TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

ACOG	American College of Obstetrician and Gynaecologists
AIDS	Auto Immune Deficiency syndrome
AGUS	Atypical Endocervical Glandular Cells
ASCCP	American Society of Colposcopy and Cervical Pathology
ASC-US	Atypical Squamous Cells of Undetermined Significance
CIN	Cervical Intraepithelial Neoplasm
CIS	Carcinoma in Situ
DNA	Deoxyribonucleic acid
FIGO	International Fed ration of Gynaecology and Obstetrics
G1/P1	Group1/Participant1
HAART	Highly Active Antiretroviral Therapy
HIV	Human Immunodeficiency Virus
HPV	Human Papilloma Virus
ICCI	Invasive Cervical Cancer (ICCI
ISRN	International Scholarly Research Notices
LGS	Low-grade sill
NHLS	National Health Laboratory Service
SIL	Squamous Intraepithelial Lesion
STI	Sexually Transmitted Infections
VIA	Visual Inspection with acetic acid

PRESENTATIONS AND PUBLICATIONS IN SUPPORT OF THIS THESIS

- PRESENTATIONS

1. 2015. The Society of Midwives of South Africa, 12th Annual Congress. Perceptions of women with regard to cervical cancer screening in Makhudthamaga Sub-district, Sekhukhune District, Limpopo Province, South Africa: Preliminary findings. East London International Convention Centre.

2. 2016. STTI (Sigma Theta Tau International Congress). Poster presentation: Perceptions of women and professional nurses with regard to cervical cancer screening in Makhuduthamaga Sub-district, Sekhukhune District, Limpopo Province, South Africa. Cape Town, South Africa.

- PUBLICATIONS

TITLE: Women's perception regarding cervical cancer screening in Makhuduthamaga Sub-district, Limpopo Province. Submitted to the *Curationis Journal of the Democratic Nursing Organisation of South Africa*.

CHAPTER 1

ORIENTATION TO THE STUDY

1.1 INTRODUCTION

The orientation to the study is presented in this chapter. The background information about the research problem, the statement of the research problem, the research aim and purpose, the research objectives, the research questions, the significance of the study, the definitions of key concepts, the theoretical and philosophical foundations of the study, the research methodology and the ethical considerations are outlined.

1.2 BACKGROUND INFORMATION ABOUT THE RESEARCH PROBLEM

1.2.1 The source of the research problem

Cervical Cancer is considered the most commonly diagnosed type of cancer but a leading cause of cancer related deaths amongst women. Cervical cancer incidence and mortality rates are higher in Africa as compared to other parts of the world with 99000 new diagnosed and 60 000 deaths (Akinyemiju, McDonald & Lantz 2015:1). The higher incidence and death rate of cervical cancer implies that vigorous cervical cancer screening interventions are crucial. The aetiology, pathophysiology and progression of cervical cancer, occurs slowly over years. There is a strong relationship between sexual exposure of Human Papilloma Virus (HPV) and dysplasia. The progression from normal cervical cells to dysplasia and then to invasive cervical cancer appears to be related to repeated injuries to the cervix (Lewis, Heitkemper, Dirksen, O'Brien & Bucher 2007:1400).

Cervical cancer remains the second most common cancer diagnosed and cause of cancer related deaths in South Africa as one of the developing countries. An estimation of 7,735 new cases and 4.248 cancer related deaths was observed in 2012 (Jordan, Michelow, Richter, Simens & Bogens 2016:1). Cervical Cancer Screening is also a concern in women living with HIV in South Africa. According to a study conducted at Tygerberg Academic Hospital in the period 2003–2007, HIV affected women present 10years younger with cervical cancer compared with their HIV-unaffected counterparts.

This was evidenced by 59% of all women living with HIV who died in 2008 in Sub-Saharan Africa.

Cervical cancer is further considered the most common gynaecological malignancy in developing countries and leading cause of cancer mortality in sub-Saharan Africa, because the majority of patients are diagnosed during the advanced stage of the disease. Cervical Cancer Screening was not integrated with the management of HIV infection at Tygerberg Academic Hospital, as there was lack of local data on the effect HIV/AIDS has on the large patient population diagnosed with invasive cervical cancer at Tygerberg Academic Hospital. However, poor screening programmes are marked at this Hospital.

It is indicated in the study that lack of knowledge about cervical cancer screening and Sexuality is a risk as evidenced that HIV infection increases the risk of Human Papilloma Virus (HPV) acquisition and vice versa (Diarra & Botha 2017:1).

South Africa as one of the developing countries, is among the countries facing cervical cancer related deaths of approximately 90% during the year 2013/2014. Cervical cancer is said to be affecting 1 woman in every 41 and killing 8 women daily regardless of the cervical screening programs, vaccination, early detection and treatment available in the country (Makura, Schnippel, Michelow, Chibwesha, Goeieman, Jordaan & Firnhaber 2016:2). Makura et al (2016:6) indicated that, an overall, of 43,346 (5.5%) of 791,067 cytology slide submitted, were classified as high-grade abnormal cytology, including suspicious for invasive cervical cancer results. A marked variation in Pap smear abnormalities is also observed across the country, with the proportion of high-grade abnormalities ≥0.3% occurring in 17/52 districts in the general population of women. A study by Makura et al (2016) further indicated that a less than acceptable number of cervical cancer screening are conducted in the country.

The findings of a study by Lewis, Heitkemper, Dirksen, O'Brien and Bucher (2007:1400) revealed that the number of deaths from cervical cancer in the United States has fallen steadily over the past 40 years due to better and earlier diagnosis with the widespread use of Pap test.

A study conducted in Johannesburg, South Africa by Goldhaber-Fiebert, Denny, De Souza, Kuhn and Goldie (2009:70) on adherence to Cervical Cancer Screening, revealed

that cervical cancer remains the leading cause of cancer mortality among women with an estimated global figure of 270,000 deaths annually in 2009. The study also indicated that cervical cancer is a burden in developing countries and is commonly detected through symptoms at later invasive stages. South Africa has therefore instituted a screening policy in the public sector to screen women at the ages between 30 and 70.

Cervical cancer screening is also a concern in women living with HIV, for example HIV positive women attending an HIV treatment at GF Jooste Hospital were found not to be compliant to recommendations for cervical cancer screening. This was evidenced by half of the surveyed women been screened during the last 10 years 54/59 (91.5%) and less than a quarter 23/59 (38.9%) having screened within the previous year. Screening usually occurred at other health facilities and was not integrated with the management of HIV infection. However, some women who screened for cervical cancer did not receive notification about the results. Some women who had abnormal Pap smear results e.g. Low grade squamous intraepithelial Lesion or High grade squamous intraepithelial Lesion did not recall having any subsequent treatment or tests. It is also indicated in the study that lack of knowledge about Cervical Cancer Screening was found to impede screening programmes in South Africa. This was confirmed by lack of awareness about symptoms and consequences of other Sexually Transmitted Infections, revealed in a large wide range study of women in rural South Africa. A conclusion was made that, successful screening for HIV-positive women with high coverage and appropriate follow-up of positive results, can be achieved by identifying several barriers (Wake, Rebe & Burch 2009:46).

The study on the validation of Cervical Cancer Screening methods in HIV positive women in Johannesburg, South Africa by Firnhaber, Mayisela, Lu Mao, Williams, Swarts, Faesen, Levin, Michelow, Omar, Hudgens, Williamson, Allan, Lewis and Smith (2013:1), revealed that Invasive cancer is the third most common cancer among women worldwide, with significantly higher incidence rates among HIV-infected women than those who are HIV-negative. According to the study, it was found that although there are guidelines from the World Health Organization on cervical cancer screening, there are no guidelines in use on the optimal methods to screen and treat cervical cancer in resource-limited facilities.

According to Lewis et al (2007:1400), non-invasive cervical cancer is about four times more common than invasive cervical cancer. Globally the annual incidence of cervical

cancer is 471,000, with 80% of these cases occurring in underdeveloped countries. The mortality rate in these countries is 50%. The increased incidence and mortality rates are attributed to a lack of screening and treatment programmes. Approximately 10,370 women in the United States have invasive cervical cancer and 3700 women die from cervical cancer annually. The increased risk of cervical cancer is further associated with low socioeconomic status, early sexual activity (before 17 years of age), multiple sexual partners, infection with human papillomavirus (HPV), immunosuppression and smoking (Lewis et al 2007:1400).

The results of a study by Sierra, Soerjomataram, Antoni, Laversanne, Pineros, De Vries and Forman (2016:1) on cancer patterns and trends in Central and South America indicated that, encountered variation in cancer rates between countries may reflect differences in registration practices, health care access and public awareness. Sierra et al (2016:1) further stated that, there is a need for improvement of quality and coverage of cancer registration to guide and evaluate future cancer control policies and programmes.

1.2.2 Background to the research problem

The researcher discovered that a high number of women die of cervical cancer at a hospital in Makhuduthamaga Sub-district regardless of having clinics in their areas where cervical cancer screening services are offered. A total number of 86 women were admitted and diagnosed with cancer of the cervix, 33 died in the ward and 51 were referred to the Oncology clinic at the tertiary institution during 2011. A total number of 304 were attending Oncology clinic as outpatients following diagnosis with cervical cancer. This was witnessed by the researcher whilst working in the hospital and had a concern about the high number of women's death following an advanced stage of cervical cancer which could be prevented at an early stage if diagnosed. The researcher moved out of the hospital to work in the primary health care clinic in an attempt to minimise cervical cancer morbidity and mortality by offering health information to women and participating in providing cervical cancer screening to women visiting the primary healthcare clinics.

The researcher further encouraged professional nurses to adhere to the National Cervical Cancer Screening Policy and to screen as many clients as possible. It was noted by the researcher that, the National Guideline on Cervical Cancer Screening Programme (2013), has some limitations as it is not accessible to most of the clinics in Makhuduthamaga

Sub-district. The Makhuduthamaga Sub-district consists of twenty one (21) clinics which are providing Cervical cancer screening services and four (4) mobile clinics which are not providing Cervical cancer screening. Makhuduthamaga Sub-district is situated in Sekhukhune District, which is declared deep rural and the poorest among the five districts in Limpopo Province. It is very difficult for most women in the deep rural areas to access most of the health services which can only be accessed through mobile services.

The researcher initiated cervical cancer screening campaign in ten (10) fixed and two (2) mobile clinics of Makhuduthamaga Sub-district from July to December 2012. The purpose of the campaign was to conduct cervical cancer screening to clients, provide in-service education to the professional nurses in different clinics on how to take cervical smears to clients and teach professional nurses on how to interpret the cervical cancer screening results including the mobile services staff. The other purpose was to check if the community is aware of screening and if they are not aware, to give information about the following: the stages of cervical cancer, the importance of screening for cervical cancer, the dangers of not screening for cervical cancer, complications of cervical cancer and the management of cervical cancer at its different stages.

The campaign was conducted for a period of one week in a clinic. The aim of the one week campaign was to ensure that, professional nurses at the participating facilities had mastered the skill of taking quality cervical smears from women and are able to interpret the cervical cancer results. The population around the clinics gained enough information on cervical cancer and how to prevent themselves from cancer related deaths by visiting clinics for cervical cancer screening. The researcher discovered that most of the community seemed uninformed about cervical cancer and its prevention.

Table 1.1, Table 1.2 and Table 1.3 present the statistics of the three randomly selected clinics that participated in the campaign in 2012. Statistics for 2011 and 2013 is also provided to establish the impact pre and post campaign. The letter “c” indicates the period during which the campaign was conducted in the particular clinic.

Table 1.1 Cervical cancer screening at Clinic GT

Month	Year 2011 smears	Year 2012 smears	Year 2013 smears
January	13	48	29
February	11	41	29
March	09	50	62
April	05	42	21
May	08	48	35
June	04	32	30
July	07	42	12
August	15	31	24
September	15	20	15
October	19	116 c	30
November	18	19	28
December	26	29	29
Total	**150**	**518**	**344**

C=Cervical Cancer Screening campaign

The statistics for clinic GT shows less women who screened for cervical cancer in 2011 as compared to 2012 when the researcher conducted a campaign. A marked increase in the number of women screened for cervical cancer is observed as reflected in October 2012 where 116 women were screened during the campaign as the researcher personally encouraged, screened women for cervical cancer and encouraged professional nurses to do so, however, there is a decline in women that were screened in 2013. The impact of cervical cancer screening was also observed with the total number of 518 women screened in 2012 and 344 women screened in 2013 as compared to 150 in 2011 that was before the conducted campaigns.

Although there is a decline in number of women screened in 2013, a marked increase was observed of women screened for cervical cancer in 2013 compared to 2011. This was after the intervention strategies and personal involvement of the researcher in cervical cancer screening. Professional nurses were independently involved in screening women for cervical cancer following the researcher's intervention strategies and screened 344 women respectively. The outcome of the campaign was a total number of 518 women screened in 2012 and 344 women screened in 2013 as compared to 150 in 2011.

Table 1.2 Cervical cancer screening at Clinic GB

Month	Year 2011	Year 2012	Year 2013
January		09	06
February		24	08
March		19	03
April		11	29
May		20	05
June		18	07
July		86	12
August		21	10
September		07	05
October		09	05
November		13	17
December		02	10
Total		**239**	**117**

C=Cervical Cancer Screening campaign

Data for the year 2011 were not available in clinic GB as the records were inaccessible as they were stored in archives, as such, one cannot make a clear comparison among the three years' cervical cancer screening. However, a decline in cervical cancer screening is marked in the year 2013 as reflected by 86 women screened in July 2012, leading to a total of 239 for the year with a subsequent decrease to 117 in 2013.

Table 1.3 Cervical cancer screening at Clinic C

Month	Year 2011 smears	Year 2012 smears	year 2013 smears
January	09	15	11
February	14	15	21
March	31	21	13
April	26	18	28
May	29	10	24
June	19	12	19
July	20	18	27
August	22	17	40
September	23	16	25
October	26	21	18
November	10	47 c	05
December	16	14	22
Total	**245**	**224**	**253**

C=Cervical Cancer Screening campaign

A fluctuation of cervical cancer screening data is observed in clinic GC between 2011 and 2013. Furthermore, the results illustrate a higher number (47) of women screened during the campaign, a similar pattern displayed at all three clinics for the three years with a slight increase of cervical cancer screening in 2013.

The researcher discovered that few women in the Makhuduthamaga Sub-district undergo screening for cervical cancer. This happens regardless of the high death rate of women following cervical cancer. According to a programme aimed at increasing adherence to cervical cancer screening, cervical cancer remains the leading type of cancer mortality among women (Goldhaber-Fiebert et al 2009:1).

According to the Makhuduthamaga Sub-district management agreement and contract, every professional nurse who is working in the primary health care clinics, is expected to screen at least a minimum of three women per day to meet the annual target of 65% as expected by the Limpopo Provincial Department of Health Annual Performance Plan (2012/13-2014/15:91). (Limpopo Provincial Department of Health Annual Performance Plan (2012/13-2014/15:91).

1.3 STATEMENT OF THE RESEARCH PROBLEM

In spite of the available clinics offering cervical cancer screening free of charge and regardless of cervical cancer being the leading cause of death among women, the researcher worked in a unit where she observed that many women were admitted in an advanced stage of cervical cancer in the Makhuduthamaga Sub-district. The campaign that the researcher embarked on regarding cervical cancer screening in 2012 increased the statistics for cervical cancer screening but declined as soon as the campaign was stopped. The researcher aimed to establish knowledge and awareness of the importance of cervical cancer screening from women and professional nurses in the Makhuduthamaga Sub-district.

A total number of eighty-six (86) women were admitted in the ward with invasive cervical cancer while fifty-one (51) women were discharged to attend oncology clinic as outpatients to join two hundred and fifty three who were already attending oncology as outpatients while thirty-three (33) died in the ward. Three hundred and four (304) women

were attending oncology clinic at the tertiary Hospital as outpatients. Table 1.4 represent the statistics of women admitted with invasive cancer at a public hospital during 2011.

Table 1.4 Women admitted with invasive cervical cancer during 2011

Month in 2011	**Women admitted with invasive cervical cancer**	**Outcome**
January	3	All TF tertiary
February	3	All TF tertiary
March	8	5 TF tertiary 3 Died
April	11	6 Died 5 TF tertiary
May	8	3 Died 5 TF tertiary
June	9	5 Died 4 TF tertiary
July	12	4 Died 9 TF tertiary
August	7	2 Died 5 TF tertiary
September	8	3 Died 5 TF tertiary
October	10	4 Died 6 TF tertiary
November	4	3 Died 1 TF tertiary
December	None	
Total	86	33 Died 51 TF
Total out-patients	**304**	

TF = Transferred to

According to Jordan, Michelow, Richter, Simoens and Bogers (2016:1), the South African Government spends R13,3 billion each on the health services which is regarded as the biggest expenditures in the developing world. It is very important that Government costs are saved through preventive strategies. The statistics of women diagnosed, managed and died due to cervical cancer, is a plight for appropriate and timeous interventions.

The researcher therefore went beyond the cervical cancer screening campaigns and explored the perceptions of cervical cancer screening within the district through a mixed-method approach in order to accommodate most relevant stakeholders.

1.4 RESEARCH AIM/PURPOSE

A research purpose is a complicated issue which varies across different scientific fields and also the testing of theories, often generated by pure science, addressing more than just abstract principles (https://eplorable.com/purpose-of-research). Research purpose is commonly used for exploration, description and explanation of situations and events (Babbie 2010:92)

The study aimed to establish knowledge and awareness of the importance of cervical cancer screening from women and professional nurses in the Makhuduthamaga Sub-district and to develop recommendations that will inform the National Cervical Cancer Screening Policy.

1.4.1 Research objectives

The study objectives are explained according to the *Business Dictionary* ([S.a.]) as, specific results that a person or a system aims to achieve within a time frame. Objectives are said by the *Business Dictionary* to be met through the availability of resources and could therefore serve as the basis for creating policy and evaluating performance (*Business Dictionary* [S.a.]). Different strategies including recommendations from this study, can be used to improve the uptake of cervical cancer screening thus reducing cervical cancer related mortality, is what the researcher in this study aimed at.

The study aimed at achieving the following objectives:

- To evaluate the implementation of the National Cervical Cancer Screening Policy Guidelines in Makhuduthamaga Sub-district.
- To establish the women's perceptions of cervical cancer screening.
- To establish the perceptions of professional nurses regarding cervical cancer screening.
- To develop recommendations that will inform the National Cervical Cancer Screening Policy, education, clinical practice and research.

1.5 RESEARCH QUESTIONS

1.5.1 Quantitative research question

- Is the implementation of Cervical Cancer Screening Policy implemented in Makhuduthamaga Sub-district?
- What strategies can be used to enhance the understanding and awareness of cervical cancer screening in Makhuduthamaga Sub-district?

1.5.2 Qualitative research questions

- How does professional nurses in Makhuduthamaga Sub-district perceive cervical cancer screening?
- How does women in Makhuduthamaga Sub-district perceive cervical cancer screening?

1.6 SIGNIFICANCE OF THE STUDY

The findings of the study will guide the researcher to develop proposed strategy and guidelines which will contribute positively in the health care system in encouraging women to screen for cervical cancer and as a result reduce morbidity and mortality related to cervical cancer.

The study is aimed at benefiting the following stakeholders:

- The National Department of Health – the recommendations made regarding cervical cancer screening, to be submitted to the National Department to be accessed by all provinces. All identified gaps in the previous cervical cancer screening policy. The study results submitted to the National Department of Health by the researcher, aimed at contributing positively on the implementation of cervical cancer screening services in the province.
- To enhance the society's knowledge with regard to cervical cancer screening i.e. prevention, contributory factors, screening, diagnosis, management of clients with

normal and abnormal results and interpretation of the results by all health personnel and

- The researcher is empowered on conducting research, by having obtained more growth, courage and an enhanced confidence. Furthermore, the researcher intends to publish articles on the study.

1.7 DEFINITIONS OF KEY CONCEPTS

1.7.1 Conceptual definitions

Perspective – The ability to think about a phenomenon in a reasonable way without exaggerating their importance (Hornby, Turnbull, Lea, Parkinson, Phillips, Francis, Webb, Bull & Ashby 2010:1094).

Perception – is the organisation, identification and interpretation of sensory information in order to represent and understand the presented information, or the environment. (https://en.m.wikepedia.org/wiki/Perception).

Cervical cancer – A neoplasm of the uterine cervix, which can be detected in the early, curable stage by the Papanicolaou (Pap) test (Marie 2013:1324).

Screening – The carrying out of a test on a large number of people to identify those that have a particular disease for which treatment may be available (Barbara & Robert 2013:357).

Facility – A commercial or institutional building, such as a hotel, resort, school, office, complex, sports arena or convention center (https://en.m.wikepedia.org/wiki/Facility).

Pap smear – A simple smear method of examining stained exfoliative cells, used to detect cancers of the cervix and obtained during routine pelvic examination annually from 18 years of age (Marie 2013:1324).

Cervical cancer screening – A preliminary procedure, such as a test or examination, to detect the most characteristic sign or signs of cancer of the cervix (Marie 2013:1607).

Cervical cancer screening policy guideline – The National Guideline for Cervical Cancer Screening Programme (2013), as developed by the National Department of Health.

Professional nurses – A person who is a specialist and qualified in the art and science of nursing and meets certain prescribed standards of education and clinical competence and registered with the Nursing Council (Marie 2013:278).

1.7.2 Operational definitions

Perspective – In the context of the study, it is ability to have knowledge/understanding with regard to cervical cancer screening, signs and symptoms of cervical cancer, predisposing factors and the complications.

Perception – The way women and professional nurses' view, understand or see things in relation to cervical cancer screening.

Cervical cancer – Refers to cancer of the cervix.

Screening – In the context of the study, it is described as some tests in which all women between the ages 30 and 70 years are expected to undergo to exclude or detect cervical cancer for early diagnosis of cervical cancer for proper management aiming at reducing cancer related deaths among women.

Facility – In the study facility means a clinic where cervical cancer screening is done.

Pap smear – In the study, Pap smear means the procedure for cervical cancer screening.

Clients – clients refers to women between the ages 30 and 70 years and form part of the selection criteria in the study.

Cervical Cancer Screening Policy guidelines – The National Cervical Cancer Screening Policy Guideline (2013).

Professional nurses – In the study, professional nurses refers to registered nurses (general nursing) with or without postgraduate qualification

1.8 RESEARCH METHODOLOGY AND THE NATURE OF THE STUDY

1.8.1 Approach

A mixed-method approach was used. Mixed Methods is defined by Polit and Beck (2012:603) as a procedure for collecting, analysing and "mixing" or integrating both quantitative and qualitative data in a single study with both approaches complementing each other. The rationale for using mixed methods for this study was to obtain a better understanding of cervical cancer screening by accommodating both women and professional nurses and by integrating numeric trends from quantitative data with specific details from qualitative data.

This explanation therefore assisted the researcher during the study to obtain detailed and thick information when the respondents shared their views regarding cervical cancer screening.

1.8.2 Research design

A sequential explanatory design, which is quantitatively driven and consisting of two distinct phases was used in this study. Quantitative data were collected and analysed first, followed by qualitative data collection and analysis. The quantitative method focused on hard generalisable data involving a formal writing style using an impersonal passive voice and technical terminology, whereas the qualitative method was based on detailed, richly described observational data that was narrated (Polit & Beck 2012).

The study was conducted in four phases as follows:

- Phase 1: The evaluation of the implementation of the guidelines in the selected clinics and the analysis of quantitative data
- Phase 2: Establishing the perceptions of women through in-depth interviews and qualitative data analysis

- Phase 3: Focus group discussions with professional nurses and qualitative data analysis
- Phase 4: Integration of the qualitative and quantitative data and the development of recommendations to inform the National Cervical Cancer Screening Policy, clinical practice and research.

1.8.3 Setting and population of the study

All twenty-one (21) primary health care clinics in Makhuduthamaga Sub-district took part in the research study. Women between ages of 30 and 70 years were selected to participate in the study. Professional nurses working in the selected clinics were invited to participate in the study. Ten (10) clinics in Makhuduthamaga Sub-district were randomly selected to form the study sample.

1.8.4 Sample and sampling methods

There are 21 fixed clinics of which 2 gateway clinics were excluded as the other one is presently not rendering cervical cancer screening services due to poor structure and the other one may pose conflict of interest to the study as it is where the researcher is employed. The researcher selected the sample by writing names of the 19 clinics on small folded pieces of paper and a random sampling was made by picking one by one until 10 clinics were picked. The professional nurses participating in focus group discussions were purposively selected.

A purposive sampling was applied for women between the ages 30 and 70 years which will be determined by clients' availability at the clinic until data saturation occurred.

1.8.5 Data collection methods and procedure

Quantitative data collection tool developed from the National Cervical Cancer Screening Policy Guideline (2013) was used to review the implementation of the National Cervical Cancer Screening Policy Guideline (2013) with operational managers of selected clinics. All questions in the checklist were developed from variables in the National Cervical Cancer Screening Policy guideline to ensure that all questions answered will determine

the National Cervical Cancer Screening Policy implementation. Operational managers of the selected clinics provided information as per checklist.

1.8.5.1 Qualitative data collection

The researcher conducted individual interviews with women using an interview guide and focus group discussions with professional nurses in the clinics where the National Cervical Cancer Screening Policy Guideline has been reviewed. Data were collected during the week where most of the staff were on duty. A tape recorder was used to capture data during interviews. The service of a language translator was sought as the interviews were in vernacular to prevent meaning being lost in translation.

1.8.5.2 Quantitative data collection

Internal validity: A checklist developed from National guideline for cervical cancer screening was used in all the participating selected clinics to obtain quantitative data.

External validity: The results obtained from the study are a representative for Makhuduthamaga sub-district.

1.8.5.2.1 Data gathering instrument

Reliability: The researcher developed a checklist from the National Cervical Cancer Screening Policy with same and specific focus areas which was used in all the selected clinics as a data collection tool to evaluate the implementation of the Cervical Cancer Screening policy. A statistician was appointed to perform Cronbach Alpha test to ensure reliability of data. Interview guides were used to ensure that all same questions are asked to women and professional nurses and a tape recorder was used to capture all information.

Validity: The researcher ensured that a period of two months was spent in the field for an in-depth understanding of the phenomena under study. Interview guides were used to ensure that all same questions are asked to women and professional nurses and a tape recorder used to capture all information.

Content validity was ensured in the study. Content validity refers to the degree to which an instrument has an appropriate sample of items for the construct being measured and adequately covers the construct domain. It is also relevant for both affective measures and cognitive measures and therefore suitable for this study as knowledge of nurses was evaluated (Polit & Beck 2012:336). The content validity index was done by three experts in this study that the supervisor and scientific review panel.

1.8.5.2.2 Trustworthiness

Trustworthiness was ensured for confirmation of participants' experiences and viewpoints through application of the following dimensions:

Credibility refers to confident in the truth of the data and interpretations of them which also involves carrying out the study in a way that enhances believability of the findings (Polit & Beck 2008:585). Credibility was applied in the study to ensure believability of the findings by ensuring that all participants' responses are captured in a tape recorder. Paraphrasing was used throughout the interviews to ensure understanding of responses.

Dependability is also explained by De Vos, Strydom, Fouché and Delport (2011:420) as ensuring that the research process is logical, well documented and audited. All processes of research were logically followed using interview guides in the study to ensure dependability. A tape recorder was used to capture information and the study Supervisor ensured that all processes were followed accordingly.

Confirmability is explained by Polit and Beck (2008:585) as referring to objectivity, that is, the potential for congruence between two or more independent people about the data's accuracy, relevance, or meaning. Data collection steps and ethical considerations were applied in the study.

Transferability in qualitative research is explained by De Vos et al (2011: 420) as problematic. However, clinics who met the selection criteria were obtained to represent Makhuduthamaga Sub-district.

1.8.5.3 Data management and analysis

Quantitative data analysis generally included summary statistics (mean, standard deviation for continuous variables, frequencies and percentages for discrete variables) and Chronbach's alpha test for internal consistency with the assistance of a statistician. Confidence intervals of 95% were used to report for discrete variables.

Written qualitative data were scrutinised carefully, read over and over in search of meaning and understanding and be sorted according to similarity of meanings from different clinics. This is emphasised by Polit and Beck (2012:557) when stating that "qualitative analysis is a process of fitting data together, of making the invisible obvious. It is a process of conjecture and verification, of correction and modification, of suggestion and defence". Audiotaped interviews were transcribed verbatim and accurately to reflect the interview experience (Polit & Beck 2012:557). Qualitative data were further be classified, indexed, converted to smaller, more manageable units that could be retrieved and reviewed and develop a category scheme to code data into categories (Polit & Beck 2012:558).

1.9 ETHICAL CONSIDERATIONS

1.9.1 Informed consent and voluntary participation

The researcher first requested permission from the Higher Degree Committee of Department of Health Studies in the University of South Africa, then from the Ethics Committee of Department of Health in the Limpopo Province and from the Makhuduthamaga Sub-district manager for conducting the study in individual clinics.

An informed consent with voluntary participation from participants was ensured. A permission letter from the Sub-district was obtained. The participants were given time to read the information form and sign consent if they voluntarily wish to take part in the study (Appelbaum 2007:1834).

Participants were also informed that they could withdraw from the study at any time if they so wish.

1.9.2 Protection from harm

The general principles usually invoked in codes of research ethics are, firstly, that no harm should be fall the research subjects and secondly that subjects should take part freely based on informed consent (Welman, Kruger & Mitchell 2007:181). During the study, the researcher reassured participants about their safety and confidentiality on information given, showed honesty, respect, trustworthiness, sensitivity and attended to participants concerns where possible.

The researcher informed the operational manager of the clinic should there be any risk that may affect the participants and be dealt with according to the clinics policy and procedure.

1.9.3 Privacy, confidentiality and anonymity

Anonymity means the identity of those taking part not being known outside the research team while confidentiality means avoiding the attribution of comments in reports or presentations, to identified participants i.e. both direct and indirect attribution (Graham & Rose 2008:2). Information and reports given during the study were presented anonymously and confidentially. Clinics and participants were identified by numbers and known by the researcher where no one was able to identify them. Information was discarded after compiling the report and the report was generalised to the municipality and not to a specific individual.

1.9.4 Ethical considerations related to data collection

The researcher obtained an approval letter from the Higher Degree Ethics Committee, Department of Health Studies, of the University of South Africa to grant permission to conduct the study. The researcher also submitted the application letter and the proposal to the Department of Health of the Limpopo Province for access to conduct the study.

Participants did not receive incentives for participation.

The researcher is a practising professional nurse registered with the South African Nursing Council and the Democratic Nursing Organisation.

1.10 SCOPE AND LIMITATIONS

The study was conducted in clinics with a large population and only women between the ages of 30 and 70 years were considered for the study and information gathering was guided by saturation. The researcher arrived early in the morning while clients were queuing for consultation to take enough time with participants during interviews.

Shortage of staff, ill-health of staff, a high workload and a workshop which was attended by staff in selected clinics during data collection posed as a limitation as more information could have been shared by participants..

1.11 CONCLUSION

This chapter laid the orientation of the study by providing the background information of the research problem, aims and objectives, statement of the research problem, the theoretical framework of the study and the context of the study as well as the research methodology followed. The next chapter covers the literature review and theoretical framework related to cervical cancer screening.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

The literature review with regard to cervical cancer screening is outlined in chapter 2. The guidelines on cervical cancer screening and the screening principles and practices are discussed. The impact of cervical cancer in different countries are presented including the perceptions of various racial groups towards cervical cancer screening. The barriers of cervical cancer screening are discussed to obtain information which contributes towards the low uptake of cervical cancer screening leading to the possible high death rate of cervical cancer screening. Cervical cancer screening practices and standardised performance are covered in relation to the primary health care package of South Africa. Information, education and communication and community mobilisation and awareness in cervical cancer and screening are included in this chapter. The theoretical framework (Donabedian quality of care) is discussed in this chapter.

Different nursing theories were outlined in the theoretical literature review to emphasise the need to care for women for the promotion of health and prevention of cervical cancer related deaths. The Charlotte Paul and Joan S. Reeves, Nightingale's nursing theory's four major concepts and Virginia Henderson's nursing theory are discussed.

2.2 THEORETICAL FRAMEWORK FOR THE STUDY

The study is based on the Donabedian theory of quality care with reference to cervical cancer screening. Donabedian theory provides a framework for examining health services and evaluating quality of health care. The theory addressed the modification of structures and processes within health care delivery units to improve patient flow and information exchange (Donabedian model [S.a.]:1). The theory was applied in the study to evaluate quality of care in relation to the implementation of the National Cervical Cancer Screening Policy Guideline and the perceptions of women and professional nurses with regard to cervical cancer screening.

2.2.1 Meta-theoretical assumptions

The theoretical framework for the study is the Donabedian's theory on quality care with reference to three categories: (1) structure (2) process and (3) the outcome.

