes (Glanz & Donald 2010:402). Rosenstock and Becker amended the model in the 1970s and changes and improvements to its structure and application continue today (Glanz & Donald 2010:404). The HBM predicts individuals' preventive health behaviour and is used in studies to determine the factors that reinforce and influence peoples' intentions of practicing preventive health and predicting adherence to recommended protective health behaviours (Glanz, Barbara, Rimer & Viswanath 2008:47). According to the model, a person's intention of practicing recommended health behaviour is a function of the following components.

Perceived susceptibility

This dimension measures a person's individual perception of being susceptible to a disease. The more prone a person feels to developing a particular illness, the higher the chances of following the recommended health behaviour (Glanz et al 2008:47). In this study, perceived susceptibility has been defined as knowledge of the predisposing factors to cervical cancer, vulnerable age group, effect of HPV, self-awareness of being at risk and incidence of the disease.

Perceived severity

This component of the model addresses feelings regarding the severity of the illness. It refers to a person's subjective evaluation of the seriousness of the disease and the seriousness of leaving the condition untreated. Subjective evaluation also includes assessment of medical (death, pain, disability, future medical costs) and social consequences (effects on family, social relations and work) arising from an illness (Glanz et al 2008:47). For this study, perceived seriousness has been defined as knowledge about cervical cancer as a condition, its signs and symptoms, fears associated with the condition and the progression of the condition.

Perceived benefits

This component predicts that a person's intention of following a recommended behaviour is a function of the degree to which he or she believes the behaviour will be beneficial in reducing risk from a particular illness (Glanz et al 2008:50). For the purpose of this study, perceived benefits have been defined as knowledge about cervical cancer screening tests and benefits of early detection of the condition.

Perceived barriers

This component refers to the negative aspects of the recommended health behaviour. According to the HBM, people go through subjective mental evaluations about the expected effectiveness of the behaviour against perceptions of it being costly, dangerous, difficult, and time consuming (Glanz et al 2008:49). In this study, perceived barriers have been defined as attitudes, difficulties in screening such as time, cost, fear,

accessibility and risk. The outcome of this evaluation will influence nurses' intention of seeking screening. Recent formulations of the HBM resulted in the inclusion of components such as *cues to action* referring to factors that trigger and give cause for action such as bodily changes or environmental indicators like the media (Glanz et al 2008:49). According to the HBM, other variables that affect health behaviour are diverse demographic, socio-psychological, and cultural factors. In recent years, the HBM has incorporated in its explanatory components of health behaviour, the concept of *self-efficacy*, originally developed by social psychologist Albert Bandura (Carpenter & Christopher 2010:663). Self-efficacy refers to a person's conviction that one can successfully execute the behaviour required to produce the outcomes. In the present study, the HBM was used as a theoretical framework to guide the examination of cervical screening nurses in two Nairobi hospitals. Because of the complexity of the behaviour under investigation, the HBM was important as a theoretical background to guide the design, analysis and interpretation of the research.

During the design of the study, the HBM was used as a reference point for generating questions. For example, in order to reveal whether or not nurses felt susceptible to cervical cancer, questions about who should have a Pap test and how often, as well as general questions aimed at nurses' knowledge of screening and cancer were asked. In order to explore the level of seriousness respondents attributed to cervical cancer, nurses were asked who can contract cervical cancer disease. The present study aimed at understanding cervical cancer screening behaviour and use of preventive methods.

1.7 RESEARCH DESIGN

A research design is the overall plan for addressing a research question including specification for enhancing the study integrity implies (Polit & Beck 2006:741).

1.7.1 Design

The research adopted quantitative non-experimental descriptive and a cross-sectional approach. The researcher has described broad variables that are knowledge, attitude and practice. The design of the study is intended to provide guidelines to address the research problem and to promote the validity of the results (Burns & Grove 2009:236). Polit and Beck (2008:725) define quantitative descriptive design as research studies

that have as their main objective the accurate portrayal of the characteristics of people, circumstances and the frequency with which certain phenomena occur. Non-experimental research refers to a study in which the researcher collects data without introducing an intervention (Polit & Beck 2008:735). Woodward (2005:12) states that, in quantitative descriptive design, the researcher only collects data to give a clear picture of a situation as it naturally happens. Burns and Grove (2009:237) postulate that descriptive design may be used to identify problems justify or make judgment with current practice. This is critically important for this study since no other study has been conducted in the study area. In this study, the researcher aims to collect data to assess knowledge, practices and attitude among nurses with regard to predisposing factors and preventive measures of cervical cancer.

Hulley, Cummings, Browner, Grady and Newman (2007:109) state that a cross-sectional element of a design is the scientific study in which data are collected at one point in time with no follow-up period. It is suited for the goal of describing situations, the phenomena under study are captured during one period of data collection and they are appropriate for describing the status of phenomena or for describing relationships among phenomena at a fixed point in time (Polit & Beck 2008:184). In this study, the phenomena are knowledge, practices and attitude of respondents in this study. Woodward (2005:26) stated that cross sectional studies are most useful for description and researchers can collect just what they want and can link data to individual respondents.

Polit and Beck (2008:185) argue that cross sectional studies are appropriate when there is logical reasoning indicating that one variable precedes the other. The advantage of using this type of element within this type of study design is that it is relatively easy, economical and not time consuming compared to cohort studies. The cross sectional element of this study design has helped the researcher to gather the data to attain the set objectives. This design will assist in assessing at a point in time nurses' knowledge, practices and attitude with regards to predisposing factors and preventive measures of cervical cancer and subsequently offer explanations to the research question.

1.7.2 Research methods

1.7.2.1 Study population and sample selection

Study setting

The study was carried out at two Nairobi hospitals which are a level four and five respectively. Both hospitals are situated at Nairobi, the capital city of Kenya. Both hospitals are training grounds for student nurses. Graduates from these hospitals contribute to high percentage of workforce in other private and government managed hospitals. One hospital has a capacity of 300 beds while the other hospital has 320. Both hospitals admit diploma and higher diploma nursing students for clinical experience. The hospitals' outpatient unit services include: Accident and Emergency Unit, Antenatal Postnatal and Gynaecology Unit, Vaccination Centre, Family Health and Diabetic Unit.

Polit and Beck (2012:273) refer to a population as the entire set of individuals who have common characteristics that are sometimes referred to as the "universe". De Vos Strydom, Fouché and Delpont (2011:223) refer to a study population as a term that sets boundaries on the study units which are in essence considered as individuals or objects in the universe who possess certain characteristics. The population universum for this study consisted of qualified nurses of the two hospitals. The hospitals were conveniently identified as the target site of this study. Both hospitals have state of the art facilities and are training grounds for registered nurses. This characteristic makes them suitable for the study. One hospital is managed by board of governors and is privately own while the other hospital is run by the government. All nurses working in both hospitals reside in Nairobi. All nurses in the outpatient units are identified as the target population of this study. The outpatient units have a high turnover of patients at an average of 460 patients a day at the private hospital and 800 patients at the government hospital. Therefore, the target population interacts with different patients on daily bases, presenting them with an opportunity to influence cervical cancer screening. The target population is a subset of the population universum. It is a group about whom the researcher wants to know more about and from whom the sample will be drawn. The sources of data tend to have profound effects on the ultimate quality of studies and therefore, it is important to decide on the nature of the data and from where the data are

obtained. Davis and Scott (2007:155) define sampling as the science and practice of selecting a portion of the population in a manner that allows the entire population to be represented equally. In essence, a sample is a subset of a population. Sampling is the process of selecting individuals from a population who will be studied (Grbich 2007:234). Nurses in the outpatient units of the chosen hospitals form a target population of 125, and nurses who will meet the inclusion criteria will conveniently be recruited from this population. The accessible respondents constitute the accessible population. The accessible population is the portion of the target population to which the researcher has reasonable access (Johnson & Christensen 2010:257). It is also the population to which the researchers can apply their conclusions. Convenience sampling entails using the most conveniently available people as study respondents (Polit & Beck 2008:341). This sampling method enabled the researcher to access the target population and acquire information in a short period on this unexplored area. Convenience samples are inexpensive and accessible and enable researchers to acquire information on an unexplored area. All nurses from the target population will be invited for the study, 82 from the private hospital and 43 from the government hospital.

Nurses working in the outpatient department, who will meet the following criteria, will be included in the study.

1.8 RESEARCH DESIGN AND METHOD

This section will be summarised in the research methodology in chapter 3.

1.8.1 The research design

The design of the study is intended to provide guidelines to address the research problem and to promote the validity of the results (Burns & Grove 2009:236).

The research was quantitative non-experimental descriptive and a cross-sectional study. The researcher has described broad variables that are knowledge, attitude and practice.

1.8.2 Research methods

In this section the used methods will be discussed.

1.8.3 Research setting

The study site will be selected two Nairobi hospitals in Kenya.

1.8.4 Data collection

A self-administered questionnaire was used as a tool to obtain data from nurses working at outpatient departments of the selected hospitals.

1.8.5 Data analysis

Data collected will be analysed using Statistical Package for Social Sciences (SPSS) version 20 and Microsoft Excel 2007. Descriptive analysis will be done by developing frequencies, tables and cross tabulations were carried out to identify associations between certain variables. Any associations will be investigated on their significance on knowledge practice and attitude.

1.8.6 Reliability and validity

A pilot test will be conducted to establish the instrument's reliability and validity, its format appropriateness, content validity, level of difficulty, and time of administration, as well as to verify data collection methods. Face and content validity of the questionnaire were tested with eight nurses who will not be included in the main study. The test-retest method was used to establish reliability.

Construct validity of the scale will be examined using exploratory factor analysis and principal component extraction with varimax rotation. Validity is the degree to which a research instrument measures what it is supposed to measure (Polit & Beck 2008:373). In the context of research designs, validity is about the approximate truth of an inference or reality. The variants of validity are construct validity, internal validity and external validity. In this study, the researcher formulated items that had logical links with

the research objectives. The items in the questionnaire covered the full range of issues to be measured. The researcher also identified work colleagues who are knowledgeable to this subject to check and verify the appropriateness of the items in the checklist. The literature from similar studies done elsewhere will be reviewed to facilitate the designing of the relevant research tool. Construct validity is crucial for this study. This relates to the degree to which an instrument has an appropriate sample of items for the construct being measured and adequately covers the construct domain (Polit & Beck 2008:458).

1.9 SIGNIFICANCE OF THE STUDY

Arguably, if the community is not educated on benefits of cervical cancer screening and preventive measures to put in place, the risk of acquisition of cervical cancer is expected to increase in the community. Hence, knowledge and attitude of nurses on routine screening for cervical cancer and health education on preventive measures is critical in prevention or at least reduction in the rates of cervical cancer incidences in the community. This study will therefore contribute immensely to the body of knowledge in health education and practices at the two Nairobi hospitals and to Kenya at large, and can be used by policy makers in Kenya to develop guidelines and programmes to improve health education and cervical cancer screening practices.

1.10 ETHICAL CONSIDERATIONS

Permission was obtained from the Nairobi hospitals Bioethics Review Committee, the Hospital Management (Annexure 3) as well as from the Research and Ethics Committee of the Department of Health Studies, UNISA (Annexure 1). The researcher will visit the three outpatient units, the study site, and inform departmental heads and supervisors about the proposed study, including its aim, benefits and significance. The principles of beneficence, respect for human dignity, justice and informed consent were adhered to for protecting study respondents (Annexure 4). Respondents' respect, privacy, anonymity and information confidentiality were respected and protected throughout the study. Coding was used on the questionnaires for anonymity. To protect the respondent consent form was distributed to the respondents prior to their participation in the study and this shows independent decision to participate in the study. Most importantly, the names of the hospitals were not used in the study report to adhere to research ethics.

1.11 SCOPE AND LIMITATION OF THE STUDY

This is a descriptive cross-sectional study which was restricted to the outpatient unit. The study site handles acute medical and trauma cases as well as scheduled appointment taking place at the Outpatient Department. Vaccination Centre is also located at the Outpatient Department. The department has an average of 300 patients in a day and therefore health care workers have an opportunity to give health education to high number of patients every day on screening for cervical cancer and preventive measures and make an impact in the community. The limitation of the study is that it was conducted out in the outpatient unit at the two Nairobi hospitals out of the many hospitals that exists at the city. The findings of the study may therefore not be generalisable to the wider population of nurses who practice as outpatient nurses. However, the study findings may be similar in other outpatient units because nurses are somehow similar to those that work in the outpatient units of the two hospitals.

1.12 STRUCTURE OF THE DISSERTATION

The following is the layout of the research report:

Chapter 1: Introduction to the study

This chapter has discussed the background of the problem, provided a problem statement and explained the significance of the study. This has been followed by presentation of purpose of the study, objectives guiding the study, and research questions, theoretical framework, conceptual and operational definitions used in the thesis, an overview of the research methodology and ethical considerations.

Chapter 2: Literature review

This chapter presents information about knowledge, practice and attitude of nurses towards cervical cancer screening and prevention methods. The information was sourced through the review of Internet articles, journals, books and research reports. Areas of literature reviewed include: information on cervical cancer such as its impact, aetiology, available screening tests, screening and utilisation of screening and impact of

screening. HBM major tenets were used to summarise the literature review, namely; nurses perceived susceptibility to cervical cancer, nurses perceived severity of cervical cancer, nurses perceived benefits of being screened for cervical cancer, perceived barriers to cervical cancer screening and cues to using cervical cancer screening services.

Chapter 3: Research methodology

The research design used is discussed in this chapter. Also included is information about the study settings, populations, samples, instruments, ethical considerations, data collection methods and data analysis.

Chapter 4: Data analysis

Information on data management and statistical data presentation is included in this chapter.

Chapter 5: Conclusions, limitations and recommendations of the study

Study results, conclusions, recommendations and suggestions for further studies are discussed in this chapter. Limitations of the study are also addressed.

1.13 CONCLUSION

This chapter discussed the global burden of cervical cancer. It also provided an overview of the problem statement, the purpose and the objectives of the study, research questions, overview of research methodology, ethical considerations as well as the significance of the study. In the next chapter, a thorough review of the relevant literature will be presented.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter presents literature reviewed on studies that have been conducted on factors associated nurses' knowledge and attitude on cervical cancer screening practice services. This discussion will be presented under the following sub-topics: cervical cancer; impact of cervical cancer; aetiology of cervical cancer; screening and utilisation of screening; impact of cervical cancer screening; knowledge and utilisation of health screening services. In addition, the chapter discusses the factors associated with cervical cancer screening in this study, which include demographic, socio-psychological and structural factors influencing cervical cancer screening; perceived susceptibility to cervical cancer; perceived severity/seriousness of cervical cancer; perceived benefits of cervical cancer screening and early detection; perceived barriers to be screened for cervical cancer; and cues to planning to use cervical cancer screening services.

2.1.1 Purpose of literature review

Reviewing existing literature related to a study is a critical step in conducting a study. A literature review addresses written sources relevant to the selected topic (Burns & Grove 2009:107). The main purpose of a literature review is to build upon the work of others and there has to be some indication of a relationship with what others have said and done before. In addition, it assists the researcher in formulating the research problem into a feasible context. The researcher also learns what directions are indicated by the work of other researchers, what evidence is lacking, inconclusive and/or contradictory and what research designs or methods seem suitable to the current study (Burns & Grove 2009:111).

For the purpose of this study, literature available internationally and nationally about nurses' knowledge and attitude concerning cervical cancer, screening, early detection treatment was reviewed. A literature review was conducted to enhance the researcher's knowledge about the research topic and to enhance the research design. Sources of

information included research articles from the Internet, and journals, as well as books and reports from non-governmental organisations (NGOs). These were sourced from the libraries of the University of South Africa (UNISA) and Nairobi Hospital College of Nursing. The following are the search engines utilised during this research study.

Internet search engines used for literature review

<http://www.google.com>

<http://www.google.com>

<http://www.bmj.com>

The major concepts of the study were used as key words for the literature search. These included cervical cancer, cervical cancer screening, visual inspection with acetic acid, Pap smear, nurses knowledge about cervical cancer, cervical cancer screening, early detection and treatment, perceived susceptibility, perceived severity, perceived benefits, perceived barriers and screening practices.