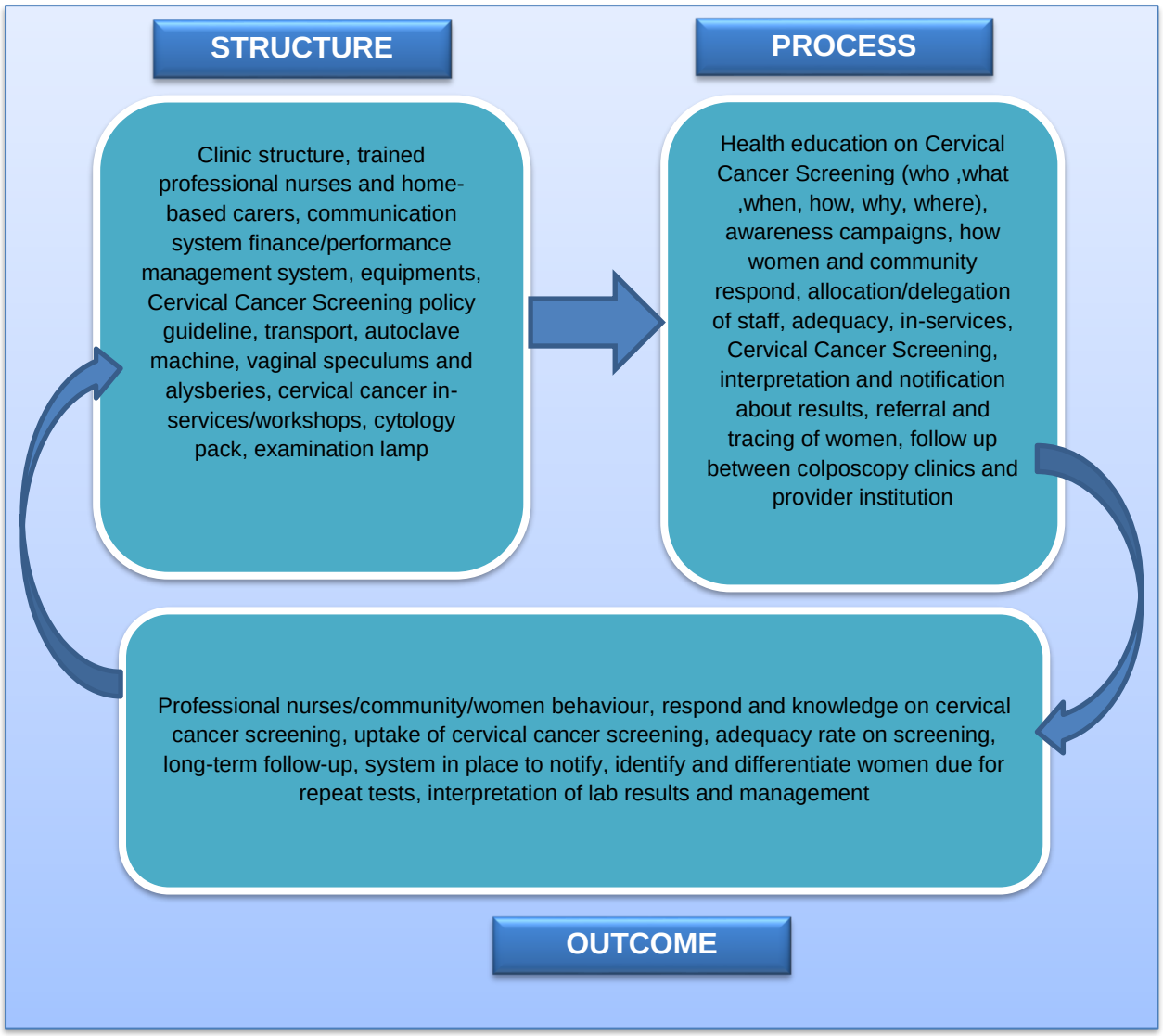


Figure 2.1 Donabedian Quality Care Model

Donabedian defined quality in terms of structure, processes and outcomes of care asserting that quality is the reflection of the values and goals of the healthcare system (Soter, Francesc, Kathleen, Stephen & Kerstin 2017:3). Donabedian proposed a model for assessing the quality of health services based on structure, processes and outcomes (Soter et al 2017:3).

Structure refers to the environment in which care is rendered and includes the human and material resources in the said environment. Human resource is concerned about for example, the staffing ratio per client, their qualifications, knowledge and skills. Material resources denote the facility and the equipment for providing quality care. Organisational structure incorporates medical and nursing staff, supervision, policies and performance reviews (Soter et al 2017:3).

Processes refer to what is actually done in rendering care. The activities of the professionals in rendering care which include the diagnosis, treatment, rehabilitation, education and preventive treatment. The model includes the activities of clients receiving care in process assessment. Areas of interest in the healthcare service such as barriers to achieving the set goal are noted in this model (Soter et al 2017:3).

Outcome refers to the desired quality of the health service resulting from the processes and the effects of the structure. Changes in health status include the knowledge, behaviour and satisfaction that the client has received from the service provided. Outcomes are effects of the quality of care on the client's health and well-being as it reflects how skillfully it has been executed (Soter et al 2017:3). Therefore the three components of Donabedian's model of quality care remain the foundation of this study.

Quality care is a basic human right worldwide and an integral part of health care. Delivery of quality health is non-negotiable in the public health facilities. Health facilities should do frequent assessment to track the level of quality of their service delivery and to strive to improve and satisfy their clients. Regular and consistent assessment of the cervical cancer screening should be done to ensure improvement of the quality of this service.

In the study, the researcher evaluated the quality of care with a focus on the clinic structure, the actual cervical cancer screening provided by each Professional nurse to women in a clinic, against the expectations of the cervical cancer screening policy. This was done by the researcher, checking the cervical cancer screening register whereby the number of clients screened per day were identified. The researcher checked whether the professional nurses providing this service have been trained on cervical cancer screening. The theory indicates that (process) commonly include diagnosis, treatment, preventive care, and patient education but may be expanded to include actions taken by the patients or their families. In the study, evaluation of quality care was done by checking

the health education register and the content covered. This was observed in the recorded register and the cervical cancer screening results. Outcomes refer to the effects of healthcare on the health status of patients and populations including changes to health status, behaviour, or knowledge as well as patient satisfaction and health-related quality of life. The study therefore evaluates this aspect by the total number of clients screened and responses from women as participants through in-depth interviews.

Different nursing theories of care have been used in the study to explain and emphasise the importance of caring for women. According to the Primary health care package of the Department of Health, the baseline care of most of the clients is provided by the nurses and therefore expected to be provided intensively at the primary health care level by applying the four components of primary health care i.e. preventive, promotive, curative and rehabilitative. The baseline care at the primary health care level in the study is referred to, by the researcher as the primary health care.

The definition of primary health care was determined at the Alma-Ata as: “Primary health care as essential care based on practical, scientifically sound and socially acceptable methods and technology, made universally accessible to individuals and families in the community through their full participation and at a cost that the community and the country can afford to maintain at every stage of integral part both of the country’s health system, of which is the central function and main focus, and of the overall social and economic development of the community. It is the first level of contact of the individuals, the family and the community with the national health system, bringing health care as close as possible to where people live and work, and constitutes the first element of a continuing health care service” (Vasuthevan & Mthembu 2013:51).

Dreyer, Hatting and Lock (2007:135) indicate that, in the preventive promotive principle and primary health care, emphasis is currently being placed on promoting good health and preventing ill health. Dreyer et al (2007:135) further indicates that: “the health planning team, when planning a fully integrated coordinated comprehensive health care programme, needs to balance this principle with the needs for curative and rehabilitative health care. The health planning team should make provision for:

- Appropriate referral systems both horizontally and vertically
- Self-help approaches

- A partnership relationship between Government and the private sector
- Adequate support systems
- Education and developmental programme for all the major role players at operational level

2.2.2 Guidelines on cervical cancer screening

2.2.2.1 Objectives

The National Guidelines for Cervical Cancer screening Programme (2013:3), indicates the following objectives as aimed by the Government of South Africa: Reducing the incidence of carcinoma of cervix by detecting and treating the pre-invasive stage of the disease; Reducing the mortality and morbidity associated with cervical cancer and reducing the excessive expenditure of scarce health funds spend on invasive cancer of the cervix.

2.2.2.2 Aspects of the National guidelines for cervical cancer screening programme (2013)

All aspects tabulated in the National Cervical Cancer Screening Guideline (2013) are expected to be followed by all health facilities in the Republic of South Africa to meet the objectives as aimed by the Government of South Africa. The following aspects are indicated in the said guideline:

The target population for screening – women of 30 years and above.

The health service target – primary level health-care facilities with adequate infection control and quality assurance measures.

Management

The primary prevention of cervical cancer - emphasises the provision of supportive efforts to increase public knowledge and the ability of individuals to make healthy lifestyle choices as well as creating environments that assist individuals in making healthy choices by giving information.

- **The secondary prevention of cervical cancer** - more concerned with the screening of clients, screening intervals of women.
- **Referral criteria and follow-up** - for clients who did cervical cancer screening.

In the study, as supported by the National Guidelines for Cervical Cancer Screening Programme (2013:5), the referral criteria and follow-up, refers to both horizontal and vertical referral of a woman who needs cervical cancer screening. The health worker either a nurse or home-based carer in the community or health care facility who meets such a woman or identifies any women with an abnormality should refer the woman to a facility where further management will be provided. Women with abnormal cervical cancer screening results in clinics should be referred to hospital without any delay and feedback be provided to the clinic which has referred such a women for continuity of care. It is expected by the National Guideline for Cervical Cancer Screening (2013:5) that a woman with a normal smear should be informed of the next date, according to the proposed program.

The quality assurance and infection control – for ensuring quality and preventive measures during screening process.

2.2.3 Theoretical framework

Various nursing theories in relation to caring were applied in the study. Theory-based practice is said to be serving a purpose in providing definitions for nursing practice and nursing process which provides thinking and doing approach to the provision of nursing care (Regina, Kátia, Diná de Almeida 2013:4). The researcher therefore saw the relevance of including the theories in the study, to enhance the importance and awareness of cervical cancer screening.

2.2.3.1 Charlotte Paul and Joan S Reeves's nursing process theory

Charlotte Paul and Joan S Reeves's nursing process theory has been revised to include six phases of care in 1998 rather than the five phases of care which were developed in 1991.The current nursing process was said to include the six phases as follows:

- Assessment – the systematic and orderly collection and analysis of data about the past and present health status of the client for the purpose of making the nursing diagnosis. In the context of the study, assessment involves professional nurses who encourages all women for cervical cancer screening, whereby during screening, the professional nurses are expected to assess the health status of women and conduct Pap smears for early diagnosis of cervical cancer.
- Diagnosis – this include the nursing diagnosis made based on the history and physical examination and treatment of human responses to actual or potential health problems. In the context of the study, according to the National Cervical Cancer Screening Policy guideline (2013), diagnosis focuses on conduction of Pap smears to women below age 30years and above but suspected or already having some signs and symptoms of cervical cancer. Diagnosis also means cervical cancer screening for the purpose of early identification and management of cervical cancer.
- Outcome identification – the nurse and the client set realistic and measurable expected outcomes. In the context of the study, Professional nurse must be able to explain to the women about normal, abnormal results and the implication of results on the day Pap smears are conducted and a specified return date for Pap smear results be given to women.
- Planning – the determination of what can be done to assist the client and reflects nursing actions. Professional nurse must plan for the woman after the conduction of cervical cancer screening. i.e. provide a specific date to come for the results. Based on the results, a specific date for re-screening and follow up for colposcopy clinic should be provided to the woman. According to the National Cervical Cancer Screening Policy guideline the follow up schedule should be adhered to.
- Implementation – activities carried consistently by the nurse according to the plan .i.e. the nurse puts the plan into action. In the context of the study, a professional nurse must ensure that health education is conducted to encourage all women for cervical cancer screening. Professional nurses must explain Pap smear results to women who screened for cervical cancer, encourage and refer women with abnormal Pap smear results to colposcopy clinic and ensure that they adhere to the clinic dates.
- Evaluation – the appraisal of the client's behavioural changes that are a result of the actions of the nurse. In the context of the study, professional nurses are

expected to evaluate the uptake of cervical cancer screening and progress of women who are undergoing colposcopy clinic and re-plan based on the Pap smear results. Professional nurses are expected to put more efforts and strategies to improve the uptake of cervical cancer screening based on the results.

The researcher agrees with this theory, reason being that, during assessment, nurses should obtain history, examine the cervix of women, and conduct cervical cancer screening. Based on the findings of the assessment (history taking and physical examination), following diagnosis, the Professional nurse should plan the care necessary for the woman. With regard to cervical cancer, the planning is mutually formulated with the client when an agreement is made on when to come for the results, of which according to the National Cervical Cancer Screening Policy (2013), the interval is from 1 to 4 weeks.

The implementation phase occurs when the Professional nurse receives the results and continues with the plan by devising means of contacting the woman especially if the results are either low grade squamous intraepithelial lesion or High grade squamous intraepithelial lesion and there is a need for repeating the Pap smear. Abnormal results are further explained to the client and the possible interventions are colposcopy, chemotherapy and radiation.

The evaluation happens when the results are reviewed for adequacy for peer group in-services on how to obtain quality smears from a woman and assessing if the uptake of cervical cancer screening is improving and some other means of encouraging clients for cervical cancer screening are instituted.

The researcher agrees with this theory as it emphasises what is expected with regard to health care and applicable for cervical cancer where the same phases can be used for the care of all women especially between the ages of 30 and 70 years as they form the criteria of the research study.

2.2.3.2 Nightingale's theory and the four major concepts

Nightingale's theory and the four major concepts as a holistic being indicates that, "nursing functions to influence the human environment to affect health. The individual is affected by the environment and by the nurse who influences her health. Society or

environment has an impact on the nurse and on the health of the individual. Health is a process affected by nursing and by environmental and human conditions" (George 2011:54). In the context of this study professional nurses are the ones who should influence the human environment by providing health education in the community about cervical cancer screening.

Nightingale's four major concepts as stated by George, (2011:54) are as follows:

- **Human or individual** – is considered to have more powers to deal with disease .i.e. by seeking information and help by consulting health facilities at an early stage for cervical cancer screening and follow-up for results. In the context of the study, humans or individuals are women whom the study expects to utilise clinics to obtain information about cervical cancer screening. It is expected that if women are well informed about cervical cancer screening, they are expected to be encouraged to screen for cervical cancer for early diagnosis of cervical cancer. It is expected in the study that, if women are well informed about cervical cancer screening and undergo screening, they will follow their results up at the clinic as expected by the National Cervical Cancer Screening Policy.
- **Nursing** – aims at providing good health for all people and ensuring a safe environment for them. In the context of the study, nursing is aimed at providing good health to women through application of the National Cervical Cancer Screening Policy Guideline (2013). Professional nurses are expected to provide primary prevention health talks about stopping smoking, sexually transmitted diseases and HPV, decreasing parity and postponement of sexual activities to older age as they are risks to cervical cancer. Provision of cervical cancer screening services in clinics will render the clinics a safe environment for women at all times. Women are expected to be encouraged to go to clinics for cervical cancer screening services and information as the clinic is regarded as a safe environment.
- **Health or disease** –the main aim is said to be well. In the context of the study, the aim is to screen women for cervical cancer for early diagnosis and provision of treatment for cervical cancer for the wellbeing of women. Professional nurses should encourage women to screen for cervical cancer to increase the uptake of cervical cancer screening in order to manage those diagnosed with cervical cancer to reduce cancer related deaths.

- **Society or environment** – the focus is said to be that of a safe environment. Preventive information with regard to cervical cancer should be provided professional nurses to the society as a whole. Preventive information with regard to cervical cancer should be provided by professional nurses to the society as a whole. In the context of the study, the safe environment is the clinic where women able to obtain cervical cancer screening services. All clinics including mobile services are expected to render cervical cancer screening services at all times, follow up of clients who do not come for results and manage clients with abnormal Pap smear results according to the National Cervical Cancer Screening Policy (2013).

  Nightingale's theory was applied in the study, to sensitise and emphasise the need to provide total care to all women regarding cervical cancer screening services. Application of this theory in the study with regard to cervical cancer screening services will sensitise professional nurses to render quality cervical cancer screening cervices to all at all times.

2.2.3.3 Virginia Henderson's theory and the four major concepts

Virginia Henderson's theory and the four major concepts are applied in the study. Henderson' s nursing theory is not only concerned with cure of the sick and healing of the wounded, but to bring health and ease, rest and comfort to mind and body, to shelter, nourish and protect and to minister to all those who are helpless or handicapped, young and aged or immature. Henderson's main objective focuses on the prevention of disease and preservation of health. The researcher concurs with the theory because, for women to be healthy, preventive measures through cervical cancer screening and health education are recommended (George 2011:90). Individual essential activities are said to be important to maintain health, to recover or to achieve peaceful death and therefore 14 components were found necessary to achieve the four major concepts (George 2011:90). Henderson's four major concepts include the following:

I**ndividual**

- Have basic needs that are components of health.
- Requiring assistance to achieve health and independence or a peaceful death.

- Mind and body are inseparable and interrelated.
- Consider the biological, psychological, sociological and spiritual components.
- The theory presents the patient as a sum of parts with bio-psychosocial needs.

In the context of the study, an individual is a woman whom we expect to be well-informed about preventive measures and risk factors of cervical cancer. Having basic needs includes a healthy life style that will reduce risks of cervical cancer. All women need to be encouraged for cervical cancer screening. Health and independence with regard to follow up of results and attendance of Colposcopy clinics according to given dates without any default is encouraged. Women diagnosed with invasive stage of cervical cancer should be cared for and supported to die peacefully, considering the biological, psychological, sociological and spiritual components. In the study, a patient refers to a woman who is a sum of parts with bio-psychosocial needs and her mind and body remains interrelated and inseparable. Women should therefore be informed with regard to cervical cancer screening to obtain all the components as stated by Henderson's theory.

Environment

- Setting in which an individual learns unique patterns for living.
- Consists of all external conditions and influences that affect life and development.
- Consists of individuals in relation to families.
- Basic nursing care involves providing conditions under which the patient can perform the 14 activities unaided.

In the context of the study, environment is referring to a clinic which provides cervical cancer screening services. A clinic in which intensified health education with regard to preventive measures and risk factors of cervical cancer are provided. A woman as belonging to a family, it is necessary to provide health education with regard to cervical cancer screening to all people as family members who visit the clinic. Media should also be utilised to inform all people about cervical cancer in order to encourage women in their families to visit clinics for cervical cancer screening services for a healthy living style to perform all 14 activities unaided.

Health

- Health is defined based on individuals' ability to function independently as outlined in the 14 components.
- Nurses need to stress promotion of health and prevention and cure of disease.
- Good health is a challenge affected by age, cultural background, physical and intellectual capacities and emotional balance is the individual's ability to meet this needs independently.

In the context of the study, health is based on the woman's state of being well informed with regard to cervical cancer screening and independently being able to go to the clinic for cervical cancer screening, results and treatment. Professional nurses are responsible for stressing the need for promotion of health, prevention and management of cervical cancer. Women need to take responsibility of their health by ensuring that, they independently attend cervical cancer screening services and fulfill the colposcopy schedule for management of cervical cancer, irrespective of their cultural background.

Nursing

- Nursing is defined as a temporary assistance of an individual who lacks the necessary strength, will and knowledge to satisfy one or more of the 14 components.
- Assists and supports the individual in life activities and the attainment of independence.
- A nurse serves to make patient a complete "whole" or "independent".
- The nurse carries out the physician's therapeutic plan.
- A nurse is expected to have knowledge to practice individualised and human care and also to be a scientific problem solver.
- In the Nature of Nursing, the Nurse' role is "to get inside the patient's skin and supplement his strength will or knowledge according to his needs" (Virginia Henderson's Nursing Theory 2012:2).

In the context of the study, nursing is explained as the professional nurses' responsibility to give all women including their families information about cervical cancer screening.

Women are encouraged to visit the clinic for cervical cancer screening, results and follow up for colposcopy clinics to improve their health. Professional nurses are responsible for independence and wellbeing of all women regarding cervical cancer screening. Professional nurses must give women their schedule of cervical cancer screening according to the National Cervical Cancer Screening policy of which professional nurses are expected to be knowledgeable with cervical cancer screening to be able to teach other women.

The researcher adopted this model because it corresponded exactly with the focus of the study as the researcher aimed to enhance awareness to the professional nurses, women and the society as a whole about cervical cancer screening. Although Henderson's nursing theory has been applied in the study, all this nursing theories are regarded as important as they emphasised the need to care for all individuals by all nurses for attaining a healthy life as opposed to the increased death rate.

The high mortality rate of cervical cancer as outlined by most researches in the study, emphasises the high level of care which is expected from all nurses to prevent, diagnose early and manage cervical cancer related conditions and prevent deaths. The researcher therefore outlined the different theories to intensify different meanings for the achievement of the same objectives for the care of individuals.

2.3 WHAT IS CERVICAL CANCER?

Cervical cancer is described as the state of overgrowth of tissue resulting from disorganised cell division. The normal mechanism limit tissue cell reproduction so that the number of cells produced is relative to the number of cells that die and organs of female reproductive system are said to be susceptible to benign or malignant overgrowth of tissues where cancer of the cervix is most prevalent among women **(**Stellenberg & Bruce 2007:232).

Cancer of the cervix is a disease that is preceeded by several earlier cervical changes especially at the squamocolumnar junction of the cervix (Walsh & Crumbie 2007:812).

2.3.1 Pathophysiology of cervical cancer

According to Walsh and Crumbie (2007:812), some cancers develop with no known precursor stage while others go through all the changes or any combination of them. The earlier changes are said to be reversible whereas 50% of women with carcinoma in situ develop invasive cancer in an average of 10 years.

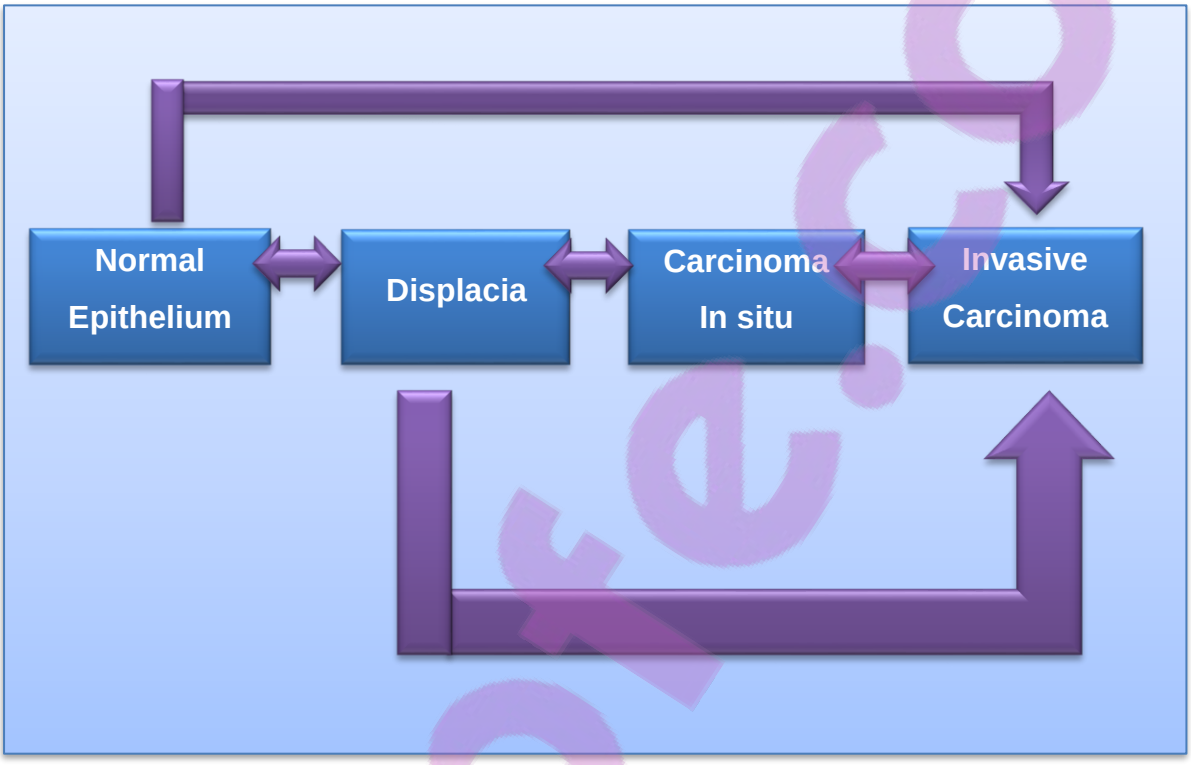


Figure 2.2 Patterns of cervical cancer development

2.3.2 Cervical cancer pathological report and staging

The pathology of cervical cancer is described in terms of the cervical intraepithelial neoplasm (CIN). Cervical intraepithelial neoplasm (CIN) is described as the growth of an abnormal cell in the lining of the cervix, which is detectable through Pap smear and other cervical examinations, not cancerous but has the potential to progress to cancer if left untreated depending on the degree of severity. There are three stages or grades of CIN lesions.ie. CIN I, CIN II and CIN III. CIN I lesions can be removed or closely monitored while CIN II and CIN III lesions are surgically removed (Cancer Quest or Cervical Cancer: Pathology Report and Staging 2016:1). The microscopic pathology is presented structurally as follows:

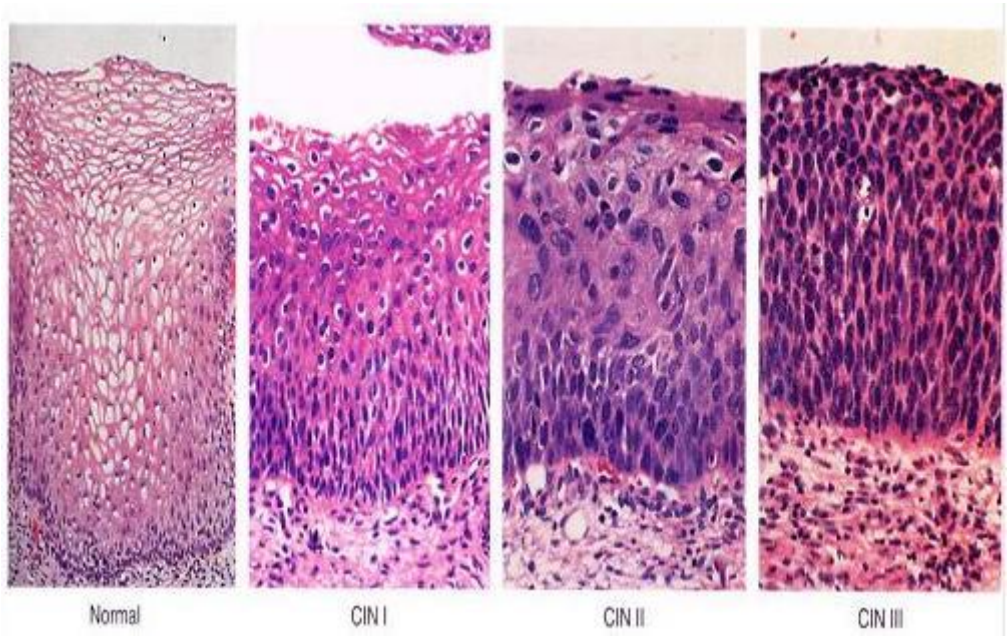


Figure 2.3 Microscopic structural presentation of cervical cancer pathology and staging

(Cancer Quest/Cervical Cancer: Pathology Report and Staging 2016:1).

2.3.3 The aetiology of cervical cancer

According to Maree, Lu and Wright (2012:104b), cervical cancer is the second most common global cancer amongst women whereby approximately 510 000 women were newly diagnosed and 288 000 died from cervical cancer as estimated by the World Health Organization in 2010. An estimation was also made earlier by Goldhaber-Fiebert et al (2009:70) that 78879 women living in Africa would be diagnosed with cervical cancer annually while 61671 would be dying contributing to high incidence of mortality ratio than in developed world thus emphasising the evidence presented by Maree et al (2012:104b).

Cervical cancer is further considered to be the major public health problem throughout the world and being the world's second biggest killer after cardiovascular disease, however one of the most preventable non-communicable chronic diseases (Olowekere & Ojo 2014:146). Cervical cancer continue to be a major concern in countries to an extent that studies continue to be conducted with the aim of resolving the problem but instead women continue to die. The greatest burden of cervical cancer, as stated by Ndejjo, Mukama, Musabyimana and Musoke (2016:1), is in developing countries as the most female malignancy and constituting one quarter of all female cancers. The mortality rate which is cervical cancer related in developing countries continue to increase due to the

fact that women present late to health facilities in an advanced stage of cancer despite the fact that it is preventable through early screening, treatment of precancerous and early cancerous lesions and vaccination against Human Papilloma Virus (HPV) (Olowekere & Ojo 2014:146).

A study by McFarland (2009:426) in Botswana identified some related factors to the causes of cervical cancer as the vaginally inserted chemical substances and traditional medicine leading to high incidence of cervical cancer in Botswana. It was reported in this study that women used these substances for sexual and hygienic purposes even though this has not yet being medically acknowledged but verbal reports suggested that the use of this substances is risky.

Various factors are found to be related to the cause of cervical cancer as Lewis et al (2007:1400) stipulated that the progression from normal cervical cells to dysplasia and then to invasive cervical cancer appears to be related to repeated injuries to the cervix and concluded that there is a strong relationship between sexual exposure of HPV and dysplasia. Lewis et al (2007), recommends intensified health education in the primary health about postponement or delay of early sexual intercourse and abstinence with the aim of reduction of cervical cancer.

Some studies continued to investigate other causes of cervical cancer as major causes of death among women globally as indicated by other researchers. Stellenberg and Bruce (2007:233) identified the risk factors and possible causes of cervical cancer as follows:

- Early intercourse (before 17 years of age)
- Multiple sexual partners
- Early pregnancy
- Living in an urban environment
- Low socio-economic status
- Smoking
- Immunosuppression
- Use of oral contraception
- Previous abnormal smear
- Failure to participate in screening

- Nutritional deficits i.e. Vitamin A, C and folic acid
- High risk male partner
- In utero diethylstilboestrol exposure

Monahan, Sands, Neigbors, Marek and Green (2007:1697) highlighted more risk factors as:

- History of Sexually Transmitted Diseases
- Prostitution
- Multiparity, especially for African-Americans, Hispanic-Americans and Native Americans

Potential risk factors

- Heavy use of talc
- Use of contraceptives
- Diabetes
- Nulliparity
- Frequent douching

Possible causes

- Human papilloma virus
- Herpes simplex virus
- Sperm from high-risk tissue-type male
- Smoking
- In utero exposure to diethylstilbestrol and
- Immune deficiency

Further emphasis is made by Louie, De Sanjose, Diaz, Castellsague, Herrero, Meijer, Shah, Franceschi, Munoz and Bosh (2009:1195) by concurring with the above authors on sexuality when stating that: “in several studies among monogamous women, the risk of cervical cancer was reported to be two to eight times for women with husbands who

had multiple partners, but promiscuity, history of other STIs and lack of male circumcision are factors that have been associated with the male role in cervical carcinogenesis".

The study conducted by Wright, Aiyedehin, Aknyinka and Ilozumba (2014a:4) revealed that both primary and secondary education plays a role in fostering a lifestyle that reduces the risk of invasive cervical cancer. Wright et al (2014a:4) further indicates that, the data obtained in the study suggested that important elements of such a life style included later age at first sexual intercourse, a limited number of pregnancies, greater likelihood of undergoing cytological screening and reduced exposure to carcinogens in the household environment. The findings of the study conducted by Louie et al (2009:1191), concurred with the latter studies that early age at first sexual intercourse and early pregnancy are risk factors for cervical cancer.

2.3.4 Clinical manifestations

According to Lewis et al (2007:1400), precancerous changes are said to be asymptomatic and mostly affect women in their early ages of 30 years and the invasive cervical cancer mostly affecting women around age 50 years. The fact that early cervical cancer remains asymptomatic, it shows the importance of cervical cancer screening. Stellenberg and Bruce (2007:233) agree with Lewis et al (2007) on the signs and symptoms and further indicates that a clear vaginal discharge may occur in the early stages and later the discharge may be blood stained or have a bad odour. Vaginal bleeding is said to be irregular, associated with prolonged menstruation occurring between periods, after sexual intercourse or be postmenopausal and pain experienced when metastasis is present.

Cervical cancer progresses to an advanced stage and the signs and symptoms progresses as follows, as stated by Stellenberg and Bruce (2007:233):

- Extensive oedema within the pelvis due to venous or lymphatic obstruction
- Blocked ureters may result in renal failure
- Fistula formation between the vagina and the urinary bladder leading to incontinence due to the spread of growth
- Massive haemorrhage may occur
- Death related to kidney failure or intestinal complications may also occur

Monahan et al (2007:1699) indicated the late symptoms as follows:

- Dark, foul smelling vaginal discharge
- Flank pain
- Weight loss
- Anorexia
- Anaemia
- Leg oedema
- Dysuria
- Rectal bleeding

2.3.5 Staging and diagnosis of cervical cancer

2.3.5.1 What is staging?

Staging is the determination of how far has cancer spread into the body through the use of specialised tests/systems which are important for doctors to decide on the relevant treatment (Cervical Cancer Stages and Cancer Research UK 2014:1). Staging of cancer disease is done if a lesion is determined to be cancerous based on the guidelines produced by the Federation Internationale de Gynecologie et d' Obstetrique (FIGO) (Cancer Quest/Cervical Cancer: Pathology Report and Staging 2016:1).

Stage 0 – Carcinoma in situ (CIS)

According to the cancer research, Cervical Cancer Stages and Cancer Research UK (2014:1) carcinoma in situ means that some of the cells of the cervix have cancerous changes. It is further indicated that the abnormal cells are all contained within the surface layer of the cervix. Furthermore, carcinoma in situ is not cancer but in some women the changes might develop into cancer after some years. Carcinoma in situ can be identified during cervical cancer screening and therefore important to treat it as soon as possible.

Stage I

Refers to invasive cancer as described by Walsh and Crumbie (2007:826).

In this stage, the basement membrane has been breached and the cells are invading the surrounding tissue.

Stages IA and IB

Refer to degrees of this invasion which is still within the confines of the cervix. It indicates that 20% of stage I will already have spread to the lymphatic and a small lesion similar to erosion may be present on the cervix. The cancer research UK states that in stage IB the cancerous areas are larger, but the cancer is still only in the tissues of the cervix and has not spread and can be seen without a microscope.

Stage 2

In this stage, the carcinoma has spread to close adjacent structures and the upper-third of the vagina may be involved.

Stage 3

In stage 3, the invasion has reached the pelvic walls and lower vagina.

Stage 4

In stage 4 invasion of cancer has extensively involved the pelvis, bladder or bowel and distant metastasis may be present.

Table 2.1 Management of cervical cancer

Stage	Extent	Treatment
Stage 0	In situ	Cervical conisation, hysterectomy, cryo-surgery, laser surgery
Stage 1	Confinement to cervix	Radiation, radical hysterectomy
Stage II	Extension beyond cervix but not to pelvic wall, or the lower third of the vagina	Radiation, cisplatin-based chemotherapy, radical hysterectomy.
Stage III	Extension to pelvic wall, no cancer free space between tumour and pelvic wall on rectal examination, involvement of lower third of vagina, hydronephrosis or lower non-functioning kidney	Radiation, cisplatin-based chemotherapy

(Lewis et al 2007:1401)

2.3.5.2 Appropriate referral systems of cervical cancer patients

Appropriate referral system includes both horizontal and vertical referral of women who need or have done cervical cancer screening. According to the National Guideline for Cervical Cancer Screening (2013) the following procedure should be followed for proper management of women who did cervical cancer screening:

- Clients to be informed when to come for the results i.e. 3-4 weeks.
- Clients with a normal smear should be informed of next smear date, according to the proposed program.
- Clients with atypical smears:
  - Low grade squamous intraepithelial lesion (SIL) and atypical squamous cells (ASCUS): repeat the smear in 12 months' time or as indicated in the results' recommendations. If the diagnosis remains the same or worsens, the patient is to be referred to a colposcopy clinic. If negative on the second smear, the client will fall into the normal screening cycle.

- High grade SIL and/or atypical endocervical (glandular) cells (AGUS): refer to a colposcopy clinic. If negative on colposcopy and cytology, the client can be discharged and to be treated if positive.
- Any patient with a macroscopically suspicious lesion, whatever the cytological result may be, should be referred for colposcopy.

2.3.5.3 Follow-up criteria

The National Guideline for Cervical Cancer Screening (2013) further indicates that:

- Every attempt possible should be made to find those patients with positive results who do not return voluntarily and that the responsibility rests with the provider of the institution of the cervical screening service.
- Patients who do not keep their appointments at colposcopy clinics to be traced by the original screening institution.

The referral criteria in the policy guideline appears to be clear and practical especially in resourceful facilities for proper management of women who decided to undergo cervical cancer screening and expected high quality service standards with regard to their results.

The health worker in the community health facility who meets such a woman or identifies any women with an abnormality or does not have adequate knowledge about the woman's problem, it is important that the woman is referred to a facility where help will be provided rather than being turned back home**.** Women with abnormal cervical cancer screening results in clinics should be referred to hospital without any delay and feedback be provided to the clinic which has referred such a women for continuity of care.

2.3.5.4 The cervical cancer preventive promotive principle and primary health care

Cancer prevention is defined by McIlfactrick, Keeney, McKenna, McCarley and McIlwee (2014:289) as an action taken to decrease the chance of getting cancer. Cancer prevention includes avoiding risk factors such as smoking, obesity, lack of exercise, and radiation exposure and increasing protective factors such as getting regular physical activity, maintaining a healthy weight, and eating a healthy diet. According to Dreyer,

Hatting and Lock (2007:135), emphasis should focus on promoting good health and preventing ill health to meet the health needs of the society.

According to the National Guideline for Cervical Cancer Screening Programme (2013:3) and Ibrahim (2013:07), the following were highlighted as efforts to increase public knowledge and the ability of individuals to make healthy life style choices as well as creating environments that assist individuals in making healthy choices:

- Stopping smoking or preferably never start smoking. It is indicated that women who smoke are more susceptible to cervical cancer than women who do not smoke. It was indicated that, although cervical cancer is caused primarily by HPV, cigarette smoking is considered a cofactor. The reason behind that was stated that certain types of HPV and cancer-causing chemicals related to smoking may work together to increase the likelihood of developing cancer. This was said to have been confirmed by researchers for the following reasons:

- Smoking might prevent the body's immune system from effectively fighting HPV.
- Carcinogens from smoking increase the effect of HPV infection in cervical cells.
- Carcinogens from smoking may move the cancer-growing genetic code more quickly from the virus to cervical cells, especially with the strains of HPV that pose the greatest risk of causing cancer ISRN Obstetrics and Gynecology (Fonseca-Moutinho 2011:1-6).
- Use of barrier methods during sexual intercourse to prevent the spread of the human papillomavirus and other Sexually Transmitted Diseases.
- Postponement of sexual activity to older age. It is indicated that indulgent of one to sexual activity at an early stage which result in damage/injury to the cervix, put one at risk of cervical cancer.

The biological immaturity during adolescence is regarded as an additional risk factor for cervical cancer. It is indicated that during adolescence and pregnancy, the cervix is exposed to augmented levels of hormonal changes in which oestrogen stimulation facilitates acidification of the vaginal cavity, a determinant of squamous metaplasia when the endocervical epithelial everts. It is further indicated that, when this oestrogen-stimulated metaplastic transformation occurs in the presence of HPV, the probability of

cell transformation increases, resulting in neoplastic changes which is influenced by trauma of the cervix (Louie et al 2009:1191).

Effectively managing Sexually Transmitted Diseases. It is advisable for women to consult health facilities early when having Sexually Transmitted Diseases for early diagnosis and treatment to avoid/prevent complications.

Decreasing parity. It is indicated that the more a women have children the more she is at risk of contravening cervical cancer as the cervix is exposed to injuries during delivery.

According to the United Nations (USAID) the following were also identified as risk factors for cervical cancer:

Having multiple sexual partners. The reason behind this is said to be that, having sex with lots of different partners increase chances of coming into contact with a person who is carrying the HPV virus, i.e. the probability of encountering an infected partner increases as the number of partners one have increases (Multiple sex partners = greater risk of cervical cancer? [S.a.].). Having multiple sex partners is also a risk with regard to STIs and HIV.

An unhealthy diet low on fruits and vegetables. According to de Haan et al (2007:210), “Food of the correct quantity and quality is essential for health and indeed for life itself. A satisfactory diet must be maintained for intellectual as well as for physical health. A balanced diet will also increase resistance to infection and reduce the incidence of diseases in children and adults.” It is further indicated by de Haan et al (2007:12) that fruits and vegetables supply the body with carbohydrates in the form of starch, sugar, mineral salts and vitamins especially vitamin C. They are regarded as the body’s most important source of heat and energy as they are easily oxidised, readily available and not expensive as proteins and can be stored for longer periods.

Using oral contraceptives at an early age. All cervical cancers are said to be caused by persistent infection with high risk types of HPV and the association of cervical cancer with oral contraceptive use is said to be indirect. It is indicated that the hormones in oral contraceptives may change the susceptibility of cervical cells to HPV infection, affect their ability to clear the infection, or make it easier for HPV infection to cause changes that

progress to cervical cancer. It was therefore revealed by several researchers that, prolonged use of oral contraceptives increases the risks of developing cervical cancer (National Cancer Institute 2012:2).

Ibrahim (2013:07) and the National Policy Guideline on Cervical Cancer Screening Programme (2013:3), further indicate that the use of barrier methods is associated with a reduced risk of cervical cancer. Male circumcision is associated with a reduced risk of penile HPV infection and reduced risk of cervical cancer among female partners. Vaginal spermicidal are effective in preventing cervical cancer, which may be due antiviral action. It is further indicated that, early diagnosis and treatment of precancerous lesions by Pap smears, visual inspection of the cervix with acetic acid, vaccination of girls and women before engaging in sexual intercourse that is before exposure to HPV that an increased health awareness about the risks of cervical cancer and the benefits of screening programme is important in the prevention of the disease.

Several factors were identified as the risks for the development of cervical cancer to most women, as stated by McIlfactrick et al (2013:289) that cancer remains a major cause of death worldwide and will result in 12million deaths by 2030. Further healthier life style factors were also identified by McIlfactrick et al (2013:289) as a way of reducing risks as follows:

Not smoking, avoiding obesity, undertaking some risks, physical activity every day, increasing your daily intake and variety of vegetables and fruits: eat at least five servings daily, moderate consumption of alcohol: to two drinks per day if you are a man and one drink a day if you are a woman, care must be taken to avoid excessive sun exposure, apply strictly regulations aimed at preventing any exposure to known cancer causing substances, public health program, cervical screening-women from 25 years of age, breast screening-women from 50 years of age and vaccination programme against hepatitis B virus infection.

It is further indicated by Dreyer et al (2007:135) that, this principle of good health and prevention of ill health should be applied at all levels of care during planning i.e. primary, secondary, tertiary level with the inclusion of curative and rehabilitative health care in the full integrated coordinated comprehensive health care program. The researcher is of the view that cervical cancer screening and cancer management (women's reproductive

health program) is also included in the integrated coordinated comprehensive health care programme as indicated by Primary Health Care Package for South Africa (2000:15, 16). Dreyer et al (2007:135) recommends that health planning should be as follows:

2.3.5.5 Self-help approaches

Through the health promotive information and health education on cervical cancer and screening provided to the public, individually, family and community, people and women will be inspired to screen for cervical cancer and encourage those without information Sunitha and Shenuka (2012:3).

2.3.5.5.1 A partnership relationship between government and the private sector

With regard to cervical cancer screening, the partnership will be between the clinics and home-based carers in tracing and encouraging women to come to the clinic for cervical cancer screening and cervical cancer results. Women with abnormal results and lost to follow-up will also be traced through home-based carers as expected by the Primary health Care Package for South Africa as stated by Sunitha and Shenuka (2012:3).

2.3.5.6 Appropriate referral systems of cervical cancer clients

Through proper referral system, women with abnormal results with follow-up dates from tertiary institutions would also be traced accordingly and brought to the clinic for their return dates (National Cervical Cancer Screening Policy Guideline 2013:5).

2.3.5.7 Adequate support systems

Adequate support system from the management side with regard to human and material resources is very crucial with regard to cervical cancer screening. Adequate support system has a great influence on quality assurance and infection control practices as set out in the norms and standards for health clinics Sunitha and Shenuka (2012:4). “The clinic receives a supportive monitoring visit at least once a month to support personnel, monitor the quality of service and identify needs and priorities”.

2.3.5.8 Education and developmental programmes for all the major role players at operational level

In cervical cancer screening, quality education through workshops and training is very important, to provide relevant, adequate information and interpretation of results to reach at least more than 70% of the adequacy rate and 100% of the infection control measures (National Guide for Cervical Cancer Screening Programme 2013:6). The competence of staff and management is supported by the core norms and standards for health clinics by stating that "Clinic managers receive training in facilitation skills and primary health care management", which will ensure the reduction of the gap between needs and service provision using a situational analysis of the community's health needs (Anita and Peter 2014:307).

Dreyer et al (2007:135) agrees with De Haan et al (2007:23) that, the preventive and promotive care are operating in three levels as follows:

2.3.5.9 Primary prevention

This is further explained by De Haan et al (2007:23) as a point whereby the person is not sick and does not present with the signs and symptoms of cervical cancer. In this level of disease prevention consist of health promotion and specific protection.

2.3.5.9.1 Health promotion

Health promotion is defined as the process of enabling people to increase control over, and to improve their health. To reach a state of complete physical, mental and social wellbeing, an individual or group must be able to identify and realise aspirations, to satisfy needs and to change or cope with the environment (Saulat 2012:1). According to de Haan et al (2007:23), intensified and effective health education to achieve the departmental aims and objectives e.g. "ensuring adequate nutrition …" is done to promote health in individuals and communities and ensure that legislation, policies and services are available and appropriate to attain and maintain optimal health for all people. This is further stressed by de Haan et al (2007:61) that, primary prevention has a great importance and involves vigorous and effective health education aimed at promoting positive health and healthy living habits. Healthy living habits must be instilled from

childhood and smoking be discouraged as a way of cancer prevention and promotion of a healthy life style to reduce the risks of cervical cancer.

2.3.5.9.2 Diet

Diet is said to be playing a bigger role in the primary prevention of cancer. A healthy diet containing natural foods, relatively high amounts of carbohydrate, particularly unrefined cereals such as maize, whole wheat, fruits and vegetables. The intake of meat and saturated fats and processed foods should be discouraged with modification of their preparation and storage (De Haan et al 2007:61).

2.3.5.9.3 Specific protection

The provision of immunisations, prophylactic use of drugs to prevent diseases such as malaria and condoms in safe sexual practices etc., are said to be aimed at specific protection. Treatment of pre-cancerous cervical and polyps lesions and avoidance of ultraviolet rays and X-rays is indicated as specific prevention methods (De Haan et al 2007:61).

High reference to cervical cancer screening policy, the primary prevention should include increasing public knowledge with regard to the following:

Women should:

- Stop smoking or preferably never start smoking. There is evidence that women who smoke are more susceptible to cervical cancer than who do not smoke cigarette.
- Use barrier methods during intercourse to prevent the spread of the human papillomavirus and other Sexually Transmitted Diseases.
- Postpone sexual activity to older age.
- Effective management of Sexually Transmitted Diseases.
- Decrease parity.
- Information be given about recognising early warning signs of cervical cancer.

2.3.5.10 Secondary prevention

This involves the early diagnosis and curative aspect of care. This stage is explained as, the state when the person is already suffering from a disease and measures are taken in a short space of time to prevent the spread of the disease. The success of this level of prevention depends on early diagnosis and appropriate treatment. Health education to the community about recognising early signs and pre-cancerous lesions and getting medical advice as soon as the signs occur should be emphasised (De Haan et al 2007:61).

Secondary prevention implies that, women will be undergoing treatment like radiation, chemotherapy and uterine hysterectomy depending on the stage of cervical cancer. It is therefore expected in the study, from professional nurses in the clinics to continue to emphasise the signs and symptoms of cervical cancer, different stages and the complications thereof.

2.3.5.11 Tertiary prevention

This level of care is described by (De Haan et al 2007:24), as dealing about the limitation of disability, following the disease and rehabilitation of the individual suffering the disease and the individual is hospitalised while McIlfactrick et al (2014:289) explain it as focusing on helping people manage long-term health problems.

2.3.5.11.1 Limitation of disability

Stopping the progression of cervical cancer through radiation and hysterectomy, and the prevention of complications are explained as major concerns at this level of prevention. The crucial aspects of immediate diagnosis, effective treatment and early recognition of cervical cancer complications are regarded as important to prevent death.

2.3.5.11.2 Rehabilitation

This level of prevention prepares the individual to return to his/her own community and fully utilise his/her remaining capacities to prevent further complications and services such as physiotherapy, occupational therapy, vocational guidance, sheltered employment

and social services such as grants should be made. With regard to cervical cancer, this stage will be stage 3, whereby the woman will be regarded terminally ill as prognosis at this stage is poor.

2.3.6 Collaborative intervention for cervical cancer screening

The researcher adopted the health promotion theory and practice model in the intervention for cervical cancer prevention and disease management in a complementary manner to improve the uptake of cervical cancer and reduce the cancer related mortality rate. The model is Bettie's model of health promotion which is divided into four quadrants with components placed on a two dimensional spectrum. The first dimension is the Authoritative characterised by top-down from health workers including professional nurses to individuals and community. i.e. expert led approach, at the other end is negotiated .i.e. bottom up where individual autonomy is considered on their views and decision with regard to cervical cancer screening. The other dimension relates to intervention individually or collectively by the health professionals e.g. applying the referral principles in managing clients, health education (health persuasion), using the four strategies, health persuasion, legislative action, personal counselling and community development with all the available resources for cervical cancer screening involving the community while McIlfactrick et al (2014:290).

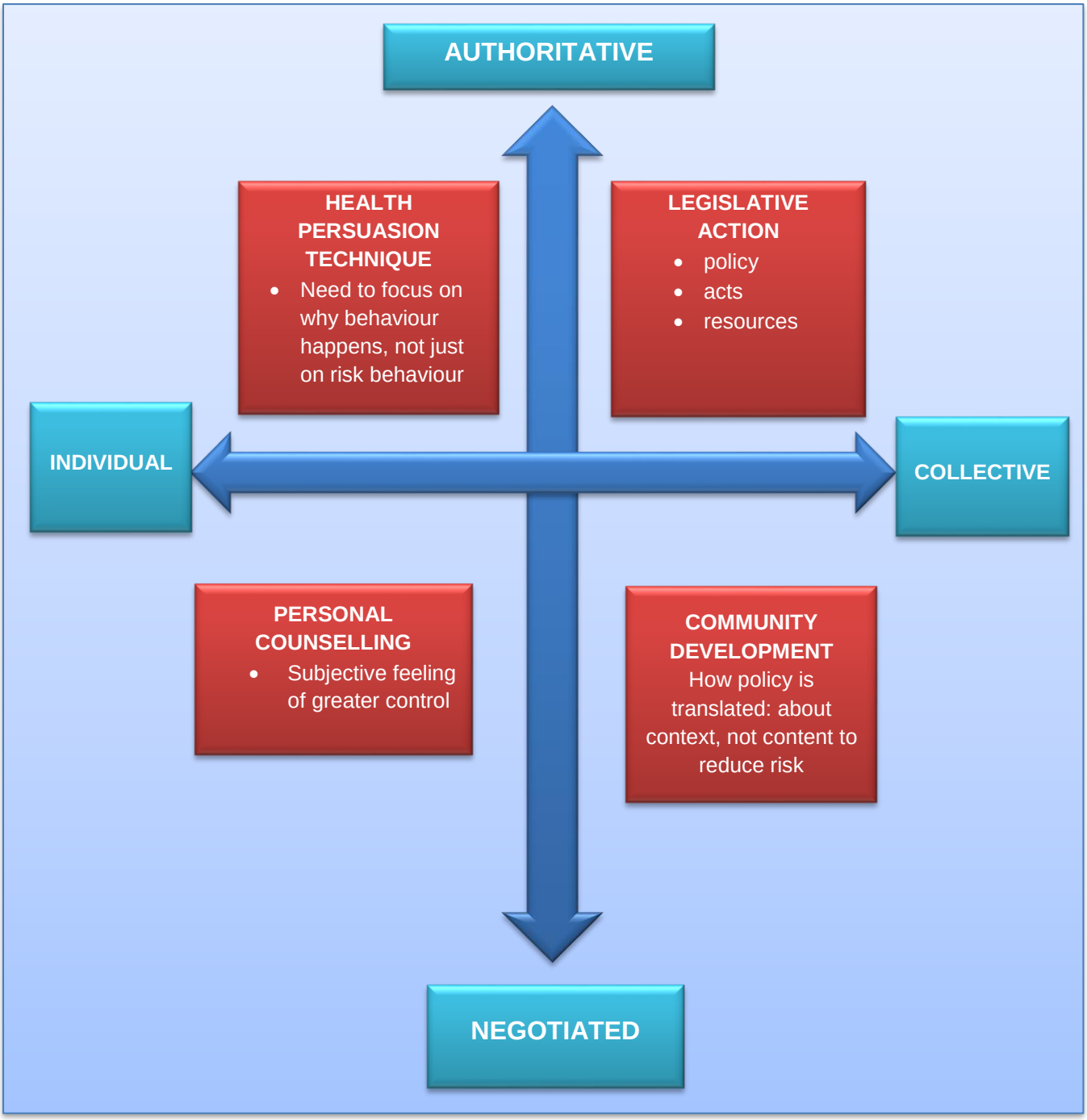


Figure 2.4 Beattie's model of health promotion for cervical cancer interventions

(Adapted from McIlfatric et al 2014:290)

2.4 THEORETICAL LITERATURE REVIEW

Nursing theories are designed to help nurses apply concepts and theories to practice to provide definitions for nursing practice, and the nursing process provides thinking and doing approach to the provision of nursing care. A theory-based practice was referred to

by integrating the use of nursing models and theories in explaining the phases of the nursing process and nursing also viewed as interpersonal in nature. In the study, some theories were for this reasons included for putting cervical cancer screening in practice in relation to the professional nurses' daily activities for the prevention of cervical cancer, promotion of good health (free from cervical cancer through healthy lifestyles) and curative for women who already suffers from cervical cancer (George nursing theories. The base for professional nursing practice 2011.).

2.4.1 The nursing process theory: Charlotte Paul and Joan S Reeves

A modified scientific method that uses clinical judgment to strike a balance of epistemology (Funnel, Koutoukidis & Lawrence 2009:72).

According to Hagos, Alemseged, Balcha, Berche and Aregay (2014:1) the nursing process is considered as appropriate method to explain the nursing essence, its scientific bases, technologies and humanist assumptions that encourage critical thinking and creativity, and permits solving problems in professional practice.

It is a tool and methodology of the nursing profession which helps nurses in arriving at decisions and in predicting and evaluating consequences. The nursing process was initially defined by George (1985:15) as a deliberate intellectual activity whereby the practice of nursing is approached in an orderly, systematic manner and the terms were further explained as follows:

- Deliberate: Careful, thoughtful, intentional
- Intellectual: rational, knowledgeable, reasonable, conceptual
- Activity: the state or condition of functioning, initiating, changing, behaviour
- Orderly: a methodical, efficient, logical arrangement
- Systematic: purposeful, pertaining to classification

The nursing process consists of six (6) phases as follows (Gyle 2016:1):

(1) Assessment
(2) Nursing diagnosis
(3) Outcome identification

(4) Planning
(5) Implementation
(6) Evaluation

2.4.2 Analysis of the nursing process in the context of cervical cancer screening

2.4.2.1 Assessment

Assessment is the first phase in the nursing process, and also consists of the systematic, orderly collection and analysis of data about the health status of clients for making a nursing diagnosis (The nursing process assessment diagnosis planning and goal [S.a.]). Professional nurses in the clinics are the ones who systematically, orderly collect and analyse the data about the health status of the community they are dealing with, as such, screening for cervical cancer.

2.4.2.2 Nursing diagnosis

Cervical cancer screening results assist with the diagnosis of cervical cancer where the staging determines the recommendations made regarding the level of cervical cancer.

2.4.2.3 Outcome identification

The nurse and client set realistic and measurable expected outcomes which are derived from the diagnosis. Indicators for this phase include: patient-focused, provider-focused, organisation-focused and population-focused. In the study this phase included a discussion between client and nurse where they agree on the return date for cervical cancer results and follow-up which will mostly suit the client.

2.4.2.4 Planning

Planning is said to be the third stage of the nursing process. In the study, planning will begin when professional nurses give return dates to women for their screening results. This will include the explanation and interpretation of the results to women and the interventions required based on the results, whereas those who do not come for the results, means of getting them to come to the clinic should be devised for example

telephonically and use of the home-based carers. If the results are abnormal, it will mean explaining the results and preparing her psychologically for interventions required.

2.4.2.5 Implementation

In the context of the study, referral of the client from the clinic to the hospital will be the first action. Implementation continues at the hospital with different procedure according to client's individual results. The management of the women between the clinics and referral hospitals should be a continual process for proper management of all women with abnormal results. This means the involvement of the home-based carers in tracing, knowing the where about of women with abnormal results and continued health education in the entire society is important.

2.4.2.6 Evaluation

This stage involves quarterly review meetings in sub districts where clients are checked according to the data if they are managed and followed correctly. If they are not managed correctly, strategies must be brought forward for analysis if they can suit the needs of the clients.

2.4.2.7 Reassessment

This is a stage when the strategies that were used initially and worked as expected are used or other strategies are developed to suit the needs of the women with the help of all stakeholders involved.

2.4.3 Nightingale's nursing theory

According to George (2011:54), Nightingale's nursing theory consists of four major concepts which were analysed, from a nursing curricula to identify the definitions of these concepts as follows:

Human or individual – defined in relationship to their environment and the impact of the environment upon them. An individual is also said to have more powers to deal with

disease .i.e. by seeking information and help by consulting health facilities at an early stage for cervical cancer screening and follow-up for results.

Nursing – is said to be aiming at providing good health for all people and ensuring a safe environment. Nightingale believed nursing should provide care to the healthy as well as the ill and discussed health promotion as an activity in which nurses should engage. Also believed the art of nursing is "to unmake what God had made disease to be".

Health/disease – Nightingale believed that the main is said to be well. She stated that: "We know nothing of health, the positive of which pathology is the negative, except from observation and experience." Also believed nature alone cures.

Society/environment – the focus is said to be that of a safe environment. She focused on ventilation, warmth, noise, light and cleanliness. All that surrounds human beings is considered in relation to their state of health.

It is indicated by Nightingale's theory that, the concepts are interrelated and impact on each other. It is said that Nursing functions to influence the human environment which is also expected to affect health. The individual is said to be affected by the environment and by the nurse who influences his/her health. It is further indicated that the Society and environment has an impact on the nurse and on the health of the individual (George 2011:54).

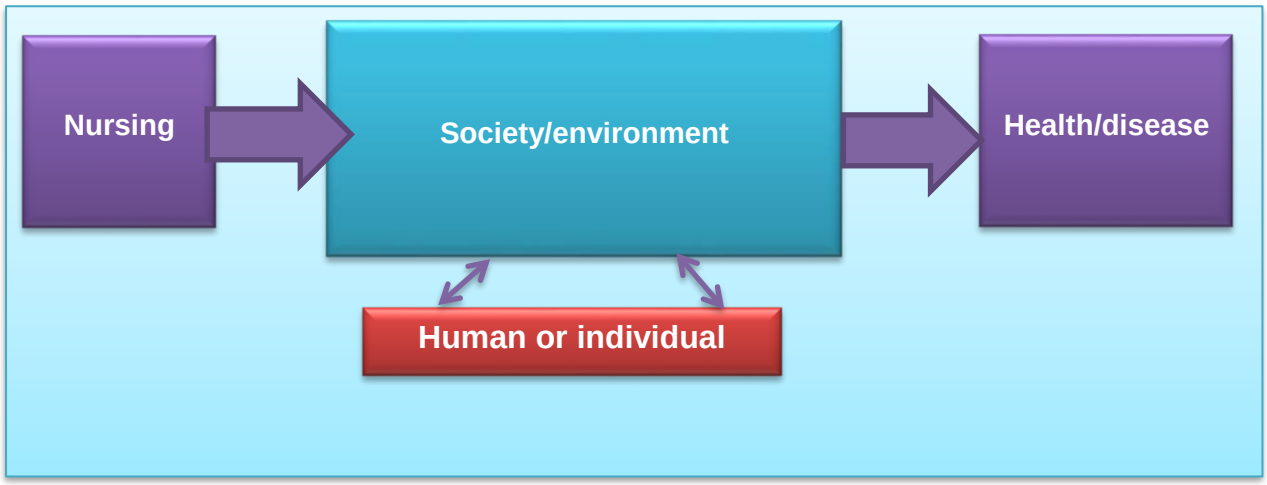


Figure 2.5 Nightingale's theory and our major concepts (environmental model)

(Adapted from George 2011:55)

Nightingale's theory emphasises the importance of a patient's environment, where the physical, social and psychological environments are necessary for the practice of nursing.

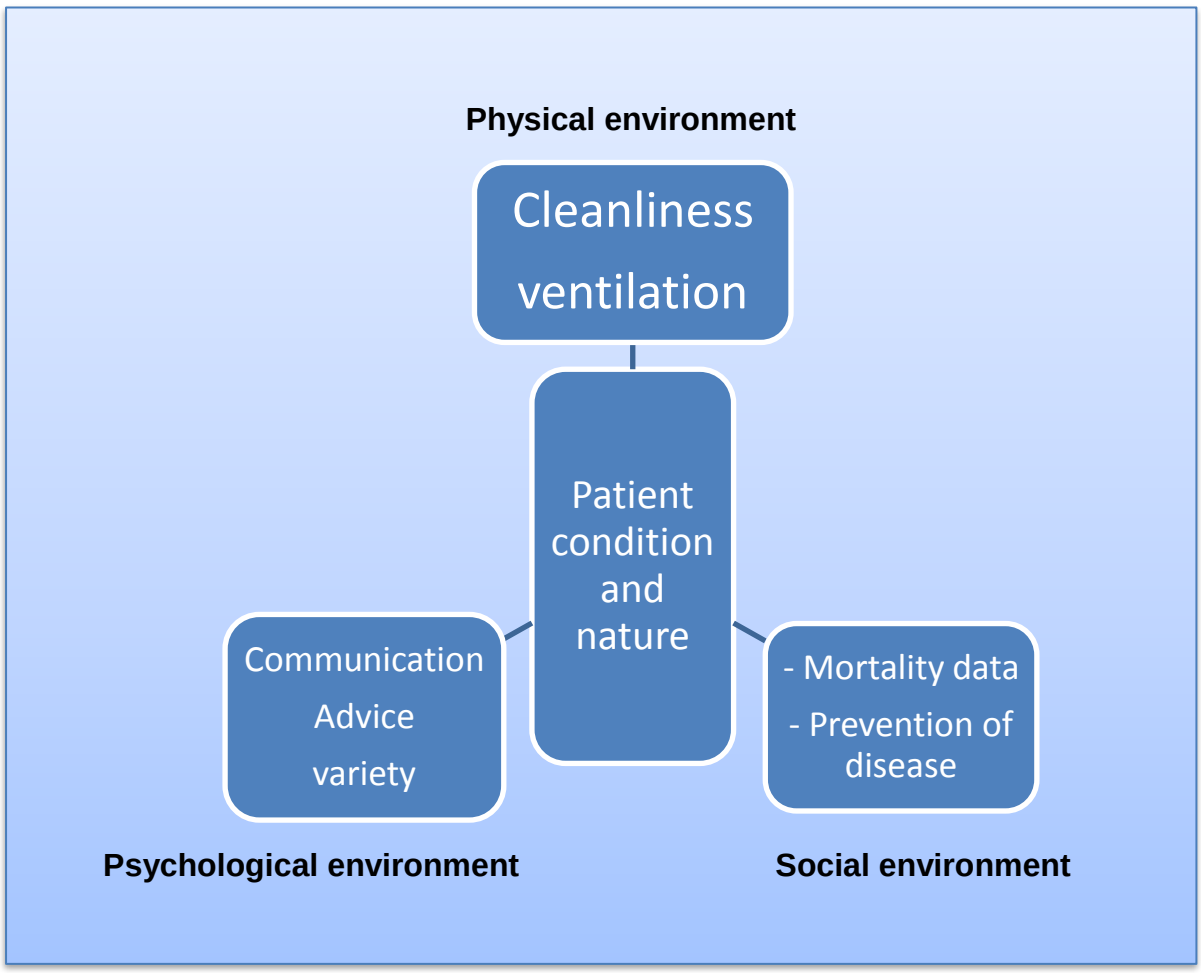


Figure 2.6 Nightingale's theory of nursing (nursing process)

(Adapted from George 1985:35)

The researcher agrees with Nightingale's nursing theory and applied it in the context of cervical cancer screening as follows:

Physical environment – the environment in which the client lives must be clean and well ventilated. For the study, the physical environment refers to the community in which women lives and the distance they take to reach the clinic.

Psychological environment – lack of knowledge and understanding about cervical cancer screening and the complications of cervical cancer may affect the psychological wellbeing of women in the society. Communication and advices in a variety form of health education and awareness campaigns about cervical cancer screening conducted by

professional nurses in clinics, can improve the knowledge and understanding in this regard and an improved standard of cervical cancer screening will be observed. Through cervical cancer screening, early diagnosis of cervical cancer can save lives of many women and their condition much improved.

Social environment – according to Nightingale's theory, prevention of diseases by observation of the social environment through data collection is regarded as very important. Prevention of cervical cancer and related deaths through intensified health education and cervical cancer screening is also very crucial.

2.5 EMPERICAL LITERATURE REVIEW

2.5.1 Screening: principles and practices

According to Blomberg, Temestedt, Tomberg and Tishelman (2008:561), globally, cervical cancer remains the second most common cancer in women regardless of the existence of the Pap smear to discern cervical cancer in early, non-invasive, asymptomatic stages. This is an indication that there is a need to put more effort on cervical cancer screening to close the gap of non-screening and increase the awareness regarding cervical cancer.

Although the Primary Health Care Package did not include cervical cancer as a condition which needs universal attention like other chronic conditions, the National policy guideline on cervical cancer screening indicates that "the adequacy rate of a screening facility is to reach at least 70%. Cytological laboratories are expected to audit and control the proportion of adequate smears from each screening facility and inform the facilities of adequacy rate. Should a facility consistently achieve below 70% adequacy, the staff is to be trained".

2.5.1.1 Proposed programme dates given to woman

Although studies were conducted on cervical cancer screening, the new Cervical Cancer Screening Guidelines published by the American College of Obstetrician and Gynaecologists (ACOG) in 2009 were reviewed by Lemieux and Rowe (2010). The following Cervical Cancer Screening Guidelines of the American College of Obstetrician and Gynaecologists (ACOG) were reviewed by Lemieux and Rowe (2011:17) and an agreement was made that,

Initial screening should begin at age 21.

Screening intervals:

(a) Between ages 21 to 29, screen every 2 years
(b) At age 30 and older, screen every 3 years if 3 consecutive pap tests are negative

Testing for HPV plus Pap test

(a) Is recommended for women age 30 years and older.
(b) It is not recommended in women age 21 to 29 years or as a test for sexually transmitted infection (STI) due to high rates of HPV and false results in this age group. HPV DNA testing can however be used to triage a pap result of Atypical Squamous Cells of Undetermined Significance (ASC-US).

In cases of hysterectomy with removal of the cervix and no past history of high grade cervical intraepithelial neoplasia (CIN), routine screening should be discontinued.

Routine cervical cancer screening to be stopped between age 65 and 70 years, if 3 conservative cervical cancer screenings are negative and there have been no abnormal pap tests in the last 10 years".

2.5.2 Impact of cervical cancer nationally

2.5.2.1 Impact of cervical cancer internationally

Schwaiger, Aruda, Lacoursiere and Rubin (2012:417) conducted a study and indicated that fifty years ago cervical cancer was the primary cause of cancer deaths for American women, but with the introduction of Pap smear for cancer screening in 1945 and cervical cancer screening programs in the United States have reduced cervical cancer mortality by 70%. According to Schwaiger et al (2012) the high death rate was due to cervical cancer even though cervical cancer screening services were available. However America is regarded as a by Schwaiger et al (2012) developed country where availability of resources is not a challenge even though a contradiction was observed.

The fact that America is a developed country does not exclude women from suffering from cervical cancer especially if cervical cancer screening programme is not adhered to. .Evidence was observed by Schwaiger by stating that, despite this progress in the United States 12,280 women were diagnosed with the disease in 2007 and 4027 died. Schwaiger et al's (2012) study indicates the importance and the need to continue encouraging women for cervical cancer screening worldwide irrespective of a country being developed or not to reduce mortality rate. However, Schwaiger et al (2012) study concurred with Lemieux and Rowe (2010) study whereby it was stated that cervical cytology and conventional smear could decrease the cancer related death rate worldwide.

According to a study by Lemieux and Rowe (2010:17), cervical cancer related deaths decreased between 1995 and 1992 by 74% due to the successful introduction of Pap smear test. Lemieux and Rowe (2010:17) further indicates that cervical cancer has a five year survival of near 100% for pre-invasive lesions and near 92% for lesions at the early stage. Squamous cell cervical cancer follows predictable course from initial exposure to the Human papillomavirus (HPV), its primary cause, to premalignant cellular changes and then to cancer. The process takes an average of 9 to 15 years, and goal of cervical cancer screening is therefore to identify pre-invasive and early invasive lession which could stop disease progression.