2.2 CERVICAL CANCER

2.2.1 The impact of cervical cancer

Worldwide, cervical cancer accounts for approximately 12.0% of all cancers in women. It is the second most common cancer in women worldwide, but the most common cancer among women in developing countries. It is estimated that over a million women worldwide currently have cervical cancer. Most of these women have not been diagnosed, nor do they have access to treatment that could cure them or prolong their lives. WHO (2014:4) reported that in the year 2012, 528 000 new cases of cervical cancer were diagnosed, and 266 000 women died of the disease, nearly 90% of them in low- to middle-income countries. Without urgent attention, deaths due to cervical cancer are projected to rise by almost 25% over the next 10 years (WHO 2014). At least 85.0% of cervical cancer deaths occur in developing countries with most occurring in the poorest regions which include, South Asia, sub-Saharan Africa (SSA) and parts of Latin America (WHO 2014). In SSA, cancer of the cervix is the leading cancer with an estimated 75 141 new cases in 2008, which is 14% of total world incident. The countries with highest rates include Zimbabwe, Uganda and Kenya. The disparity is attributed to

the lack of effective screening programmes in developing countries that have a high incidence of cervical cancer (Mutyaba, Mmiro & Weiderpass 2006:15). Thus, cervical cancer has a devastating impact on women's health around the world, particularly among women in the developing world. Invasive cervical cancer (ICC) is the most common cancer diagnosed in women in SSA, with 75 141 new cases reported per year, and also the leading cause of cancer death at 50 233 deaths annually. Rates of cervical cancer vary considerably indifferent sub-regions; Guinea, Zambia, Tanzania, Malawi, and Mozambique have some of the highest ICC incidence rates in the world at >50/100000 (Ferlay, Shin, Bray, Forman, Mathers & Parkin 2008:855). The writers note that the rate of cervical cancer in the United States of America (USA) between 1947 and 1949, prior to the introduction of the Pap smear in the 1960s, was 40/100 000 in white women and 73/100 000 in black women. These rates have considerably reduced. Within the SSA region, estimated age standardised incidence rates (ASIR) are the highest in Eastern and Western Africa with ASIR of 34.5 and 33.7 per 100 000 women, respectively, and age standardised mortality rate (ASMR) of 25.3 and 24.0 per 100 000 women, respectively. Not surprisingly, ICC is the most important cause for cancer death in women in Eastern, Western and Middle Africa and second most important cause after breast cancer in Southern Africa. The burden of ICC is highest in Guinea, Zambia, Tanzania, Malawi and Mozambique with ASIRs greater than 50/100 000 women and 25 per 100 000 in Kenya (De Vuyst, Alemany, Lacey, Chibwesa, Sahasrabudde, Banura Denny & Parham 2013:3). Cervical cancer is not a disease of old age, the majority of its victims are women who are at the peak of their biological and economically productive stages of life. This means, when a woman dies of cervical cancer, a life is not simply lost. Rather, a husband loses a wife, the children lose a mother, and the family is destabilised psychologically, financially and socially. At the same time, economically there is loss of a productive pair of hands and also a loss to the country which pays a large part of the cost of treating cervical cancer.

Korir, Oterosi, Rono, Mutuma and Parkin (2015:2053) noted that during the period 2004-2008, Kenya registered a total of 8 982 cases consisting of 3 889 men an ASIR of 161 per 100 000 and 5 093 women (ASIR 231 per 100 000). Prostate cancer was the most common cancer in men (ASIR 40.6 per 100 000) while breast cancer was the most common among women (ASIR 51.7 per 100 000). Cervical cancer ranked the second most common cancer among women in Nairobi with and ASIR of 46.1 per 100 000. According to WHO/ICO (2015:5), the annual number of cervical cancer cases in

Kenya is estimated at 4 802 and annual number of cervical cancer deaths is 2 451. Screening coverage is low for all women, 18–69 years, 3.2%. Many women in Kenya remain unaware of cervical cancer and have no access to cervical cancer screening services (Sudenga et al 2013:896). The incidence and mortality of cervical cancer has decreased during the past 30 years, especially in developed countries. This is as a result of comprehensive efforts to screen women for HPV, and cervical dysplasia. Additionally, there has been improved treatment of carcinoma in situ and early stage cervical cancer. Although the progression to cervical cancer can be stopped through early detection and treatment of precancerous changes, it still remains a major burden on public health resources in Kenya (Sudenga et al 2013:895). Service challenges for cervical cancer screening and treatment are similar to those for other health interventions. They include: competing health needs, lack of political will, limited access to services, under developed health care structures, lack of knowledge about screening and treatment, limited financial, equipment, and human resources, costs, long queues and waiting times, missed referrals and follow-up.

2.2.2 Aetiology of cervical cancer

Cervical carcinoma is a condition that develops at the border of the cervix and the uterus. The major risk factor for the development of pre-invasive or invasive cervical carcinoma is infection with the HPV, which is transmitted sexually (Kimani et al 2012:9). The HPV can be detected in 99.7% of cervical cancers and is extremely common. Over 50.0% of sexually active women acquire the virus by 50 years of age (Leslea, Donna, Donna & Rachel 2013:2046). Different types of HPV are identified as precursors to cervical cancer (Bain, Burton & Mcgavigan 2011:175). However, the two most common subtypes, HPV 16 and 18 are found in over 70.0% of all cervical cancers. The squamous epithelium cells found at this junction of the cervix and uterus divide rapidly and have the potential to undergo an abnormal transition to dysplastic cells, if exposed to carcinogens such as HPV 16 and 18 (Leslea et al 2013:2046). Cervical changes progress from mild to severe over a period of years before changing to cancer. This indicates that more than 90.0% of cervical changes can be detected early through regular screening and can be treated before progressing to malignancy (Denny, Kuhn, Hu & Tsai 2010:1566). Most HPV infections are transient. Only 3–10% of women whose infections are not cured become persistent HPV carriers, constituting a high risk group for progression to cancer of the cervix (Collymore 2008:3). Collymore (2008:3) adds that

women may contract HPV when they are young but only progress to cervical cancer once they become 35 years of age or older. Pre-cancerous stages of cervical dysplasia are frequently asymptomatic, emphasising the importance of screening for early detection. Risk factors for HPV include early age at first sexual intercourse, increased number of sexual partners, smoking, immune-suppression including the Human Immunodeficiency Virus (HIV), high parity, and low socio-economic status. Cervical Intraepithelial Neoplasia (CIN) is common in HIV infected women because both HIV and HPV are sexually transmitted and HIV infected women are more likely to have persistent HPV infections (Mutya et al 2006:13). According to Collymore (2008:2), global efforts to detect cervical cancer have focused on screening women for abnormal cervical tissues, treating the condition before it advances and providing appropriate follow-up care. In developed countries, there has been a 75.0% decrease in the incidence and mortality of cervical cancer over the past 50 years while in developing countries it remains the second most common cause of cancer-related morbidity and mortality. The discrepancy is largely due to the widespread institution of cervical cancer prevention and screening programmes in developed countries. Conversely, these programmes are essentially non-existent in most developing countries. A recent meta-analysis of process of care failures in prevention of cervical cancer in developing countries revealed that poor screening history was the primary factor: 54.0% of invasive cervical cancer patients had inadequate screening histories and 42.0% had never been screened (Leslea et al 2013:2047).

2.2.3 Available screening tests

There are various types of cervical cancer screening tests available worldwide, included HPV/DNA, visual inspection with acetic acid (VIA), Pap smear and cervicography (Lee-lin, Pett, Menon, Lee & Nail 2007:1204). Historically, visual inspection of the cervix with Lugol's iodine, without magnification, was the initial method of screening of the cervix in the 1930s. This was rapidly replaced by cervical cytology because of its low sensitivity and specificity of 79.0% and 85.0% of VIA. As such, screening efforts have relied largely on Papanicolaou (Pap) smears to detect abnormal cell changes at the cervical transition zone (Denny et al 2010:1560). A Pap smear test became the standard for early detection of cervical cancer lesions from the 1950s (Sudenga et al 2013:897). Its sensitivity and specificity for CIN 2–3 is 70% to 80%, and 95% respectively. For developing countries, widespread utilisation of the Pap smear test presents a number of

challenges. These challenges have led to the re-introduction of VIA, which utilises the naked eye as a screening tool, for low resource settings. Despite its limited specificity, it is economical, requires little equipment, and provides immediate results (Denny et al 2010:1561). Both the Pap smear and VIA screening are effective in detecting CIN grade 2–3, which are considered to be true precancerous lesions (Gichangi, Estambale, Bwayo, Rogo, Ojwang & Opiyo 2003:828). The use of the HPV test, on its own or in combination with VIA, has the potential to improve cervical cancer screening in low resource settings. Unfortunately it is expensive, requires infrastructure for processing, and has a long period of waiting for results. It has a higher sensitivity than VIA (90.2% vs. 41.4%), but a lower specificity (84.2% vs. 94.5%) (Sankaranarayanan 2009:1394). However, HPV testing is superior to VIA or cervical cytology because it detects a large number of high-risk sub-types of HPV. On the other hand, cervical cytology tests are excellent screening tools for pre-invasive cancer.

This indicates that rapid results for HPV testing may be suitable for performing screening and treatment in low resource setting. Furthermore, the authors state that it is preferable to use a combination of two screening tests rather than either test alone to avoid missed diagnosis. In the Western world, a diagnosis of cervical cancer is often established by biopsy and pathology reports (Denny et al 2010:1561). Symptomatic women without a visible lesion and those who have only abnormal cervical cytology undergo colposcopy with directed biopsy. If necessary, this is followed by diagnostic conisation. A screening test, followed during the same visit by treatment of women with positive results, eliminates communication difficulties regarding results and issues of non-compliance with follow up clinic visits. Cryotherapy is the most cost effective and preferred treatment for a screen-positive VIA testing in developing countries.

2.2.4 Screening and utilisation of screening services

Women in developed countries are often screened for cervical cancer, every one to three years. However, this screening frequency is not possible in most developing countries. 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 2010:1562). The authors state that the greatest impact on cervical cancer reduction appears to result from screening women aged 30 to 35 years. This is supported by a sub-group analysis from a

randomised trial conducted in India. Over 80 000 women aged 30–59 were assigned either VIA screening or cervical cancer health education. At seven years follow-up, women who had been screened showed a 25.0% decrease in age standardised rate of cervical cancer incidence (Sankaranarayana, Rajkumar, Esmay, Fayette, Shanthakumary, Frappart, Thara & Cherian 2007:740).

Recent studies have also calculated the optimal screening frequency and age. One such study utilised clinical data from India, Thailand, South Africa and Peru to evaluate cervical cancer screening in women once in a lifetime at the age of 35 years. It was discovered that screening with VIA or HPV within these parameters would reduce the life time risk of cervical cancer by 25.0%–36.0% (Denny et al 2010:1556). Unfortunately, the success of the approach used in developed countries has not been replicated in developing countries, mostly attributable to a shortage of human and material resources. A recent study estimated that 63.0% of women in developed countries receive cervical cancer screening with the highest ranging from 80.0% to 90.0%. In developing countries, screening is estimated at 19.0%, ranging from 1.0% in Bangladesh, Ethiopia and Myanmar to 73.0% in Brazil (Denny et al 2010:1558). Many women in Kenya remain unaware of cervical cancer and have no access to cervical cancer screening services (Sudenga et al 2013:897). Although there is a 75.0% decrease in the incidence and mortality of cervical cancer in developed countries, it remains the second most common cause of cancer related morbidity and mortality in developing countries (WHO 2013).

2.2.5 The impact of screening

The WHO has identified screening coverage as being crucial for providing effective early detection of the cervical cancer. In high income countries, declines in cervical cancer incidence and mortality have been largely accredited to effective screening programmes (Gakidou et al 2008:0863). In such countries, cervical cancer has become a relatively rare disease with the ASIR of less than 10/100 000 compared to developing countries with the ASIR ranging from 25 to 55/100 000 (Denny et al 2010:1557). The WHO (2002:20) states that, in most middle income countries such as China and Brazil, screening is in place but may be largely restricted to maternal child health services. However, this could result in those screened tending to be at low risk for the disease, because of their younger ages. Several pilot projects in India found that 99.0% of

respondents had never been screened despite the massive effort to implement cytology screening during the previous 30 years (WHO 2002:20). Latin American countries remain among those with the highest cervical cancer incidence rates of 52 000 new cases per year. In parts of SSA where cytology screening programmes have been attempted, data suggest that cervical cancer rates are rising. For example, in South Africa, pathology-based information reported by 80 private and public laboratories in 1986 demonstrated an increase in cervical cancer rates. In 1986, about 16 559 cervical cancer cases were reported, of which 2 897 were new cases of histologically confirmed cervical cancer.

In 1992, the total number of reported cases had increased to 25 143, of which 4 467 were new cases (Denny et al 2010:1559). The problem stems not only from failing health care infrastructures but also from the tradition of targeting prevention programmes on opportunistic screening of relatively young women who attend clinics for pregnancy-related care. Minimal outreach programmes for the screening of women have been implemented in Kenya. As a result, screening among the majority of at-risk women occurs too early to be useful, or not at all until symptoms occur during the later stages of cervical cancer. Excellent compliance with periodic screening, evaluation of abnormal Papanicolaou smears, and treatment of precursor lesions correlate with decreased incidence and mortality of cervical cancer. In developed countries, there has been a 75.0% decrease in the incidence of mortality of cervical cancer, but not in developing countries. Situational analysis study evaluating cervical cancer in developing countries revealed that a poor screening history was the primary contributing factor to high mortality; 50% of patients present with invasive cervical cancer patients had inadequate screening histories and 42.0% had never been screened (Sawadogo, Gitta, Rutebemberwa & Meda 2014:7). In addition, Gakidou et al (2008:0865) conducted a study on the coverage of cervical cancer screening in 57 countries. The results indicated that high rates of effective coverage of cervical cancer screening had been achieved in developed countries. The population-weighted means of crude coverage and effective coverage of screening across all included countries were 68.0% and 40.0% respectively. In the 30 developing countries surveyed, these rates were much lower at 45.0% and 19.0% respectively. It also indicated that over 80.0% of women in Australia had received effective screening as compared to 1.0% in Ethiopia and Bangladesh. In some middle-income countries such as China, Brazil and former communist countries, the majority of women had pelvic examinations during their

lifetimes though cervical cancer screening was not included. This indicates that a large proportion of women in these countries had contact with obstetric or gynaecological health services and that the health system might have the capacity to provide effective screening to a large proportion of these women, but failed to do so. It might be possible to build on missed opportunities or insufficient screening using the existing health services in these identified countries (Gakidou et al 2008:0865). In most developed countries, such as the USA, it is estimated that between 50 and 60 million (94.0%) cervical Pap tests are performed each year while the population weighted means of crude coverage and effective coverage of cervical cancer screening across 30 developing countries were 68.0% and 40.0% respectively. The proportion of unscreened women was higher in Kenya, Ethiopia and Bangladesh where more than 90.0% of the women reported that they had never been screened. In developed countries, this high rate of screening has resulted in cervical cancer being a relatively rare disease with an ASIR of less than 10/100 000 versus 25 to 55/100 000 in developing countries (WHO 2015:8).

2.2.6 Knowledge and utilisation of health screening services

According to Rositch, Gatuguta and Choi (2012:7), health literacy is the ability to read and comprehend medical terminology, understand and act on health information such as medication instructions, appointment slips, and complete health-related forms. The author adds that higher education is associated with health literacy. Thus, to a large extent, knowledge is correlated with health literacy. The more literate a person is, the more knowledgeable the person will be and the more likely he or she is to gain access to socially privileged positions and thereby gain the capacity and the information to influence thoughts, plans and behaviours. Rositch et al (2012:7) reported that low health literacy correlated with less knowledge about cervical cancer screening. Sudenga et al (2013:897) report that lack of knowledge about cervical cancer is one of barriers to cervical cancer screening.

2.2.7 Contextualising the literature reviewed within the health belief model

This chapter has discussed the literature relevant to cervical cancer and the factors associated with nurses' knowledge, practice and attitude to use cervical cancer screening services. The literature reviewed has contributed to identification of topics of

interest and studies on factors associated with cervical cancer screening behaviours and treatment, using the HBM components. Hayden and Paterson's (2013:63) model has provided a valuable theoretical framework in relation to the difficulties encountered in planning to take up preventive services such as cervical cancer screening. The HBM postulates that a feeling of being vulnerable to a condition and assuming it to be a serious health problem are motivational factors that increase the likelihood that people would take action toward its early identification and treatment. The model further states that an action can be planned, if one gets cues of action such as events, people or things that move people to change their behaviour, and if barriers are outweighed by the benefits of the intended action. Perception is modified by other variables such as culture, education, past experience and skill. Individuals who have such perceptions can be positively influenced to take actions and maintenance of the behaviours can be predicted (Hayden & Paterson 2013:68). The writers further stated that the HBM suggests that health behaviours are a result of a set of core beliefs. The model has been used to predict and explain variances in health behaviours. Three broad ranges, to which HBM has been applied, include preventive health behaviours, which incorporate health promotion activities and health risk behaviours; sick role behaviours, which refer to compliance with recommended medical treatment, usually following professional diagnosis of illness and clinic use, including physician visits for a variety of reasons. The model argues that what people believe about a health condition or behaviour determine what they would do about it. Motivating factors for an individual to perform health behaviours are individual perceptions of the problem, susceptibility, severity, benefits, barriers; modifying factors (demographic, socio-psychological and structural) and the likelihood of the action (self-efficacy, cues to action) contribute toward attainment of the goal (Hayden & Paterson 2013:70).

2.3 SUMMARY

This chapter has summarised literature related to cervical cancer, its aetiology, progression and screening. Research reports regarding the impact of knowledge on nurses demonstrated a strong association with behaviour change.

The HBM provides a framework to investigate demographic, socio-psychological and structural, perceived susceptibility, perceived severity, perceived benefits, perceived barriers and cues to action with regard to health behaviours. A review of actors

associated with the utilisation of cervical cancer screening has been provided and framed within the concepts of the HBM. The factors impacting on the utilisation of cervical cancer screening have also been reviewed. The research methodology will be discussed in Chapter 3.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 INTRODUCTION

The literature review in Chapter 2 concentrated on the theoretical background of cervical cancer knowledge and screening practices by nurses, its global burden and prevalence, the conceptual framework and reasons for suitability for the study. This chapter outlines the methodology that was used for this study, including the research design, setting, target population, sampling techniques, sample size, data collection plan and procedure, validity and reliability of the research instrument, pretesting of the research instrument, data analysis procedures and ethical considerations.

3.2 PURPOSE AND OBJECTIVES OF THE STUDY

The purpose of this study was to determine the level of knowledge, attitude and practices on cervical cancer and Pap smear among the health care providers in two Nairobi hospitals. This group was chosen because they interact with patients and have opportunity to educate.

The objectives of this study were as follows:

- To identify and characterise socio-economic demographic factors associated with knowledge, attitudes and practices among nurses with regards to cervical cancer and preventive measures.
- To assess the knowledge, attitude and practices of cervical cancer and preventive measures among nurses at two Nairobi hospitals.
- To assess cervical cancer screening practices among nurses at two Nairobi hospitals.

3.3 RESEARCH DESIGN

The research design is the 'blueprint' that enables the researcher to come up with solutions to these problems and to guide the researcher in the various stages of the study (Burns & Grove 2009:24). A quantitative, non-experimental descriptive research design was used for the current study. It involves observing, describing and documenting the behaviour of subjects without influencing it in any way. In a descriptive design, the researcher describes the results without intervening (Polit & Beck 2006:189). Descriptive studies are aimed at providing an accurate portrayal or account of the characteristics of individuals, events, or groups with the purpose of problem identification, justifying actions, making judgments, or finding out what others are doing in similar situations. The design does not involve manipulation of variables and there is no attempt to establish causality. A cross-sectional, descriptive study generates insights about a phenomenon. Data collection takes place during one data collection period from a cross-sectional sample, appropriate for the description of the phenomenon under study (Polit & Beck 2006:239). Descriptive studies also aim at determining the frequency with which events occur and classifying information (Burns & Grove 2009:26).

3.3.1 Research method

The research method is described as a systematic approach to the actual research process. It includes stages of planning, structuring, execution, population, sampling, data collection and analysis (Polit & Beck 2012:198).

3.4 RESEARCH SETTING

Study settings are specific places where information is gathered (Polit & Beck 2006:31; Polit & Beck 2012:197). This study utilised two health institutions as settings in Nairobi, which were conveniently selected for the study. Convenient sampling is one of the non-probability sampling methods that allow the researcher to deliberately choose the sources of data, knowing that they would contribute towards the required research information (Polit & Beck 2006:320), based on one or more known characteristics. To minimise bias and influences, it is best to have a neutral setting as possible for the study to be conducted in. A neutral setting is associated with comfort, accessibility, feeling at ease and without any expected behaviours (Polit & Beck 2012:196).

3.5 POPULATION

A population is an aggregate of all cases that meet specified criteria set for a study. These specific criteria of the population depend on the research problem. The total population in which the researcher is interested and to which he/she wishes to generalise results is called the target population, while an accessible population is part of the target population which the researcher can access (Burns & Grove 2009:341-342; Polit & Beck 2006:511).

3.5.1 Sample and sampling method

A sample is a subset of the population. Individual units of a sample and population are called elements. Elements can be in any form such as humans and events. The researcher works with samples rather than the entire population. Samples are smaller groups. Representative samples have all the characteristics of the population. The sample is drawn from the population that the researcher can access. However, findings of the study are initially generalised to the accessible population then to the entire population in similar settings (Polit & Beck 2006:260), provided the sample was representative of the population. The researcher utilised a convenient sample of nurses working in outpatient departments of two hospitals in Nairobi.

A convenient sample includes respondents that happen to be in the right place at the right time. The respondents were recruited into the study until the desired sample size had been achieved. The utilisation of a convenient sample implied that the findings of this study might not be generalisable to the population of nurses working in outpatient departments (Polit & Beck 2012:198).

3.5.2 Inclusion and exclusion criteria for respondents

Inclusion criteria or eligibility criteria is a list of characteristics designated to delimit the study population while exclusion criteria include characteristics that study units must not possess in order to be involved in the study (Polit & Beck 2006:259). These criteria are defined by a researcher to promote the selection of an appropriate sample. According to Burns and Grove (2009:342), sources to determine the criteria include the research problem, the purpose of the study, the conceptual and operational definitions of the

study variables and the study design. Inclusion criteria or eligibility characteristics for the study included:

- Nurses working at the outpatient department
- Nurses willing to participate and provide consent to participate in the study

The exclusion criteria included:

- Non-nurses
- Student nurses

3.5.3 Sampling

One major decision that researchers need to take in conducting research is to decide on the nature of the data and from where they can be obtained, as the sources of data tend to have profound effects on the ultimate quality of studies (Morse 2002:3-4). Such a decision for identifying and selecting sources of data is what Grbich (2007:234) and Macnee and McCabe (2008:245) refer to as sampling. To be precise, Davis and Scott (2007:155) define sampling as the science and practice of selecting a portion of the population in a manner that allows the entire population to be represented in the same. On examining this definition, it became apparent that a sample is, in essence, a subset of a population. Sampling is the process of selecting individuals from a population which will be studied (Burns & Grove 2009:379). Convenient sampling was used for both study sites and nurses working in the emergencies departments of these sites. Convenient sampling entails using the most conveniently available object or people as study respondents (Polit & Beck 2008:341). Adopting this approach resulted in a total sample size of 123 nurses selected from both hospitals. These respondents provided the information or data that generated the findings of the study.

3.6 RESEARCH INSTRUMENTS

Research instruments are devices used to collect data. These can be in a form of a questionnaire, test and an observation schedule (Polit & Beck 2006:502). Administering a questionnaire is quick and practical way of collecting data which enables researchers to collect information from many people in a relatively cost effective way (Joubert &

Ehrlich 2007:108). It is also considered to be an objective way of collecting information. However, use of questionnaires is subject to recall bias, particularly in instances where they contain open-ended questions. For that reason, the questionnaire that was used in this study contained questions that required specific answers from pre-designated response options (Annexure 5).

Reliability and internal validity of the questionnaire were tested. In relation to reliability, coefficient (Cronbach's) alpha was calculated to evaluate the internal consistency and reliability of the instrument. The knowledge and attitude questions had a coefficient (Cronbach's) alpha of $<.70$, while the practice questions had a coefficient alpha of 0.785 . This outcome indicates that practice comparisons were relatively reliable.

3.6.1 Pre-testing the instrument

The pilot study or preliminary investigation was carried out using eight nurses working at the outpatient units to check clarity of items and clarify any confusing items in the tool. Amendments were made to the tool after the pilot study or preliminary investigation. The language used in the revised version or final questionnaire was simple. This was to ensure that respondents understood what was required of them. The questionnaire contained items that allowed the generation of information or data to address the research problem. The questionnaire contained different sections with specific questions for exploring knowledge of, and attitudes toward practice of nurses to cervical cancer prevention (Annexure 5).

3.6.2 The data collection process

Data collection is a systematic gathering of relevant information relevant for addressing the research purpose, objectives and questions of studies (Joubert & Ehrlich 2007:106). This study adopted a structured method of data collection. In essence, it used a self-administered questionnaire as a data collection tool.

The process proceeded as follows:

- A talk, explaining the purpose of the research as well as the criteria for selecting respondents was presented at 07:30 am and at 13:00 pm while nurses were waiting for shift hand over at the outpatient department.
- Those interested in participating were asked to collect a questionnaire from the researcher for data collection before the report started.
- An informed consent form was reviewed with each subject and a signature obtained.

3.6.3 Data analysis

Data were analysed using Statistical Package for Social Sciences (SPSS) version 20. Descriptive analysis was done by developing frequencies, tables and charts. After data collection, the next step in the research process is data analysis but data need to be prepared before the real analysis can begin (Bowling 2009:364). Data analysis entails categorising, ordering, manipulating and summarising the data and describing them in meaningful terms to obtain answers to the research questions (Brink et al 2006:112).

3.7 VALIDITY AND RELIABILITY OF THE STUDY

Reliability or precision refers to the repeatability of a measurement or study findings (Joubert & Ehrlich 2007:79). Simply, it relates to the degree of consistency or accuracy with which an instrument measures the attribute it is designed to measure (Joubert & Ehrlich 2007:117).

3.7.1 Reliability

To ensure reliability, the instrument used in this study was tested on similar populations, and its internal consistency reliability was evaluated using coefficient alpha (Cronbach's alpha). The internal consistency reliability has been evaluated using Coefficient alpha (Cronbach's alpha) and the outcome of this (rho greater .7) indicated that the tool is reliable. Different sources were consulted including an expert opinion before using the instrument in the field. The questions in the self-administered questionnaire were structured in a non-ambiguous manner to ensure that the scales measure attributes

they were designed to measure. All these have been cross-checked in advance by an experienced research supervisor and statistician before finalising the questionnaire. Reliability was also ensured by offering explanations about the study to respondents during data collection, in other words before completing the questionnaire. This was to ensure that they understood what was expected of them.

3.7.2 Validity

Validity is the degree to which a research instrument measures what it is supposed to measure (Polit & Beck 2008:373). In the context of research designs, validity is about the approximate truth of an inference or reality. This means the notion of validity is relative; it is about degrees or levels, such as high, medium or low rather than one of presence or absence. There are variants of validity, and some of these are now discussed. Construct validity was crucial for this study. This relates to the degree to which an instrument has an appropriate sample of items for the construct being measured and adequately covers the construct domain (Polit & Beck 2008:458). Constructs are the means for linking the operations used in a study to a relevant conceptualisation. Hence, in this study knowledge of cervical cancer prevention methods and attitudes of nurses towards the same are concepts or attributes that are theoretically assumed to have influence on practice of the nurses to cervical cancer prevention. Practices are the outcome construct of this study (Polit & Beck 2008:458). Construct validity was enhanced in this study because of the inclusion of the above attributes in the tool used for data collection.

Content validity is relevant to this study. Thus, thorough conceptualisation of the constructs (knowledge and attitudes towards cervical cancer and practice of prevention by nurses) were taken into account in designing the instrument. Designing the instrument was also influenced by the WHO guidelines. The options available for each question were as exhaustive as possible and the researcher also made sure that the scales that were designed to measure different attributes were made up of items that measure the respective attributes in question. The data collection instrument was subjected to piloting before use to check its content validity which refers to the appropriateness of the content of the instrument.

External validity is the validity that relates to how inferences about observed relationships will hold over variations in persons, settings, time, or measures of the outcomes (Polit & Beck 2008:287). It is about the extent to which the results of a study can be generalised beyond the sample (Polit & Beck 2008:236). The use of convenience sampling limits the generalisability of the results because the sample that was used was not representative of the general population. The use of only two outpatient departments of the study sites also limits the external validity of the study.

Internal validity is about the approximate truth of an inference or reality. This means the notion of validity is relative; it is about degrees or levels, such as high, medium or low rather than one of presence or absence. Internal validity is the degree to which observed changes in a dependent variable can be attributed to changes in an independent variable. The descriptive cross-sectional research design helped enhance insight into this area of study. It was also noted that it enabled the researcher to develop strategies that would eliminate or at least reduce the impact of confounding variables. This design ensured that the study outcomes were in the main a function of the independent variables. In other words, the descriptive cross-sectional research design was internally valid or has internal validity.

3.8 ETHICAL CONSIDERATIONS

Ethical clearance was obtained from University of South Africa (UNISA) Higher Degrees Committee (Annexure 1). Permission to undertake the study was also obtained from the chosen hospital's Bio-ethics Committee (Annexure 2). The researcher visited the outpatient units, the study sites, and informed departmental heads and supervisors about the proposed study, including explaining its aim, benefits and significance to the respondents. Most importantly, respondents who were willing to participate in the study signed consent. Respondents were informed about their right to withdraw from participating at any point in the course of the study. The principles of beneficence, respect for human dignity, justice and informed consent were adhered to for protecting study respondents. Respondents' respect, privacy, anonymity and information confidentiality was respected and protected throughout the study. Numbered codes for respondents were used on the questionnaires. The researcher kept collected all questionnaires locked and secured them in a file cabinet until analysis was done. The data entry for analysis was done by using only the numeric identification code to identify

respondents. The researcher is responsible for monitoring the integrity of his or her own research protocol and results (Burns & Grove 2009:189). However, the researcher did not mention the participating sites by name in the report but identified them as hospitals.

3.9 CONCLUSION

This chapter discussed study questionnaire, its preliminary investigation (pilot) to assess its language, level of comprehension and internal consistency. The chapter also discussed and described data collection, validity and reliability and ethical issues. The following chapter presents the results of the study and associated discussions.

CHAPTER 4

DATA ANALYSIS AND DISCUSSION

4.1 INTRODUCTION

In Chapter 3 the research methodological processes that were used in the current study were discussed. This included the research design, study site, target population, sampling methods, data collection techniques, validity and reliability of the research instrument, pre-testing of the research instrument, ethical considerations and data analysis procedures. In addition, the ethical concepts of research were explained. In this chapter, the findings from the data are presented and discussed along with statistical analysis. The chapter also focuses on data management and analysis. Analysis is the process of organising and synthesising data so as to answer research questions and test hypotheses (Polit & Beck 2008:747).

4.1.1 Statement of the research problem

It is well-known that health care workers play a vital role in the screening and that they influence cervical cancer screening adherence and health activities among most women. However, there are few studies on actual cervical cancer screening adherence of nurses in Kenya. One would expect that they have current and accurate knowledge to promote informed decisions about cervical cancer screening due to their key roles as educators in disease prevention and health promotion. The researcher thought that it would be interesting and important to explore the nurses' own knowledge, attitude and practices concerning cervical cancer screening, which may in turn indirectly influence their patients' understanding and practice of cervical cancer screening.

4.1.2 Purpose of the study

The purpose of this study was to determine the level of knowledge, attitude and practices on cervical cancer screening and preventive measures among nurses in two Nairobi hospitals.

4.1.3 Objectives of the study

To meet the purpose of the study, the following objectives were formulated:

- To identify and characterise socio-economic demographic factors associated with knowledge, attitudes and practices among nurses with regards to cervical cancer and preventive measures.
- To assess the knowledge, attitude and practices of cervical cancer and preventive measures amongst nurses at a Nairobi hospital.
- To assess cervical cancer screening practices amongst nurses at two Nairobi hospitals.

4.2 DATA MANAGEMENT AND ANALYSIS

The study was conducted between May 2016 and July 2016. Completed questionnaires collected from nurses were coded to maintain anonymity. Data from each of the questionnaires was entered into an excel sheet and later transported into data analysis software, SPSS version 20 and statistically analysed using the same software. Frequency tables and other types of descriptive figures such as bar and pie charts were developed for the different variables with the view to illustrate the findings of the study. Descriptive analysis was applied to summarise and organise the data. Study findings are presented according to the objective and research questions of the study.

4.3 FINDINGS AND DISCUSSIONS

A total of 123 questionnaires were distributed to nurses at the two Nairobi hospitals and 114 of them were properly completed translating to 93% return rate and this formed the basis of the analysis.

4.3.1 Socio-demographic characteristics

Table 4.1: Socio-demographic characteristics of the respondents

Characteristic	Number (n)	Percent
Gender		
Male	16	14
Female	98	86
Age (years)		
20–24	11	10
25–30	32	28
31–34	21	18
35–39	14	12
40–44	14	12
45–50	16	14
51–54	6	5
Marital Status		
Married	71	62
Co-habiting	9	8
Single	32	28
Widow/widower	2	2
Highest Level of Education		
Diploma	82	72
First degree	27	24
Masters and above	5	4
Job Title		
Senior nurse	54	47
Senior staff nurse	23	20
Staff nurse	32	28
Charge nurse	5	4
Working Experience (years)		
< 2	5	4
3–5	32	28
5–10	36	32
11–15	14	12
≥16	27	24

(Source: Field Data 2016)

Eighty six (86%) of the nurses were female while fourteen (14%) were male. The two hospitals employ both male and female nurses. However, the majority of them are females. The views expressed in these findings are gender sensitive and can be taken as representative of the opinions of both genders regarding knowledge, attitude and

practice on to cervical cancer. In addition, the views expressed in this study are gender sensitive and hence are likely to be supported by everyone.