Cancer incidence and mortality rates is said to be declining in developed and western nations due to reduction in the risk factors like smoking, improved screening and treatment regimes. The opposite is observed in underdeveloped countries where cancer incidence and mortality rates are increasing at a faster rate. The report follows a worldwide study which was conducted in 2008 by Akinyemiju among 12 million incident cases and 8million deaths due to cancer of which 53% of the new cases and 65% of the deaths occurred in less developed countries. Reasons like rising popularity of western lifestyle which include smoking, lower physical activity levels and higher caloric intake were found to be contributing to this cancer cases though developed countries are said to be disproportionately affected by infectious agents that may cause cancer such as Human papilloma, H. Pyloric (for stomach) and Hepatitis B and C (for liver cancer). Although adequate screening is capable of identifying these cancers at early stages where treatment regimens are effective, uncomplicated and cheaper, cancer screening remains very low in developing countries as only 19% of women were screened for cervical cancer in developing countries, compared with over 60% in developed countries (Akinyemiju 2012:1). Factors like, lack of infrastructure and personnel, competing health care crisis in poor countries due to HIV/AIDS or infant mortality were revealed by Akinyemiju (2012:2), to be also affecting and complicating the cervical cancer screening uptake. However, the results of Akinyemiju study (2012), implies that the life style changes with regard to risk factors of cervical cancer and availability of cervical cancer treatment regimes, are related to the incidences and mortality rate of cervical cancer.

HIV infected women are said to be 5 times more likely to develop cervical dysplasia compared to HIV negative women and are at higher risk for invasive cervical cancer. The association between HIV infection and cervical dysplasia is thought to be secondary to co-infection with Human Papilloma Virus (HPV) due to immunosuppression. As a result of this risks, recommendations were made that HIV infected women should receive semi-annual screening with Pap smears in the first year of HIV diagnosis then annually if the results are normal although the 2006 American Society of Colposcopy and Cervical Pathology (ASCCP) guidelines, further diagnostic testing and screening for HIV infected women with abnormal Pap smears is the same as HIV negative women (Rahangdale, Sanquist, Yavari, Blumental & Israelski 2010:709). The recommendations, therefore supports the researcher with reference to developing cervical cancer guidelines based on the results of current study.

The study on the impact of policy and screening on cervical cancer in England which was conducted by Bryant in 2012, emphasises the need for cervical cancer screening by stating that “cervical cancer screening does not directly test for cancer. However, it can prevent cancer by detecting early changes in the cells of the cervix, identified as pre-cancerous cell changes. From a study which was conducted in 2001, by Bryant it was found that 80% of women who died from cancer did not screen for cancer previously and cervical cancer screening in the UK has been found to prevent 5000 deaths per year.”

Cervical cancer mortality continues to be a burden among women in most of the countries. This is emphasised by Mirzikashvili, Beruchashvili and McNutt (2012:288), by indicating that, cervical cancer morbidity affected an estimated 530 000 women in Georgia and claimed 275 000 lives worldwide and of which 85% of cervical cancer cases occur in low income countries that are ill equipped to identify cancer at the early and most treatable stages. It is further indicated that the statistical yearbook of Georgia 2009 (2), morbidity rate per 100 000 females was 9,7 in 2002 and 9.9 in 2009. This results of an increased death rate in Georgia, therefore shows that there is a need to pay more attention to cervical cancer screening as a preventative measure of cancer related deaths in the whole world.

According to Kessler’s (2012:61) study, cervical cancer knowledge and screening behaviours with an educational programme which was conducted in Northern Indiana conducted, reported that women in the United States have more than a one in three lifetime risk of developing cancer. It is further indicated that for cervical cancer, the risk closely linked to infection with certain types of Human Papilloma Virus (HPV) and to sexual practices. The findings of Kessler’s study indicated that morbidity and mortality from cervical cancer can be prevented by early screening with pap tests. It was found that mortality decreased substantially from the 1950s due to use of Pap test which is regarded as the most successful screening test developed to detect cervical cancer of which 70% of cervical cancer can be prevented by HPV vaccine. However, results indicated that knowledge of risks and screening guidelines increased significantly immediately following the educational programme and did not decrease significantly 15 months later. Family history and history of Human Papilloma Virus and Sexually Transmitted Diseases were the top known risks factors for cervical cancers, of which screening behaviours increased 15 months later with 84% for Pap test. The researcher in the current study investigated,

the women' perceptions with regard to cervical cancer screening in relation to the low uptake of cervical cancer screening in Makhuduthamaga Sub-district.

However Kessler study indicates that the risks of women for the development of cervical cancer are higher in the United States and one in three woman is likely to contract cervical cancer. Due to the higher risks of the development of cervical cancer in the United States, a need for improved interventions for the management of cervical cancer was necessary to an extent that an education programme was developed to provide women with knowledge. Lack of knowledge with regard to cervical cancer was identified to be putting women at risks of HPV due to exposer to sexually transmitted infections. An implication is made from Kesslers study that increased cervical cancer screening play a vital role in reduction of mortality rate where health educations are also necessary for prevention of the risk behaviors' and encourage women for cervical screening.

As cervical cancer continue to be the second most common cancer among women worldwide, an estimation of 11,270 cases of invasive cervical cancer were diagnosed in the United States in 2009, with an estimated 4,070 deaths. According to statistics demonstration, with proper measures, cervical cancer is preventable and treatable. With evidence from researchers, correct screening procedures can reduce morbidity and mortality related to cervical cancer. The secondary prevention screening procedures e.g. surgical and nonsurgical procedures, have contributed to a decrease in the yearly incidence of invasive cervical cancer which declined from 10.2 to 8.5 per 100,000 women from 1998-2002. It was therefore found that the vaccination against human papillomavirus (HPV) types 6,11,16 and 18 is the primary preventive tool that can decrease the incidence of invasive cervical cancer (Warman 2010:33). According to the study findings of Warman (2010) about the use of a vaccine against HPV and Kessler (2012) study on conduction of Pap test has an impact on the reduction of cancer related deaths and as a result, future research on other strategies for reduction of cancer related deaths can be conducted.

According to the statistics provided by Warman's (2010:33) study, the results indicates that, there is a relationship between proper preventive measures of cervical cancer and the reduction of cancer related deaths in the United States. However the secondary preventive procedures were discovered to have contributed towards the reduction in the incidence of invasive cervical cancer and further more vaccination against the human papilloma (HPV) as a primary preventive measure contributing towards the incidence of

invasive cervical cancer. The study results of Warman (2010) and Kessler (2012) has therefore shown the success brought by collaborative measures in the prevention and management of cervical cancer was identified in this regard. However additional measures of preventing cervical cancer through involvement of professional nurses was not included in Warman and Kessler's study and this study was conducted involving both professional nurses and women to close the gap as successful measure of preventing cervical cancer.

2.5.2.2 Impact of cervical cancer in Sub-Saharan countries

Ezechi, Gab-Okafor, Ostergren and Pettersson (2013:1) indicate that, in the sub Saharan African countries where cervical cancer is endemic, HIV infection has become one of the leading cause of death in women and making the interactions between the diseases a major public health challenge. It was therefore found that there is a risk of developing cervical cancer and increased aggressiveness of existing cervical cancer in HIV infected women. The integration of cervical cancer prevention with HIV care services was identified to be reducing morbidity and mortality associated with invasive cervical cancer and to improve the HIV treatment outcomes.

According to Ezechi et al (2013:2), the new Nigerian National HIV treatment guidelines recognising the potential benefit of cervical cancer prevention in HIV infected women, and as a result, recommended the introduction of cervical cancer within HIV programme as a standard of care. Based on the findings of the said study, the researcher therefore concludes that, there is a strong relationship between the development and progression of cancer in HIV infected clients and vice versa and intensified care and attention needed for all clients having either of the two diseases.

However, the study conducted by Ezechi et al (2013) revealed the interrelation of cervical cancer and HIV. According to Diara and Botha (2017:1) study on invasive cervical cancer and human immunodeficiency virus (HIV) infection at Tygerberg Academic Hospital in the period 2003-2007: demographics and characteristics, a confirmation was made that, HIV-affected women present 10years younger with cervical cancer compared with their HIV-unaffected counterparts. It is further indicated by Diara and Botha (2017:1) that, effective screening is still lacking in the HIV-affected population. According to the results of studies conducted by Ezechi (2013) and Diara and Botha (2017) it has been revealed that HIV-

affected women are facing greater risks of progressing to invasive cervical cancer as effective screening is said by Diara and Botha (2017) to be lacking in HIV-affected women than HIV-unaffected woman.

A study conducted by Atashili, Smith, Adimora, Eron, Miller and Myers (2011:1), support the results of studies conducted by Ezechi (2013) and Diara and Botha (2017) by indicating that, cervical cancer is one of the leading causes of cancer death among women in Sub-Saharan Africa. Furthermore, more than 10 million women in this country are HIV infected and HIV positive women have a higher prevalence of cervical precancerous lesions as well as faster progression of these lesions to invasive cancer unlike the HIV negative women. The study on the impact of antiretroviral therapy on cervical cancer mortality in HIV positive women in sub Saharan Africa conducted by Atashili et al (2011:1), revealed that HIV positive women on HAART had increased risks of the progression of cervical precancerous lesions and mortality. According to this results, it is revealed that cervical cancer is an opportunistic disease towards HIV-affected women irrespective of whether they receive HAART or not. It is further revealed that HIV positive who develop cervical cancer contribute towards the high death rate of women in the Sub-Sahara as indicated by Atashili et al (2011:1). It was therefore revealed that, systematic and frequent cervical cancer screening is important to these women regardless of limited resources.

However this study research aimed at reducing the cervical cancer morbidity and mortality by conduction of the study to obtain perceptions of women and professional nurses regarding cervical cancer irrespective of the HIV status to accommodate all women in this regard. The formulation of recommendations based on the findings of the study could benefit all women including the HIV-affected to close the gap of effective cervical cancer screening lacking to this population as stated by Diara and Botha (2017:1). Intensified health education to this population group is further encouraged though the development of a health education programme which could encourage all women to cervical cancer screening irrespective of their HIV status.

The study in Nigeria which was conducted by Nwakwo, Aniebue, Aguwa, Anarado and Agunwah (2011:363) indicated that cancer of the cervix is one of the most common malignancies involving women worldwide with an estimation of 510 000 new cases of cancer of the cervix diagnosed and 288 000 deaths recorded annually with almost 80%

occurring in developing nations. Cervical cancer screening was also found by Nwakwo et al (2010:363) to be having a positive effect in developed countries than in developing countries. The reasoning behind this results was found that most women in Nigeria grossly lack knowledge of cervical cancer and its prevention especially in developing nations. According to his results, it is clear that increased knowledge with regard to cervical cancer screening could improve the uptake of cervical cancer screening thus reduce cancer related deaths following early diagnosis through Pap smears.

The emergence of the Visual Inspection with acetic acid (VIA) was found to be a more feasible strategy for screening as compared to Pap smears although some challenges were also experienced as women were lost to follow-up when asked to come for cryotherapy and/or other interventions (Reddy, Njala, Stocker, Schooley, Flores, Tseng, Pfaff, Jasen, Mitsuyasu & Hoffman 2015:379). The study of Reddy et al (2015:385) therefore came with the conclusion that there is a relationship between the CD4 cell count of an HIV positive woman and an abnormal VIA and raised the importance of early initiation of antiretroviral therapy (ART) for those eligible and with expanded availability of VIA within HIV care and treatment programs in Malawi. It is therefore revealed in Reddy et al (2015:385) study that, early HIV testing could benefit women who are found to be HIV positive as they could be eligible for early initiation of antiretroviral therapy (ART) and thus decide for cervical cancer screening. The results of Reddy et al (2015:385) study, clearly indicates the relationship between HIV and cervical cancer thus integration of the services in this regard very crucial.

The Sub-Saharan countries continues to experience challenges with cervical cancer due to the prevalence of HIV as this is also supported by researches conducted in this countries. A study conducted by Anderson, Wysong, Estep, Besana, Kibwana, Varallo, Sun and Lu (2015:2) in Cote'd Ivoire, Guyana and Tanzania proved that, compared to HIV-uninfected and unknown women, HIV-infected women had nearly twice the odds of being Visual inspection of the cervix with acetic acid (VIA)-positive and to require referral for large lesions. The single-visit approach (SVA) was also said to be safe and resulted in significant reductions in loss to follow-up. Due to the high HIV prevalence rate in this countries, a conclusion was made that, there is an increased need for excisional treatment in countries with high HIV prevalence.

According to the study conducted by Finhaber, Mayisela,Mao, Williams, Swarts, Faesen, Levin, Michelow, Omar, Hudgens, Wlliamson, Allan, Lewis and Smith (2013) and McDonald, Denny, Wang, Tsai, Wright and Kuhn (2012:1) regarding invasive cervical cancer as the third most common cancer among women worldwide with significantly higher incidence rates among HIV-infected than negative women agrees with the study conducted by Anderson et al (2015:2) and Reddy et al (2015:385).

Cervical cancer mortality continue to be a major concern among women worldwide. As a result Canada developed guidelines whereby Pap smears are recommended as early as a women becomes sexually active or turns 18 years old, compared to America where Pap smears are recommended three years after a women starts engaging in vaginal intercourse and not later than 21 years. A growing number of cervical cancer screening programs was established in Canada, according to Duffett-Leger, Letourneau and Croll (2008:572) study even though young women continue to underutilise this services as expected and fail to return for follow-up appointments as recommended by their health practitioners. The results Duffet-Leger (2008:572) revealed a challenge faced by Canada regardless of efforts to fight cervical cancer being instituted. The underutilisation and failure of women to return for follow up seemed to be challenge which occurs also in Makhudutamaga Sub-district. However, the conduction of this study could improve this challenge through the formulation of some recommendations which could impact on the National Cervical Cancer Screening Policy, as establishment of a referral system between clinics is recommended in this study.

Like other countries Botswana faces cervical cancer challenges, as said by McFaland (2009:426) that, cervical cancer remains the major public health problem for women in Botswana and is the leading cause of cancer mortality for women and the incidence of cervical cancer is steadily rising. It is also said that records from 1986 to 2004 indicates that cervical cancer accounts for 30.7% of all recorded malignancies in Botswana. Although cervical cancer is said to be rising steadily in Botswana, beliefs about causes of cervical cancer differed among individuals and were influenced by one's culture, socioeconomic status, level of education and personal experience with the disease. Literature indicates that Batswana women may hold beliefs about the cause of cervical cancer and such beliefs are said to impact significantly on the women's decision to take preventive measures against cervical cancer. McFaland's (2009) study therefore concluded through the views from the Batswana women that, the use of chemical agents

and traditional medicine vaginally to increase men's sexual pleasures was believed to be a common practice by women in Botswana. These intravaginal chemicals and traditional medical insertions have been associated with adverse health effects such as vaginal burns and over-tightness of the vaginal muscles. In the McFaland's (2009) study, women identified vaginal hygiene as very important to them and inserted fingers to clean intravaginally was identified as an important part of their hygienic practice. Following the findings in the study, a need for health education and further research to affirm women's beliefs about the harmful effects of intravaginal agents was therefore emphasised by McFaland (2009:426).

A study conducted by Kim (2014:1) on awareness of cervical cancer prevention among mothers of adolescent daughters in Korea: qualitative research, revealed that mothers at Korea were not prepared to play a role in teaching their daughters about cervical cancer screening. The findings in the Kim (2014:1) study, reflected on the powerful role that both primary and secondary education played in fostering a lifestyle that reduced the risk of invasive cervical cancer which included later age at first sexual intercourse, a limited number of pregnancies, greater likelihood of undergoing cytological screening should be instituted.

The findings of the study conducted by Kim (2014:1) and McFaland (2009:426), revealed the lack of knowledge with regard to cervical cancer. The implications observed in these findings is that, if women are not informed about the dangers faced from their behavioral and cultural practices, the burden of cervical cancer may continue in the world. The findings revealed that intensified efforts are needed to increase the uptake of cervical cancer screening to reduce cervical cancer mortality. However, the conduction of this study in Makhuduthamaga Sub-district as aimed at establishing the awareness and importance of cervical cancer screening from women and Professional could impact on the challenge faced in Botswana and Korea as intensified health education is recommended where an in-service programme for professional nurses and teaching programme for women are developed to empower both women and professional nurses about cervical cancer screening.

2.5.2.3 Impact of cervical cancer in South Africa

In South Africa a study conducted by Tum, Maree, Lu and Clarke (2012:107) revealed that cervical cancer is the most common female cancer followed by breast cancer. It was also found that one in every 26 black women would develop cervical cancer leading to this disease being the most common cancer and the fourth most common in white women. Tum, Maree and Clarke (2013:107) further indicate that despite the high incidence of these cancers, population-based screening is limited to cervical cancer screening available at primary health clinics leading to the low uptake of cervical cancer screening. According to Maree, Lu and Wright's (2012a:78) study, 24.6 million people were living with cancer around the world in 2002 and in 2008 cancer was said to be responsible for deaths of 7.6 million people. It is further indicated Maree et al (2012a:78) that cervical cancer as the second most common cancer in women, is newly diagnosed in 500 000 women annually and kills more than 250 000 women each year.

However, the results revealed by Tum et al (2012:107) indicated that cervical cancer remains a global burden as observed from the statistics presented. A high need to intervene in the high cancer related death rate is of utmost importance due to the fact that population-based screening is limited at primary health clinics. The provision of resources at primary health clinics could increase the uptake of cervical cancer screening although inadequate cervical cancer screening resources is common in developing countries.

Despite the increased diagnosis of cervical cancer, high death rate and low uptake of cervical cancer, the availability of resources plays a bigger role and does contribute to such results especially in rural areas. The information was also revealed by Sibiya and Graiger (2007:48) in a study conducted in one of the rural areas when stated that there is a need for resources for implementing cervical cancer screening programs in rural clinics compared to urban clinics.

Although Tum et al (2012:107) and Maree et al (2012a:78) concur with each other with each other with regard to the poor provision of cervical cancer resources in rural areas than urban, more efforts to provide resources in rural areas is necessary as a way of encouraging women for cervical cancer screening to fight the increasing cervical cancer death rate.

Further indication was made that due to lack of resources, challenges were faced with follow-up of clients with abnormal smear results, feedback to the clinics from the referral hospital regarding the outcome of the visit and the mechanism of record keeping. Schnippel, Lince-Deroche Van den Handel, Molefi, Bruce and Firnhaber (2015:1) also concurred with Sibiya and Graiger by stating that cervical cancer is a critical health service that is often unavailable to women in under-resourced settings to an extent in which a South African non-governmental organisations established a van-based mobile clinic in two rural districts in South Africa to expand access to cervical cancer screening, other reproductive and primary health care services. Schnippel et al (2015:1) study revealed that staffing costs were the largest component of providing mobile health services to rural communities.

Resource-limited settings put policy makers under pressure to procure lowest-cost items which in-turn may negatively influence the service provided. In this study researcher's statement was supported by Schippel et al (2015:8, 9) study where a concern was made that with the lower sensitivity of Pap smears when no endocervical cells are present, either a large number of Pap smears must be repeated (wasteful expenditure) or a large number of women receive false negative results and the benefits of having a Pap smear screening programme are not realised if a wooden spatula is used for collecting cervical smears. The preference of using a cervix-Brush (broom) than a wooden spatula for collection of gynaecological specimens from HIV-infected women which is said to be cost effective, and increase detection of high-grade cervical dysplasia in HIV- infected women compared to the current wooden spatula as observed by Schippel et al (2015:1, 9).

The results of the study conducted by Schipel et al (2015:8) revealed a challenge with regard to the quality of items procured for cervical cancer screening. However the procurement of quality items for cervical cancer screening was found to be directly related to costs which negatively influence the service provided.

However wasteful expenditure observed through a large number of women receiving false negative results of cervical cancer when using a wooden spatula instead of a cervix-Brush was revealed as a challenge related to inadequate skill on the conduction of Pap smear. The researcher in this study, concur with the results and developed an in-service programme for the improvement of the skills of professional nurses with regard to cervical cancer screening.

According to the studies conducted by various researchers as revealed in their results, it was observed by this study researcher that, South Africa has a common challenge with regard to the provision of both human and material resources for the provision of cervical cancer screening services. In this study, the recommendation for procurement of quality equipment for cervical cancer could save costs and beneficial for the cervical cancer screening.

2.5.3 Perceptions regarding cervical cancer screening

2.5.3.1 Perceptions of women towards cervical cancer screening

As stated by Bailey (2008:1) in a study on the importance of Pap smear, women perceived cervical cancer screening to be important to an extent that they should get Pap smears regularly to protect their health. The study conducted by Oshima and Maezawa (2013:4313) on perceptions of cervical cancer screening among Japanese university students who have never had a Pap smear: a qualitative study, revealed, a low sense of reality about cervical cancer, lack of knowledge about cervical cancer, lack of motivation to get screened and a reluctance to visit a gynecologist as emerged as results from the study. The study results implied that, there is a need to identify strategies which will encourage women to screen for cervical cancer. However the reasons given for not screening revealed the cancer related risks which are faced by women. Community awareness campaigns, mobilisation and involvement of all community structures and leaders through integration of services could increase the uptake of cervical cancer screening among women.

In a study which was conducted by Logan and Mcilfatrick (2011:720) on exploring women's knowledge, experiences and perceptions of cervical cancer screening in an area of social deprivation indicated that, knowledge of the risk factors of cervical cancer screening and preventive factors were stated to be extremely limited. However, further emphasis were made by, Logan and Mcilfatrick (2011:725) that, the misunderstanding of the purpose of screening were identified as the factors influencing awareness and screening uptake. The study emphasised the fact that socio-cultural beliefs, knowledge and perceptions of cervical cancer has an influence on women's health preventive behaviour. It was further emphasised about the need for an on-going health promotion

and education using a variety of learning media including group discussions, posters, leaflets and DVDs which are accessible for the specific target group. This is an indication that different perceptions from different people continue to be identified depending on the socio-economic status and knowledge available for the society.

Although the purpose of screening were identified as factor influencing awareness and screening uptake other strategies were found to be influencing the uptake even if resources may influence the uptake of screening.

Although other factors are considered as truthful as obtained from participants from different studies, poor level of knowledge about cervical cancer is regarded as a major concern in most of the women. This is also proven by Walsh's study in Ireland where the barriers of cervical cancer screening were said to be the perception of having a cervical smear test as time consuming, causing greater distress and being more afraid of the test and among other things poor levels of knowledge about cervical cancer screening also mentioned.

The importance of stressing the preventive health care associated with routine cervical cancer screening to promote women's health regardless of age or level of education is also supported by Ackerson et al (2015:147) that education about cervical cancer should be continuous until the world is saturated about knowledge and understanding which will be determined by the uptake of cervical cancer screening. Although it is expected that women should be informed about cervical cancer screening, the topics presented to clients were not provided and as such was presented in the present study.

The perception towards cervical cancer screening plays a major role towards the prevention of cervical cancer among all women in the world. A study conducted by Fletcher, Buchberg, Schover, Basen-Engquist, Mijam-Colette, Arduino and Vidrine (2015:1233) indicated that participants perceived cervical cancer as a non-preventable hereditary illness like breast cancer. As a result it was highlighted that the majority of women identified Pap test screening solely as a tool to diagnose cervical cancer. According to the results, an implication was made that more information with regard to cervical cancer screening are very crucial to encourage women for cervical cancer screening. The results further revealed that there is a relationship between knowledge

and the increase in the uptake of cervical cancer screening which need to be maintained at high level at all times.

Following the results of a study by Fletcher et al (2015:1233) further emphasis was made that strategies should emphasise that cervical cancer is preventable and slow growing and as a result Pap tests are instrumental in detecting cell changes early before cancer develops and individual level risk behaviours such as tobacco use and unprotected sexual contact can increase one's changes of developing cervical cancer. Furthermore, women should be empowered to engage in actions that might serve to prevent the development of cervical cancer.

Lack of information continued, regardless of various strategies instituted to increase knowledge and therefore impact negatively on the uptake of cervical cancer. This study addresses this challenge by including specific topics such as the importance, stages and complications of cervical cancer in health talks to encourage women for screening as highlighted by the various researchers is still observed

However, a debate on, organisational change theory: implications for health promotion practice conducted by Dimitri, Cameron and Ben (2014:1) revealed that identification of suitable targets of change, effective strategies and implementation processes are needed to address lack of knowledge among women. Based on Dimitri et al (2014:1) results, lack of knowledge was identified as a common among most women and the findings of Dimitri on how to resolve the challenge could be beneficial to most women.

2.5.3.2 Perceptions of professional nurses towards cervical cancer screening

According to Sibiya and Graiger's (2010:1) study conducted about the registered nurses' perceptions of the cervical cancer screening programme in primary health care clinics, KwaZulu-Natal (KZN), South Africa, it was found that the registered nurses perceived challenges as playing a bigger role to the implementation of the screening programme. Registered nurses perceived the following challenges as affecting the cervical cancer screening: long periods elapsed between the time of taking the Pap smears and receiving the results, inadequate follow-up system at the clinics which created problems with tracking clients with abnormal smears, difficulties when locating clients due to incorrect client's details, lack of proper addresses, incorrect or out dated address details, lack of

communication system, lack of feedback from the referral hospital, others not conducting Pap smears as never trained and lack of resources.

According to Sibiya and Graiger's (2010:1) study, it was revealed that various factors are influencing the provision of cervical cancer screening service negatively. Although the challenges facing KwaZulu-Natal seemed to be many, this challenges appear to be similar the ones identified in the present study and recommendations were formulated to resolve them even though the feedback or referral system could be an area for further research.

A conclusion was therefore made by the professional nurses that Pap smears might not meet the objectives of reducing cancer of the cervix but differed with Sibiya and Graiger when stating that further education for registered nurses is necessary to ensure the understanding of the natural course of the disease and the rationale for the use of the National Cervical Cancer Screening Guideline.

2.5.4 Barriers to cervical cancer screening

According to a study by Waller, Bartoszek, Marlow and Wardle's (2009:1) study in England practical barriers were more predictive of screening uptake than emotional factors such as embarrassment and implicating for service provision and future interventions to increase uptake, cancer related deaths were found to be common and increasing among all groups of people in developed and developing countries. Therefore a need to re-assure and allay anxiety to woman who fear to undergo screening would be necessary in the study however communication strategies with regard to sexuality abnormal results could be necessary for increased cervical cancer screening. In these study community mobilisation, collaboration with community based structures and leaders concerning cultural issues were identified to be addressed in this study to allay fear anxiety.

Several barriers to cervical cancer screening were identified in different studies conducted in various areas. Although other barriers were identified by researchers, a study conducted by Ackerson, Zielinski and Patel (2015:153), fear was also identified as a barrier to cervical cancer screening. Fear for pain, embarrassment or discomfort associated with the test or fear that the Pap smear would find abnormal. Were also raised

as concerns Knowledge deficits regarding where to access Pap smear testing was also a significant barrier to cervical cancer screening.

A population-based cohort study of women aged 23-60 years regarding barriers to and facilitators of compliance with clinic-based cervical cancer screening, conducted by Ellinor, Susanna, Miriam, Karin, Niklas, Arbyn and Andersson (2015:12) found out that time and travel costs and other direct non-medical costs incurred in attending clinic-based cervical cancer screening could be considerable and affect the cost-effectiveness of a screening programme and may constitute barriers to screening while HPV knowledge may facilitate compliance with screening. Ellinor et al (2015:12) also identified that screening compliance was significantly associated with age, income, time off work, accompanied by a companion, and HPV knowledge.

A global consideration in overcoming barriers of cervical cancer screening is regarded as a crucial issue as recommended by the researcher. The researcher's recommendation was based on the fact that most researchers identified different barriers in different areas. The findings were also identified by Modibbo, Dareng, Bamisaye, Jedy-Aggba, Adewole, Oyeneyin, Olaniyan and Adebmowo (2016:1) that barriers to cervical cancer screening differ by religious affiliations it is therefore indicated by Modibbo et al (2016:1) that interventions to increase cervical cancer awareness and screening uptake in multireligious communities need to take into consideration the varying cultural and religious beliefs in order to design and implement effective cervical cancer screening intervention programmes .

Barriers of cervical cancer screening continue to prohibit women from screening irrespective of the invasive cervical cancer (ICC) as the leading cause of cancer related deaths among women in developing countries and second most common cancer among women worldwide with over 500,000 new cases and 275,000 deaths in 2008 (Wright et al 2014b:1). A study, conducted by Mookeng, Mavundla and McFaland (2010:37), indicated that the barriers of cervical cancer screening in South Africa include age and gender of medical practitioners and the age of patients, few opportunities for private medical practitioners to conduct screening test, the failure of medical practitioners to inform patients about cervical cancer screening and the high cost of screening. Although Ackerson (2010:145) concur with Mookeng et al (2010:37) that gender plays a role as a barrier to cervical cancer screening, Ackerson (2010:145) furthermore adds trauma as a

barrier by stating that the uptake of routine cervical cancer screening is connected to the influence of mothers and health care providers.

Ackerson (2010:145) further encourages nurses to focus on careful assessment of a woman's previous experience with the gynaecological examination, her beliefs and perceptions about the Pap smear and listening to what is said to establish a caring relationship and use such information to design nursing interventions to promote the uptake of cervical cancer screening.

Low perceived risk might contribute to explaining lower cervical cancer screening coverage for some ethnic groups. Interventions to improve knowledge and understanding of cervical cancer are needed in ethnic minority communities.

2.5.4.1 Cultural beliefs and attitudes as a barrier to cervical cancer screening

The results in Waller et al (2009:1) study in England indicated that only four barriers showed significant independent associations with screening status. The following barriers of cervical cancer screening were identified by Waller (2009:1). Difficulty in making appointment, not getting round going, not being sexually active and not trusting the test. Cervical cancer was believed by the South Asian women in Waller et al's (2009) study

to be caused by promiscuity and therefore a punishment from God while others perceived cancer to be a punishment for wrong doings, loose morals and contagion whereas in the modern Western world it is viewed as a disease brought upon oneself irresponsibility, either by indulging in bad diets, smoking or by suppressing negative thoughts. The Muslim women believed they can only be seen by their husband being naked and could not therefore expose their private parts for cervical cancer screening.

Waller et al (2009:1) further indicated that, although all participants were aware of the seriousness of cancer and its major cause of death, only few were knowledgeable about common cancers that occurred in their own ethic groups/communities even though the female participants were more knowledgeable about cervical cancer and screening services reason being that the national cancer screening services mostly targeted women. It is further indicated that most young women knew cancer as a disease of older

people and those who had knowledge about it, had information from general practitioners surgeries through leaflets and posters, television and radios.

A study conducted by Ross, Nunez-Smith, Forsyth and Rosenbaum (2008:1) found that racial and ethnic differences in adherence to cervical cancer screening recommendations, suggested that culture play a role in cervical cancer screening. In the same study, it was also found that, women who self-identified as Asian were significantly less adherent when compared with women who self-identified as white while women who self-identified East Indian were significantly less likely to accurately perceive adherence or non-adherence when compared to women who self-identified as white. It was also found that women who self-identified as Asian were significantly more likely to report any barriers to care when compared to women who self- identified as white and it was also found that there was a non- significant tendency toward women who self-identified as East Indian being more likely to report any barrier to obtaining care when compared with women who self-identified as white.

Although cultural beliefs plays a role towards the uptake of cervical cancer screening among women, the knowledge about cervical cancer contribute towards the uptake in different cultural groups. Evidence is based on the study conducted by Azaiza and Cohen (2007:36) where a study conducted among Arab women in Israel about the traditional and modern perceptions of breast and cervical cancer, results revealed among all the women who participated in the study, only few were aware of early detection of cervical cancer. A study conducted by Frances, Marjorie, Usha and Joanne (2007:1) on cervical cancer believes and Pap test screening practice among Chinese American Immigrants in the United States indicated that age and cultural believes influence Pap test use and adherence. Following the results of the study conducted by Frances et al (2007:1203), the influential role played by nurses in preventive health care with regard to the increasing adherence to cervical cancer screening was regarded as vital. Health policy action was therefore regarded as necessary to extend screening coverage to those who do not have adequate health insurance among Chinese American Immigrants in the United States.

Attitudes towards cervical cancer and participation in earl detection and screening service are well to be profoundly affected by cultural beliefs. Woman need to be educated about the benefits of cervical cancer screening and can also improve the uptake of Pap smear.

2.5.5 Cervical cancer practices and standardised performance

According to Tshabalala-Msimang (2001:2), the Primary Health Care Package for South Africa – A Set Norms and Standards (2001), is regarded as a parameter for comprehensive, quality primary health care service expected to be equitable and accessible in all services in the primary health care level. According to Bennett, Morris, Abdul and Cameron (2000:4), the Primary Health Care Package is regarded as important for the providers and to the recipients of care as well as to the policy makers for the following reasons:

- To be used by the community to see the range and quality of services to which they are entitled.
- To be used by local health workers to help assess their own performance and that of their clinic.
- To be used as planning guidelines by local government and provincial health planners to progressively assess the needs of their population and draw up plans to bring services up to national standards (The Primary Health Care Package for South Africa A Set of Norms and Standards 2000:4).

With regard to cervical cancer, challenges are faced by the community where the range and quality of services which they are entitled cannot be seen. The local health workers are faced with difficulties in assessing their own performance and that of the clinic. This simply shows that there are no universal set norms and standards on the management of cervical cancer and this poses a problem to staff as they cannot see if themselves and their clinic are performing as expected or not and evaluation is a problem where the local government and provincial and health planners cannot assess the needs of their population to draw plans for services to be brought up to the national standards.

As cervical cancer remains a challenge regardless of the availability of National guidelines on cervical cancer screening, Britany Lees, Britt, Erickson, Warner and Huh (2015:1) discussed some changes with regard to cervical cancer screening guideline which included the initiation screening age at age 21 years, conservative management of young women with abnormal cytology, extended screening intervals for women age >30 years and cessation of screening in low-risk women at age 65 years. It was therefore found by

literature that according to the review of some literature it was recommended that screening start at age 21 years for the reason that although the rate of HPV infection is high at age 21 years, the incidence of cervical cancer at this age is extremely low it was then agreed that screening at above 21 years can prevent the development of invasive cancer. It was also found that reducing the screening interval of less than 3 years were at lesser risk of CIN3 than the interval of more than 3 years. With regard to stopping cervical cancer screening at age 65 years, Britany et al (2015:3-4) indicated that the decision to exit cervical screening requires knowledge of the patient's cytology screening history and appropriate counseling about potential risks.

In some communities health facilities are lacking in infrastructure and medical which can be a serious problem in some other countries.

2.5.6 Health education related to cervical cancers

According to the core norms and standards of the Primary Health Care Package (2001:14), patient education is aimed at:

- Staff to be able to approach the health problems of the catchment area hand in hand with the clinic health committee and community civic organisations to identify needs, maintain surveillance of cases, reduce common risk factors and give appropriate education to improve health awareness.
- Culturally and linguistically appropriate patients' educational pamphlets are available on different health issues for free distribution.
- Appropriate educational posters are posted on the wall for information and educational of patients.
- Educational videos in those clinics with audio-visual equipment are on show while patients are waiting for services.

The core norms and standards are quiet clear and practical and general for quality service though they seem not to be including cervical cancer. According to Blomberg, Temestedt, Tomberg and Tishelman (2008:561), globally cervical cancer remains the second most common cancer in women, despite the existence of the 'Pap smear' to discern cervical cancer early, non-invasive, asymptomatic stages. In the researcher's view, it is clear that most women continue to be diagnosed with cervical cancer even if Pap smear services

are available in facilities of which most people are expected to be aware of this problem especially that it is growingly affecting most of the women.

This raises a question to the researcher that, if the staff is able to approach the health problems of the catchment area hand in hand with the clinic health committees and community civic organisations to identify needs, maintain surveillance of cases, reduce common risk factors and give appropriate education to improve health awareness, more over that the primary health care package is said by Sunitha and shenuka (2012:3) to be an intersectoral collaboration, community participation, multifaceted and applicable in the delivery of health care to both the providers and to the recipients of care, as well as to the policy makers. It is therefore the reason for the researcher to indicate that, there is a gap in the primary health care package for the inclusion of detailed information about cervical cancer, because it is a serious problem which is reported by different researchers and therefore expected from either the community (the recipients of care), the providers of care or the policy makers to take action in this regard as indicated in core standards of health education either in the form of awareness campaigns or mobilised structures for better health care/needs.

Even though it is believed that the availability of resources is a serious challenge in Makhuduthamaga Municipality, for cervical cancer there is a need of attention by either of the said parties if they have enough knowledge, understanding and aware to take action in this regard. This is further emphasised by the statements “Cultural and linguistically appropriate patients ‘educational pamphlets are available on different health issues for free distribution. Appropriate educational posters are posted on the wall for information and education of patients. Educational videos in those clinics with audio-visual equipment are on show while patients are waiting for services” meanwhile nothing with regard to the said statements is available to any of the clinics of Makhuduthamaga Municipality. This proves to the researcher that cervical cancer is not covered in the primary health care package of South Africa irrespective of it killing most women and therefore indicates the need for cervical cancer to be included in the primary health care package with its clear quality norms and standards for required for all facilities.

Although some challenges with regard to cervical cancer management were found to be a challenge in South Africa, they were found to be common in other developing countries like Zimbabwe. Results of a study conducted in Zimbabwe by Mupepi, Sampselle and

Johnson (2011) concerning knowledge, attitudes, and demographic factors influencing cervical cancer screening behaviour of Zimbabwean women, indicated that “of the 514 participants, 91% had never had cervical cancer screening and 81% had no previous knowledge of cervical cancer screening tests, 80% expressed positive believes about cervical cancer screening tests after an educational intervention”.

The recommendation made based on the results was that the accessibility of cervical cancer screening services should be improved through planning and implementation of screening programme involving community leaders and culturally appropriate messages and also the government to incorporate the Human papilloma virus vaccine in the immunisation programs for adolescents, intensified health education in encouraging women and their partners to comply with diagnostic and treatment regimes. The implication in the study findings shows a high need for serious attention to cervical cancer as it kills the nation.

Studies proved that the Sub-Saharan countries also lack adequate knowledge with regard to cervical cancer. Evidence was made by Nwankwo, Aniebue, Aguwa, Anarado and Agunwah (2010) who conducted a study about the knowledge, attitudes and practices of cervical cancer screening among urban and rural Nigerian women and results revealed that the most important factors hindering the use of available cervical cancer screening services were lack of knowledge and a feeling that they had no medical problems. The need for effective female education and free mass screening are necessary for any successful cervical cancer screening programme in Nigeria as it was discovered that there is very poor knowledge and practice of cervical cancer screening among Nigerian women Nwankwo et al (2010:362).

The study of Nwankwo et al (2010:362) was supported by Olowokere and Ojo (2015:155) by stating that: “Rural women in Nigeria required more information on cervical cancer and its prevention. Mass media was the major source of cervical screening information, followed by health care workers. Health professionals should provide preventive information at various clinics. Continuous reinforcement of educational information on cervical cancer and screening is a priority to increase uptake of cervical cancer screening services, early detection of cervical lesions and effective treatment.” This information concur with the core norms and standards of the primary health care package as it covers most of the aspects expected from all the health facilities at the primary health care level.

According to Hami, Ehlers and Van der Wal (2014:1), Malawian women lacked awareness regarding their susceptibility to cervical cancer and required information about the available cervical cancer screening services and a recommendation was made that Malawian women aged 42 years and older be informed about the advantages of cervical cancer screening and about the importance of effective treatment if an early diagnosis has been made.

Intensified health education about cervical cancer to all people without any discrimination as very important for the prevention of cancer related deaths as said in literatures. This is emphasised by Maree et al (2012b:104) by stating that “women cannot prevent any disease, nor use available screening opportunities, if they have never heard about it. Having a national programme for the prevention of cervical cancer would serve no purpose without increasing women’s knowledge about cervical cancer and the potential benefits of cervical cancer screening, as well as the accessibility of such services”.

A study conducted by Swaine, Parish, Luken, Son and Dickens (2013:651) proved and emphasised that, there is a critical need for evidenced based health education interventions for women with intellectual disabilities (IDs) to promote receipt of preventive health screenings and concluded that additional efforts appear necessary to increase the knowledge women with IDs Have about cervical cancer and breast cancer screening. The need for health education to impart knowledge to women is supported by Li-Wei, Lan-Ping, Si-Fan, Shang-Wei, Ching-Hui, Chia-Ling and Jin-Ding (2011:376) who indicated that their study highlighted the necessity of increasing the knowledge and awareness of cervical cancer screening and reducing the barriers to cervical cancer screening experienced by women with disabilities.

2.6 CONCLUSION

Chapter 2 discussed the literature review on cervical cancer and screening, the perceptions, barriers towards cervical cancer screening also in various countries. Different nursing theories were also outlined in this chapter thus emphasising the need to care for all individuals as holistic beings for good health. The following chapter outlines the research methodology.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 INTRODUCTION

Chapter 3 outlines the research design and the research method which were used to evaluate the National Cervical Cancer Screening Policy Guideline (2013) and to establish the perceptions of cervical cancer screening from women and professional nurses in Makhuduthamaga Sub-district. This chapter also presents the study population, sampling method, data collection and data analysis. Measures to ensure reliability, validity and trustworthiness are discussed.

3.2 MIXED METHOD APPROACH

The mixed method approach is a research in which the investigator collects and analyses data, integrates the findings, and draws inferences using both qualitative and quantitative approaches or methods in a single study or programme of inquiry (Polit & Beck 2012:603). In this study, the researcher combined the quantitative and qualitative approaches and methods to address the implementation of the National Cervical Cancer Screening policy in Makhuduthamaga Sub-district, perceptions of women and professional nurses with regard to cervical cancer screening.

The mixed method research approach is referred by Polit and Beck (2012:603) as a quiet revolution in the health sciences, because there was little guidance on how to conduct mixed method research a decade ago, compared to the present years. The methodology aimed at addressing the global complexity of cervical cancer screening as experienced in Makhuduthamaga Sub-district. Quantitative data were gathered, analysed and interpreted followed by qualitative data collection through individual interviews with women and focus group discussions with professional nurses by use of structured interview guides.

3.2.1 Qualitative versus quantitative approach

Similarities: As stated by Parahoo (2014:79) both quantitative and qualitative approaches should not be seen as dichotomous (i.e. divided into two opposing camps) as they were found to be similar with some other characteristics. Both quantitative and qualitative methods use some numbers, they are inductive and some share the same vision of reality. It is also indicated that post positivist research takes into account many of the concerns of qualitative researchers. Some researchers, as stated by Parahoo (2014:79), argue that the differences between the two methods have been oversimplified that there is a great deal of overlap between the two, that the boundaries are fuzzy and that they should be seen as a continuum with each approach at the opposite ends of the same pole. The qualitative and quantitative debate has been overtaken by a new development of the combination of quantitative and qualitative methods (Parahoo 2014:79-80).

The quantitative and qualitative methods allow data to be transformed or analysed in more than one way, designed to be understood by particular audiences and also produce data in a simplified form of raw experiences (Cameron 2009:145).

Differences: Quantitative research is limited in researching meaning, experience and behaviour. And that it strips data of their context, however, qualitative research is criticised for being biased, subjective and lacking in reliability, validity and generalisability (Parahoo 2014:79).

Mixing: Mixed methods combine the advantages and disadvantages of both methods **(**Bless, Higson-Smith & Sithole 2013:58).

3.2.2 Rationale for combining quantitative and qualitative approaches

The rationale for using the mixed method research approach is stated by Ivankova, Cresswell and Stick (2009:3) as grounded in the fact that neither the qualitative nor the quantitative methods are sufficient, by themselves, to capture the trends and details of a situation. When used in combination, quantitative and qualitative methods complement each other and allows for a more robust analysis, taking advantage of the strengths of each. The rationale is further emphasised by Mcintosh-Scott, Mason, Mason-Whitehead

and Coyle (2014:34) when stating that mixing methods enhances the validity of a study (by providing multiple methods, perspectives and data sets to examine the phenomenon in question), results in richer data and fosters creative and innovative ways of conducting methodological inquiries".

Gathering both forms of data also contributed to a comprehensive and complete understanding of the results Ivankova (2009:3) and Mcintosh et al (2014:34). In the study, the researcher therefore concurred with Ivankova et al (2009:3) and Mcintosh et al (2014:34) for the fact that more data regarding the perceptions of cervical cancer screening was obtained from professional nurses and women, analysed both quantitatively and qualitatively and as such enhancing the validity of the study.

The results of the implementation of the National Cervical Cancer Screening Policy Guideline were evaluated quantitatively. Quantitative data provided more holistic details of understanding and implementation of the National Cervical Cancer Screening Policy Guidelines by professional nurses to the interpretation of the perceptions of women and professional nurses (Mayoh & Onwuegbuzie 2015:99). The qualitative approach addressed the concerns and practicality raised in the research questions with regard to women and professional nurses' perceptions towards cervical cancer screening. The mixed method approach was used to collaborate quantitative and qualitative data (Polit & Beck 2012:604).

The purpose for using the mixed method approach in the study was: to develop and enhance the validity of the checklist and interview guides used in investigating the cervical cancer screening, to allow researchers to study various aspects about the policy guideline and perceptions of cervical cancer screening and to explore complex phenomena from different perspectives on the implementation of National Cervical Cancer Screening Policy Guideline (Parahoo 2014:81).

3.3 RESEARCH DESIGN

A sequential explanatory design was used in the study. Quantitative data were collected and analysed in the first phase with operational managers and followed by qualitative data collection and analysis (Creswell 2014:274).

3.3.1 The sequential explanatory design

The sequential explanatory design as stated by Creswell and Plano Clark (2007:3) identified 12 classification systems drawn from the fields of evaluation, nursing, public health, education policy and research, and social and behavioural.The priority was typically given to the quantitative data, and the two methods were integrated during the interpretation phase of the results. The purpose of the sequential explanatory design is typically to use qualitative findings to assist in explaining and interpreting the quantitative results. Creswell et al (2009:3) was also supported by Clark, Garrett and Leslie-Pelecky (2011:155) when indicating that in sequential mixed method research studies, researchers collect quantitative and qualitative data in two phases and tend to make use of iterative integration approaches that emphasise connections between the study phases.

The quantitative method focused on hard generalisable data involving a formal writing style using an impersonal passive voice and technical terminology, whereas the qualitative method was based on detailed, richly described observational data that was narrated by women and professional nurses (Polit & Beck 2012:612).

The researcher selected this design to obtain as much as possible information from women and professional nurses about their knowledge and perception about Cervical Cancer Screening which is grounded in their real experiences. The researcher conducted individual interviews with selected women who met the criteria and focus group discussions with professional nurses. Focus groups are also described as group in-depth interviews which consist of a small number of individuals or interviewees (between 6 and 12) that are drawn together for the purpose of expressing their opinions on a specific set of open questions for the collection of qualitative data (Welman et al 2007: 201). The aim is further explained by Welman et al (2007:201, 203) that, focus group discussions gathers information that can perhaps not be collected easily by means of individual interviews and also enables participants in the group to discuss their opinions and experiences in such a way that a consensus of opinion regarding the research problems can be reached.

Furthermore, the purpose of using interviews in this study was that interviewing is a predominant mode of data or information collection in qualitative research (De Vos et al

2011:342). DePoy and Gilson (2008:108) further explain interview by saying that researchers are able to obtain information through direct interchange with an individual or a group that is known to possess the knowledge they seek. This strategy was chosen in order to allow the researcher to probe for more information and giving direction if the respondent loose track which was convenient to save time and obtain information sought by the study.

3.3.2 Sequential explanatory design model

The following presentation illustrates the visual sequence of the phases of the sequential explanatory design as applied in the study (Driscoll, Appiah-Yeboah, Salib & Rupert 2007:21).

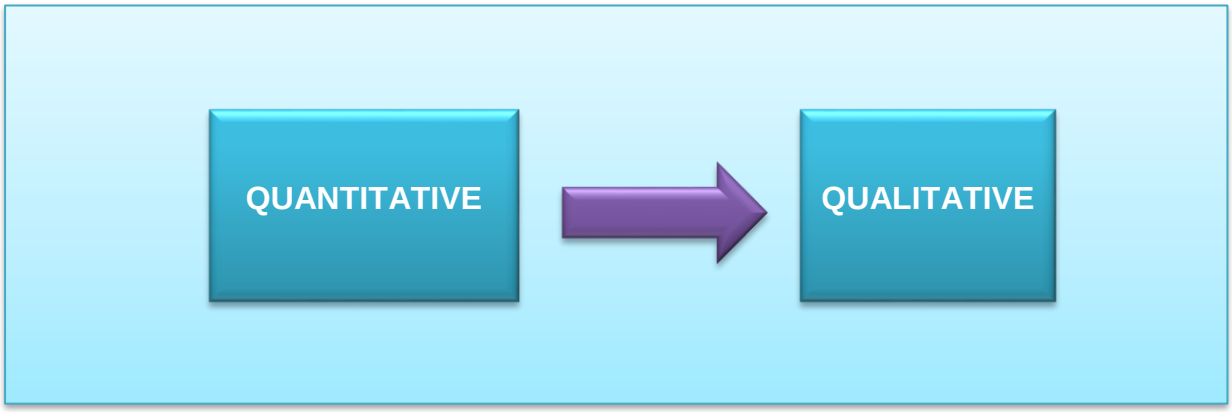


Figure 3.1 Sequential explanatory design model

The sequential explanatory mixed methods approach is explained by Creswell (2014:274) as a design in mixed methods that appeals to individuals with a strong quantitative background or from fields relatively new to qualitative approaches. It is further stated by Creswell (2014:274) that it involves two phases in which the researcher collects quantitative data first, analyses the results and uses the results to build on the second phase with the intent of the qualitative data to explain in more detail the quantitative results as reflected in Figure 3.2 below. The quantitative and qualitative phases are presented, where the application of the four phases are observed in the study (Figure 3.2).

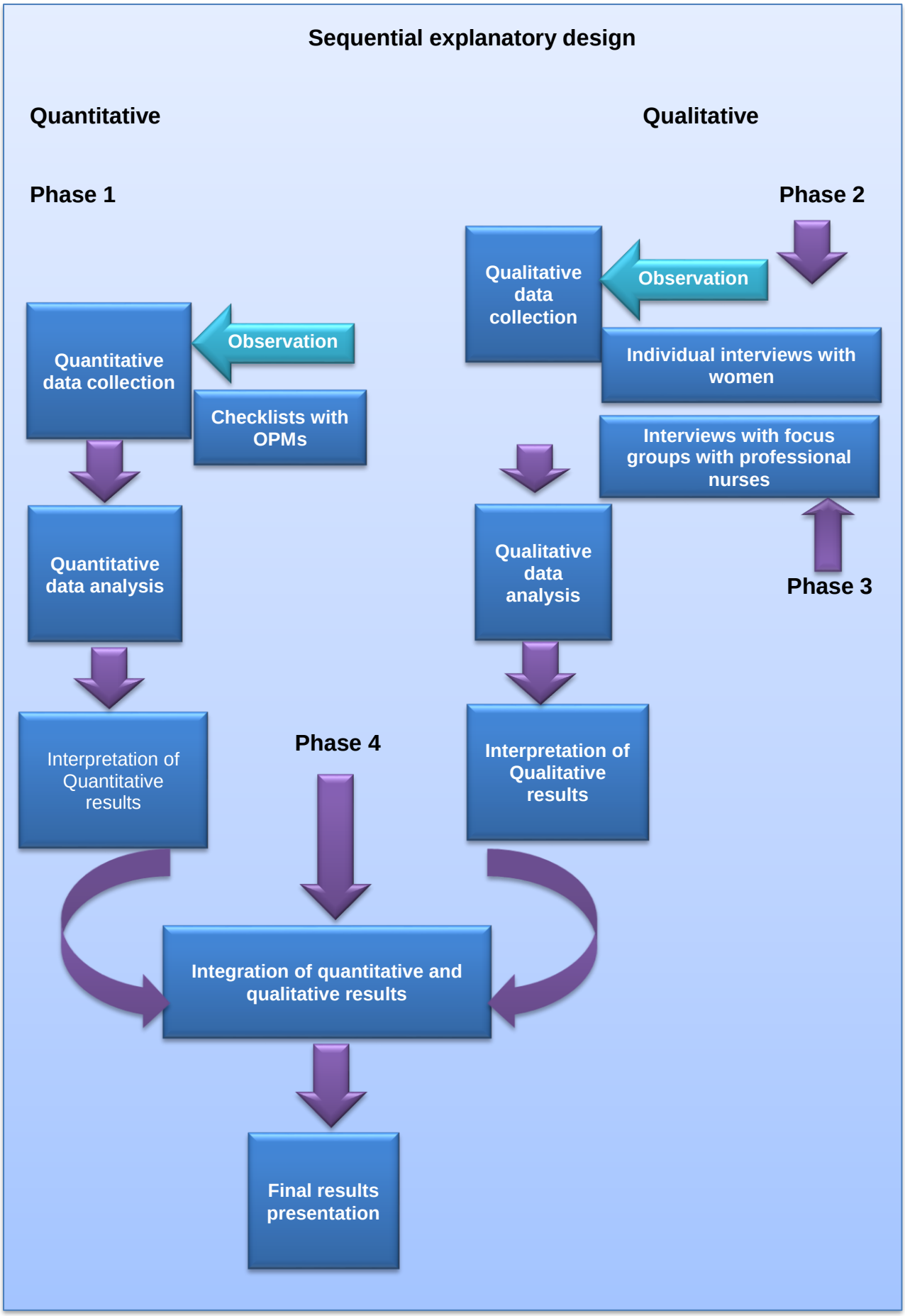


Figure 3.2 The visual presentation of the sequential explanatory design

3.3.2.1 The phases of the study

Phase 1: The evaluation of the implementation of the guidelines in the selected clinics and the analysis of quantitative data

The researcher visited the clinics in which quantitative data was collected first and the observational skill of the researcher was also applied to observe the structure of the clinics and documents related to the study e.g. health education books, Pap smear register and cervical cancer screening results for women. The checklist was used as the data collection tool for the quantitative phase where Operational Managers were interviewed as data sources to evaluate the National Policy Guideline on Cervical Cancer Screening and data was analysed for each clinic and for all ten clinics. Analysed data was then interpreted (Figure 3.2). Qualitative data collection commenced in phase 2 for integration with the quantitative results.

Phase 2: Establishing the perceptions of women through in-depth interviews and data analysis

The qualitative phase was built on the quantitative results, where women were interviewed individually for their responses on their perception and experiences of cervical cancer screening. The observational skill of the researcher was also employed in this regard. Qualitative data was analysed first then interpreted in relation to the interview guide (Figure 3.2).

Phase 3: Focus group discussions with professional nurses and data analysis

Professional nurses were interviewed in focus group discussion, to also built on the quantitative results and qualitative results from women responses. The analysed data from focus groups discussions with professional nurses were also interpreted for integration in phase 4 (last phase of Figure 3.2).

Phase 4: Integration of the qualitative and quantitative results and the formulation of recommendations

Integration of quantitative results and qualitative findings was done to give meaning and answers with regard to the implementation of the cervical cancer screening Policy Guideline and the perceptions of women and professional nurses with regard to cervical cancer screening. The integrated results from the quantitative and qualitative phases are presented as final results of the study.

3.4 RESEARCH METHOD

The following research designs were applied in the study: cross-sectional, descriptive non experimental research was used.

3.4.1 A cross-sectional survey method

A cross-sectional survey was applied to obtain qualitative and quantitative data from women and professional nurses. Data was collected within a single period as stated by Christensen, Johnson and Turner (2011:334-335). In this study, quantitative data was collected once for a period of four days, analysed and followed by qualitative data collection which was collected once for a period of a month and also analysed for all ten clinics. Data collection was done individually across women of different age groups above 30 years, in focus group discussions with professional nurses in all ten selected different clinics of Makhuduthamaga Sub-district. The purpose was to allow enough time to obtain adequate data until saturation was reached for quality and validity of data.

3.4.2 The descriptive non-experimental research method

The descriptive non-experimental research design is described by Lobiondo-Wood and Haber (2006:239) as being used in studies in which the researcher wishes to construct a picture of phenomena, explore events, people or situations as they naturally occur or test relationships and differences among variables. This method was chosen in the study, for professional nurses and women to express their opinions and perceptions about cervical cancer screening naturally as they experienced them and the researcher was able to draw conclusions from their responses.

The implementation of the National Cervical Cancer Screening Policy Guideline by professional nurses was evaluated and analysed in the first phase. A purposive sample was used in the study for selection of professional nurses for focus group discussions, women for individual interviews and random sampling used for selection of the ten clinics. The descriptive non-experimental design was used in the quantitative phase of the mixed method research to clarify, elaborate, build on the findings of the quantitative method to inform the qualitative research approach (Vogt, Gardner & Haeffele 2012:113).

3.5 THE RESEARCH PROCESS MODEL FOR THE STUDY

Ivankova, et al (2009:16) visual model for mixed methods was adopted in the study although some adjustments were made to suite the study.

PHASE	PROCEDURE	OUTCOME
Quantitative data collection	• Descriptive non-experimental design • Observational and checklists	• Numeric data
Quantitative data analysis and interpretation	• Statistical analysis and interpretation	• Statistically interpreted data
Qualitative data collection	• Interviews (in-depth individual and focus group discussion) • Observational • Audio tape and open-ended questions	• Interview transcripts and audio recoded data
Qualitative data analysis and integration	• Coding and thematic analysis within case and across case theme development • Cross thematic analysis	• Codes and themes • Similar and different themes • Cross thematic matrix
Integration of qualitative and quantitative results	• Interpretation and explanation of qualitative and quantitative results	• Discussion, implications and recommendations

Figure 3.3 Visual Model for mixed methods: Sequential explanatory design procedures

(Ivankova, Cresswell & Stick 2009:16)

3.6 FRAMEWORK FOR MIXED METHOD DESIGN

The combination of qualitative and quantitative research methods in exploring perspectives of cervical cancer screening was justified through: triangulation, complementarity, development, initiation and expansion (Buchanan & Bryman 2011:520).

3.6.1 Triangulation

Different research methods and designs were used in the study, for data gathering and analysis for both qualitative and quantitative phases. The main aim was to establish if the implementation of the cervical cancer screening Policy is in line with the perceptions of women and professional nurses towards cervical cancer screening. The corroboration of data results from the qualitative and quantitative phases was applied during analysis and interpretation of the results. Triangulation occurred when analysed quantitative and qualitative data were interpreted.

3.6.2 Complementarity

According to Buchanan and Bryman (2011:520), complementarity occurred when the researcher elaborated, illustrated and clarified quantitative data of the implementation of the National Cervical Cancer Screening Policy Guideline from the qualitative data of responses of women and professional nurses and vice versa during analysis and interpretation. The purpose was to extend understanding by enhancing complexity in providing a larger picture of perceptions of cervical cancer screening than is available from either quantitative or qualitative method alone (Buchanan & Bryman 2011:520). The implementation of National Cervical Cancer Screening Policy Guideline was reviewed by use of checklist and followed by in depth individual interviews with women and focus group discussions with professional nurses to explore their perceptions about cervical cancer screening. Both quantitative and qualitative results were used as a test of convergent validity to provide reliability (Buchanan & Bryman 2011:520).

3.6.3 Development

The results from the quantitative method were used to inform and develop the qualitative approach. Themes were developed qualitatively from participants responses to draw conclusions.

3.6.4 Initiation

Initiation was used to establish possible contradictions and discover new information between both quantitative and qualitative results.

3.6.5 Expansion

The combination of qualitative and quantitative research method in exploring perceptions of cervical cancer screening resulted in expansion of information in answering the research questions in the study. It occurred during the stages when the results were presented, interpreted and discussed.

3.7 SAMPLING

3.7.1 Quantitative sample selection

Random sampling was used to select ten (10) clinics from the 21 fixed clinics of Makhuduthamaga Sub-district. Two gateway clinics were excluded as the one was not providing the cervical cancer screening cervices and the other one could pose conflict of interest to the study as it was a place of work for the researcher. Purposive selection of participants was applied for the qualitative part and random sampling for quantitative part.

3.7.2 Qualitative sample selection

Women between the ages 30 and 70 were purposively selected. The purpose of the study was explained to women while still queuing for consultation and requested to voluntarily participate in the study. A total number of twenty three women were interviewed and a total number of fourty-six professional nurses interviewed in focus group discussions. Invitations for participation in the study were sent to clinics who met the selection criteria

to conduct focus group discussions with professional nurses. The purpose of the visit was further explained to the Operational Managers of clinics to allow professional nurses to participate in the study. Professional nurses were gathered in an office where the purpose of the visit and voluntary participation in focus group discussions was explained. Professional nurses therefore participated in focus group discussions voluntarily where information sheets were given for them to read and consent forms signed.

3.8 DATA COLLECTION

Quantitative data collection and analysis occurred first and was followed by qualitative data collection and analysis. Quantitative data was obtained and analysed by using a checklist to review the implementation of the cervical cancer screening policy followed by in-depth interviews with individual women and focus group discussions with professional nurses.

The researcher used the processes of intuition and analysing to discover important themes regarding the perceptions of cervical cancer screening. Clarification of responses by probing through the face to face method was made (Christensen, Johnson & Turner 2011:337). In-depth individual interviews were conducted with women who met the selection criteria and focus group discussions with professional nurses were held. The length of time nor the number of participants was not a major concern for qualitative data collection and therefore qualitative data was collected until saturation was reached (Rebar, Gersch, Macnee & McCabe 2011:184).

An interview is also regarded as a directed conversation, intensive interviewing which permits an in-depth exploration of a particular topic or experience with a person who has had the relevant experiences (Babbie 2010:320).

Twenty-three women were interviewed with four women interviewed in two clinics, 3 women interviewed at other two clinics, 2 women interviewed in each of the three clinics whilst 1 woman was interviewed in each of the other three clinics (Table 5.2). Data saturation was reached at clinic 3 but interviews continued until all ten clinics participated.

Table 3.1 illustrates the number of participants in each of the ten focus groups that were conducted.

Table 3.1 Demographics of focus group discussions

Number of focus group	Number of participants in each focus group
1	5
2	6
3	5
4	5
5	3
6	5
7	5
8	5
9	3
10	4
Total	**46**

3.8.1 Data sources

The following are data sources used for the quantitative and qualitative research phases in the study:

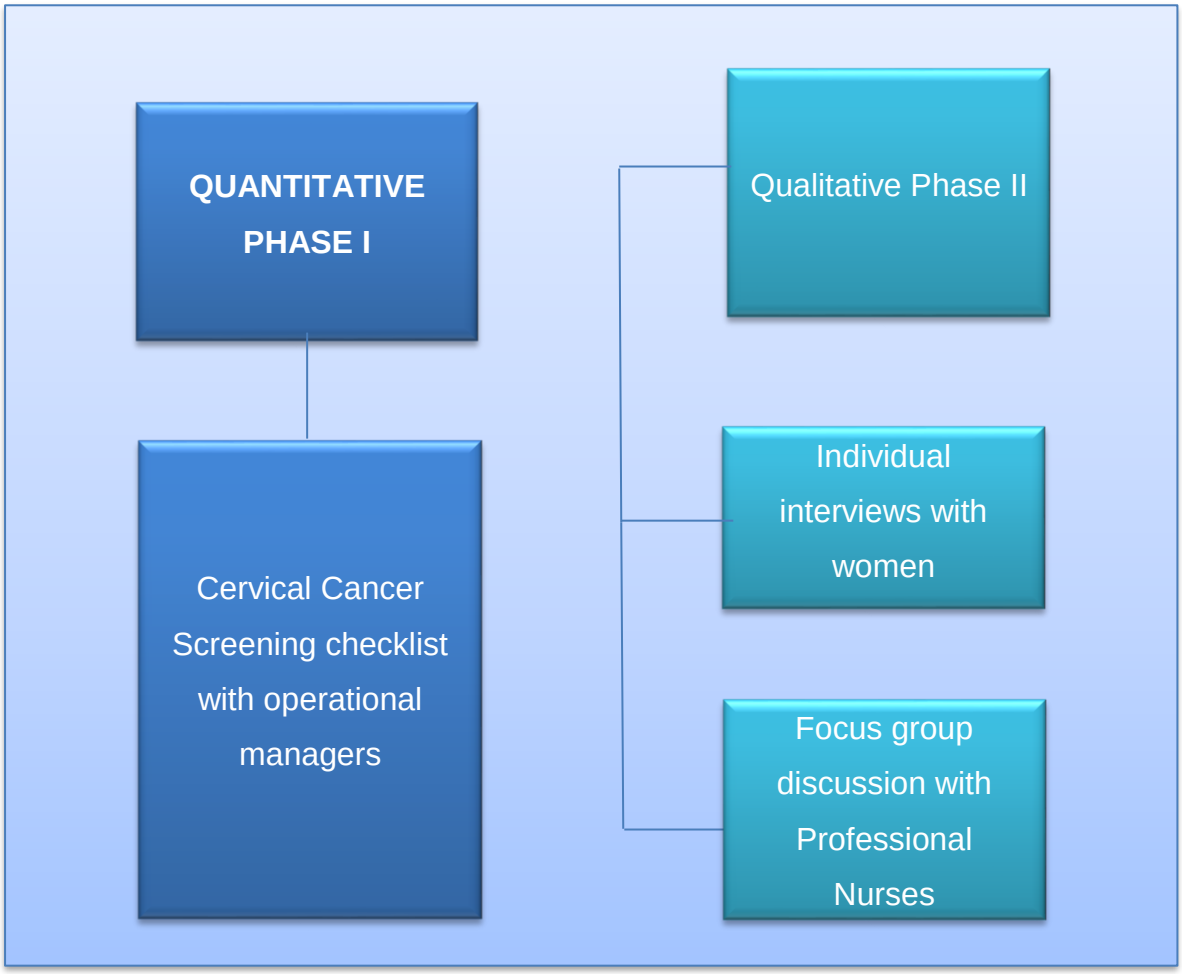


Figure: 3.4 The quantitative and qualitative research phases

(Polit & Beck 2012:608)

3.8.2 Data collection method

Permission to conduct and collect data was obtained from the University of South Africa, Health Studies Higher Degrees Ethics Committee the Ethics Committee from the Department of Health, Limpopo Province and Primary Health Care Manager, Makhuduthamaga Sub-district whereas some letters were distributed to the selected clinics from the Makhuduthamaga Sub-district Office to arrange for data collection.

3.8.2.1 Validity, reliability and trustworthiness

3.8.2.1.1 Quantitative phase

Internal validity: A checklist developed from National Cervical Cancer Screening Policy was used in all the selected clinics to obtain quantitative data. For the quantitative approach in the study the developed checklist was assessed by the researcher and supervisor for accuracy for it to measure (evaluate) if the policy on cervical cancer screening is implemented accordingly.

External validity: The results obtained from the study are a representative for Makhuduthamaga sub- District and made available to the Department of Health, the sub-district manager and media for access by those who may need it for further development purposes and research. The research findings were reviewed by the supervisor and research office for accuracy of the findings before publication.

3.8.2.1.2 Data gathering instrument

Reliability: The researcher developed a checklist from the National Cervical Cancer Screening Policy with same variables which were used in all the selected clinics as a data collection tool to evaluate the implementation of the National Cervical Cancer Screening Policy Guidelines. The same checklist was used as a data collection tool in all study contexts.

Validity: The researcher ensured that a period of two months was spent in the field for an in-depth understanding of the phenomena under study. Validity was ensured through random selection of the participating sites and by ensuring that the sample population is representative. Content validity was used in the study. It concerns the degree to which an instrument has an appropriate sample of items for the construct being measured and adequately covers the construct domain. In the study, all variables from the National Cervical Cancer Screening Policy Guidelines were evaluated.

3.8.2.2 Trustworthiness

Trustworthiness encompasses the following dimensions of the study:

Credibility refers to confident in the truth of the data and interpretations of them which also involves carrying out the study in a way that enhances believability of the findings (Polit & Beck 2008:585). The researcher formulated an interview guide in order to cover all the information required for the phenomena. The researcher explained the importance of telling the truth, reassured participants to be free, open, relaxed and to listen to each other.

Credibility: Refers to confident in the truth of the data and the interpretation of data which also involves carrying out the study in a way that enhances believability of the findings (Polit & Beck 2008:585). The researcher formulated interview guides for professional nurses and women which were used during the interview in order to cover all the information required for the study. The researcher explained the importance of honesty, reassured participants to be free, open, relaxed during the individual interviews and listening to each other during the focus group discussion. A tape recorder was used for recording all interviews.

Dependability: Explained by De Vos et al (2011) as ensuring that the research process is logical, well documented and audited. The researcher ensured that a sequence is followed when asking questions by documenting responses and using a tape recorder to ensure that all information is captured during the interview. A period of 25 minutes was spent with each participant for them to explain their perceptions and experiences about cervical cancer screening and paraphrasing of answers from respondents was also done. This is emphasised by Creswell (2014:202) that “the more in contact experience that a researcher has with participants in their settings, the more accurate or valid will be the findings”. The researcher conducted focus group discussions with professional nurses. Some specific descriptions and themes were taken back to participants to determine accuracy by conducting follow-up interview for them to comment on the findings (Creswell 2014:202).