The age range of the respondents was 20–54 years. The peak age range of the respondents was 25–30 years accounting for 32 (28%) of the respondents. About 56% of the respondents were < 35 years of age, while 44% were ≥ 35 years old. Most of the respondents fall within age bracket of 15–34 where cervical cancer has been found to be the most common among women accounting for 16% of all cancers diagnosed in this age group (WHO2015:15).

4.3.1.1 Age

Table 4.2 shows a cross-tabulation of age and nurses or their partners who have had a Pap smear test.

Table 4.2: Age and Pap smear test cross-tabulation

Age in Years	Pap Smear Test	
	Yes, n (%)	No, n (%)
20–24	1 (4%)	4 (18%)
25–30	7 (25%)	7 (32%)
31–34	4 (14%)	5 (23%)
35–39	5 (18%)	1 (5%)
40–44	5 (18%)	1 (5%)
45–50	4 (14%)	3 (14%)
51–54	2 (7%)	1 (5%)

Regarding age, rates of Pap smear test are substantially lower in younger nurses or their partners aged 20–34 years (73%). Similar results have been reported by Liao Wang, Lin, Hsieh and Sunga (2006:1173) and Cyril, Esther, Madubuko, Ngozi and Ezegwui (2009:853). While analysing the risks and barriers to cervical cancer screening among women attending MCHFP clinic at the Moi Teaching and Referral Hospital (MTRH), were, Nyaberi and Buziba (2011:63) found that women over 30 years were more likely to have screened for cervical cancer than younger women.

4.3.1.2 Marital status

More than half were married 31 (62%), 14 (28%) were single, 4 (8%) were co-habiting while only 1 (2%) were widowed. Of the 22 nurses who had not had a Pap smear test, 11 (50%) were single, 10 (45%) were married and only 1 (5) was cohabitating. Table 3 shows a summary of the findings.

Table 4.3: Marital status and Pap smear test cross-tabulation

Marital Status	Pap Smear Test	
	Yes, n (%)	No, n (%)
Married	21 (75%)	10 (45%)
Co-habiting	3 (11%)	1 (5%)
Single	3 (11%)	11 (50%)
Widow/widower	1 (3%)	Nil (0%)

The results indicate that a significant number of both married and single nurses are less likely to obtain Pap smear test. This is consistent with past studies (Liao et al 2006:1174; Cyril et al 2009:855; Singh & Badaya 2012:157).

4.3.1.3 Education

Education attainment among the respondents was found to be high as all had tertiary education; 82 (72%) were diploma holders, 27 (24%) first degree holders and 5 (4%) with a minimum of master's degree. All of the nurses were college graduates and hence understood the information sought by this study. In addition, the nurses are academically qualified and also familiar with their duties and could dispense them effectively in terms of professional work ability and performance.

A cross-tabulation of the nurses' level of education and Pap smear test (Table 4.4) shows that of the 22 respondents who had not had the test, 17 (17%) were diploma holders while 5 (23%) were first degree holders.

Table 4.4: Level of education and Pap smear test cross-tabulation

Level of Education	Pap Smear Test	
	Yes, n (%)	No, n (%)
Diploma	19 (68%)	17 (77%)
First degree	7 (25%)	5 (23%)
Masters and above	2 (7%)	Nil (0%)

The findings depict that nurses with screening rates had high education levels. Although some studies have revealed the same results (Liao et al 2006:1175; Fernández et al 2009:857), others have shown that high education may not necessarily mean a high chance of one seeking screening (Abotchie & Shokar 2009:415). This implies that additional factors must be considered when assessing the relationship between socio-economic demographic factors and Pap smear test.

Working experience determines the extent to which one is aware of the issues sought by the study. Most the respondents were senior nurses 54 (47%) while only 5 (4%) were charge nurses. The rest were either staff nurses 32 (28%) or senior staff nurses 23 (20%). In addition, thirty-six (32%) of the respondents had 5–10 years of experience as nurses, 32 (28%) 3–5 years' experience and 27 (24%) at least 16 years' experience. This implies that most of the staff participating in this study had been operating for an ample time thus they were conversant of the information that the study sought pertaining to cervical cancer screening and presentation.

4.4 KNOWLEDGE OF CERVICAL CANCER AND PREVENTION

Table 4.5 and Figure 4.1 show a summary of the findings on the respondents' knowledge of cervical cancer screening.

Table 4.5: Knowledge about cervical cancer screening

Knowledge about Cervical Cancer Screening	Frequency	Percent
Poor	11	9.65
Good	91	79.82
Very good	12	10.53
Total	114	100.00

Source: Field Data 2016)

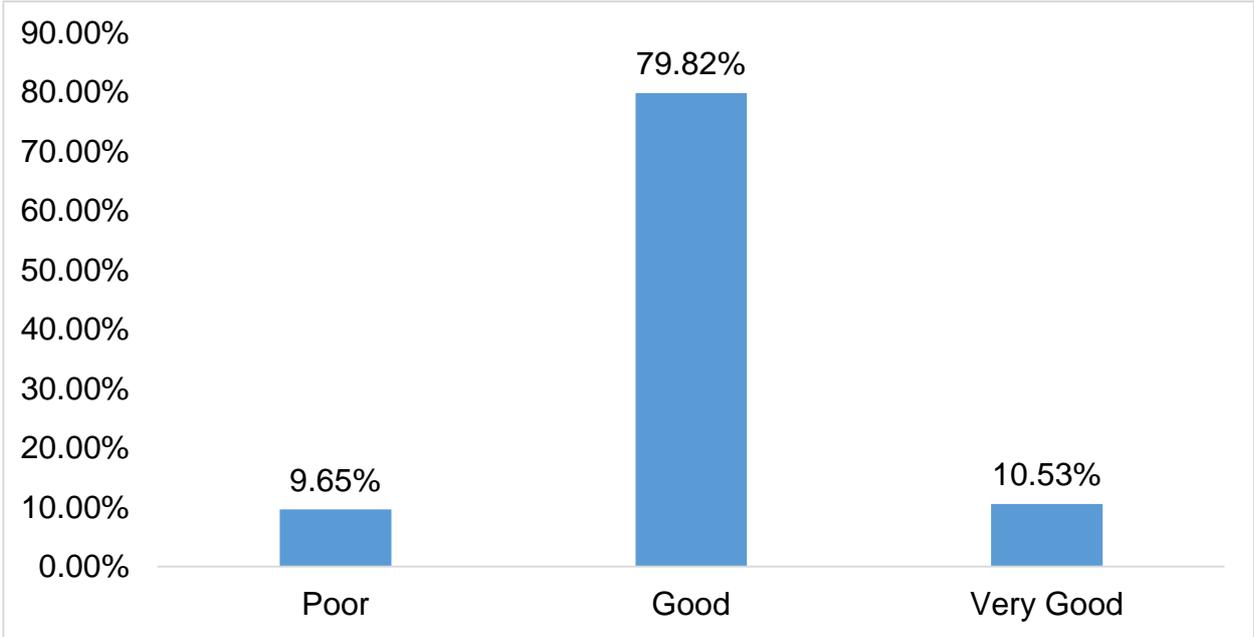


Figure 4.1: Knowledge about cervical cancer screening

More than half of the respondents, 91 (79.82%) had good knowledge, 12 (10.53%) very good knowledge while only 11 (9.65%) had poor knowledge of cervical cancer screening. These findings demonstrated a high level of awareness of cervical cancer screening among the nurses in the two hospitals. The high level of awareness may be attributable to the fact that the nurses have access to information through the mass media, print media, internet and most importantly, their working environment.

Further, the study established a level of awareness of cervical cancer prevention among the study population with 89 (78%) having good knowledge and 18 (16%) very good knowledge. Summary study findings are as shown in Table 4.6 and Figure 4.2.

Table 4.6: Knowledge on cervical cancer prevention

Knowledge on Cervical Cancer Prevention	Frequency	Percentage
Poor	7	6
Good	89	78
Very good	18	16
Total	114	100

(Source: Field Data 2016)

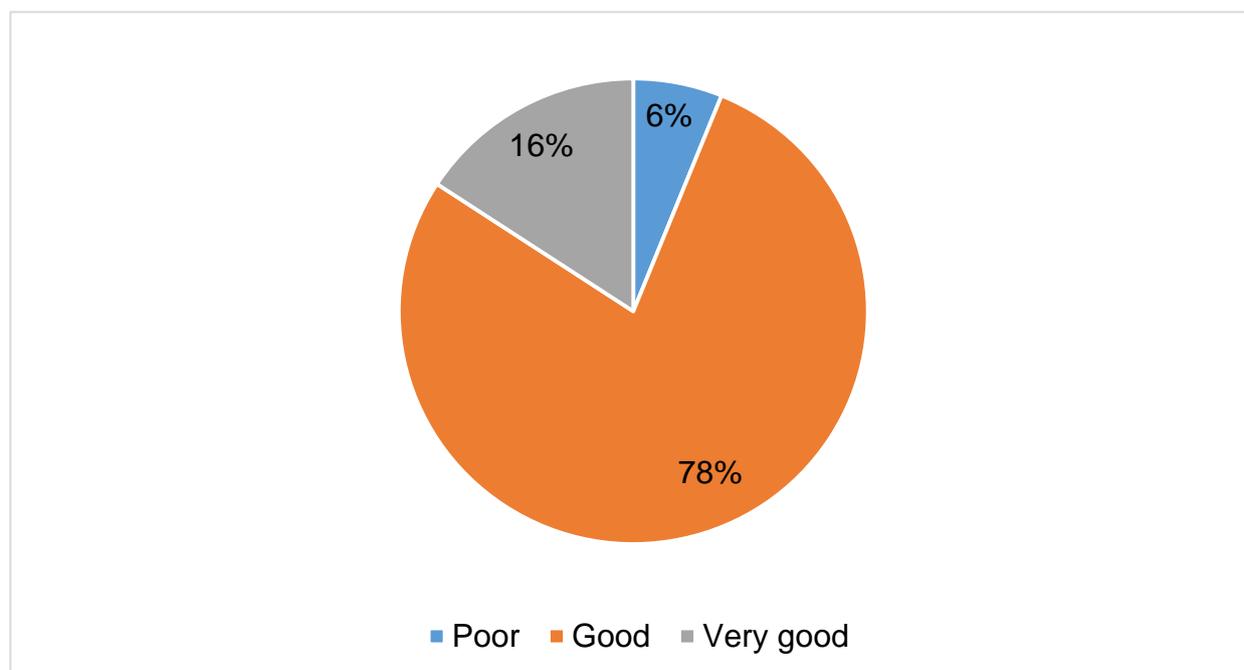


Figure 4.2: Knowledge on cervical cancer prevention

Further, the study sought to establish the source of information about cervical cancer. Forty-one (36%) of the study population obtained information about cervical cancer from the workplace, 35 (31%) nurse training, 28 (25%) seminars and workshops and 10 (9%) from mass media. Table 4.7 and Figure 4.3 show a summary of the results.

Table 4.7: Source of information about cervical cancer

Source of Information about Cervical Cancer	Frequency	Percentage
Workplace	41	36
Nurse training	35	31
Mass media	10	9
Seminars/workshops	28	25
Total	114	100

(Source: Field Data 2016)

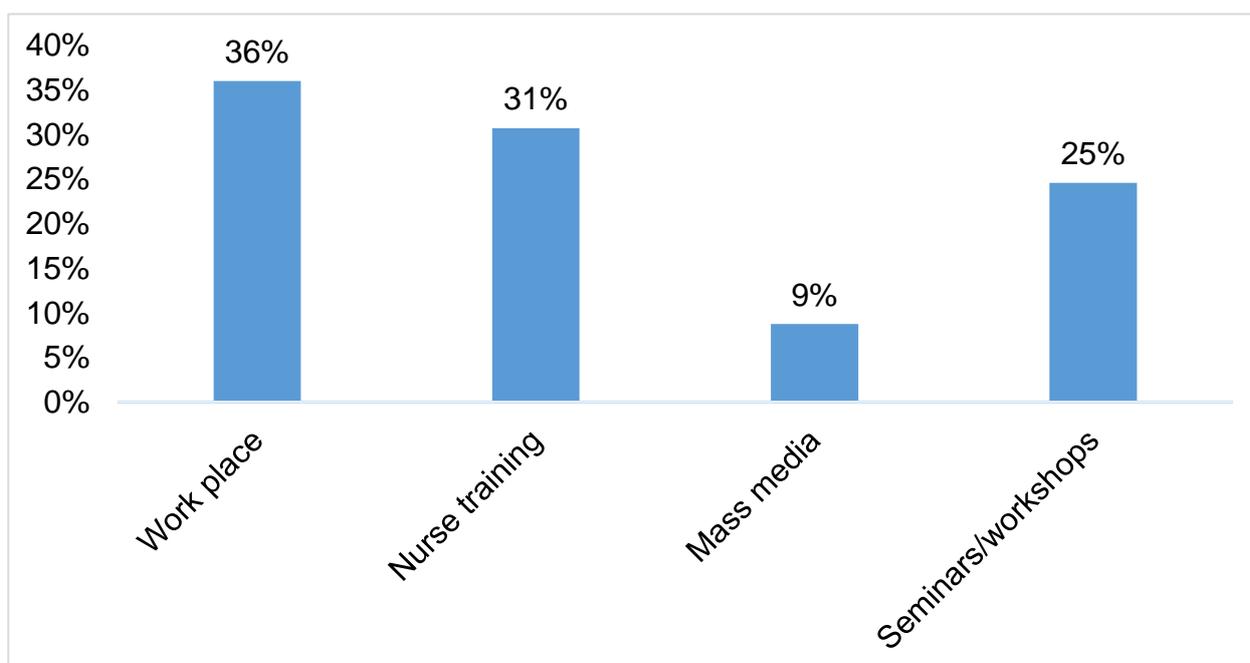


Figure 4.3: Source of information about cervical cancer

The major source of information on cervical cancer is the workplace and trainings. The findings indicate the lack of effective and adequate health programmes, particularly on cervical cancer in the mass media. These findings contradict those of a similar study carried out by Awodele et al (2011:500) on cervical cancer screening among nurses in Lagos University Teaching Hospital (LUTH) in Nigeria where the major sources of the information for the nurses was through media. The awareness of the Pap smear test as one way of detecting cervical cancer was assessed and presented in Table 4.8 and Figure 4.4. Most of the respondents, 112 (98%) agreed while only 2 (2%) were not sure that Pap smear can be used for detection of cervical cancer.

Table 4.8: Detection of cervical cancer using Pap smear

Detection of Cervical Cancer using Pap Smear	Frequency	Percentage
Yes	112	98
Not sure	2	2
Total	114	100

(Source: Field Data 2016)

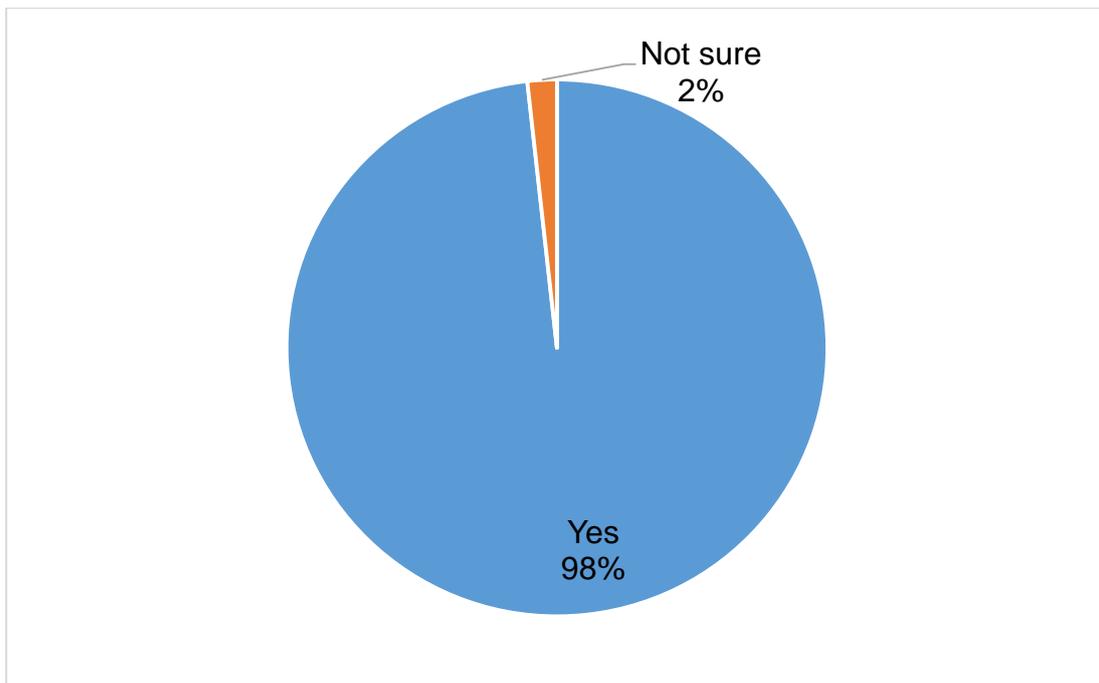


Figure 4.4: Detection of cervical cancer using Pap smear

Most of the nurses are therefore aware of Pap smear test as a way of detecting cervical cancer. Similar findings regarding awareness of cervical cancer detection using Pap smear was reported by Mutyaba et al (2006:22) in which 83% had knowledge about Pap smear test.