Confirmability: Is explained by Polit and Beck (2008:585) as referring to objectivity, that is, the potential for congruence between two or more independent people about the data’s accuracy, relevance, or meaning. The researcher ensured this by describing the methodology in detail, availability of the cassette, signed consent forms of respondents and the permission letter of conducting the research from the Department of Health.

Transferability: In qualitative research it is explained by De Vos et al (2011:420) as problematic, but the researcher ensured that 50% of the clinics in Makhuduthamaga were covered to ensure that the required information is obtained and to enable transferability.

3.8.3 Ethical considerations related to data collection

The researcher first requested permission from the Higher Degree Committee of Department of Health Studies in the University of South Africa, then from the Ethics Committee of Department of Health in the Limpopo Province and from the Makhuduthamaga Sub-district manager by submitting the application letter and the proposal for access to conduct the study in individual clinics.

The researcher ensured the relevancy of the documents reviewed to the research problem and purpose and ascertained that the content of the documents fits the conceptual framework of the checklist used for the review of the implementation of the policy. The authenticity, credibility, accuracy, representativeness and meaning (Babbie 2010:153, 156) were addressed through ensuring the endorsement of documents by the Department of Health, that is the National Cervical Cancer Screening Policy, the Health Education Book and the cervical cancer screening results. The researcher demonstrated objectivity and sensitivity in the selection and analysis of data from any reviewed document (Bowen 2009:28).

An informed consent with voluntary participation from participants was obtained. A permission letter from the Sub district was obtained. The participants were given time to read the invitation letter, information form and signed consent as they voluntarily took part in the study (Meyer, Naude, Shangase & Niekerk 2015:393).

Participants were informed that they could withdraw from the study at any time if they so wished.

3.9 PHASES OF THE STUDY

The study involved the following four phases which are described in the data collection and data analysis.

3.9.1 Phase 1: Quantitative data collection and analysis

The evaluation of the implementation of the National Cervical Cancer Screening Policy guidelines in the ten selected clinics were conducted using a checklist and the analysis of quantitative data was done.

3.9.1.1 Quantitative data collection

Quantitative data collection through a checklist developed from the National Cancer Screening Guidelines (2013) was used to review the clinical records (Pap smear register, Health education book and Women Pap smear results) that are used for the implementation of the National Cervical Cancer Screening Policy Guideline in the selected clinics.

3.9.1.2 Quantitative data analysis

Data were analysed with the assistance of the statistician using SPSS Software analysis. Descriptive and inferential statistics methods of analysis were used to organise, summarise, simplify and make generalisation of results obtained from participants (Gravetter & Forzano 2012:396). The Cronbach's Alpha method of analysis was also used for the internal consistency analysis of data (Gravetter & Forzano 2012:443).

3.9.1.3 Data collection tool

A checklist which was developed from the National Cervical Cancer Screening Policy Guideline was used with operational managers of all clinics to review the implementation where validation of information was done through Pap smear registers and clients' Pap smear results. The checklist included the following:

- Target population.
- Primary prevention which included: stopping smoking, stressing the use of barrier methods in health talks, postponement of sexual activity to older age, effective management of STIs and decreasing parity.

- Secondary prevention which included: Three smears per life time, re-screening of a woman with inadequate smears, extra cost of smear incurred by woman should an extra smear be requested by her.
- Referral criteria which included: Referral system in place, proposed programme dates and repeat if low grade sill and atypical squamous cells (ASCUS) smear in 12 months.
- Follow-up criteria which included: An effective follow-up system in place, a plan to find patients not returning voluntarily for results and patients who do not keep appointments for colposcopy.
- Adequacy rate which included either </> 70% and training for staff.
- Infection control which included availability of sterilisation machine.

Operational managers in all selected clinics were interviewed on all aspects of the checklists to evaluate if professional nurses in all clinics are following all aspects in the policy guideline for its implementation.

3.9.1.4 Administration of the checklists

A discussion was held by the researcher with operational managers where some clarifications were made where necessary for clear and honest responses. Checklists were labelled with clinic codes only known to the researcher for administration and analysis purposes. Quantitative data analysis generally included the summary statistics (mean, standard deviation for continuous variables, frequencies and percentages for discrete variables) and Chronbach's alpha for internal consistency with the assistance of a statistician. Confidence intervals of 95% were used to report for discrete variables. Quantitative data collection and analysis was completed before the commencement of qualitative phase.

3.9.2 Phase 2: Qualitative data collection and analysis

The researcher visited the selected clinics early in the morning during the week. The interview took place in quiet private room provided by the manager in the clinic. Invitations and information sheets were distributed to participants to explain the purpose and the importance of the study. The study procedure was explained and clarification of any

misunderstanding was also offered. Participants were requested to sign the consent form on the same day of data collection.

Women were interviewed individually using a researcher administered open ended interview guide which were at some stage explained in Sepedi for a better understanding by participants. The use of spoken home language by participants during an interview was identified as influential as participants were able to respond to all questions accordingly (Fatone & Jandorf 2009:416).

Women of ages between 30 and 70 years shared their perceptions and views about Cervical Cancer Screening with the researcher in all clinics until data saturation was reached. Women were welcomed, the purpose and interview process was explained to them. Six open-ended questions were asked to women (Appendix F) and a tape recorder was used to capture data. The researcher wrote only some points during the interview to ensure validation of information. Face to face individual interviews with women was conducted. Probing and follow-up questions were posed to participants to obtain in-depth information (Christensen, Johnson & Turner 2011:58) about their perceptions of cervical cancer screening from women. The following open ended questions were asked to women during interviews:

- How old are you?
- Kindly explain to me, your understanding of Cervical Cancer Screening?
- Did you ever do Cervical Cancer Screening? Why?
- Do you think that Cervical Cancer Screening is important?
- Describe the possible consequences of not doing Cervical Cancer Screening.
- Can you encourage someone to do Cervical Cancer Screening? Why?

Through the interaction of participants and the researcher, more naturalistic data was obtained as participants felt supported by the presence of other participants and disclosure of more information about the perception of cervical cancer was enhanced (Wood, Giles & Percy 2012:126). A tape recorder was also used for capturing data during the discussions, note taking and confirmation of information was done throughout the discussion with participants.

The researcher introduced self, participants were warmly greeted and welcomed, purpose of the study was explained, information sheets read and consent forms signed before the discussion commenced. Ground rules and the discussion process were explained to participants. The following information was explained to the focus group discussion participants:

- The study is confidential and nobody should call anyone by name.
- The participants were identified as participant 1, 2, etc.
- They were not allowed to talk at the same time but allowed to talk to each other.
- That there is no right or wrong answer and therefore free to give an answer to any question to share views.
- One to raise a hand when one would like to talk.
- To go out when responding to the call of nature.
- Keep all cell phones on silence and be answered outside the interview room.

3.9.2.1 Qualitative data analysis

Qualitative data analysis occurred simultaneously with data collection whereby the transcription of field notes, clarification, coding of data was conducted. Transcription of data from recordings was done after each interviews. Data were analysed using the six research strategy steps of (Creswell 2009:185-190) in conjunction with Tesch's Eight Steps in the Coding Process (Creswell 2014:247) as follows:

Step 1: Data was captured audio metrically for further analysis, transcription of notes and verification of responses was done during the interviews and was organised, sorted, arranged and coded according to all 10 clinics.

Step 2: Data was transcribed verbatim from the tape recorder, read over and over and a summary made for a better understanding.

Step 3: Data was brought together according to responses from participants to specific questions.

Step 4: Meaning and description of participants' responses was generated from major themes to form subthemes.

Step 5: Narratives and quotations of responses from participants to support and convey findings were identified.

Step 6: Data interpretation was made based on findings and analysis to convey meaning.

Qualitative data was scrutinised carefully, read over and over in search of meaning and understanding and was sorted according to similarity of meanings from different clinics. This is emphasised by Polit and Beck (2012:557) when stating that "qualitative analysis is a process of fitting data together, of making the invisible obvious. It is a process of conjecture and verification, of correction and modification, of suggestion and defence". Audiotaped interviews were transcribed verbatim and accurately to validly reflect the interview experience (Polit & Beck 2012:557). Qualitative data was further classified, indexed, converted to smaller, more manageable units that would be retrieved and reviewed and developed into a category scheme (Polit & Beck 2012: 558).

All interviews were categorised, and compared for similarities and differences with subsequent interviews every day. The field data (audiotaped recordings, written field notes) were read and listened by the supervisor of the study to satisfy the reliability criteria (Bowling 2014:402).

3.9.2.2 Focus group discussions with professional nurses

Focus group discussions were used to obtain a larger amount of in depth information within a short space of time**.** Invitations for the discussions were sent to professional nurses in the clinics two weeks before, for their availability, to ensure an informed voluntary participation. The sample for the focus group discussion was purposive and professional nurses working in the same clinics were used as focus group irrespective of gender. Information sheets and consent forms were read and signed on the interview date due to distance of the researcher and availability of the staff. Focus group discussions with professional nurses working in the ten selected clinics of Makhuduthamaga Sub-district were conducted. In the study, participant numbers was not a problem as they ranged between three and six which made it easy to be managed

(Krueger & Casey 2009:41). The inductive process was used during discussions where the researcher served as an observer, listener, chairperson, moderator and analyser.

The focus group discussion questions were addressed according to (Krueger & Casey 2009:41) (Appendix N).

A focus group discussion with professional nurses was conducted in each of the ten clinics of Makhuduthamaga Sub-district to make full representation and generalisability. Inputs from professional nurses were necessary for the study as they are the ones rendering the service and their contributions in the cervical cancer screening service could impact on the service (Krueger & Casey 2009:23).

3.9.2.3 The interviewing process for professional nurses

The researcher visited the selected clinics early in the morning during the week. Invitations and information sheets were distributed to professional nurses to explain the purpose and the importance of the study, the procedure and for clarification of any misunderstanding. Professional nurses were requested to sign the consent form after the invitation and information was shared.

The interview process took place in a quiet and conducive clinic setting. Sitting arrangement of participants were a semi-circle position which allowed a discussion and the researcher in the middle where she chaired the discussion. Participants were warmly greeted and welcomed, purpose of the research and ground rules explained. Participants were told that their inputs and contributions in the study is important as it would contribute positively towards the National Cervical Cancer Screening policy and therefore honesty, fairness and openness would be appreciated. Participants' response were recorded and analysed thematically.

3.9.2.4 The researcher as a chairperson/moderator of the interview process

The researcher applied knowledge, listening, communication and research skills in paying attention and probing and gathering data. The researcher facilitated the discussion without any prejudices and biases which ensured that participants free to share their views, experiences and opinions with regard to the perceptions towards cervical cancer

screening. The researcher further applied the process facilitation and the role retraction styles as moderation style in managing the discussions (Breakwell, Hammond, Fife-Schaw & Smith 2009:287).

3.10 ETHICAL CONSIDERATIONS

As indicated by Creswell (2014:275), ethical issues for the mixed methods were considered both from the qualitative and quantitative findings to ensure the accuracy of the results.

3.10.1 Permission to conduct the study

Permission to conduct and collect data was obtained from the University of South Africa, Health Studies Higher Degrees Committee, College of Human Sciences, The Ethics Committee from the Department of Health, Limpopo Province and Primary Health Care Manager, Makhuduthamaga Sub-district whereas some letters were distributed to the selected clinics from the Makhuduthamaga Sub-district Office for the readiness for the study.

3.10.2 Protection from harm

The general principles usually invoked in codes of research ethics are, firstly, that no harm should be fall the research subjects and secondly that subjects should take part freely based on informed consent (Welman et al 2007:181). During the study, the researcher reassured participants about their safety and confidentiality on information given, showed honesty, respect, trustworthiness, sensitivity and attended participants concerns where it was possible. Participants were told about voluntary participation and withdrawal from the study if they so wished.

The researcher informed the operational manager of the clinic should there be any risk that may affect the participants and be dealt with according to the clinics policy or procedure.

3.10.3 Privacy, confidentiality and anonymity

Anonymity means the identity of those taking part not being known outside the research team while confidentiality means avoiding the attribution of comments in reports or presentations, to identified participants i.e. both direct and indirect attribution (Graham & Rose 2008:2). Information and reports given during the study were presented anonymously and confidentially. Clinics and participants were identified by numbers and known by the researcher where no one was able to identify them. Information was discarded after compiling the report and the report was generalised to the municipality and not to a specific individual..

3.11 CONCLUSION

Chapter 3 outlined the research methodology of the mixed method approach, research design, data collection and data analysis and ethical considerations. Chapter 4 presents the quantitative data management and analysis of the results.

CHAPTER 4

PRESENTATION, DESCRIPTION AND ANALYSIS OF THE QUANTITATIVE RESEARCH RESULTS

4.1 INTRODUCTION

Chapter 4 presents the quantitative data management, data analysis and the discussion of results. Data were obtained by use of a checklist (Appendix O) as developed from the National Cervical Cancer Screening Policy Guidelines (2013), to review the implementation of the cervical cancer screening policy by professional nurses in Makhuduthamaga Sub-district clinics.

The results were statistically analysed by the researcher with the assistance of the statistician using IBM SPSS statistics 23 as the statistical software.

4.2 DATA MANAGEMENT AND ANALYSIS

4.2.1 Data collection process

The implementation of the National Guideline for Cervical Cancer Screening Programme (2013) was evaluated in all ten clinics of Makhuduthamaga Sub-district who were randomly selected. Quantitative data were collected for a period of four days during February 2015.

The Operational managers were given invitations to participate in the study (Appendix F), and consent forms were signed (Appendix K). The researcher explained the purpose of data collection to Operational Managers before the signing of informed consent for voluntary participation.

Data were collected in the managers' office using the checklist with variables adopted from the National Cervical Cancer Screening Policy guideline. A follow-up on responses made by managers were made by the researcher for them to elaborate on their responses. Validation and verification of information given was further made through the

review of the Health Education Book (register in which health education talks are recorded) for information given to women daily, Pap Smear Registers (for particulars of women e.g. age categories, follow-up dates and referral, proposed programme dates of women and Pap smear results for quality assurance. Infection control was validated by the availability and functionality of sterilisation machine and confirmation that equipment were sterilised. The estimated time for quantitative data collection was one and half hour but the researcher remained in the clinic until adequate data were obtained.

4.2.1.1 Unstructured observations

Unstructured observations were made to assess the physical layout of the clinic, process and staffing that are also discussed in this chapter. Information with regard to the clinic processes were obtained from the clinic managers.

4.2.1.2 Clinic structure and physical layout

Clinics 1, 2, 3, 4, 5 and 8 were in similar in terms of structure, process and stuffing. All six clinics are situated within reach of most of the community and are newly developed big structures with the 1st wing consisting of an open and well- ventilated reception area accommodating +/- 200 clients where health talks are given. All clients wait in the reception area for consultation, vital signs monitoring, HCT (HIV counselling and Testing) and those who need urgent attention are also triaged.

4.2.1.3 The process of all ten clinics

The process for all ten clinics was the same. All clinics operates seven days a week from 07H00 to 16H30 and clients arrive very early in the morning for booking as the clinic apply the “first come first serve principle.” Emergencies are triaged, served immediately and referred to hospital via an ambulance, depending on the client’s condition.

All clients queue in the waiting area for all services where health information is given while they are still waiting for files as done by a data capturer and nurses. Human Immunodeficiency Virus (HIV) counselling and Testing (HCT) is done by lay counsellors. After health information is given to clients by health workers, vital signs are done by

enrolled nurses and enrolled nursing assistants before clients are referred to professional nurses in the consulting rooms.

Women visiting the clinic for cervical cancer screening and results undergo the same process like all clients coming for other services. The importance for cervical cancer screening was reported to be further stressed by professional nurses in the consulting rooms. The time spend in the consulting room depends on different client's condition which leads to the variety of waiting time ranging between 2 hours, 30 minutes and 3 hours in all ten clinics as stated by the Operational Managers. After cervical cancer screening was conducted to women, more attention is paid to women whose cervical cancer results were positive for cervical cancer.

4.2.1.4 Facility staff establishment

The allocation of skilled staff in all clinics focused on provision of all primary health care services including cervical cancer screening. The achievement of cervical cancer screening goals depends on investment in the health care force, developing health care workers in all areas including rural and the training of the existing workforce (Akinyemiju, McDonald & Lantz 2015:1). The staff establishment of the six clinics were presented as follows:

4.2.1.4.1 Table 4.1: Staff establishment for the six clinics

Clinic 1 is managed by seven professional nurses, clinic 4 by six, clinic 2, 3 and 8 by five whereas clinic 5 have of only four professional nurses. All clinics have four Enrolled Nursing Assistants, one Operational Manager, one data capturer except clinic 1 which does not have a data capturer. Clinic 2 and 3 are allocated three Enrolled nurses while clinic 1, 4, 5 and 8 are allocated two Enrolled nurses. With regard to general workers, clinic 2 and 3 has four, clinic 1 consists of three general workers, while clinic 5 has three general workers and clinic 4 and 8 has only two. Two HIV counselling and testing counsellors are allocated in all six clinics. Table 4.1 represent the staff establishment for the six clinics.

Table 4.1 Staff establishment for the six clinics

Situational analysis	Clinic 1	Clinic 2	Clinic 3	Clinic 4	Clinic 5	Clinic 8
OPM	1	1	1	1	1	1
Prof N	7	5	5	6	4	5
EN	2	3	3	2	2	2
ENA	4	4	4	4	4	4
General	3	4	4	2	3	2
Data cap	0	1	1	1	1	1
HCT Counsellor	2	2	2	2	2	2

OPM	Operational Manager
Prof N	Professional nurses
EN	Enrolled Nurses
ENA	Enrolled Nursing Assistants
General	General Workers
Data Cap	Data Capturers
HCT	HIV Counselling and Testing Counsellor

4.2.1.5 Clinics 6 and 7: Structure and staffing

4.2.1.5.1 Clinic structure/physical layout

Similarities were observed in clinics 6 and 7 with regard to the structure, staffing and operation process which is similar in all ten clinics.

The clinics are newly developed big structures and all rooms and reception area are in one building. The reception area accommodates +/- 60 clients where health talks are given, triaging, queuing for vital signs, minor ailments, chronic illnesses, antenatal care, and child health services is done. The clinic consists of 3 consulting rooms, 1 vital signs room, 1 Human immuno-deficiency counselling and testing (HCT) room and 1 room for Data capture and 1 clients' bathroom for ladies and gentlemen. All clients queue for consultation in any of the 3 consultation rooms in the same reception area.

The clinics consist of 1 kitchen, 1 sluice room, 1 labour room, 1 ante-natal care room, 1 post-natal care room, 1 pharmacy, 1 dressing room and 1 staff bathrooms.

4.2.1.5.2 Clinic staff establishment

Table 4.2 represents the staff establishment for the two clinics (clinics 6 and 7).

4.2.1.5.3 Staff establishment for the two clinics

Each of the two clinics is managed by one manager, two general workers, one data capturer and two HIV counseling and testing counselors. The two clinics differs with regard to professional nurses allocation where clinic 6 has six professional nurses while clinic 7 has five. Two Enrolled nurses are allocated in clinic 6 while clinic 7 has none, two Enrolled Nursing Assistants in clinic 6 while clinic 7 has four and clinic 6 has no mentor mother while clinic 7 has one.

Table 4.2 Staff establishment for the two clinics

Situational analysis	Clinic 6	Clinic 7
OPM	1	1
Prof N	6	5
EN	2	0
ENA	2	4
General	2	2
Data cap	1	1
HCT Counsellor	2	2 and 1 mentor mother

OPM	Operational Manager
Prof N	Professional nurses
EN	Enrolled Nurses
ENA	Enrolled Nursing Assistants
General	General Workers
Data Cap	Data Capturers
HCT	HIV Counselling and Testing Counsellor

4.2.1.5.4 Clinics 9 and10: Structure/physical layout

These two clinics are situated within reach of most of the community and are newly developed structures with two wings, the 1st wings are closed with some windows in the reception area accommodating +/- 200 clients where health education talks are given. All clients wait in the reception area for consultation, vital signs, HCT (HIV counselling and

Testing) and those who need urgent attention are also triaged. The number of consulting rooms and structure for clinics 9 and 10 are the same.

Both clinics' 1st wings consists of 3 consulting rooms, 1 vital signs room, 1 HCT room and 1 room for Data capture and 1 clients bathroom for ladies and gentlemen. All clients queue for consultation in any of the 3 consultation rooms in the same reception area.

The clinics' 2nd wing consists of 1 kitchen, 1 sluice room, 1 labour room, 1 ante-natal room, 1 post-natal room, 1 pharmacy, 1 dressing room and 1 staff bathroom.

4.2.1.5.5 Clinic 9 and 10 Staff establishment

The staff establishment clinics 9 and10 are represented in Table 4.3:

Table 4.3 Staff establishment of clinics 9 and10

Situational analysis	Clinic 9	Clinic 10
OPM	1	1
Prof N	7	5
EN	2	0
ENA	3	4
General	4	2
Data cap	1	1
HCT Counsellor	2	2

OPM	Operational Manager
Prof N	Professional nurses
EN	Enrolled Nurses
ENA	Enrolled Nursing Assistants
General	General Workers
Data Cap	Data Capturers
HCT	HIV Counselling and Testing Counsellor

4.2.2 The data collection tool

The checklists consists of eighteen variables from the National Cervical Cancer Screening Policy Guideline (Appendix O) which are categories, **primary prevention** which included: stopping smoking, transmission of Sexually Transmitted Diseases and Human Papilloma Virus "*stress the use of barrier method in health talks"*, postponement of sexual activity to older age, effective management of STIs and decreased parity. The

secondary prevention included: the three free smears per life time with a 10 year interval between each smear, commencing at not earlier than 30 years, re-screening of a woman and if second smear is also inadequate, client to be referred to a known competent screening services and that should more than three smears be requested by a woman, the extra cost will have to be carried by her. **The referral criteria included:** referral system in place, proposed programme dates given to women, low-grade sill and atypical squamous cells (ASCUS) the smear to be repeated in 12 months. **Follow-up criteria included**: an effective follow-up system in place, a plan in place to find patients who do not return voluntarily and patients who do not keep their appointment at colposcopy clinics to be traced by the original screening institution**. Quality assurance included:** adequacy rate of screening facility to be at least 70%, if less than 70% screening is achieved staff to be trained and availability of sterilisation machine in the facility to be ensured. It is highlighted by the National Cervical Cancer Screening Policy Guideline (2013) that all the variables be implemented to improve the uptake of cervical cancer screening thus reducing the prevalence of cervical cancer.

4.2.3 Data analysis

Quantitative data analysis is explained by Babbie and Benaquisto (2010:409) as the numerical representation and manipulation of observations for the purpose of describing and explaining the phenomena that those observations reflect. The checklists were labelled anonymously as clinic 1 to clinic 10 but ensure anonymity. Raw data for each clinic was submitted to a statistician for analysis. The statistician used IBM SPSS statistics 23 as the statistical computer software for analysis of each clinic and presented results in tabular, percentage and graphical form (Whittaker 2012:115).

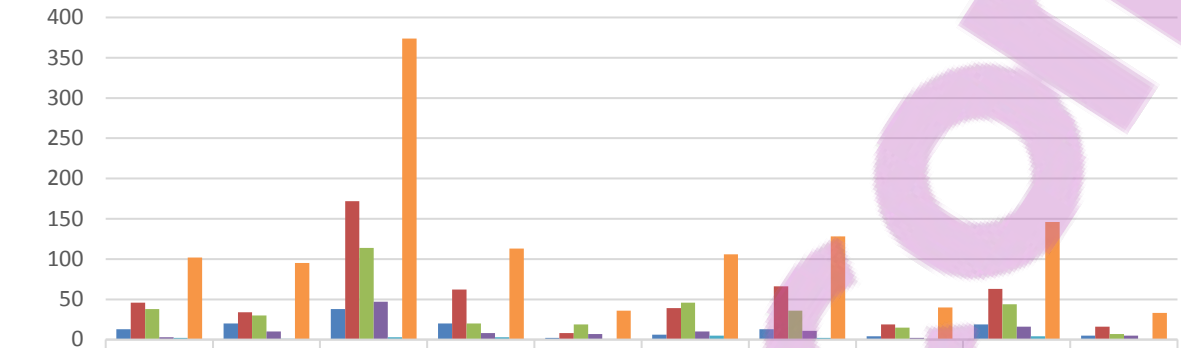
4.3 RESEARCH RESULTS

4.3.1 Demographic data for ten (10) Clinics of Makhuduthamaga Sub-district

4.3.1.1 Demographic data

The managers in the ten clinics indicated that cervical cancer screening is conducted to women above 30 years and those below 30 years are screened for diagnostic purposes. This was confirmed by the Pap smear register recordings. Figure: 4.1 shows the ages

and number of women screened for cervical cancer in the ten (10) clinics of Makhuduthamaga. Figure 4.1 represents the ages and number of women screened for cervical cancer in 10 clinics in 2015.



	Clinic 1	Clinic 2	Clinic 3	Clinic 4	Clinic 5	Clinic 6	Clinic 7	Clinic 8	Clinic 9	Clinic 10
15 - 30	13	20	38	20	2	6	13	4	19	5
31 - 45	46	34	172	62	8	39	66	19	63	16
46 - 60	38	30	114	20	19	46	36	15	44	7
61 - 75	3	10	47	8	7	10	11	2	16	5
76 - 90	2	1	3	3	0	5	2	0	4	0
Total	102	95	374	113	36	106	128	40	146	33

Figure 4.1 Ages and number of women screened for cervical cancer in 10 clinics

Data presented in Figure 4.1 were obtained in the clinics' Pap smear register. Data were used to validate information provided by the Operational Managers according to the checklist regarding the implementation of the National Cervical Cancer Screening Policy (2013). The data in Figure: 4.1 indicate that, women are screened according to the National cervical cancer screening Policy (2013), with regard to the ages. However, a large number of women screened for cervical cancer screening was observed, between the ages 31 and 60 than ages below 30 and above 60 as illustrated in Figure: 4.1. Cervical cancer screening is highlighted by Lynge, Rygaard, Baillet, Dugue, Sander, Bonde and Rebolj (2014:672) as one of the most successful public health prevention programmes but very low in Denmark, with close to half million screening test per year in a population of 5.6 million. It is further indicated by Lynge et al (2014:672) that 6-8 women have to undergo CIN treatment for each prevented cancer case. Cervical cancer is rendered for free of charge in the public sector and thus a high uptake is expected in Makhuduthamaga Sub-district.

The total number of women screened in a year in all ten (10) clinics is not satisfactory. The results indicate a very low level of knowledge about cervical cancer and cervical

cancer screening in Makhuduthamaga Sub-district. There is a need to provide knowledge to women about cervical cancer and screening and encourage staff to improve the preventive method of cervical cancer as stated by Assoumou, Mabika, Mbiguino, Moualif, Khattabi and Ennaji (2015:1). The results are further supported by that, a need to address women's beliefs about cervical cancer and provision of information and services in a culturally sensitive manner at an appropriate level of learning was necessary to professional nurses in the clinics. A support visit, thorough investigations and interventions was considered necessary to improve the cervical cancer screening service in this clinic. However, the Boston Health Care for the Homeless Programme (GBCHP) recommended by the researcher as suitable in Makhudthamaga Sub-district clinics to improve screening through the application of the 6-part intervention which incorporates the point of care service, multidisciplinary screening, improved health maintenance forms, population management, process improvement and increased provider and patient education (Bharel, Santiago, Forgione, Leon & Weinreb 2015:438).

The results implied that serious interventions were necessary to ensure that women utilising this clinic were screened for cervical cancer for a better health outcome. The professional nurses efforts in this regard was also confirmed by Gebreegziabher, Aseta and Berhe (2016:7), who stated that professional nurses have a responsibility to impact the incidence and mortality of cervical cancer by improving screening practices.

4.3.2 The implementation of cervical cancer screening guidelines

Data were analysed for all ten clinics of Makhuduthamaga Sub-district for the implementation of the cervical cancer screening policy guideline as presented in Table 4.4. A variation in the implementation of each guideline was obtained from each clinic. Table 4.4 represents overall implementation of National Cervical Cancer Screening Policy Guideline for clinics 1-10.

Table 4.4 Overall implementation of National Cervical Cancer Screening Policy Guideline for clinics 1-10

Variables	Activities	Completed/ managed/ available	Not completed/not addressed/not available
Demo-graphics	Age categories.	10 (100%)	0 (0%)
Primary prevention	Stopping of smoking.	4 (40%)	6 (60%)
	High rate of sexually transmitted diseases and human papilloma virus (stress the use of barrier method in health talks).	3 (30%)	7 (70%)
	Postponement of sexual activity to older age.	3 (30%)	7 (70%)
	Effective management of STIs.	7 (70%)	3 (30%)
	Decrease parity.	4 (40%)	6 (60%)
Secondary prevention	Three (3) free smears per life time are proposed with a 10 year interval between each smear, commencing at not earlier than 30 years.	3 (30%)	7 (70%)
	A woman with an inadequate smear should be re-screened. If second smear is also inadequate, client to be referred to a known competent screening service.	5 (50%)	5 (50%)
	Should more than 3 smears be requested by a woman, the extra cost will have to be carried by her.	1 (10%)	9 (90%)
Referral criteria	Referral system in place.	10 (100%)	0 (0%)
	Proposed programme dates given to woman.	4 (40%)	6 (60%)
	Low-grade sill and atypical squamous cells (ASCUS) repeat the smear in 12 months.	10 (100%)	0 (0%)
Follow-up criteria	An effective follow-up system in place.	5 (50%)	5 (50%)
	A plan in place to find patients who do not return voluntarily.	9 (90%)	1 (10%)
	Patients who do not keep their appointment at colposcopy clinics to be traced by the original screening institution.	1 (10%)	9 (90%)
Quality assurance	Adequacy rate of screening facility is at least 70%.	2 (20%)	8 (80%)
	If less than 70% staff to be trained.	6 (60%)	4 (40%)
	Availability of sterilisation machine in the facility.	9 (90%)	(10%)

4.3.2.1 Clinic 1

Clinic 1 results indicated that primary prevention was implemented, with 100% coverage of primary prevention topics to be covered during health education sessions. The referral system available was well managed as all for women diagnosed with cervical cancer were referred accordingly. The principles of infection control were also fully managed according to Cervical Cancer Screening Policy Guidelines. However, secondary prevention measures were not completely addressed as well as quality assurance. Much as an effective follow-up system is in place, there were no measures of tracking down patients who did not keep their colposcopy appointments. The results indicate that there is a need for training of professional nurses in clinic1 to emphasise the importance of secondary preventive measures.

Women with abnormal Pap smear results are well managed through referral and followed with the help of home-based carers. The response of the manager was that:

All topics relating to primary prevention were given, however what was recorded in the book indicated that health education was general and not specific to cervical cancer screening. Health education focused on STI management was validated accordingly.

It was clearly indicated that three free smears per life time for women were not offered because there were no measures in place of tracing clients who are due or not due for screening. The National Cervical Cancer Screening Policy Guideline (2013) indicates that, a women with inadequate smear should be re-screened and second smear be referred to a known competent screening services. As a result professional nurses were assuming the results were normal and not repeating the screening to clients.

The lack of knowledge of professional nurses in clinic 1 in this regard was identified. Lack of knowledge with regard to cervical cancer was also highlighted by Hogue, Ghuman, Coopoosmay and Van Hal (2014:5) study, who conducted a study with university women and roved that, literate population of university women in South Africa lacks information on cervical cancer and its risks. Intensified training of professional nurses in cervical cancer screening could improve the cervical cancer screening.

The National Cervical Cancer Screening Policy Guideline (2013) also indicates that, should more than three smears be requested by a woman, the extra cost will have to be carried by her. The manager indicated that they are not aware of such information, especially that it is difficult to identify number of screening that women have undergone, which is a limitation regarding the knowledge of the National Cervical Cancer Screening Service Policy.

The referral criteria were implemented as all clients with abnormal results are referred to hospital though clients go to hospital on their own. In this clinic women were given two weeks to come for results and indicated that return for normal results is 10 years, 1 year for HIV positive women. The recommendations from women' Cervical Cancer Screening results are followed and explained to women verbally. Reference was made to the Pap smear register and was found that exact return dates for clients were not written in the register and only open spaces left, but only frequencies e.g. 6 months/12 months were written in some columns. The use of home-based carers in cervical cancer screening services was supported by Tum, Maree and Clarke (2013:113) as positively impacting on the uptake of Cervical Cancer Screening moreover that in South Africa, one in every 26 black women would develop cervical cancer leading to this disease being the most common cancer in black women and the fourth most common in white (Tum, Maree & Clarke 2013:107).

Low-grade sill (LGS) and Atypical squamous cells (ASCUS) results were expected to be repeated in 12 months. The researcher found that, in this clinic women were traced by home-based carers and screening repeated as per recommendations and clients told to follow-up per recommendations. Return dates were not reflected in the Pap register and no means of reminding clients was noted.

Professional nurses in this clinic used home-based carers and their own cell phones for tracing clients with abnormal Pap smear results as there was no clinic telephone.

Patients who do not keep their appointments at colposcopy clinic are expected by the National Cervical Cancer Screening Policy Guideline (2013) to be traced by original screening institution, which was not practical in this clinic.

The adequacy rate (Endocervical component presence on the cervical smear) in clinic 1 was found to be less than 70% i.e. 40% (4/10) i.e. only 4 out of 10 client' Pap smear results were adequate and staff was not trained with +/-25 women screened per month. Professional Nurse with adequacy rate (Endocervical component presence on the cervical smear) of above 70% (skilled in taking quality cervical smear) were used to help/in-service professional nurses with adequacy rate of below 70%.

The autoclave machine was available and functional, speculums were also available in the clinic.

4.3.2.2 Clinic 2

The results for clinic 2 indicated that primary prevention and infection control principles application were done as recommended by the Cervical Cancer Screening Policy Guideline.

The primary prevention of cervical cancer focused on stopping of smoking, high rate of Sexually Transmitted Diseases and Human Papilloma Virus (stress the use of barrier method in health talks), postponement of sexual activity to older age and decrease of parity, which were never included in any of the health talks given in 2015 as evidenced in the health education book. STI management was adequate.