Most of the respondents, 112 (98%) further agreed that cervical cancer is curable if detected early compared to only 2 (2%) who were not sure as shown in Table 4.9.

Table 4.9: Early detection of cervical cancer

Cervical Cancer is Curable Detected Early	Frequency	Percentage
Yes	112	98
Not answered	2	2
Total	114	100

(Source: Field Data 2016)

Most respondents know that the cervical cancer is curable if detected at an early stage, and that Pap smear screening could detect early cervical lesions. The awareness of the Pap smear test may be attributed to the respondents' educational status coupled with the knowledge about cervical cancer acquired through training, seminars and workshops. Moreover, Pap smear test has been in existence for over a long period of

time as reported by other studies (Goyal, Vaishnav, Shrivastava, Verma & Modi 2013:251).

4.4.1 Cervical cancer symptoms

The majority of the study population, 98 (86%), indicated that cervical cancer presents itself with various symptoms. Only 14 (12%) was of the contrary opinion while 2 (2%) was not sure. As shown in Figure 4.5, the various symptoms included post coital bleeding (95%), foul blood stained virginal discharge (93%) and irregular virginal bleeding (93%).

According to the findings, a significant number of the nurses are not fully aware of some of the symptoms of cervical cancer like coital bleeding, foul blood stained virginal discharge and irregular virginal bleeding.

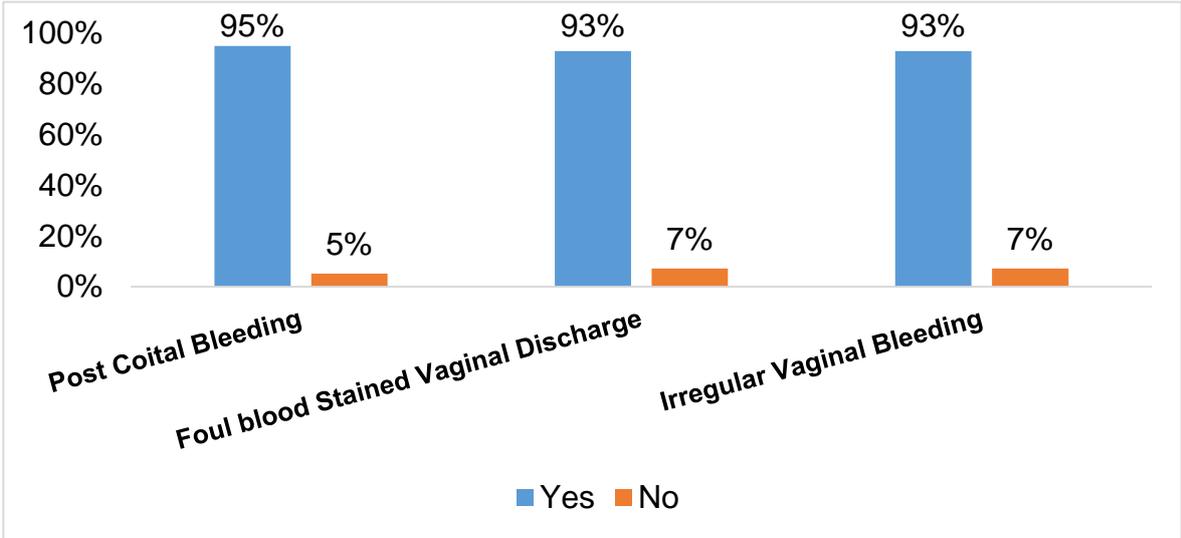


Figure 4.5: Cervical cancer symptoms

4.4.2 Risk factors of cervical cancer

The respondents were presented with a list and were requested to indicate which of the risk factors listed were associated with cervical cancer. The majority of respondents recognised the known cervical cancer risk factors including HPV infection (98%), multiple sexual partners (100%), early sexual debut (92%), many pregnancies/deliveries (64%), low social economic class (72%), early marriage (70%), sexually transmitted infections (STI) (94%) and HIV (64%). Table 10 shows a summary of the findings.

Table 4.10: Risk factors of cervical cancer

Recognition of Risk Factors of Cervical Cancer	Responses		
	Yes, n (%)	No, n (%)	Not Sure, n (%)
a) Human Papilloma Virus Infection	112 (98%)	Nil	2 (2%)
b) Multiple Sexual Partners	114 (100%)	Nil	Nil
c) Early Sexual Debut	105 (92%)	7 (6%)	2 (2%)
d) Many Pregnancies/Deliveries	73 (64%)	30 (26%)	11 (10%)
e) Low Social Economic Class	82 (72%)	23 (20%)	9 (8%)
f) Early Marriage	80 (70%)	20 (18%)	14 (12%)
g) Sexually Transmitted Infections	107 (94%)	5 (4%)	2 (2%)
h) Human Immunodeficiency Virus	73 (64%)	34 (30%)	7 (6%)

(Source: Field Data 2016)

Most the nurses are therefore aware of risk factors associated with cervical cancer. In general, nurses play an important role in cervical cancer prevention, detection and treatment. Knowledge and awareness of cervical cancer created by the nurses particularly on risk factors is key as demonstrated by past studies (Mutya et al 2006:22; Hoai, Taylor & Burke 2007:112; Yaren, Ozkılıç, Güler & Oztop 2008:110).

4.4.3 Cervical cancer screening

Cervical cancer is largely preventable by effective screening programmes and with Papanicolaou (Pap) smear passing as one of the effective test for cervical cancer screening. The respondents were required to indicate the frequency at which Pap smear test should be done. The results are shown in Figure 4.6 where majority of the nurses, 73 (64%), indicated that Pap smear should be done every year, 34 (30%) after every two years and the rest, 7 (6%), after every three years.

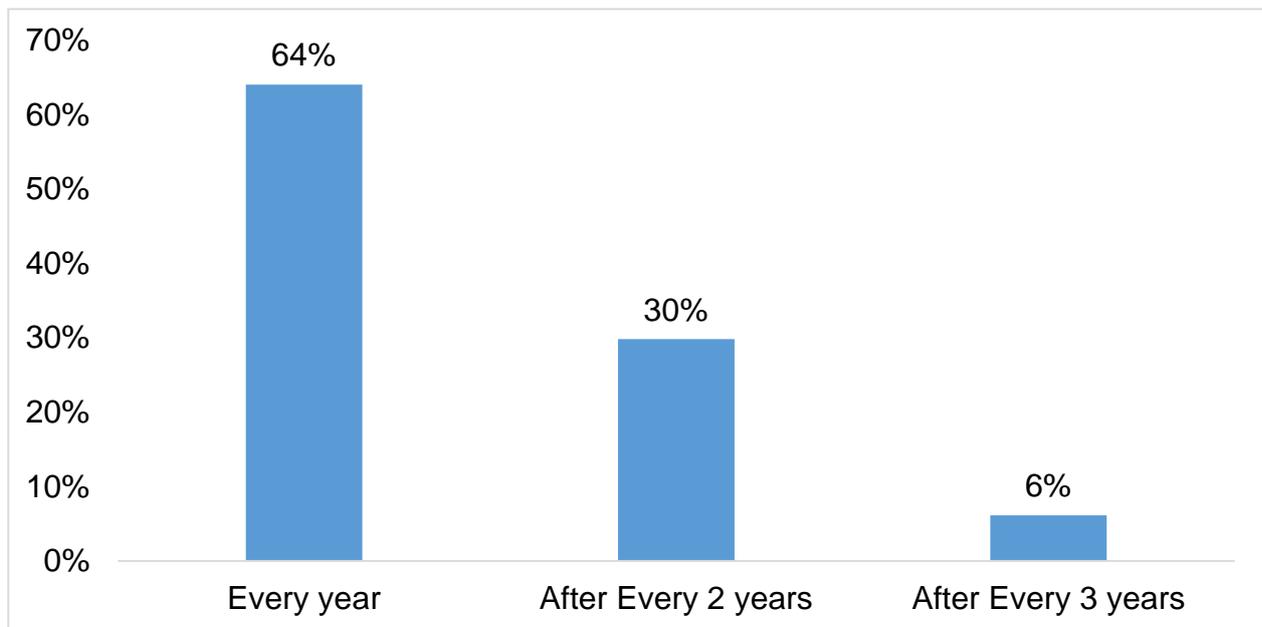


Figure 4.6: Frequency of Pap smear

Most of the nurses therefore did not know the Pap smear test should be done three years after onset of sexual life and be done every 2–3 years (if the repeated tests were normal). These findings indicated that information on frequency of cervical cancer screening was inadequate among the nurses in two Nairobi Hospitals. This might be a contributing factor to delays in the establishment of prevention and screening efforts in most of the hospital locally.

Other methods of cervical cancer screening

The respondents' knowledge of other methods of screening cervical cancer was assessed and the findings were as shown in Table 4.11. The study established a level of awareness of other methods of cervical cancer screening among the respondents including visual inspection after acetic acid (91%), colposcopy (80%) and cervical biopsy (93%). The respondents indicated other methods, namely; visual inspection with Lugal Pap smear, visual inspection with Lugol's iodine and Luviva screening.

Table 4.11: Other methods of cervical cancer screening

Methods	Responses		
	Yes, n (%)	No, n (%)	No Response (%)
Visual inspection after acetic acid	105 (91%)	4 (4%)	5 (5%)
Colposcopy	91 (80%)	21 (18%)	2 (2%)
Cervical biopsy	107 (93%)	2 (2%)	5 (5%)

(Source: Field Data 2016)

Most of the nurses are therefore aware of the various methods of cervical cancer screening in addition to the Pap smear. However, a significant number is not conversant with colposcopy. These findings are supported by the WHO report of 2010 which highlighted Pap smear, visual inspection with acetic acid, and visual inspection with Lugol's iodine (WHO 2010:5) as the cervical cancer screening methods available in Kenya. The methods are also part of the Ministry of Health's National Cervical Cancer Prevention Strategic Plan from 2012–2015 (Kimani et al 2012:11).

The knowledge of nurses about alternative method like visual inspection has been found to be more feasible especially for low resource settings (Cronje et al 2003:398). Thus, their knowledge and awareness of cervical cancer is key because past studies indicate that women who were educated by nurses screening methods were more likely to use cervical cancer screening methods (Yaren et al 2008:282).

4.4.4 Cervical cancer screening programme

Further, the study established a level of awareness of cervical cancer prevention among the study population with 89 (78%) having good knowledge and 18 (16%) very good knowledge. Further, the study established a level of awareness of cervical cancer prevention among the study population with 89 (78%) having good knowledge and 18(16%) very good knowledge. Figure 4.7 shows the findings on the level of awareness about the presence of cervical cancer screening programmes in the health facilities. Majority of the study population, 82 (72%), indicated the presence of the programme, 25 (22%) indicated absence while 7 (6%) were not sure.

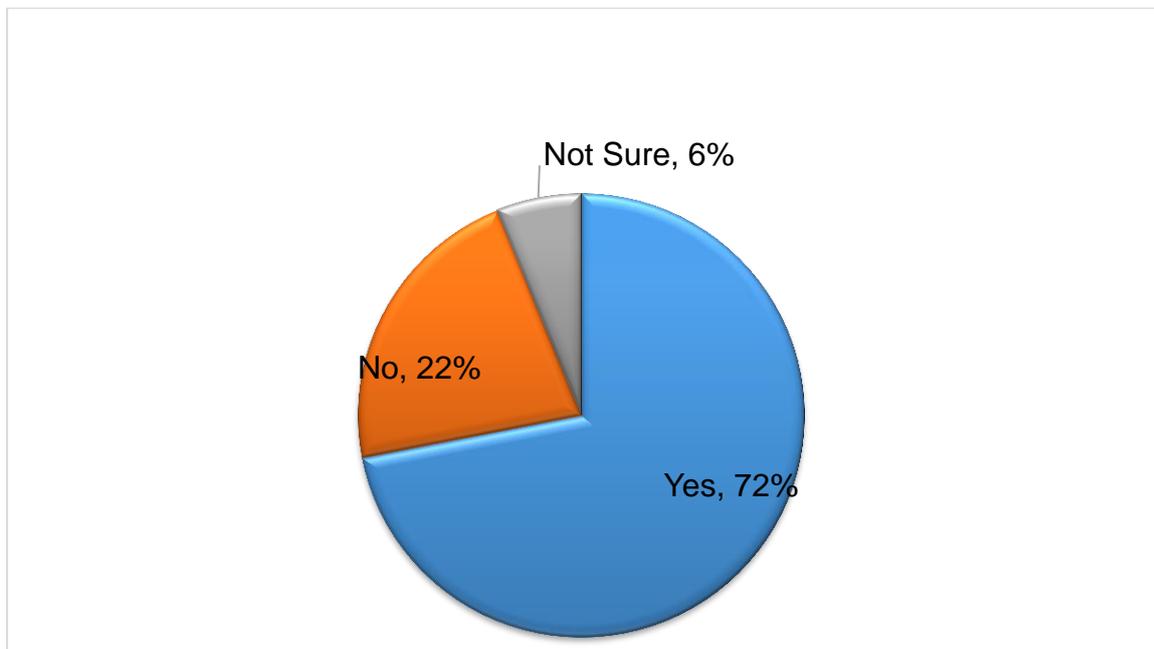


Figure 4.7: Cervical cancer screening programmes in health facilities

Further, more than two thirds (88%) of the respondents recommended cervical cancer screening programme in their health facilities while fourteen (12%) did not. The reasons for screening programmes recommendations include: cervical cancer is treatable if detected early and staff will be more enlightened about cervical cancer screening, detection and management. In addition, there are many cases of STI and HIV, therefore, the programme will increase awareness particular if it includes community outreach. The programme will ensure that many mothers are screened freely.

4.5 ATTITUDE TOWARDS CERVICAL CANCER SCREENING AND PREVENTION

All the 114 respondents thought that the screening of cancer of the cervix is essential for early detection and prevention. The study established that there was positive attitude towards cervical cancer screening among female groups by majority of respondents, particularly the child bearing age group (90%). Post-menopausal age group recorded 88% while below child bearing age group had 64% as shown in Figure 4.8.

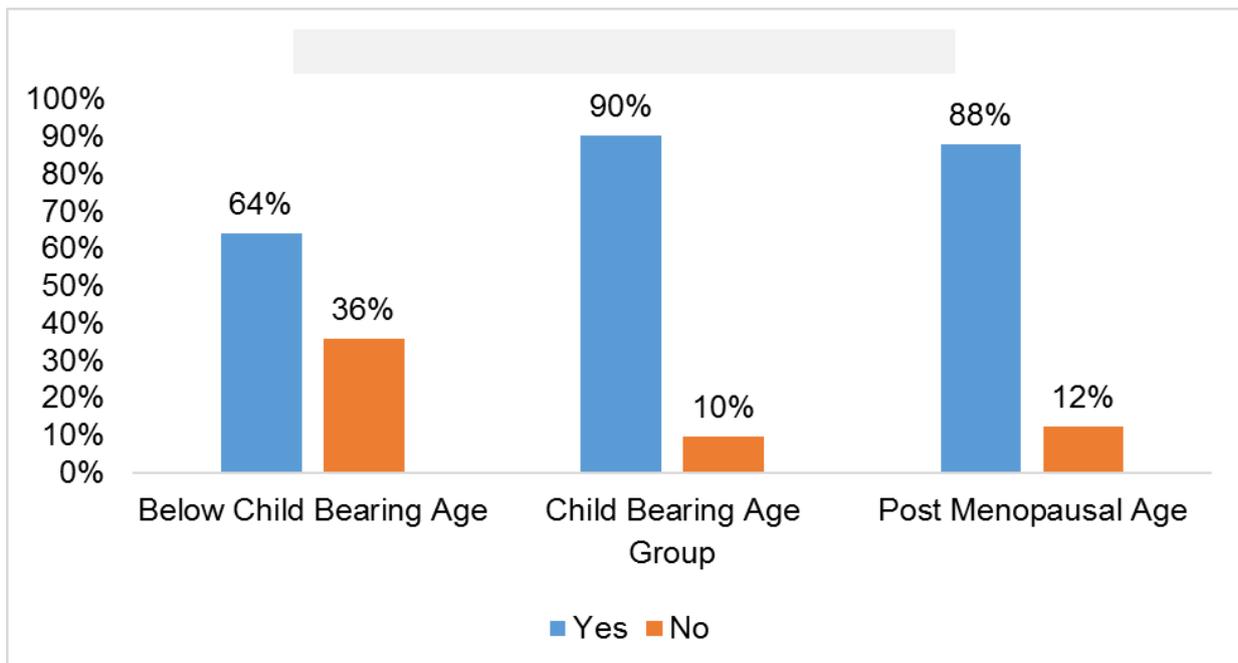


Figure 4.8: Cervical cancer screening across female groups

All women across all groups should be screened as indicated by 43% of the respondents because cervical cancer can be found in any of the age group as long as they are sexually active. They noted that everyone is at risk because of exposure to HPV. Those who indicated screening for female below child-bearing agree (19%) cited that early detection in persons can easily be treated and this reduces the trauma of late detection. In addition, females in that age bracket can be vaccinated with prophylactic vaccine for cervical cancer since they may not be sexually active in that age. The rest of the respondents, 38%, felt that screening should only be done on child-bearing and post-menopausal women groups because they are more predisposed and therefore at higher risk.

4.5.1 HPV vaccination

The study found a positive attitude from 98% (112/1114) of the respondents towards recommendations for HPV vaccine as shown in Figure 4.9.

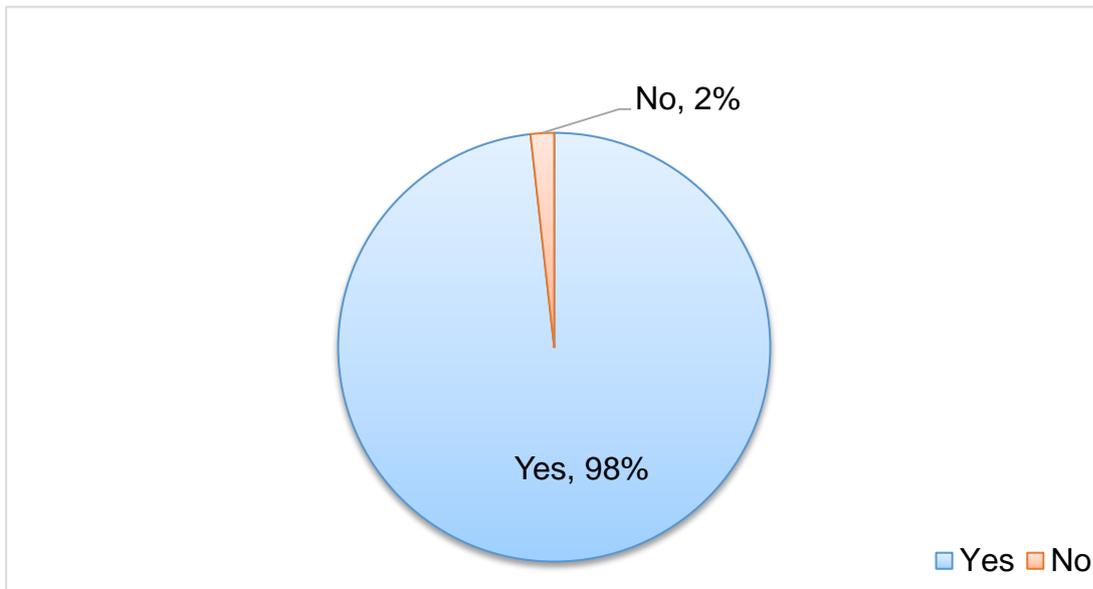


Figure 4.9: Recommendation for HPV vaccine

The high acceptability of HPV vaccine for cervical cancer represents an opportunity for increased education and awareness strategies about cervical cancer, HPV and HPV vaccine in health facilities in Kenya.

Of the 112 respondents that recommended for HPV vaccination, 103 (92%) suggested that the vaccination be carried out before sexual debut, 81 (72%) at child bearing age and post-menopausal age at 54 (48%).

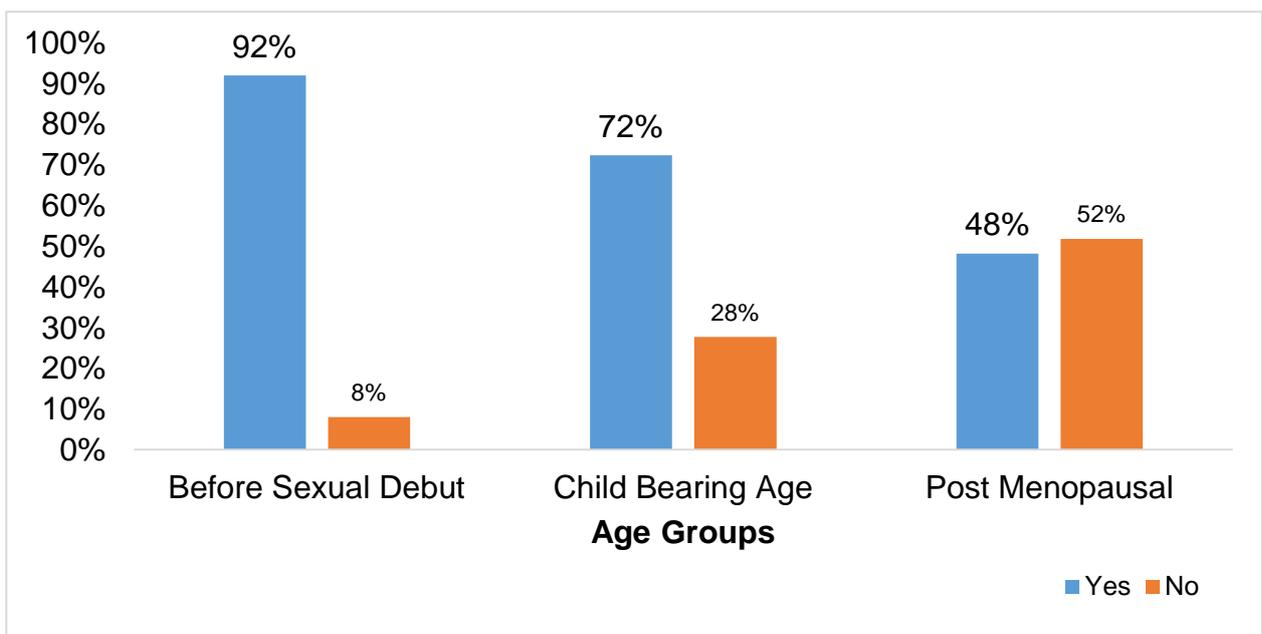


Figure 4.10: HPV vaccine across female groups

Most of the nurses suggested HPV vaccination before sexual debut because the vaccine can be administered as early as nine years and has no side effect. This will reduce the number of women contracting cervical cancer. They added that females below child-bearing could be sexually active and that at child bearing and post-menopausal age, they are already highly predisposed.

4.6 PRACTICES OF CERVICAL CANCER SCREENING AND PREVENTION

In attempting to establish the level of cervical cancer screening and prevention practices among nurses, the study found that 56% (64/114) of the respondents had ever had the Pap smear while a significant number, 50/114 (44%) hadn't. Of the 64 that have undertaken the Pap smear test, an overwhelming 45% (29/64) do it irregularly, 21 (33%) after every two years and 14 (22%) after every three years (Figure 4.11).

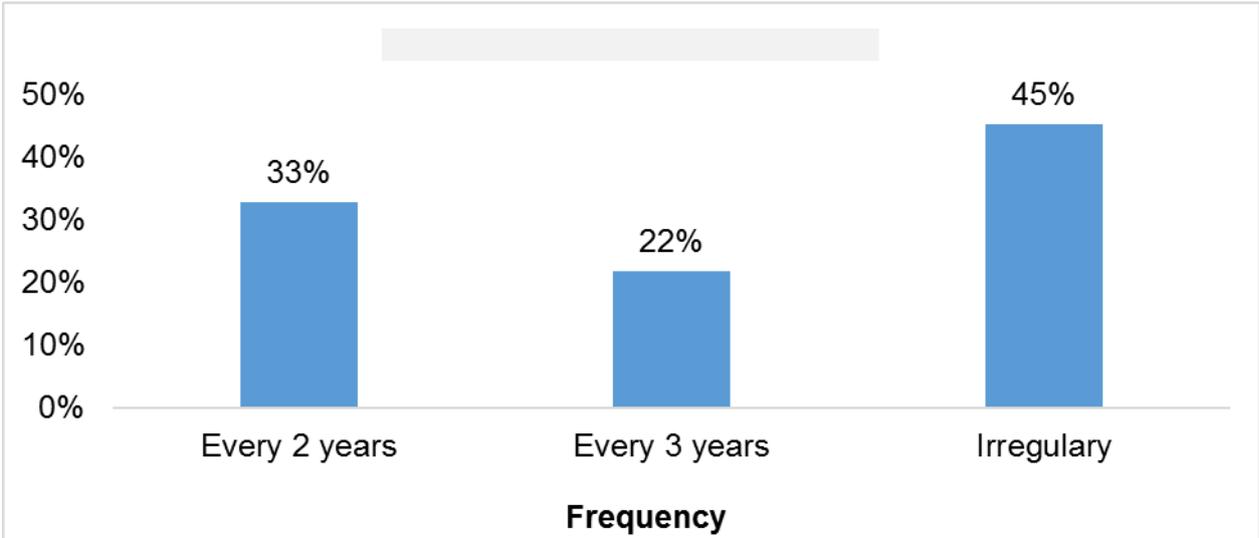


Figure 4.11: Frequency of Pap smear test among nurses

In this study, while most of the respondents had been screened for cervical cancer, the frequency is not periodic. This is a common problem in many in sub-Saharan Africa nations where women are not routinely screened for cervical cancer Pap smears. This may form the basis for the high prevalence of advanced stages of cervical cancer in most health facilities in the SSA (Kidanto et al 2002:470) unlike in high income countries (Yu & Rymer 1998:130). The findings highlight the need to educate and reinforce routine Pap smear screening because it is a key part of preventing invasive cervical cancer.

On the other hand, out of the 44% (50/114) who had not had the test, 28 (56%) cited fear of the test, 12 (24%) unavailability of the test, 8 (16%) felt they were not at risk while 2 (4%) did not perceive the test as important (Figure 4.12).

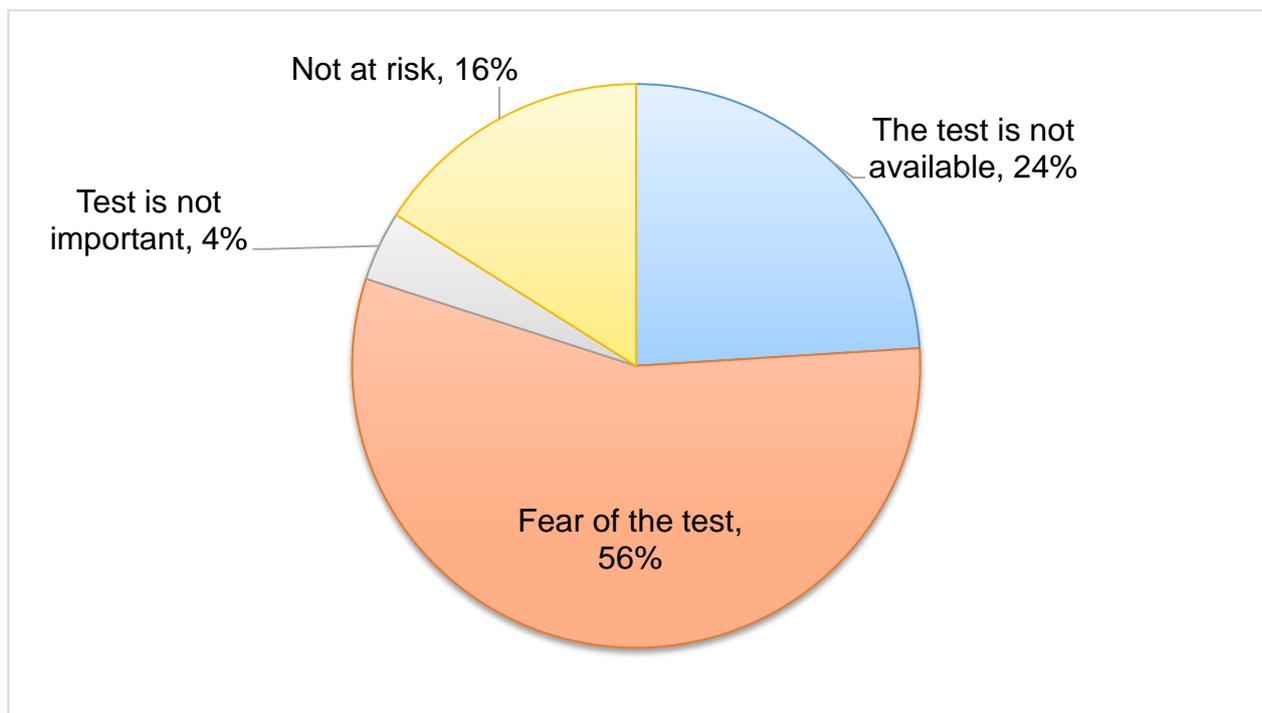


Figure 4.12: Reasons for not having the Pap smear test

The reasons established for non-practice of Pap smearing test among the nurses i.e. fear, not knowing where it could be done, not being at risk or not deeming the test necessary have been documented in other studies (Awodele et al 2011:501; Roy & Tang 2008:257; McFarland 2003:173).

4.6.1 Cervical cancer prevention

The study established a high level of awareness of cervical cancer prevention among the study population with 89 (78%) having good knowledge and 18 (16%) very good knowledge. The respondents were also very knowledgeable about the various methods of cervical cancer prevention as demonstrated in Table 4.12 and Figure 4.13 particularly seeking HPV vaccination before sexual debut (98%, n=112), regular Pap smear test (92%, n=105) and having a single sexual partner (88%, n=100). Other identified methods included abstinence (78%, n=89) and condom use (76%, n=76).

Table 4.12: Methods of cervical cancer prevention

Methods	Responses	
	Yes, n (%)	No, n (%)
a) Abstinence	89 (78%)	25 (22%)
b) Condom Use	87 (76%)	27 (24%)
c) Single Sexual Partner	100 (88%)	14 (12%)
d) Having Regular PAP Smear Test	105 (92%)	9 (8%)
e) HPV Vaccination before Sexual Debut	112 (98%)	2 (2%)

(Source: Field Data 2016)

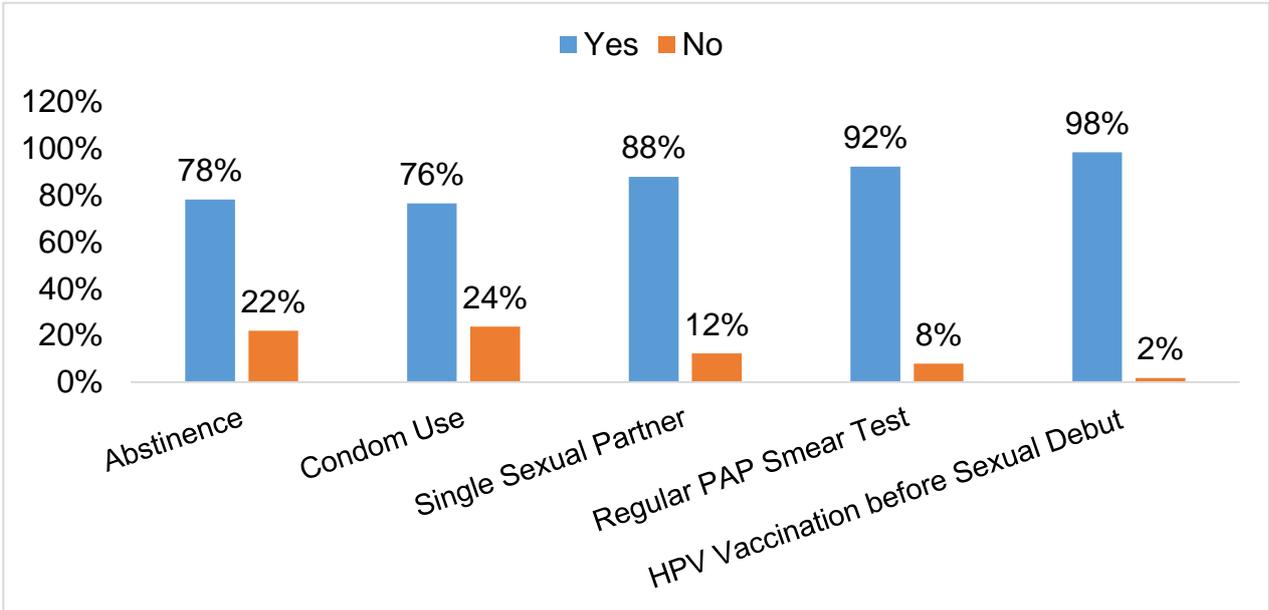


Figure 4.13: Methods of cervical cancer prevention

The findings show that the nurses are likely to embrace the appropriate cervical cancer prevention practices and pass the same to women who come to seek screening and also treatment from their health facility. Previous studies have showed that those with the highest level of knowledge about cervical cancer and its prevention were more likely to be screened than those with low or medium level of knowledge (Lyimo & Beran 2012:20).