The health education topics in this clinic were not specific to cervical cancer primary prevention but general. The health education book revealed that only twelve general topics were covered for the year 2015. A contradiction was found between the health education book and the activities of the checklists.

The primary prevention health information which were expected to be included daily in the health educations, were also highlighted by De Sanjose, Temin, Garland, O Neoll, Arrossi (2017:452) as playing a role in invasive cervical cancer.

Clinic 2 faced some challenges with the implementation of secondary prevention activities as professional nurses could not repeat nor refer women who had inadequate smear results. Professional nurses could not provide 3 smears per life time of a woman as they could not differentiate women who had their 3 smears. Clinic 2 also does not have a

follow-up system in place nor to trace women who do not keep their appointments at colposcopy clinics.

With regard to the three smears per life time that is expected of women who started screening at the age of 30 in the secondary prevention, it was reflected as implemented in this clinic. However, it was found that, there are no means of control to ensure that women are not screened more than is expected by the policy guideline. According to the National Cervical Cancer Screening policy (2013), women with inadequate smear should be re-screened and the second smear be referred to a known competent screening service. The results revealed that professional nurses in clinic 2 could not provide three Pap smears per life time of a as they were not familiar with it. Professional nurses in this clinic found it difficult to identify the number of screening that women have undergone and therefore could not control the cost implications for women who screened more than three smears in their life time as indicated in the National Cervical Cancer Screening Policy Guideline (2013).

Professional nurses in clinic 2 referred women with abnormal Pap smear results for colposcopy to the hospital but were unable to provide women with the proposed programme dates. Professional nurses used their cell phones and home-based carers for tracing women with low-grade sill (LGS) and Atypical squamous cells (ASCUS). There were challenges to follow-up women with abnormal Pap smear results and those referred to hospital for colposcopy and as a result gaps were found in Pap smear register for information to clients, follow-up and action taken on results.

The professional nurses' inability to trace women for colposcopy was related to the feedback, which was not received about such clients from the hospital.

The adequacy rate in clinic 2 was less than 70% (i.e. one professional nurse obtained less than seven quality smears out of ten women screened for cervical cancer but could only obtain 50% (i.e. 5quality cervical smears/10 women screened) whereas professional nurses in-serviced each other to achieve adequacy rate of above 70%. Functional autoclave machine and speculums were available in the clinic. The results showed that the adequacy rate also depends on the frequency and number of women screened for cervical cancer for more practice.

4.3.2.3 Clinic 3

The results indicated that clinic 3 did not implement all requirements in the Cervical Cancer Screening Guideline, except referral system and the availability of sterilisation machine. The implications of the results were that, women were screened for cervical cancer but those with abnormal Pap smear results were not managed according to the National Cervical Cancer Screening Policy Guideline, not followed up and quality assurance not ensured. Clinic 3 situation is also justified by Lynge et al (2014:672), as related to the high uptake of cervical cancer screening where follow-up burden of screened women was identified.

Health information like stopping smoking, high rate of Sexually Transmitted Diseases and Human Papilloma Virus (stress the use of barrier method in health talks), postponement of sexual activity to older age and decrease parity were not included in health talks as a primary preventive measure. Health talks involved the importance of cervical cancer screening which was done thirteen times (13) including the signs and symptoms which were given once in 2015. STIs were well managed in this clinic. The results confirmed that giving health education on the importance of cervical cancer screening and signs and symptoms had a great impact on women's decision towards screening for cervical cancer.

As reflected by the results, clinic 3 did not have a way of identifying women who screened for cervical cancer and therefore faced difficulties in ensuring that women had three cervical smears in their life time. Re-screening of women with inadequate smears and referral to second competent screening service was not practiced as nurses were reported to be not aware of this principle.

Women with abnormal Pap smear results were referred to hospital but proposed programme dates were not given. An observation was made in the Pap smear register where gaps were found on follow-up and action for the results though indicated by the manager that dates were given verbally. Like other clinics, clinic 3 used home-based carers and staff mobile phones to trace women for referral to hospital. Clinic 3 also did not receive any feedback from the hospital concerning how women with abnormal Pap smear results were managed and as a result found it difficult to trace defaulters. Gaps were therefore found on the information to clients, follow-up and action for results columns in the Pap smear register.

The adequacy rate was below 70% i.e. 50 % (quality cervical smears was less than 7 in 10 women screened for cervical cancer) and no training was ever attended by any member of staff. Equipment's for cervical cancer screening were always available and infection control principles followed. The results in this clinic indicated that there is a high need for training of professional nurses. The training could also benefit professional nurses with regard to taking quality cervical smears, as high number of women (374 in 2015) was screened but the adequacy rate was below 70% and not according to the National Cervical Cancer Screening Policy Guideline. Women in this clinic geographical area could also benefit from the training of professional nurses as the uptake of cervical cancer screening will be higher with quality smears.

4.3.2.4 Clinic 4

The responses on the checklist show quality assurance and infection control were managed to a satisfactory level. No specific health education information about cervical cancer screening was offered. Primary and secondary prevention were not implemented. Health education information on cervical cancer screening only included the importance of cervical cancer screening and the, signs and symptoms which were given twice for the entire year of 2015.

According to the responses from the manager in clinic 4, the three free smears per life time of a woman was highly impossible. The reason for the inability to do three free smears per life of a woman was that, there were no means of identifying women if they were or not due for cervical cancer screening. Women with inadequate smear were not re-screened and second smear not referred to a known competent screening service, as nothing was known about this principle as per the manager's responses.

Although women with abnormal Pap smear results were referred to hospital, proposed programme dates were not given to women after being screened for cervical cancer. A conclusion was made when the manager indicated that dates were given to women verbally but incorrect programme dates were reflected while the follow-up and action column for results in the Pap smear register was not written.

Home-based carers and staff mobile phones were used for tracing clients with Low-grade sill (LGS) and Atypical squamous cells (ASCUS) results. It was therefore indicated that professional nurses found it difficult to have an effective follow-up system in place to ensure that women with abnormal Pap smear results return to the clinic nor to the hospital. According to Cohen, Elisis, Gordon, Record, Shaunfield, Jones and Collins (2016:28), To be checked Agurto et al (2004:91), women's anxiety over the screening results need to be further assessed to identify risk communication strategies that take a broader account of cultural frameworks. The consideration of such strategies can therefore lessen the communication challenges faced by professional nurses and home-based carers in Makhudthamaga Sub-district. Gaps were also found on information to clients, follow-up and action in the Pap smear register.

Like other clinics, clinic 4 could not get feedback from the hospital about women who have been referred from the clinic. Follow-up of patients who do not keep their appointments at colposcopy clinic was not possible as expected by the policy to be traced by original screening institution.

The manager indicated that the adequacy rate is above 70% and no training was necessary for staff. Functional autoclave machine and speculums were said to be available in the clinic and confirmed accordingly. The results of clinic4 revealed that there was no collaboration between clinics and hospital with regard to the management of women with abnormal Pap smear results. A feedback mechanism was found to be necessary to link hospitals and clinic to achieve better results in managing women who have been diagnosed with cervical cancer.

4.3.2.5 Clinic 5

A 66.6% (2/3 managed activities) was achieved for quality assurance while secondary prevention at 33.3% (1/3 managed activities), primary prevention at 60% (3/5managed activities), referral criteria at 66.6% (2/3 managed activities) and follow-up criteria at 66.6% (2/3 managed activities) in clinic 5.

Primary prevention: Specific information about cervical cancer was covered especially signs, symptoms and complications except, stopping of smoking, high rate of sexually transmitted diseases and human papilloma virus (stress the use of barrier method in

health talks), postponement of sexual activity to older age and decrease of parity. The effective management of STIs was validated verbally by the manager while the health education book confirmed other topics that were presented.

The manager's responses were that, it was difficult to identify women who are due or not due for cervical cancer screening. Professional nurses were therefore unable to ensure that women undergo three free smears per life time and therefore could not control costs involved for extra smears requested as they were not even aware of cost aspect. Women with inadequate smear were re-screened and second smear referred to a known competent screening service. The competent screening service in clinic 5 was said by the manager to be another professional nurse in the clinic.

Women with abnormal Pap smear results were referred to the hospital even though programme dates were not given to women with normal results. A confirmation was made when the manager verbally stated incorrect programme dates that clients were screened every three years. Gaps were found in the Pap smear register on follow-up and action, dates clients received and were informed about results.

Home-based carers and staff's own mobile phones were used for tracing and follow-up women with abnormal Pap smear results to return to the clinic or referred to hospital as expected. A contrast was observed when open spaces were found on information to clients, follow-up and action for results in the Pap smear register in clinic 5. Due to lack of feedback from the hospital, professional nurses in clinic 5 were unable to trace women who do not keep appointment for colposcopy nor being able to make follow-up to ensure that such clients reach the hospital.

The adequacy rate for clinic 5 was said to be less than 70% i.e. 50% and training was conducted for some members of staff. The autoclave machine was functional and speculums also available. The results revealed a common problem with regard to the programme dates given to women and filling of the Pap smear register. A need for training of professional nurses was therefore found necessary.

4.3.2.6 Clinic 6

No implementation was observed in Clinic 6 with regard to primary prevention except the effective management of STI whereas the principle of three Pap smears per life time was also not implemented in secondary prevention. The proposed programme was not given to women after screening while there was no follow-up system in place for clinic 6. The adequacy rate of cervical cancer screening was less than 70% while professional nurses were not screened to obtain adequacy rate of above 70%.

There was a contradiction between the managers' responses and information found in the health education book as a means of verification with regard to primary prevention. Specific health education topics about cervical cancer primary prevention such as: Stopping of smoking, high rate of Sexually Transmitted Diseases and Human Papilloma Virus (stress the use of barrier method in health talks), postponement of sexual activity to older age and decrease parity were not available in the health education book. Only a generalised topic i.e. cervical cancer screening appeared three times only for the whole year of 2015. STIs were effectively managed by professional nurses in clinic 6 as was verbally validated.

Although clinic 6 did not have means of identifying women if they are or not due for screening the three free smears per life time could apply in this clinic. Women with inadequate smear were re-screened and second smear referred to a known competent screening service. The issue of more than three smears being requested by a woman, the extra cost being carried by her was not known in clinic 6. According to the National Cervical Cancer Screening Policy Guideline (2013), women should be given programme dates after screening for cervical cancer for results and after getting normal results. In clinic 6, this was not the case, as incorrect dates were shared by the manager and nothing was written in the Pap smear register columns of the follow-up, action, dates clients received and informed about results.

Home-based carers and professional nurses' own mobile phones were used for tracing and follow-up women with abnormal Pap smear results such as LGS & ASCUS. However clinic 6 still faced some challenges as women gave wrong addresses and sometimes ended not reaching them. Women with abnormal Pap smear results were referred to the hospital. Clinic 6 staff was able to trace women who do not keep their appointments at

colposcopy clinic as they established a relationship with women who are due for colposcopy clinic. Some challenges were experienced by clinic 6 in making follow-ups as no feedback was received from the hospital.

The adequacy rate was less than 70**%** i.e. 40% (4 adequate smears out of 10 Pap smear results) and training was not conducted for some members of staff. The autoclave machine was functional and speculums also available in the clinic.

4.3.2.7 Clinic 7

The primary prevention in clinic 7 indicated not implementation except the STI management, secondary prevention which indicated that only the re-screening and referral of a woman to a known competent screening is implemented with regard to the Cervical Cancer Screening Policy Guideline. The referral and follow-up criteria was found to be not implemented with tracing of women who do not keep their appointment at colposcopy clinics and no correct programme dates given and quality assurance in clinic 7 indicated 100%.

Specific information about cervical cancer was rarely offered as the manager indicated. There were no record in the health education book as a means of cervical cancer primary prevention but STI management validation was done verbally. The primary prevention topics such as: stopping of smoking, high rate of Sexually Transmitted Diseases and Human Papilloma Virus (stress the use of barrier method in health talks), postponement of sexual activity to older age and decrease parity were not given to women as part of primary prevention.

The manager's responses was that they could not comply to the three free smears per life time of a woman as it was difficult to differentiate women who have screened within 10 years. Women with inadequate smear were re-screened and second smear referred to a known competent screening. It was also found that in clinic 7, it was difficult to ensure that a woman requesting more than three Pap smears, paid the extra cost. The professional nurses in this clinic faced challenges in tracing women and therefore could not identify women who screened more than expected.

According to the response from the manager, women with abnormal Pap smear results were referred to the hospital. However, incorrect proposed programme dates were given to women. On validation gaps were found in the Pap smear register on follow-up and action, dates clients received and information about results. The need to also give more attention and care to women was found to be important as evidenced by the fact that women who are still healthier are more compliant than those who are having a disease (Guo, Hirth & Berenson 2015:645). Recommendations from the Pap smear results were, LGS and ASCUS repeat in 12 months and was complied with. The use of home-based carers and staff cell phones was said to have assisted professional nurses to follow-up women with abnormal results to return voluntarily to the clinic nor going to the hospital. Open spaces were found with regard to information to clients, follow-up and action required based on the Pap smear results in the Pap smear register on validation by the researcher.

Professional nurses at clinic 7 could not trace women who do not keep appointment for colposcopy clinics as they did not get feedback from the hospital about women with abnormal results. The adequacy rate for clinic 7 was above 70% i.e. 90% (9 quality smears of ten women screened for cervical cancer) and in service training was conducted for some members of staff. Autoclave machine was functional and speculums also available in the clinic.

The results revealed that clinic 7 faced difficulties to trace women to return voluntarily to the clinic and colposcopy clinic. The programme dates were also not given to women after screening for cervical cancer which was also common in other clinics as observed in the Pap smear register. The results also indicated that a gap existed in the cervical cancer screening service and needed an intervention to close it.

4.3.2.8 Clinic 8

Clinic 8 indicated an achievement with regard to the referral and follow-up criteria at 100%. Primary prevention of cervical cancer was identified as a challenge as health education was not given to women. The primary prevention health information of cervical cancer were very few in the health education as also stated by the manager. Only one topic related to cervical cancer screening was done for the year 2015 but STIs were well managed.

Three free smears per life time of women was said to be easily implemented as women were told to screen after 10 years. Women with inadequate smear were also re-screened and second smear referred to a known competent screening service. However, women who requested more than three smears per life time, were screened without extra costs will have to be carried out as tracing and differentiation of women who screened and those who screened for cervical cancer was a challenge to professional nurses.

Although women with abnormal Pap smear results were referred to the hospital, incorrect proposed programme dates were given to women. On validation gaps were found in the register on follow-up and action, the dates that clients received and informed about results.

Through the use of home-based carers and staff use of own mobile phones for tracing women, the recommendations from the results such as LGS and ASCUS repeat in 12 months were followed. Women with abnormal Pap smear results and who could not return to the clinic nor to the hospital as expected by the National Cervical Cancer Screening Policy were followed up. The follow-up was also managed through a high risk record which was developed for clients with abnormal smear results and being referred to hospital. Gaps were also found on information to clients, follow-up and action of the Pap smear register as in other clinics.

Follow-up care by home-based carers and phone contacts also assisted for tracing patients who do not return voluntarily for results including the abnormal results. Patients who do not keep their appointments at colposcopy could not be traced by the clinic due to lack of feedback from the hospital about women with abnormal results.

The manager indicated that the adequacy rate was below 70% i.e. 40% (4 quality smears in 10 women screened for cervical cancer) and training was conducted for some members of staff. Pap smear equipment like the functional autoclave machine and speculums were available in the clinic.

4.3.2.9 Clinic 9

Clinic 9 appears not to be implementing the policy with regard to the primary prevention aspects even though achieved 100% on infection control and the quality assurance. The results were explained by the operational manager for clinic 9 as follows:

The health information on stopping of smoking, stress the use of barrier method in health talks, postponement of sexual activity to older age and decrease parity were not implemented in clinic 9 as reflected on the checklist. STIs were well managed and validation was made by asking the manager the type of treatment given for STIs. Only the importance and the general topic on cervical cancer were done once in a year 2015. The emphasis on the importance of obtaining Pap smears regularly, informing women on the risks for signs and symptoms of cervical cancer and address women's believes about cervical cancer and services in culturally sensitive manner at an appropriate level of learning was recommended by Ogilvie, Nakisige, Huh, Mehrotra, Franco and Jeronimo (2017:18) as important to influence women for cervical cancer screening.

According to the manager's response, women were told to screen after 10 years and the period was too long for them to meet the targets as expected by the employer. Professional nurses in clinic 9, therefore decided to screen any woman who requested Pap smear irrespective of the 10 years interval to meet the obligations of the employer. A need for explanation of the reasons behind the frequency of cervical cancer screening was necessary as it was highlighted by (Baker & Gagog 2013:24) that, the frequency required for Pap smears to be effective in cervical cancer screening leads to a large number of false positives and unnecessary colposcopy. And furthermore has the potential to harm healthy women. The more than three smears which was not expected to be done to women if requested and the extra cost incurred by her, as expected by the National Cervical Cancer Screening Policy (2013) was not followed. The professional nurses were not aware of such a guideline as they did not have the National Cervical Cancer Screening Policy.

Women with inadequate smear were said to be re-screened and those for second smear were referred to a known competent screening service where a competent professional nurse within the clinic offered the service. Women with abnormal Pap smear results were referred to the hospital according to the recommendations on the results while home-

based carers and own mobile phones were used for tracing and follow clients up for not returning voluntarily to the clinic. Patients who do not keep their appointments at colposcopy clinic could not be traced in clinic 9 as no feedback was received from the hospital about women with abnormal results. Incorrect programme dates were given to women after screening for cervical cancer as the manager said women were screened every year. Gaps were found in the register on follow-up and action, dates clients received and informed about results.

The manager indicated that the adequacy rate was below 70% i.e. 50% and training was not conducted for staff. The availability and functionality of autoclave machine and speculums in the clinic was confirmed.

4.3.2.10 Clinic 10

Clinic 10 did not implement the policy with regard to the primary and secondary prevention whereas only STIs management was observed on the primary aspect. No implementation of the secondary aspect was observed even though a good achievement was observed at infection control, referral criteria and target population. Training of staff was also observed in this clinic as the adequacy rate is below 70% as observed in the quality assurance aspect. The following responses from the Operational manager supported the information in the checklist:

The manager of clinic 10 indicated that health education is not given to encourage clients for cervical cancer screening because they do not have an autoclave for sterilising vaginal speculums but STIs were well managed and validation was done.

Three free smears per life time of women could not be done as it was difficult for the staff to identify women who screened for cervical cancer. Women with inadequate smear could not be re-screened and second smear be referred to a known competent screening as none of the professional nurses were aware of this aspect. The statement from the checklist that stated that, “should more than three smears be requested by a woman, the extra cost will have to be carried by the women” was not known to the staff in clinic 10 as they were not in possession of the National Cervical Cancer Screening Policy. However correct proposed programme dates were given to women after screening for cervical

cancer as confirmed verbally from the manager. On validation gaps were found in the register on follow-up and action, dates clients received and informed about results.

Women with abnormal Pap smear results were referred to the hospital while recommendations based on the cervical cancer screening results such as, LGS and ASCUS repeat in 12 months were followed. The home-based carers and the staff's own mobile phones were used for tracing and follow-up of women who do not come voluntarily for results and those with abnormal results. However, women who did not keep appointment for colposcopy could not be traced and followed up as no feedback was received from the hospital about women with abnormal results.

The results indicated that, there is a need to consider the adherence to follow-up recommendations and voluntary return to the clinic as important and identify means to improve the feedback and referral system of the cervical cancer screening service. The adherence to follow-up was also supported by Ogilvie et al's (2017:18) and Warman's (2010:36) study on Cervical Cancer Screening in young women, saving lives with prevention and detection. Warman' (2010:36) study was related to lack of understanding of women to the meaning of abnormal Pap smear results and the purpose of a colposcopy and therefore emphasised the need for increased education about follow-up adherence.

The adequacy rate of clinic 10 was below 70% and training was conducted for staff.

Clinic 10 did not have autoclave machine while speculums were sterilised in other clinics also depending on the availability of their supervisor to take the speculums for autoclaving.

4.4 OVERVIEW OF THE RESULTS

4.4.1 Target population

The National Cervical Cancer Screening Policy Guideline (2013) expect women from the age of 30yrs and above to be screened for cervical cancer. The overall evaluation shows that all ten (10) (100%) clinics screened women of ages above 30 years as expected by the policy as observed in the checklist and also confirmed by the Pap smear register and those screened below 30 years were for diagnostic purposes.

4.4.2 Primary prevention

4.4.2.1 Stopping of smoking

Only 4/10 (40%) clinics advised women to stop smoking during regular health education as primary prevention to cervical cancer, while 6 (60%) did not cover this aspect at all during regular health education session in the clinic.

According to Kevin and Vikas (2015:4) there is a relationship between certain subtypes of human papilloma virus (HPV) and smoking. It is further indicated by Kevin and Vikas (2015:4) that, women who smoke have a higher risk for developing cervical cancer than non-smokers and have a greatest risk with increased number of cigarettes smoked and use of unfiltered cigarettes. It is therefore expected that, health education in all clinics be done daily for the community awareness of such risks.

4.4.2.2 Sexually transmitted diseases and human papilloma virus

Only 3 (30%) clinics out of ten addressed this aspect as stated by the National guideline for cervical cancer screening as they are including the use of barrier method in relation to human papillomavirus as a way of reducing cervical cancer unlike seven (70%) who only include barrier method not in relation to HPV which contributes to cervical cancer.

The health education with regard to the Sexually Transmitted Diseases for example, faithfulness, sticking to one sexual partner and usage of barrier methods during sexual intercourse serves as primary prevention for cancer. The importance of this health information was further emphasised by Claire, Kath and Yenna (2014:8) and Stellenberg and Bruce (2007:232; 233) who stated that, epidemiological observations indicated that the age of onset of intercourse and the number of sexual partners influences the development of cervical pre-cancer and cancer. Furthermore, that the more sexual partners women have had, the more likely she is to be exposed to the unknown carcinogens like, the human papilloma virus (HPV) and herpes simplex virus type 2. Further studies, as stated by Nigel, Katherine, Jaclyn, Rachel, Jovana, Rony and Steven (2015:3) conducted on the role of the male sexual partner suggest the possible transmission of viruses but also refer to the possible carcinogenic effect of human sperm.

It is further stated by Nigel, Katherine, Jaclyn, Rachel, Jovana, Rony and Steven (2015:3) that, the basic proteins of histone and protamine fraction of the sperm heads may act as carcinogens, thus leading to some men being high-risk sexual partners. The use of barrier methods of contraception was therefore recommended to offer protection. The holistic approach on the evaluation of the implementation was therefore identified as the area of study quantitatively to close all gaps which could arise in relation to cervical cancer.

4.4.2.3 Postponement of sexual activity to older age

Three 3 (30%) of the ten clinics were able to include postponement of sexual activity to older age as a way of reducing exposure to cervical cancer as one of the primary prevention method to women. This principle was not reflected in seven 7/10 (70%) clinics and therefore showing that primary prevention was not addressed in this regard.

According to a study conducted by Ami and Nicholas (2014:1), the progression from normal cervical cells to dysplasia and then to invasive cervical cancer appeared to be related to repeated injuries to the cervix. It is also stated by that, the progression occurs slowly over years rather than months and a strong relationship between sexual exposure of HPV and dysplasia was also identified. It is also stated that an increased risk of cervical cancer is associated with low socioeconomic status, early sexual activity before 17 years of age, multiple sexual partners, infection with human papillomavirus (HPV) and immunosuppression Ami and Nicholas (2014:1). It was therefore expected from the results to find health information about the postponement of sexual activities to older ages. The emphasis of this aspect/topic to younger girls was found to be crucial as indulgence to early sexual intercourse expose them to cervical cancer. An emphasis was further made by Trasias, Rawlance, Angele, Abdullah and David (2017:4) stating that a woman who has borne children or had an early sex life with several partners is more prone to develop the disease.

4.4.2.4 Effective management of STIs

In the study, data regarding the effective management of STIs was obtained through review and evaluation of the health education books in clinics and further asking of Operational managers regarding the STIs management. The topic on the need of women to report to the clinic for early and effective management of STIs was covered by most

clinics as observed with 7/10 (70%) of the clinics in which the syndromic approach is applied to all women with STIs whereas 3/10 (30%) could not cover this aspect in handling cervical cancer prevention but able to manage STIs syndromically.

The effective management of STIs is outlined by Monahan et al (2007:1784, 785) that includes three levels of prevention i.e. primary prevention, secondary prevention and tertiary prevention. According to Monahan et al (2007:1784), the primary prevention is achieved through educating uninfected persons to take responsibility for their health by not exposing themselves to risks of infection, identification and treatment of exposed persons who are asymptomatic, interviewing of infected persons for identification, examination, preventive treatment for contacts, educational programs for the community with active involvement of professionals in programs of control. The secondary and tertiary prevention is further explained by Sarah, Catherine, May, Natabhona, Florence and Elizabeth (2016:2) as: secondary prevention is aimed at screening, early diagnosis and treatment while tertiary prevention aimed at the prevention of complications, support and counselling of infected persons to receive treatment.

The syndromic management of sexually transmitted diseases to all clients together with their sexual partners was therefore regarded as very crucial by the National Department of Health and expected all clinics to implement/apply all the strategies to all clients at all times.

4.4.2.5 Decreased parity

Decreasing parity as a measure for preventing cervical cancer was covered by only 4/10 (40%) clinics.

According to the study which was conducted in Lome Togo by Ami and Nicholas (2014:1) high parity was found to be a strong risk factor for cervical cancer. It was further emphasised that parity is a good marker of the oestrogen-hormonal environment throughout the fertile years of a woman and also a marker of repeated cervical trauma among highly parous women. The results in this study corresponds with the expectations of the cervical cancer screening policy where it is expected that health workers need to educate women about the need to decrease parity due to the risks of cervical cancer it poses to women.

4.4.3 Secondary prevention

In seven clinics 7/10 (70%), the three smears per life time with the 10 years interval between each smear was not known and therefore not implemented as indicated in the policy guideline as screening was only conducted according to the women's needs or that professional nurses wanted to meet the expectation of the performance management system, as a result encouraging all women to screen yearly. Only 3/10 (30%) clinics implemented the 10 year interval principle.

As explained by Sarah, Catherine, May, Natabhona, Florence and Elizabeth (2016:2) secondary prevention is aimed at screening, early diagnosis and treatment of women with cervical cancer. In the study, the following aspects of cervical cancer screening were reviewed:

- Three (3) free smears per life time with a 10 year interval between each smear, commencing at not earlier than 30 years.
- A woman with an inadequate smear re-screened and if second smear is also inadequate, client referred to a known competent screening service.
- Should more than 3 smears be requested by a woman, the extra cost will have to be carried by her.

As stated in the Cervical Cancer Screening National Guideline, three (3) free smears per life time are proposed with a 10 year interval between each smear, commencing at not earlier than 30 years.

The National Policy Guideline on Cervical Cancer Screening indicates that cervical cancer screening should start from the age of 30 years of which the interval is 10 years and leading to three smears per a women's life time. Although cervical cancer continue to be a major concern as stated by Lewis et al (2007:1400) that, globally the annual incidence of cervical cancer is 471,000, with 80% of these cases occurring in underdeveloped countries the age group affected is also a concern though Lewis et al (2007:1400) continues to indicate that the peak incidence of non-invasive cervical cancer is in women in their early 30s and invasive cervical cancer in the 50s.

Lewis et al further indicates that the American Cancer Society recommended that Pap test be done once every 3 years, of which 3 years begin 3 years after first sexual intercourse but not later than 21 years. Women between the ages of 65 & 70 are encouraged by Lewis et al (2007:1400) to decide with their health care providers to stop after having no abnormal Pap test results in the last 10 years. Stellenberg and Bruce (2007:232) concur with the Cervical Cancer Screening Policy Guideline by stating that, cancer of the cervix occurs most often in women between 30 and 50 years even though Walsh and Crumbie (2007:430) differ with them by stating that 5 years survival rates are excellent in cases that are discovered early and further recommends that all women who are sexually active and over 25 years of age should have cervical smear tests at least every 3 years and every 5 years for women over 50.

If second smear of cervical smear is also inadequate, the client should be referred to a more skilled and known competent screening service to screen the woman again for better results as stated by the National Cervical Cancer Screening Policy Guideline (2013). The cervical cancer screening results depends only on the report/recommendations from the National Health Laboratory Services (NHLS) clients' results of which professional nurses are expected to manage women accordingly. Table 4.22 presents recommendations from NHLS to guide professional nurses on how to take quality cervical smear to obtain adequacy rate that is above 70% as expected by the National Cervical Cancer Screening Policy Guideline (2013).

Table 4.5 Obtaining a Pap smear

REPORT	**ACTION**
Unsatisfactory for evaluation • Sparse cellular material • Too degenerate • Obscured by blood/inflammation • No clinical data	Repeat the cervical smear correcting the problem that led to the inadequate smear • Scrape cervix full circumference firmly • Spray fix quickly • Wipe discharge/blood off cervix before smear done • Provide all relevant clinical data

(NHLS Groote Schuur Hospital Complex 2010:19)

One of the outcomes of the cervical cancer screening campaigns which were conducted by the researcher in Makhuduthamaga Sub-district was that, at least 5/10 clinics could repeat women with inadequate cervical smear results. This aspect was found difficult as the Operational Managers were not aware that, a woman with second inadequate smear results needed to be referred to a more skilled and competent Cervical Cancer Screening service.

The National Cervical Cancer Screening Policy stipulates that if a woman has undergone three cervical cancer screening in her life time 10 years apart, initiated at 30 years, one can only repeat the screening at own cost as the tests are said to be expensive. The researcher therefore reviewed if women were screened for cervical cancer more than three times in their life time.

The National Cervical Cancer Screening Policy Guideline (2013) was not applied in 9 of the clinics as nothing was known about having to ensure that women are not screened for cervical cancer more three times in their life time. Only 1 clinic knew about the three screenings per life time of a woman and was implemented.

4.4.4 Referral criteria

4.4.4.1 Referral system

The results revealed that only women with abnormal cervical cancer screening results are being referred to hospital by all ten clinics. Women with normal cervical cancer results are not informed about their results and those who happen to know about their results were given incorrect programme dates in 6 clinics of the ten, who participated in the study.

According to the National Cervical Cancer Screening Policy Guideline, it is expected that a referral criteria be available for abnormal cervical cancer screening results and women with normal smear results be informed of the next smear date according to the proposed programme.

4.4.4.1.1 The cervical cancer abnormal results referral system available

The referral system was applied in all participating clinics where cervical smear results were found to be abnormal. All women with abnormal cervical cancer screening results are being referred by professional nurses to the hospital for further management.

According to the National Cervical Cancer Screening Policy Guidelines and as recommended by Brittany, Lees, Britt, Erickson, Warner and Huh (2015:4**)** women with abnormal cervical smear results are to be managed as follows:

Table 4.6 Abnormal Cytology as adopted from women results

Result	**Management procedure**	
ASCUS/LSIL/CIN 1/HPV changes	Repeat smear in 1 year	
ASCUS/LSIL/CIN 1/HPV changes on repeat smear	Negative	Positive
	Repeat 1 year	Colposcopy
ASCUS favour HSIL	Colposcopy	
HSIL (CIN II or CIN III)	Colposcopy	
AGUS (Atypical glandular cells of uncertain significance)	Colposcopy	
CARCINOMA	Colposcopy	

(Brittany, Lees, Britt, Erickson, Warner & Huh 2015:4)

4.4.5 Proposed programme dates given to woman

Although the National Cervical Cancer Screening Policy (2013:2) concurs with the ACOG cervical cancer guideline proposed programme, only 6/10 clinics could not implement the proposed programme as expected by the cervical cancer screening guideline. Women were not given return dates for results as expected by the policy to be 3-4 weeks. The inability to apply the Cervical Cancer Screening Policy Guideline was confirmed by open spaces observed in the Pap smear register. Only 4 (40%) clinics could follow the proposed programme dates for cervical cancer screening as expected by the National Cervical Cancer Screening Policy Guideline.

4.4.6 Low-grade sill and atypical squamous cells (ASCUS) repeat the smear in 12 months

The repeating of the smear in 12 months, for the low-grade sill and atypical squamous cells (ASCUS) was adhered to by all clinics as they followed the recommendations written on the cervical cancer results especially when they were found abnormal.

Bruce, Klopper and Mellish (2011:399) indicate that, it is often difficult to convince qualified nurses that they are in need for Human Resource Development (HRD) to improve or update their skills set. This statement shows that most people do not recognise their inadequacies and the same applies to nurses. In the study, the researcher also identified the need to improve the professional nurses' skills, knowledge and understanding with regard to cervical cancer screening. This was identified by the researcher when embarked on cervical cancer screening campaigns in the same municipality in 2012 where professional nurses found it difficult to interpret cervical cancer results. This limitation among health professionals was also identified in a study conducted by Mihret, Nigus and Semarya (2016:1) on factors affecting the practices of cervical cancer screening among Female Nurses at Public Health Institutions in Mekelle Town, Northern Ethiopia 2014: A Cross-Sectional Study that, the magnitude of cervical cancer screening practice is low among professional nurses where negative attitudes were predictors of the decision of cervical cancer test. A conclusion was therefore reached by Mihret, Nigus and Semarya (2016:6) that, there is a need to sensitise nurses and other health professionals about cervical cancer and the importance of screening and appropriate environment be designed for cervical cancer test.

4.4.7 Follow-up criteria

4.4.7.1 An effective follow-up system in place

The National Cervical Cancer Screening Policy Guideline (2013:6) recommends every facility to have an effective follow-up system in place for tracing women who do not come for their cervical cancer screening results. For the women to return for results, it depends on the knowledge and understanding and the importance of screening for cervical cancer and the outcomes thereof. The idea was also supported by various literature that indicated a need for increased access to screening and education about Human Papiloma

Virus (HPV) and cervical cancer prevention to women in developing countries (Francis, Nelson, Liverpool, Soogun, Mofammere, Roland & Thorpe 2010:8026).

Although women's knowledge is regarded as very important, an effective system from the clinic is expected to be implemented to suit all clients who came for cervical cancer screening at the clinic e.g. return dates given and follow-up appointments results to be between 1 and 4 weeks depending on prevailing circumstances. The importance of knowledge is also supported by Maree et al (2012b:104) by stating that: "women cannot prevent any disease, nor use available screening opportunities, if they have never heard about it". Having a national programme for the prevention of cervical cancer would serve no purpose without increasing women's knowledge about cervical cancer and the potential benefits of cervical cancer screening, as well as the accessibility of such services.