4.6.2 Cervical cancer screening benefits and challenges

Further, the study attempted to establish the benefits of and challenges to cervical cancer screening. It was observed that early detection will aid in early treatment since cervical cancer is curable. Cancer of the cervix that is diagnosed at early stages can be

properly managed and reduce mortality. During screening programmes, the women are advised on various causes, symptoms and prevention measures. These help in reducing the number of deaths caused by cervical cancer.

Figure 4.14 shows that common barriers and challenges to cervical cancer screening from the respondents. Majority (44%) cited the lack of awareness about the importance of screening while 10% referred to fear for the unknown, exposing of their private parts during screening procedures (Pap smearing tests) which causes discomfort and the outcome of the results. Limited availability and accessibility of well-equipped health facilities for screening was highlighted as a barrier by 18% while 7% thought financial implications of the tests and maybe treatment (if positive) is a challenge.

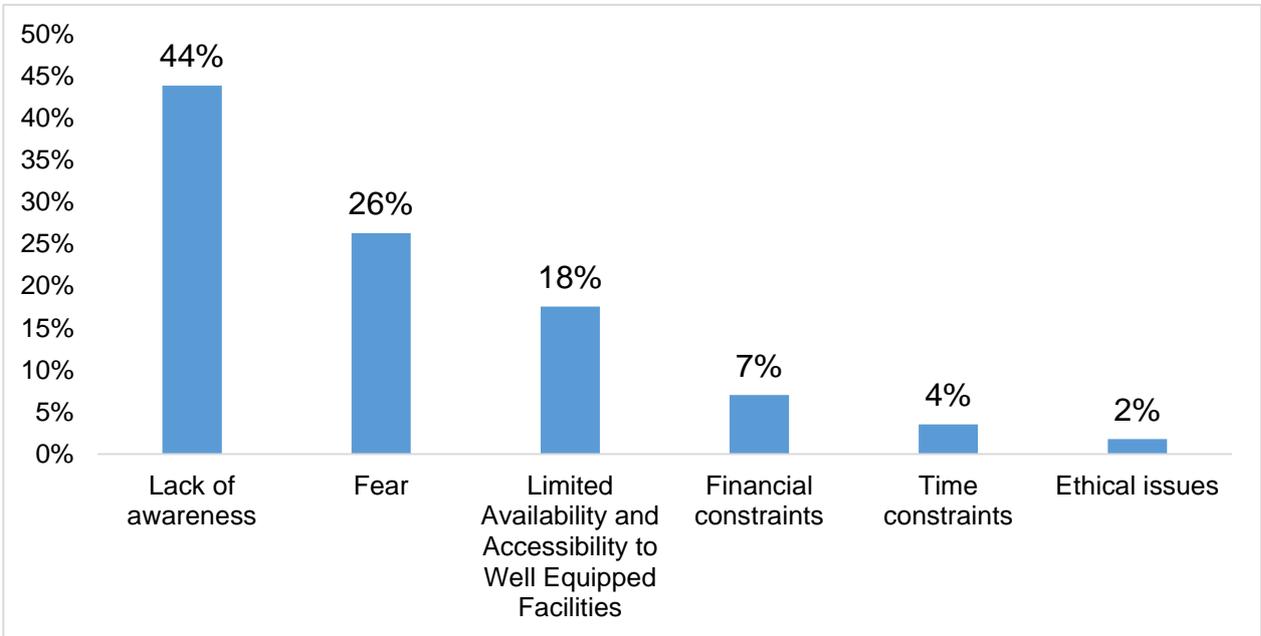


Figure 4.14: Cervical cancer screening challenges and barriers

Therefore, the challenges and barriers to cervical cancer screening programme include low public awareness, fear, access to services and well-equipped facilities and the cost. Past studies have also attributed underutilisation of screening to lack of awareness, lack of funds worry about exam discomfort, fear of finding cancer, and inability to establish effective follow-up treatment (Rositch et al 2012:30; Ansink 2007:69; Were et al 2011:61).

4.7 CONCLUSION

Chapter 4 presented and discussed the data analysis and the findings according to each variable from the checklist tool. Chapter 5 will discuss the conclusions, limitations and recommendations of this study.

CHAPTER 5

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS OF THE STUDY

5.1 INTRODUCTION

The results obtained for this study have been discussed in Chapter 4. Chapter 5 presents the conclusions based on the findings of the study. Recommendations drawn from the study have been presented. Limitations impacting on the generalisability of the study's findings will also be addressed.

This study aimed to assess knowledge, attitude and practices on cervical cancer screening and prevention methods among nurses. The study was guided by the HBM's five components, namely; perceived susceptibility, perceived severity/seriousness, perceived benefits, perceived barriers and cues to action. The objectives that guided the study were also based on the HBM's components. These objectives enabled the researcher to identify and discuss factors associated with knowledge, practices and attitude towards cervical cancer screening and prevention methods. Therefore, conclusions and recommendations are presented according to these objectives.

5.1.1 Purpose of the study

The purpose of this study is to determine the level of knowledge, attitude and practices on cervical cancer and Pap smear among the health care providers in two Nairobi hospitals.

5.1.2 Objectives of the study

To meet the purpose of the study, the following objectives were formulated:

- To identify and characterise socio-economic demographic factors associated with knowledge, attitudes and practices amongst nurses with regards to cervical cancer and preventive measures.

- To assess the knowledge, attitude and practices of cervical cancer and preventive measures among nurses at two Nairobi hospitals.
- To assess cervical cancer screening practices among nurses at two Nairobi hospitals.

5.2 SOCIO-DEMOGRAPHIC PARAMETERS

This section will summarise the findings from Chapter 4 of the socio-demographic characteristics, namely; age, marital and educational status. Conclusions and recommendations will be set forth based on the findings.

5.2.1 Age

The age range of the respondents was 20–54 years. The peak age range of the respondents was 25–30 years accounting for 32 (28%) of the respondents. About 56% of the respondents were < 35 years of age, while 44% were ≥ 35 years old. Regarding age, rates of Pap smear were found to be substantially lower in younger nurses or their partners aged 20–34 years (73%).

Conclusion

Sixteen percent (16%) of cervical cancer is diagnosed below the age of 35 and yet this study found that the uptake of cervical cancer screening is lower in this age group.

Recommendation

The government should create awareness of cervical cancer screening through media channels and nursing training colleges.

5.2.2 Marital status

The response to this question was low. Only 50 nurses responded and yet an important aspect when designing health education. More than half of respondents were married 31 (62%), 14 (28%) were single, 4 (8%) were co-habiting while only 1 (2%) were

widowed. Only 22 nurses had not had a Pap smear test, 11 of the 22 nurses (50%) were single, 10 (45%) were married and only 1 (5%) was cohabitating.

Conclusion

The uptake of cervical cancer screening is higher in married respondents as compared to single respondents. This can be associated with health education given at antenatal clinics.

Recommendation

- Health education should be offered to all age groups of nurses. Information should also be availed in the media.

5.2.3 Education

Education attainment among the respondents was found to be high as 82 (72%) were diploma holders, 27 (24%) first degree holders and 5 (4%) master's degree holders. The study found that of the 22 respondents who had not had the test, 17 (17%) were diploma holders while 5 (23%) were first degree holders.

Conclusion

- Level of education has an impact on cervical cancer screening practices.

Recommendation

- Cervical cancer screening methods and prevention should be included within the nursing education at diploma levels.

5.3 KNOWLEDGE VARIABLES

The study established a level of awareness of cervical cancer prevention among the study population with 89 (78%) having good knowledge and 18 (16%) very good knowledge. The study found that the respondents got information from different

sources. Forty-one (36%) of the study population obtained information about cervical cancer from the workplace, 35 (31%) nurse training, 28 (25%) seminars and workshops and 10 (9%) from mass media.

Conclusion

- Exposure at workplace contributes to obtaining information of cervical cancer screening and preventive measures.

Recommendations

- Cervical cancer screening should be included in nurse training.
- The government should use mass media to create awareness of the prevalence of cervical cancer and the screening and preventive methods available in Kenya.
- Posters of information of cervical cancer should be posted notice boards in the hospitals for easy access to nursing staff and the public.

5.3.1 Detection of cervical cancer using Pap smear

The awareness of the Pap smear test as one way of detecting cervical cancer was assessed and the study found that most of the respondents, 112 (98%) agreed while only 2 (2%) were not sure that Pap smear can be used for detection of cervical cancer.

5.3.2 Early detection of cervical cancer

Most of the respondents, 112 (98%) further agreed that cervical cancer is curable if detected early compared to only 2 (2%) who were not sure.

Conclusion

- Awareness level on Pap smear test was high.
- Most respondents knew that the cervical cancer is curable if detected at an early stage, and that Pap smear screening could detect early cervical lesions.

- The awareness of the Pap smear test may be attributed to the respondents' educational status coupled with the knowledge about cervical cancer acquired through training, seminars and workshops.

Recommendations

- Nurses should attend seminars and workshops on cervical cancer information so that they are equipped with the current knowledge to share with their clients.
- Review nursing training curricula to include cervical cancer screening methods and preventive measures.

5.3.3 Cervical cancer symptoms

The majority of the study population, 98 (86%), indicated that cervical cancer manifests itself with various symptoms. Only 14 (12%) of the respondents had a contrary opinion while 2 (2%) was not sure.

According to the findings, a significant number of nurses are not fully aware of some of the symptoms of cervical cancer like coital bleeding, foul blood stained vaginal discharge and irregular vaginal bleeding.

Conclusion

- Not all symptoms of cervical cancer were known to the respondents.

Recommendation

- There is a need to provide health education on cervical cancer signs and symptoms to all nurses.

5.3.4 Risk factors of cervical cancer

The majority of respondents recognised the known cervical cancer risk factors including HPV infection (98%), multiple sexual partners (100%), early sexual debut (92%), many

pregnancies/deliveries (64%), low social economic class (72%), early marriage (70%), sexually transmitted infections (94%) and human immunodeficiency virus.

Conclusion

- Nurses' knowledge on the symptoms of cervical and the risk factors that predispose one to cervical cancer is high.

Recommendation

5.3.5 Cervical cancer screening

Cervical cancer is largely preventable by effective screening programmes and with Pap smear passing as one of the effective test for cervical cancer screening. The respondents were required to indicate the frequency at which Pap smear test should be done. The results show that majority of the nurses, 73 (64%), indicated that Pap smear should be done every year, 34 (30%) after every two years and the rest, 7 (6%), after every three years. Most of the nurses therefore did not know the Pap smear test should be done three years after onset of sexual life and be done every two to three years.

The study established a level of awareness of other methods of cervical cancer screening among the respondents including visual inspection after acetic acid (91%), colposcopy (80%) and cervical biopsy (93%). The respondents indicated other methods, namely; visual inspection with Lugal Pap smear, visual inspection with Lugol's iodine and Luviva screening.

Conclusion

- These findings indicated that information on frequency of cervical cancer screening was inadequate among the nurses in the two Nairobi hospitals. This might be a contributing factor to delays in the establishment of prevention and screening efforts in most of the hospitals in Kenya.
- Most of the nurses are aware of the various methods of cervical cancer screening in addition to the Pap smear. However, a significant number is not conversant with colposcopy.

Recommendation

- Nurses should be adequately trained for providing cervical cancer screening services at the WHO recommended intervals and the methods used.
- Nurses have a large role to play in informing the general public and promoting preventive practices. If not, wrong or inconsistent information could be shared.
- Provide reference materials and providers who can mentor the other nurses on cervical cancer screening activities so that they can become confident service providers.
- Review and strengthen cervical cancer screening content in the nursing training colleges' curricula so that all students graduate as providers.

5.3.6 Cervical cancer screening programmes in health facilities

More than two thirds (88%) of the respondents recommended cervical cancer screening programme in their health facilities while 14 (12%) did not.

Conclusion

- There is a gap in cervical screen services in the organisation and nurses are aware of the need for screening programme.
- Nurses are aware that cervical cancer is treatable if detected early.
- If screening programmes were in place, more nurses will be enlightened about cervical cancer screening methods, detection and management.

Recommendation

- Cervical cancer screening programme will increase awareness particularly if it includes community outreach. It will also increase the screening rate which is currently at 3.2% in Kenya.
- Introduce supervision and monitoring of cervical cancer screening activities to ensure quality service provision.
- With support from all key players in implementation of cervical cancer.

- Screening services, consider implementing recommendations and suggestions depicted in this study. This would ensure attainment of the intended purpose for the provision of cervical cancer screening services.

5.4 ATTITUDE VARIABLES

5.4.1 Attitude towards cervical cancer screening

All the 114 (100%) respondents thought that the screening of cancer of the cervix is essential for early detection and prevention. All women across should be screened as indicated by 43% of the respondents because cervical cancer can be found in any of the age group as long as they are sexually active.

5.4.2 Attitude towards prevention of cervical cancer

They noted that everyone is at risk because of exposure to HPV. Those who indicated screening for female below child-bearing agree (19%) that early detection in persons can easily be treated and this reduces the trauma of late detection. Conversely, 38% felt that screening should only be done on child-bearing and post-menopausal women groups because they are more predisposed and therefore at higher risk.

Conclusion

- The study established that there was positive attitude towards cervical cancer screening.
- Respondents indicated that everyone is at risk because of exposure to HPV and that cervical cancer can be found in any of the age group as long as they are sexually active.

Recommendation

- Develop information material (depicting health care institutions providing cervical cancer screening services) that should be displayed in strategic places for clients.
- To read and be aired on the local radio and television.

5.4.3 Attitude towards HPV vaccination

The study found a positive attitude from 98% (112/114) of the respondents towards recommendations for HPV vaccine. Of the 112 respondents that recommended for HPV vaccination, 103 (92%) suggested that the vaccination be carried out before sexual debut, 81 (72%) at child bearing age and post-menopausal age at 54 (48%).

Conclusion

- The high acceptability of HPV vaccine for cervical cancer represents an opportunity for increased education and awareness strategies about cervical cancer, HPV and HPV vaccine in health facilities in Kenya.

Recommendation

- Provide written pamphlets in schools and churches and give health education in MNCHFP clinics detailing the benefits of HVP vaccine.

5.5 PRACTICE VARIABLES

5.5.1 Practices of cervical cancer screening

The study found that 56% (64/114) of the respondents had ever had the Pap smear while a significant number, 50/114 (44%) hadn't. Of the 64 that have undertaken the Pap smear test, an overwhelming 45% (29/64) do it irregularly, 21 (33%) after every 2 years and 14 (22%) after every 3 years.

5.5.2 Reasons for not having the Pap smear test

The study found out that of the 44% (50/114) who had not had the 28 (56%) cited fear of the test, 12 (24%) unavailability of the test, 8 (16%) felt they weren't at risk while 2 (4%) did not perceive the test as important.

Conclusion

- In this study, while most of the respondents had been screened for cervical cancer, the frequency is not periodic.

Recommendation

- Educate and reinforce routine Pap smear screening because it is a key part of preventing invasive cervical cancer.
- Ensure that human and material resources are always available for cervical cancer screening This might help strengthen and maintain the trusting relationship between clients and service providers.
- Enhance proper feedback or counselling following the procedure so that women are involved in their care and are encouraged to plan for a regular attendance for early detection and treatment.
- Emphasise that women with negative cervical cancer screen results still need to plan for regular screening.

5.5.3 Cervical cancer prevention

The study established a high level of awareness of cervical cancer prevention among the study population with 89 (78%) having good knowledge and 18 (16%) very good knowledge. The respondents were also very knowledgeable about the various methods of cervical cancer prevention, particularly seeking HPV vaccination before sexual debut 112 (98%), regular Pap smear test 105 (92%), and having a single sexual partner 100 (88%) Other identified methods included abstinence 89 (78%) and condom use 87 (76%).

Conclusion

- The findings show that the nurses are likely to embrace the appropriate cervical cancer prevention practices and educate women who come to seek screening and also treatment from their health facility.

Recommendation

- Nurses should be adequately trained in all aspects of cervical cancer service provision, including counselling.

5.5.4 Cervical Cancer screening benefits and challenges

Majority 44% cited the lack of awareness about the importance of screening while 10% referred to fear of the unknown, exposing of their private parts during screening procedures (Pap smearing tests) which causes discomfort and the outcome of the results. Limited availability and accessibility of well-equipped health facilities for screening was highlighted as a barrier by 18% while 7% thought financial implications of the tests and maybe treatment (if positive) is a challenge.

Conclusion

- The challenges and barriers to cervical cancer screening programs include low public awareness, fear, access to services, well-equipped facilities and the cost.
- When women are turned away without receiving the screening services due to lack of supplies and infrastructure, their motivation and the client-provider trusting relationship could be negatively affected. This might discourage women to come back for the screening test in future.

Recommendations

- Cervical cancer screening topics should be incorporated in the schedule for motivation talks in MCHFP clinics.
- Guidelines to standardise the information given on cervical cancer screening health talks should be formulated.
- The services being provided in order to note the impact in meeting the planned objectives effectively should be supervised.
- There should be commitment from the Ministry of Health to increase budget allocations in order to sustain the supply of screening resources to health care centres providing these services.

- A specific room should be assigned for cervical cancer screening at designated health centres if screening services are to be accessible whenever required.
- The clients should be made to understand and be supported by explaining the procedure step-by-step, such as give her the opportunity to see the speculum, reassure her that it is lubricated before use and that different sizes are used for each person's comfort. This might help reduce the fears attached to the speculum and the procedure.
- Cervical cancer screening providers of different age groups should be trained where they are shown how to handle elderly women so as to minimise their embarrassment during the procedure.
- Options in the current health care systems for opportunistic screening should be explored and reminders to the women who are not up to date with their screening schedule.

5.6 LIMITATIONS OF THE STUDY

Although this study adhered to ethical issues and best research practices in the context of application of methods, it is still expected to have some limitations, which are outlined below.

- The study employed a cross-sectional design. This means data collection was conducted simultaneously ignoring the possible changes in views of respondents. Adopting a longitudinal approach to data collection would have enhanced insight into this area of study, as it may have allowed for more persistent views of respondents to be revealed.
- The study was carried out in the emergency departments of two hospitals. This means that data were collected only from nurses of these departments. This may have an impact on the generalisability of the study findings to wider populations of nurses of other hospitals. Even though this is the case, the study findings provide an indication of knowledge, attitude and practice in cervical cancer screening in outpatient departments of other hospitals. The knowledge gained resulted in the researcher to offer some recommendations, which are believed would help improve cervical cancer screening practices.

5.7 RECOMMENDATIONS REGARDING FURTHER STUDIES

Based on the findings, the study recommends the following:

- Qualitative research should be conducted with nurses to explore the barriers experienced in utilising cervical cancer screening services.
- An intervention study on the recommendations made to increase nurses' uptake of cervical cancer screening services.
- More research is needed to fully understand the issues relevant to young nurses who have never participated in cervical cancer screening.
- Further investigations are required to determine whether recommended interventions might lead actual screening behaviours.
- Statistics should be acquired from all health care services throughout Kenya about the number of cervical cancer screenings done, type of screening done, outcome, treatment and treatment outcomes.
- Studies to explore the disparity between high awareness and low uptake should be conducted.

5.8 CONCLUDING REMARKS

This chapter has offered a summary of the study, including its limitations and recommendations for improvement in cervical cancer screening and how to gain better insight into the subject area.

The study revealed that awareness of cervical cancer screening, symptoms, risk factors and prevention among the respondents were high. However, screening uptake was low despite the high levels of awareness of cervical cancer and cervical cancer screening. This indicates that there is a disjuncture between the respondents' awareness and their health seeking behaviour with regards to cervical cancer and screening. The observed low uptake of Pap smear in this study portends a dangerous sign as a low uptake among the predictors of its use (nurses) might have a negative effect on the attitude of the general population towards utilisation of the screening procedure. The major reasons for the low screening uptake was fear of the test, unavailability of the test,

financial constraints and not feeling at risk. In addition, limited accessibility to well-equipped facilities was cited as a challenge to cervical cancer screening.

Cervical cancer is a major public health concern in Kenya due to its prevalence, morbidity and mortality. If the fight against the disease is to be won, concerted efforts should be made to educate nurses who are involved in health education of the general population on the dangers posed by the disease and reassurance to overcome all possible barriers towards acceptance of the screening test.

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IARC see International Agency for Research on Cancer.

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ANNEXURES

Annexure 1: Ethical clearance certificate



**UNIVERSITY OF SOUTH AFRICA
Health Studies Higher Degrees Committee
College of Human Sciences
ETHICAL CLEARANCE CERTIFICATE**

REC-012714-039

MSHDC/502/2016

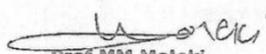
Date: 3 February 2016 Student No: 4214-133-8
Project Title: Knowledge, attitude and practices regarding cervical cancer screening and prevention methods among nurses at two Kenyan hospitals.
Researcher: Kieti Suzan Ndila
Degree: MA in Nursing Science Code: MPCHS94
Supervisor: Prof LM Modiba
Qualification: D Cur
Joint Supervisor: -

DECISION OF COMMITTEE

Approved

Conditionally Approved

For Prof L Roets
CHAIRPERSON: HEALTH STUDIES HIGHER DEGREES COMMITTEE
Prof L M Modiba


Prof MM Moleki
ACADEMIC CHAIRPERSON: DEPARTMENT OF HEALTH STUDIES

PLEASE QUOTE THE PROJECT NUMBER IN ALL ENQUIRES

Annexure 2: Letter requesting permission to conduct the study

20th February 2016

Director Nursing Services

The Nairobi Hospital

RE: RESUBMISSION OF REQUEST TO CONDUCT A STUDY

I have reviewed the recommendations referred to in TNH/ADMIN/CEO/12/11/15.

I am Master of Science in nursing student at the University of South Africa (UNISA) in Pretoria.

As part of the requirement of the course I wish to carry out a study on ***KNOWLEDGE, ATTITUDE AND PRACTICES ON CERVICAL CANCER SCREENING AND PREVENTION METHODS AMONG NURSES AT TWO HOSPITAL IN NAIROBI, KENYA***. The proposed study requires data collection using self-administered questionnaires from Nurses working in the Outpatient Units.

The issues of ethics have been critically considered and covered in the attached proposal in a detailed manner. All the information gathered from the health professionals will be handled confidentially during study period and destroyed once the data analysis has been completed.

I am kindly requesting permission to conduct the study. I would like to point out that if I am granted permission the findings will be shared with your office in a manner that will not identify respondents.

Sincerely

Susan N. Kieti (Charge Nurse)

PO Box 20772-00202, Nairobi Kenya. Cell: +254 733 91 37 39 Email: suekieti@yahoo.co.uk and/or 42141338@mylife.unisa.ac.za

Annexure 3: Letter of permission to conduct study



THE NAIROBI HOSPITAL

Our Ref. TNH/ADMIN/CEO/04/04/16

4 April 2016

Susan Kieti
P. O. Box 20772 - 00202
Nairobi

Dear Ms. Kieti,

**RE: ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICES ON CERVICAL
CANCER SCREENING AND PREVENTION METHODS AMONG NURSES AT
TWO HOSPITAL IN NAIROBI - KENYA**

Reference is made to your request to carry out the above study at The Nairobi Hospital.

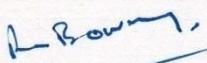
We are pleased to advise that approval has been granted with a few amendments to be made as attached.

In line with the Research Projects Policy, you will be required to submit a copy of the final research findings to the Bioethics & Research Committee for records.

Do note that information/data collected and potential findings shall not be in conflict with the Hospital's confidentiality clause which states that "You will not without consent of the Association disclose any of its secrets or other confidential matters to anyone who is not authorized to receive them".

Please note that this approval is valid for the period April 2016 to April 2017, if an extension is required, a fresh application should be done before proceeding with the research.

Yours sincerely,
FOR: THE NAIROBI HOSPITAL


Dr. Ravi Bowry, MBS
AG. CHIEF EXECUTIVE OFFICER

c.c. Chairman, Bioethics & Research Committee

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Annexure4: Participant consent form

I,, am a nurse and working in outpatient unit in Kenya.

I agree on my own volition to take part in this study about **knowledge, attitude and practices on cervical cancer screening and prevention methods among nurses at a Nairobi hospital**. I do understand the possible risks and benefits of the study. I know that I will not be rewarded for taking part in this exercise. I also know that I can withdraw from participating in the study at any time and would not be affected in anyway by doing so. I have understood that my participation will be confidential and anonymous. By signing this paper I consent to take part in this research study.

Participant's Signature.....
Date.....

Researcher's Signature.....
Date.....

Researcher's contact details – Susan N. Kieti (Nurse)
PO Box 20772-00202 ,
Nairobi, Kenya

N.B.

Please don't write your name on the questionnaire to maintain anonymity.

Possible risks in this study are minimal risks of feeling uncomfortable if respondent has had traumatic experience with a patient suffering from cervical cancer, for such incidences counselling services will be availed on site. No major risks are expected, no stigmatization or persecution. Possible benefits of this study are adding knowledge to nurses and health care system by finding out current practice and what can be done to improve cervical cancer screening.

Annexure 5: Data collection instrument

Questionnaire

This questionnaire takes 30 minutes to complete. You have one week to complete the questionnaire. The researcher will collect the questionnaires.

Data collection instrument (self-administered questionnaire)

I-Demographic Data

Please tick or make a cross in the boxes in areas relevant to you in the questions below

A-Sex

1-Male

2-Female

B-Age

1-20-24 years

2-25-30 years

3-31-34 years

4-35-39 years

5-40-44 years

6-45-50years

7-51-54years

8-55-60years

9-61years and above

C-Marital Status

1-Married

2-Co-habiting

3-Single

4-Divorced

5-Separated

6-widow/widower

D-Highest Level of Education

- 1-Certificate
- 2-Diploma
- 3-First degree
- 4-Masters and above

E-Job Title

- 1-senior nurse
- 2-senior staff nurse
- 3-staff nurse
- 4-charge nurse

F- Working experience

- 1 Less than 2 years
- 2 3 to 5 years
- 3 5 to 10 years
- 4 11 to 15 years
- 5 16 years and above

II-Knowledge of cervical cancer

Please tick or make a cross in the boxes in the areas relevant to you in the answers following questions below

A- How do you rate your knowledge about cervical cancer screening ?

- 1-Very poor
- 2-Poor
- 3-good
- 4-very good

B-How do you rate your knowledge on prevention?

- 1-Very poor
- 2-Poor
- 3-good
- 4-very good

C- Where did you get information about cervical cancer?

- 1-Work place
- 2-Nurse training
- 3-Mass media
- 4-Seminars/workshops
- 5-All the above

Is Pap smear used for detection of cervical cancer?

- a)Yes
- b) No
- c) Not sure

If cervical cancer is found early, is it curable?

- a)Yes
- b) No
- c) Not sure

Cervical cancer presents in the following ways:

Without symptoms

- a) Yes
- b) No
- c) Not sure

Post coital bleeding

- a)Yes
- b) No
- c) Not sure

Foul blood stained vaginal discharge

- a)Yes
- b) No
- c) Not sure

Irregular vaginal bleeding

- a) Yes
- b) No
- c) Not sure

Are the following risk factors of cervical cancer?

Human Pappiloma virus infection

- a) Yes
- b) No
- c) Not sure

Multiple sexual partners

- a) Yes
- b) No
- c) Not sure

Early sexual debut

- a) Yes
- b) No
- c) Not sure

Many pregnancies/deliveries

- a) Yes
- b) No
- c) Not sure

Low social economic class

- a) Yes
- b) No
- c) Not sure

Early marriage

- a) Yes
- b) No
- c) Not sure

Sexually transmitted infections

- a) Yes
- b) No
- c) Not sure

Human immunodeficiency virus infection

- a) Yes
- b) No
- c) Not sure

d-How often should a woman have Pap smear done?

- 1-One year
- 2-Two years
- 2-Three years
- 3-Should only be done if there are symptoms
- 4-not sure

f your answer for the above question (d) is either of the 4 choices , give your reasons briefly -----

E-Are the following methods used for screening cervical cancer?

Visual inspection after acetic acid

- a)Yes
- b) No

Colposcopy

- a)Yes
- b) No

Cervical biopsy

- a)Yes
- b) No

Others methods used for screening cervical cancer-----

f- Does your health facility have cervical cancer screening program?

- 1-Yes
- 2-Not sure
- 3-No

g-Would you recommend cervical cancer screening programme to your health facility?

- a) Yes
- b) No

If your answer for the above question (g) is either of the 2 choices , give your reasons briefly -----

III- Attitude towards cervical cancer screening

Please indicate your own personal view/attitude towards cervical cancer screening by marking your response in the space provided.

a- Cervical cancer screening is essential for early detection and prevention of cervical cancer

- 1-yes
- 2-No

b-Would you recommend cervical cancer screening to the following female groups:

1. Below child bearing age

- a) Yes
- b) No

2. Child bearing age

- a) Yes
- b) No

3. Post-menopausal age

a) Yes

b) No

If your answer for the above questions (b) is either of the choices, give your reasons briefly -----

c- Would you recommend use of the HPV Vaccine?

a) Yes

b) No

If yes at what stage would you recommend HPV vaccination

1. Before sexual debut

a) Yes

b) No

2. Child bearing age

a) Yes

b) No

3 .Post-menopausal age

a) Yes

b) No

If your answer for the above questions (c) is either of the choices , give your reasons briefly -----

IV- Practices of cervical cancer screening and prevention

a- Have you or your partner ever had PAP smear test?

1-Yes

2-No

If yes how often do you or your partner have pap smear test?

- 1- Every 2 years
- 2- Every three years
- 3- Every four years
- 4- Irregularly

If No what are the reasons for not having PAP test

- 1- The test is not available
- 2- Fear of the test
- 3- Test is not important
- 4- Not at risk

b- Can cervical cancer be prevented by the following?

1-Abstinence

- a) Yes
- b) No

2-Condom use

- a) Yes
- b) No

3-Single sexual partner

- a) Yes
- b) No

4-Having regular Pap smear

- a) Yes
- b) No

5- HPV vaccination before sexual debut

a) Yes

b) No

What do you think are the barriers to cervical cancer screening?

Annexure 6: Letter from a statistician

University of Nairobi Enterprises and Services Ltd
P.O Box 68241 – 00200
Nairobi
October 14, 2016

To
Prof. LM Modiba
UNIVERSITY OF SOUTH AFRICA

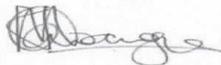
RE: STATISTICAL ANALYSIS FOR SUSAN KIETI'S MA (NURSING SCIENCE) THESIS

The Above Subject Refers.

My name is Stanley Ngache, a Project Officer at University of Nairobi Enterprises and Services Ltd, the entrepreneurial arm of the University of Nairobi. I am responsible for data management. I have a BSC in Mathematics (Statistics Major) and a Post-Graduate Certificate in M&E. I have worked in the area of statistical analysis for over 7 years and attended numerous data management workshops.

I assisted Kieti with the generation of descriptive statistic and reliability analysis of her data for her MA (Nursing Science) Thesis. The Cronbach Alpha calculated was within the acceptable threshold. The data collection tool was therefore reliable.

Yours Sincerely,



Stanley Ngache
Projects Officer
University of Nairobi Enterprises and Services,
State Hse Rd, off Aboretum/Kolobot Drive,
P.O. Box 68241-00200 Nairobi Kenya,
Office: +254-717 300 006
Cell: +254-721 534 134
+254-732 534 134
E-Mail: sngache@uonbi.ac.ke
<http://unes.co.ke>

Annexure 7: Editing certificate

EDITING AND PROOFREADING CERTIFICATE

7542 Galangal Street

Lotus Gardens

Pretoria

0008

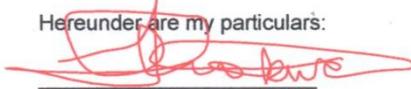
02 November 2016

TO WHOM IT MAY CONCERN

This letter serves to confirm that I have edited and proofread Mrs S. N. Kieti dissertation entitled: **"ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICES ON CERVICAL CANCER SCREENING AND PREVENTION METHODS AMONG NURSES AT TWO NAIROBI HOSPITALS IN KENYA."**

I found the work easy and enjoyable to read. Much of my editing basically dealt with obstructionist technical aspects of language which could have otherwise compromised smooth reading as well as the sense of the information being conveyed. I hope that the work will be found to be of an acceptable standard. I am a member of Professional Editors Group and also a Language Editor at Bureau of Market Research at the University of South Africa.

Hereunder are my particulars:



Jack Chokwe (Mr)

Bureau of Market Research (Unisa)

Contact numbers: 072 214 5489 / 012 429 3327

jmb@executivemail.co.za

Professional
EDITORS 
Guild