4.4.7.2 A mechanism to find patients who do not return voluntarily

n effective follow-up system was implemented in 5/10 clinics of Makhuduthamaga Sub-district. All clinics rely on home-based carers for tracing or follow-up of clients. Professional nurses also use their own mobile phones for tracing and follow-up of clients as clinic telephones cannot call cell phones. The other 5/10 clinics indicated that the follow-up system is not effective because there are no means of tracing women who gave wrong addresses or relocated regardless of the availability of home-based carers. All clinics stated that no feedback is received from the hospitals for women who are due for tracing or followed up. The lack of feedback from hospital, about clients who are due for colposcopy clinics, forces women to repeat cervical cancer screening. Women undergo cervical cancer screening in different Districts and Provinces, therefore delaying the disease management.

There are possibilities for women not to return for their cervical cancer screening results including those with positive results. It is clearly stipulated by the National Policy Cervical Cancer Screening Guideline that the responsibility lies with the provider Institution of cervical cancer screening to find those clients with positive results who do not return voluntarily. According to a study conducted by Sibiya and Grainger (2007:54) in KwaZulu-Natal Province, follow-up of clients with abnormal results was found to be a challenge

and a recommendation was made to motivate women to come for their results to facilitate continuity of care.

Although all clinic professional nurses used home-based carers and their own cell phones to trace women, the increased education and support from policy makers with the provision of resources to provide quality services could be of utmost importance.

The importance of cervical cancer screening to HIV infected clients was also stressed by Atashili et al (2011:1) when stating that “screening, even when done once, has the potential of reducing cervical cancer mortality among HIV-positive women in Africa. The most feasible and cost-effective screening strategy needs to be determined in each setting”. The researcher concur with the views in this regard and also aimed adding more value in research and also contribute in the development of new Cervical Cancer Screening Policy Guideline based on the findings of the study moreover that some women’s HIV status are unknown.

Only one clinic responded by saying there is no plan of finding women who do not return voluntarily for results as they could only rely on home-based carers for abnormal results but could not trace those with normal Pap smear results and still had challenges as they had poor communication system. Nine clinics indicated that their plan was based on the home-based carers to trace women especially when results are abnormal even though the communication system is poor but felt that the policy was implemented in this aspect.

4.4.7.3 Tracing of patients who do not keep their appointment at colposcopy clinics

According to the National Cervical Cancer Screening Policy Guideline (2013:6), the responsibility of women who do not keep their appointments at colposcopy clinics lies with the original screening Institution for tracing. In the study, clinics were reviewed for being able to trace women who do not keep appointments at colposcopy clinics. The review aimed at the reduction of death related to cancer although feedback and referral of clients is still a challenge. This findings were confirmed by Sibiya and Graiger (2010:23) through a study conducted in KZN where a challenge with regard to the implementation of the cervical cancer screening programme were: inadequate follow-up system, lack of feedback from the referral hospitals and lack of equipment resulting in clients with

abnormal Pap smear results being lost for further management. Sibiya and Graiger (2010:23) further indicated that the relationship between clinics and referral sites counts for the reduction of mortality and morbidity related to cervical cancer of which a newer alternative cervical cancer screening method called visual inspection with acetic acid (VIA) was therefore recommended for its cost effectiveness and easy to use with results available immediately than the Pap smear.

Only one clinic confirmed that they are implementing all aspects in the policy and that they rely on feedback from clients but experiences some challenges with some women. Nine (90%) clinics indicated that this aspect was found difficult to implement as no feedback is received from the hospital about women who have been referred for colposcopy.

4.4.8 Quality assurance

Quality assurance is a process of establishing desirable standards of nursing care, planning and providing the type of care that will meet those standards (Meyer, Naudé, Shangase & Van Niekerk 2009:311). It is highlighted that the performance of care is evaluated for effectiveness against pre-established standards to provide a basis for assessing potential risks aimed at assessing and improving the quality of nursing care provided to clients in the nursing unit (Meyer et al 2009:311). In the study, quality assurance is evaluated through the collection of quality cervical smears accounting for adequacy rate which depends on the following according to the National Cervical Cancer Screening Policy Guideline (2013:6) and Sibiya and Mailula (2011:26).

Appropriate timing when taking cervical smear i.e. use adequate light to visualise cervix and remove obscuring blood and per vaginal discharges.

- Correct sampling device and site e.g. use of the correct alysbery.
- Adequate cervical cells obtained applying the alysbery firmly on the cervix when taking smear obtaining both the ecto and endo-cervical cells.
- Proper fixation i.e. apply fixation on smear 30 cm away.
- Correct labeling i.e. using the correct form for Pap smear.
- Delivery to the laboratory i.e. delivery of slide to laboratory in good condition i.e. not broken nor refrigerated.

4.4.8.1 Adequacy rate of screening facility is at least 70%

Two clinics indicated that the adequacy rate of screening was above 70% and 8 (80%) was less than 70% and therefore most of their screening results are inadequate and therefore costly for the Health Department.

The adequacy rate (quality smear obtained from a woman i.e. a smear with endocervical component present) of a screening facility is expected by the National Cervical Cancer Screening Policy to reach at least 70%. It is also expected from the cytology laboratories to audit and control the proportion of adequate smears from each screening facility and inform the facilities of adequacy rate and a training of staff be conducted should a facility consistently achieve below 70% of the adequacy rate. In this study, the adequacy rate was also reviewed.

4.4.8.2 If less than 70% staff to be trained

Only two clinics indicated that the adequacy rate in their clinic is above 70%. Of the ten clinics, only six clinics (60%)' had some professional nurses who were trained and in 4 (40%) clinics with no professional nurses trained for cervical cancer screening. The results revealed a need for training of all professional nurses in clinics to achieve above 70% of the adequacy rate in all clinics.

The National Policy Guideline on Cervical Cancer Screening stipulates the need for re-training of staff on cervical cancer screening should the adequacy rate of a facility consistently be less than 70% as an intervention. According to the study conducted by Sibiya and Graiger (2010:15) in KZN there should be a need for re-training of staff in cervical cancer screening which concurred with the policy. The researcher also reviewed the adequacy rate in the study to determine if there is a need to intervene in facilities of the Makhuduthamaga Municipality.

4.4.9 Infection control

The results revealed that 9 clinics had a functional autoclave machine for sterilising the cervical cancer screening packs. Only 1 clinic did not have a functional autoclave machine

and depended on the supervisor to take cervical cancer screening packs for sterilisation in other clinics. Provision of the disposable vaginal speculums and sterile packs from the pharmaceutical depot in all clinics, could resolve the shortage of material resources for cervical cancer screening.

Cervical malignancy is said by the National Cervical Cancer Screening Policy (2013:7) as associated with HPV infection of which HPV DNA has been detected in more than 90% of cervical carcinomas in situ, squamous carcinomas and adenocarcinoma and HPV type 16, 18, 31, 45, 6,11 and 56 are most frequently associated with malignancy of the cervix. The researcher therefore evaluated measures in place for infection control by the availability and functionality of the autoclave machine in the clinics.

4.4.9.1 Availability of sterilisation machine in the facility

The principles of infection control are being implemented in 9 clinics as sterilisation machine was available in the 9 clinics and functional which guaranteed preventive measures for the HPV except in clinic 1.

The effective disinfection for HPV was according to the National Cervical Cancer Screening Policy Guideline (2013:7), to clean non-disposable instruments/specula thoroughly in hot water with soap and brush of which the cleaner must wear gloves for own protection and avoidance of splashes to be ensured. Autoclave machines are therefore recommended/ preferred in clinics for their 121 oc at a pressure of 15 pascal for 15–20 minutes as an ideal method of sterilisation. Clinics were therefore reviewed for the availability of these machines for adherence with infection control principles.

Figure 4.1 represent the implementation of the National Cervical Cancer Screening Policy Guideline graphical presentation in % in Makhuthamaga Sub-district

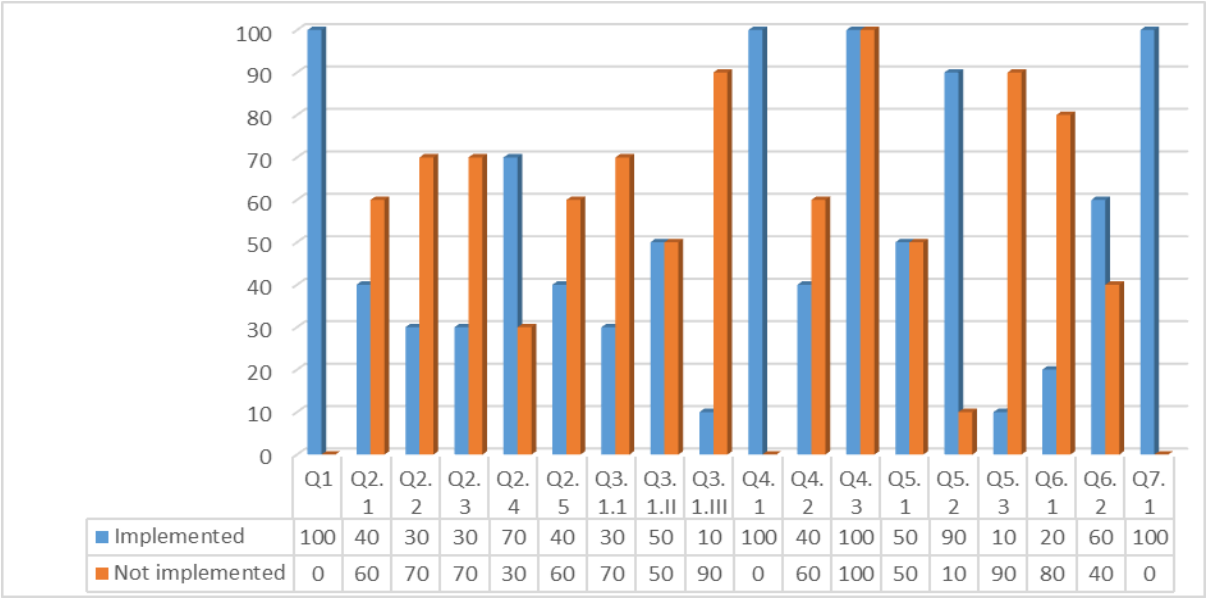


Figure 4.2 The implementation of Cervical Cancer Screening National Guideline graphical presentation in %

The graph above indicates the cervical cancer screening data analysed for all ten clinics for the implementation of the Cervical Cancer Screening Policy Guideline. A variety of percentages were obtained in different aspects of the policy guideline where the blue colour represents the implementation while the red represents the non- implementation of the policy guideline. All (10) clinics, in question 1 shows that their target population of 30 years and above is achieved while 4 out of 10 clinics which are 40% have implemented the stopping of smoking and 6 out of 10 clinics which are 60% have not implemented. Question 4.1 which represent the referral system obtained 100% and the infection control which also obtained 100% of the implementation.

Table 4.7 Summary of the implementation of the policy guideline

Overall	**Frequency**	**Percentage**
Implemented	6	60.0
Not implemented	4	40.0
Total	**10**	**100.0**

The overall calculation of the implementation of the policy guideline was done in terms of the mean, frequency and percentages with the following steps:

- Sum all questions on the raw data, i.e. Q1 to Q7.

- Calculate the average (Mean) of all questions by respondents mean was 26.1.
- All respondents scored below 26.1 shows that there is implemented whereas all scores above 26.1 indicates not implemented.

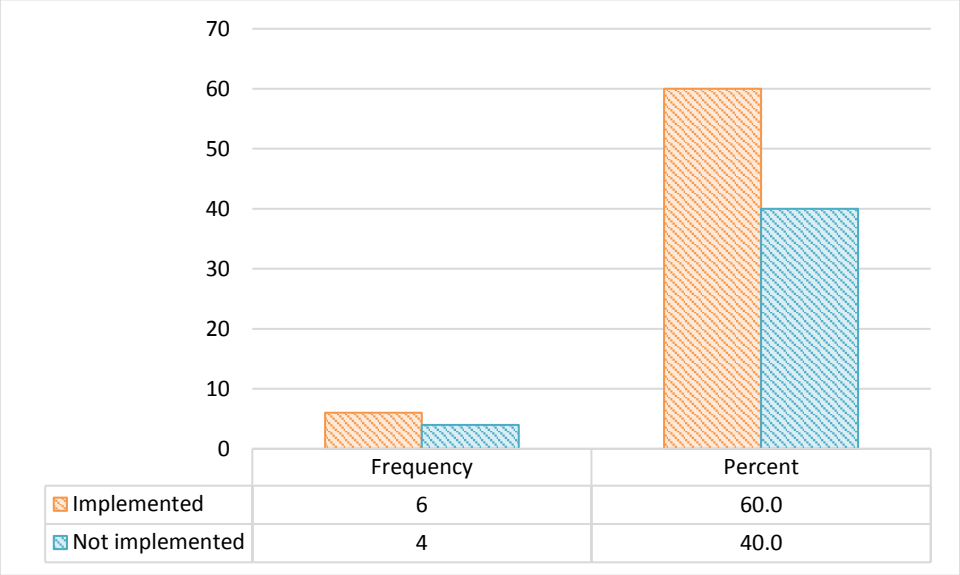


Figure 4.3 The implementation of the National Cervical Cancer Screening Policy Guideline

Figure 4.3 above shows that in average score of 9.7 for all 10 clinics, only 6 (60%) clinics shows that the Cervical Cancer Screening Policy has been implemented whereas 4 (40%) clinics indicated that the policy is not implemented. During the analysis, 1 was rated as implemented while 0 rated as not implemented the Policy Guideline on Cervical Cancer Screening (Annexure P).

4.5 CONCLUSION

Chapter 4 presented the description and analysis of the results of the quantitative phase. The results revealed some challenges with regard to the implementation of this policy in the said Sub-district of the study. Chapter 5 will present the research data, description and analysis of the qualitative findings.

CHAPTER 5

DESCRIPTION AND ANALYSIS OF THE QUALITATIVE RESEARCH FINDINGS

5.1 INTRODUCTION

This chapter presents and discusses the qualitative data findings of a mixed method study obtained through in-depth interviews with women and focus group discussions with professional nurses. Interview guides were used to explore women and professional nurses' knowledge, understanding and practice with regard to cervical cancer screening at randomly selected 10 clinics located in Makhuduthamaga Sub-district, in the Sekhukhune District of Limpopo Province.

In-depth interviews were held with women and focus group discussions with professional nurses as the major source of data. Data was captured through an audio-recorder. Data was analysed using the six research strategy steps of (Creswell 2009:185-190) in conjunction with Tesch's Eight Steps in the Coding Process (Creswell 2014:247).

5.2 THE OVERALL DATA COLLECTION PROCESS

Data was collected from twenty three women and ten focus group discussions were conducted with professional nurses over a period of two months. One focus group discussion with professional nurses was done in each clinic with between 3 and 6 participants leading to a total of 46 professional nurses interviewed (Table 5.4). Participants for in-depth interviews were between 1 and 4 at each of the ten clinics (Table 5.2. below). Interviews and focus group discussions continued until data saturation was reached (Bowling 2009:409). Audio tape was used for recording the interviews, field notes were also taken during the interview as back up and verification of information obtained throughout the interviews (Bowling 2014:397). Interview guides were written in English and clarification of concepts done through Sepedi during interviews with women, as the researcher speaks Sepedi as a home language (Fatone & Jandorf 2009:416).

Data was categorised, sorted and coded according to clinics and participants after each interview for authenticity and identification (Creswell 2014:251). Transcription and listening to voice recordings was done the same day by the researcher with verification done by the use of notes taken during the interviews (Breakwell et al 2009:260). The grounded hermeneutic method of analysis was used. i.e analysis of data through themes emerging from participants' responses (own stories) and thematic method of analysis also applied (analysis of data by themes from the structured topic guide (Bowling 2014:402). Data was classified into Major themes and sub-themes (Taylor & Gibbs 2010:1).

5.3 RESEARCH FINDINGS

The research findings were presented according to the demographics, categories of clinics, major themes and sub-themes of individual participants' responses. Findings for focus group discussion were also presented according to the major themes, sub-themes and sub categories of participants' responses and their recommendations.

5.3.1 Individual interviews with women

The researcher conducted individual interviews with participants between ages of 30 and 70 as they met the selection criteria according to the National Cervical Cancer Screening Policy Guideline (2013) and that they voluntarily participated. The researcher explained the purpose of the study to participants while they were queuing for minor ailments and child health and invited volunteers to participate in the study. The researcher also reassured participants that the aim was to establish in-depth information about their perception towards cervical cancer screening. Participants were assured about their safety and that participation is voluntary. Women were mainly interviewed while still waiting for consultation, however, others had to come for the interviews after consultation. Participants were requested to sign a consent form (Appendix H) before the start of the interview after having understood the purpose of the study. Participants were also told that a tape recorder will be used to record the interviews and that they were free to withdraw during the interview if they so wished without any penalty.

5.3.2 The interview process

A private room was used to conduct the interviews. Participants were free to answer questions during the interview as the questions were clarified in their language that the researcher also speaks. The interview lasted between 15 and 20 minutes as participants were free to share their views which reveal their inner thoughts, beliefs, attitudes and were allowed to do that to obtain adequate information (Parahoo 2014:326-327). Most of them indicated that they enjoyed the interview especially that it was the first time to share such a topic in a private conversation which was also beneficial for them when asked about understanding of cervical cancer screening and if ever they undergone cervical cancer screening as reflected in the statements:

> P7: “I do not know anything about screening and that is why I volunteered to be interviewed so that you can explain to me so that I can understand. I sometimes heard from the radio and did not pay more attention.”

> P10: “No. I do not have a reason. It is because of lack of knowledge because this information is not stressed like it is being done with HIV and we end up testing for HIV. We just hear when they say it is dangerous but how I do not know or even how it feels like.”

Data analysis was initiated with data collection and involved process analysis and content analysis (Bowling 2009:403).

5.4 PRESENTAIONS AND DISCUSSION OF THE FINDINGS

5.4.1 Demographics

Women between the ages 30 and 70 participated in the study. The age range of participants was between the ages 30-50 = 18/23 as illustrated in Table 5.1.

Table 5.1 Age categories of participants

Age category	Number
30-40	9
41-50	9
51-60	3
61-70	2

The age distribution in Table 5.1 indicates that women between the ages 30 and 50 are more than women of the ages 51 and 70. However, the findings indicates that some few women above 50 years could still take part and screen for cervical cancer screening if informed. Sawadogo, Gitta, Rutebemberwa, Sawadogo and Meda (2014:4) on knowledge and beliefs on cervical cancer and practices on cervical cancer screening among women aged 20 to 50 years in Ouagadougou, Burkina Faso (2012) in a cross-sectional study, also confirmed the importance of teaching and screening all women for cervical cancer through the involvement of trained lay persons in community centers.

5.4.2 Clinic categories and participants

Ten clinics who met the selection criteria participated in the study and were coded in numbers. The researcher moved to the next clinic as soon as data saturation was reached in each clinic, leading to a reduced number of participants in subsequent clinics as the interviews continued. Table 5.2 represents number of women who participated in the study in each clinic:

Table 5.2 Number of women interviewed in clinics

Clinics	Number of women
1	3
2	4
3	3
4	4
5	1
6	1
7	2
8	2
9	2
10	1
Total	**23**

5.4.3 In-depth interviews with women

The researcher has presented the findings as Parahoo (2014:254) stated that findings should be written in such a way that readers can feel when particular events or incidents are described as if they had been there.

The findings were classified according to major themes and sub-themes. The major themes included: the understanding of cervical cancer screening; women who underwent cervical cancer screening; the importance of cervical cancer screening; possible consequences of not screening for cervical cancer and encouragement of other women for cervical cancer screening. The participants' perceptions regarding cervical cancer screening are presented in Table 5.3.

Table 5.3 Major themes and sub-themes

MAJOR THEMES	SUB-THEMES
Understanding cervical cancer screening	Lack of knowledge Knowledgeable and informed
Undergone cervical cancer screening	Fear of cancer related death & complications Cervical Cancer Screening and early diagnostic purposes Encouraged by media and nurses
The importance of cervical cancer screening	Fear of cancer complications and death Cervical cancer prevention Awareness and early diagnosis of cervical cancer
Consequences of not screening for cervical cancer	Cancer complications and death
Encouragement of other women for cervical cancer screening	Early detection and diagnosis of cervical cancer Importance of screening Safety and prevention of cervical cancer and death

5.5 DISCUSSION OF THE FINDINGS

5.5.1 Understanding of women about cervical cancer screening

Lack of understanding of cervical cancer was reflected within the responses as observed from (13/23) 58% of participants. The lack of knowledge was revealed when participants responded as follows:

> P1: “I do not know much about cancer but what I know is that it is dangerous. It can kill a person.”

> P10: “To speak the truth, I know nothing about it. I do not want to lie.”

Participants seemed familiar with breast cancer as what they were informed of, unlike cervical cancer which was not popular.

> P3: “I do not know anything about cancer of cervix. I know nothing my child. I only heard about it. I only know about cancer of the breast.”

Even though some participants displayed limited knowledge about cervical cancer as they undergone the tests, the researcher could identify the lack of knowledge from how participants explained their understanding of cervical cancer by stating that:

> P6: “I understand a little bit about it, as I once visited one clinic and did it to check if I have cancer or not. It is a test which they take blood in the uterus to test if you have cancer or not.”

> P21: “To speak the truth, I don’t understand it well. I know what it is but I just don’t understand. We have never being informed properly about it. We know it to be a wound or something very dangerous on the cervix that may end up causing danger.”

Participants were eager to know more about cervical cancer and had hope of gaining more knowledge by participating in the study:

> P7: “I do not know anything about screening and that is why I volunteered to be interviewed so that you can explain to me so that I can understand. I sometimes heard from the radio and did not pay more attention.”

The lack of time was also attributed to lack of knowledge as women spent most of the time domestic work than paying attention to their health:

> P12: “No, honestly I am not aware of such tests. I know absolutely nothing about the epidemic (Cervical cancer). Yes, I am aware of the screenings, but I have not yet attempted to take some tests. Nurses made us aware but I never bothered to check if I am affected or not. For having not suspected or felt something wrong with my womb, I felt it isn’t necessary. But I am eager to try once someday. I want to find out if I am infected or not. We never bothered because we were busy and feeling healthy. Most of our time, we are so busy that we cannot even pay attention when they make this awareness on TVs. We are employed as housewives, I so wish to know more about the disease, how it affect one and its symptoms. People out there must also be aware of such cases.”

To screen for cervical cancer was viewed as necessary by participants as expressed in the following:

> P23: “Regarding the cancer we are clueless but what we are aware is if you are affected. Is good when you perform the screening. We have insufficient knowledge about cervical cancer.”

It was also identified in this study that, women’s lack of knowledge could limit their intent to screen for cervical cancer and impacted negatively on their health status. Some women perceived the encouragement of screening by professional nurses as a punishment as indicated by one participant that, they were forced to screen for cervical cancer:

> P8: “As adults, we are forced to do cervical cancer screening as we are even old no more menstruating as blood may clot and lead to cancer as blood is no more reduced in our body, so it is important to do screening.”

This perception agrees with the findings of Azaiza and Cohen (2008:34) where women perceived cervical cancer screening as punishment or test devised by God in a study on: Between traditional and modern perceptions of breast and cervical cancer screenings: a qualitative study of Arab women in Israel.

The lack of knowledge was further justified by participants through asking various questions for example,

> P7: “What are the causes?”

According to Claire, Kath and Yenna (2014:8) lack of knowledge about cervical cancer could also expose women to risk factors which could have been avoided e.g. sexual behaviour.

Participants were further interested in the signs of cervical cancer, as reflected in the following responses:

> P1: “Yes. Are there signs of cancer that I can see before coming to the clinic?”
>
> P9: “Yes. How will I know, if I have cancer of the cervix and where should I do the tests?)”
>
> P10: “Yes. How will I know if I have cancer of the cervix? Are the tests done in the clinic?”

More concerns from participants were indicated as follows:

> P14: “Yes. Is it possible that in my fourth or fifth attempt test results can come back positive?”
>
> P14: “Can I still be saved after testing positive?”
>
> P19: “Yes, I wish to know what lead someone to ending up suffering from cervical cancer, what happen in this case, how to treat it and if it has already affected your cervix what happens to you in the end?”

The questions asked by participants were an indication of lack of knowledge. The lack of knowledge was identified as a major concern in the study as it emerged as one participant even said she participated in the study so that she could understand more about cervical cancer screening:

> P7: “I do not know anything about screening and that is why I volunteered to be interviewed so that you can explain to me so that I can understand. I sometimes heard from the radio and did not pay more attention”.

The findings indicated that more knowledge through health education and use of other strategies is necessary for all women as a primary prevention for cervical cancer.

The perception of cervical cancer screening was reviewed through women's knowledge when they were asked to explain their understanding of cervical cancer screening. The lack of knowledge is supported by Thomas et al (2005:562) where poor knowledge about cervical cancer screening was also identified in a study on: Barriers to effective uptake of cancer screening among black and minority ethnic groups as a challenge. Thomas et al (2005:562) stressed the need to provide community-based education to increase the uptake of screening services among the Black Minority Ethnic groups as a study conducted among this group also confirmed lack of knowledge. According to Thomas et al (2005:562), the effective strategy of intervention to improve the uptake of cervical cancer screening, was found to be community-based cancer awareness education that is sensitive to religious and cultural needs of which General Practitioners and other health professionals are encouraged to form part. Although the need for some interventions to improve knowledge to most women about cervical cancer screening is necessary, it has been highlighted by Mcilfatrick (2011:725) that lack of knowledge continues, despite significant policy and media measures to improve general public awareness about cervical cancer screening.

The lack of knowledge with regard to cervical cancer screening was also justified by Dareng, Jedy-Agba, Bamisaye, Modibbo, Oyemeyin, Adewole, Olayiniya, Dakum, Pharoah and Adebamowo (2015:2) on their study on: Influence of Spirituality and Modesty on Acceptance of Self-Sampling for cervical Cancer Screening who suggested that, cultural and religious beliefs and practices consideration during education could lead to success in public health interventions. The findings of this study, revealed that more efforts and additional means of information e.g. media, pamphlets etc are necessary to inform most women about cervical cancer screening for early prevention and management of cervical cancer are significant.

The results indicated the knowledgeable and lack of knowledge as sub-themes which emerged from the findings when participants were asked about understanding of cervical cancer screening. Although lack of knowledge appeared dominant in women who participated in this study, 42% (10/23) participants were well informed about cervical cancer screening. The results of knowledgeable women also concurred with

MacLaughlin, Angstman, Flynn, Schmitt, Weaver and Shuster (2011:361) study on: Predictors of patient comfort and adherence with less frequent cervical cancer screening, where participants had adequate levels of knowledge about Pap tests. Knowledgeable participants in this study were identified when asked about understanding of cervical cancer and responded by stating that:

> RESP4: “This means that we have to take care of ourselves, take responsibility about our health. “In the clinic they talk about it now and again. They told us that it starts with a small sore which grows into cancer which can at the end leads you to death. It is therefore important to do the tests.”
>
> P5: “It is important to do cervical cancer screening because you do not know what is happening in your uterus.”
>
> P2: “Yes. If you do not screen, by the time you do it, it will be late as the uterus will be rotten by then, if you do not screen early.”

The results of this study reflected few women who are knowledgeable about cervical cancer screening. The results in this study therefore concurred with Sawadogo et al (2014:1) in the study on: Knowledge and beliefs on cervical cancer and practices on cervical cancer screening among women aged 20 to 50 years in Ouagadougou, Burkina Faso, 2012: a cross-sectional study when stated that:

> “There is need to enhance health education regarding Human papillomavirus and cervical cancer.”

Based on the study results in Makhuduthamaga Sub-district, it is also clear that enhancing health education regarding cervical cancer screening is necessary.

McLaughlin et al’s (2011:361) study differs with Duffet-Leger, Letourneau and Croll (2008:572) where lack of knowledge with regard to cervical cancer screening was revealed by Duffer-Leger et al (2008:572) stating that, young women are poorly informed about cervical cancer and its associated risk factors. Maree et al (2012b:104) also concurs with Duffet-Leger et al (2008:572) who emphasised that, increasing women’ knowledge about cervical cancer screening is beneficial.

The value of knowledge to clients was also highlighted by Kessler (2012:61) that education interventions based on self-efficacy increased knowledge of cervical health and increased the rate of Pap smear tests.

5.5.2 Participants who underwent cervical cancer screening

Women were asked if they ever undergone cervical cancer screening and give reasons for either been screened or not. Screening implies “A neoplasm of the uterine cervix, which can be detected in the early, curable stage by the Papanicolaou (Pap) test (Marie 2013:1324). The findings in this study, revealed that 13/23 (57%) of participants did not undergo cervical cancer screening while 10/23 (43%) did screen for cervical cancer.

Ignorance (1/23), lack of time (4/23 and lack of knowledge (4/23) were reasons given by participants who did not screen for cervical cancer however (4/23) did not give reasons for not screening. The following statements were shared by participants who did not screen for cervical cancer. Lack of knowledge was raised as a common factor as follows:

> P3: “NO. Because I do not know anything about it.”
>
> P17: “I did not do the screening because of lack of information about it.”
>
> P10: “It is because of lack of knowledge because this information is not stressed like it is being done with HIV …”

Time factor was also an issue as observed in the following responses:

> P20: “I have never done it. My reason is lack of time.”
>
> P18: “No I have never done it (cervical cancer). I didn’t have time ...”
>
> P2: “Yes. If you do not screen, by the time you do it, it will be late as the uterus will be rotten by then, if you do not screen early.”

The responses from participants answered this study research question of the low uptake of cervical cancer screening, regardless of the free availability of cervical cancer screening services. The reasons given by participants in this study, for not screening for

cervical cancer, were also cited by Wake, Rebe and Burch (2009:44) in a study on patient's perception of cervical cancer screening among women living with human immuno-deficiency virus attending an antiretroviral therapy clinic in urban South Africa, where 78% of women never heard of cervical cancer and 40% had no correct knowledge about Pap smears. The findings with reference to lack of time, lack of knowledge, ignorance and lack of reason which led women not screening for cervical cancer, suggested the need to identify means which will inform, motivate and encourage women to undergo screening for cervical cancer. The findings therefore justifies the fact that, if one does not know or have incorrect information about cervical cancer, one will therefore not take screening as important thus ignore and not create time to screen.

Marie (2013:1324) suggested that, the best way of managing cervical cancer is early detection and diagnosis. The findings also revealed that, participants who screened for cervical cancer were already having some problems which forced them to consult the health facility for assistance. The responses from participants in this study, support the findings of Nwankwo, et al (2011:363) when stating that, "in developing nations opportunistic screening is the practice, and many women present with late-stage disease." The need to prevent cervical cancer than to treat was also identified as important for most women as supported by Hogarth, Hopkins and Rodriguez (2012:245) who regarded persistence to Pap smear test as the golden standard for cervical cancer screening and most commonly used molecular technology for cervical cancer diagnosis.

The question of having to ask women if they undergone cervical cancer screening was easy to answer with a yes or no, but became challenging to women when reasons for their answers were to be given. The researcher had to probe more for some respondents to confirm their responses. The researcher was supported by Saks and Allsop (2013:91) when indicating that prompts are used to support informants in telling their story and continues to say planned prompts or probes are used when further explanation is required, or when the researcher wishes to dwell deeper. Probing is explained by (Gray 2011:217) as a follow-up question that aims to elicit information to fill in the blanks in a participant's first response to a question. It further indicated by (Gray 2011:217) that the researcher makes follow-up on topics that have been raised, by asking specific questions, encourages the informant to provide details, and constantly presses for clarification of the informant's words.

Participants' responses concurred with Thomas et al (2005:562) findings who found it necessary to provide community based education to increase the uptake of screening services among black minority ethnic groups. Tum et al (2013:114) further stated that "we are still in the dark pertaining to how to teach women about cervical cancer and how to motivate women to use screening opportunities." The fear of death and loss of uterus was predominantly cited by participants who screened for cervical cancer in the study even though, assessment, awareness, diagnostic purposes, encouragement by the media and nurses emerged as other reasons for screening for cervical cancer. Blomberg et al (2007:561) also supported the common cancer related deaths by stating that, cervical cancer remains the second most common cancer in women and Pap smear been described as an effective intervention to reduce the incidence of mortality from cervical cancer.

Even if reasons for not screening were shared by participants, lack of time and no reason for screening led to the conclusion that lack of knowledge has a link to the other reasons given by participants. Another strategy which was identified by Logan and McIlfatrick (2011:720) to be effective in encouraging women for cervical cancer was invitation and educational interventions. The implication of the findings therefore is that more strategies for informing women about cervical cancer screening are necessary in Makhuduthamaga Sub-district.

5.5.3 The importance of cervical cancer screening

Participants were asked if they viewed cervical cancer screening as important. All 23 participants viewed cervical cancer screening as important. The following were participants' responses:

> P2: "Yes. If you do not screen, by the time you do it, it will be late as the uterus will be rotten by then, if you do not screen early."

The response is associated with damage to the uterus. The implication of the below response is that cervical cancer screening can also be done for prophylaxis.

> P7: "Yes. It is important because prevention is better than cure unlike to come to clinic when the condition has complicated."

If a woman is knowledgeable about cervical cancer, she will therefore see the importance and danger of not screening. Even though lack of knowledge emerged from responses, all participants were concerned about their own health risks. In the study on examining attitudes and knowledge about HPV and cervical cancer risk among female clinic attendees in Johannesburg, South Africa, by Francis, Nelson, Liverpool, Soogun, Mofammere and Thorpe (2010:8030) women were also concerned about their own health risks. In this study, participants viewed cervical cancer screening as important for reasons such as, fear of losing the uterus, fear of complications & death, prevention of diseases, awareness, early detection & diagnosis of cancer as reflected in the following response:

> P15: "Yes, as you cannot see what is inside your body. We need to take the test regularly and annually to avoid such ailment that will prevent us from bearing children. By delaying to take test may lead to eventually finding the cervix closed that you will not bear children anymore because of the cervical cancer."

The importance of regular and consistent screening was highlighted by P15.

However, Harlan, Bemstein and Kessler (1991:890) highlighted that, women could view cervical cancer screening as important, depending on weather they received their Pap smear results or not. It was also found by Harlan, et al (1991: 890) that most women with normal results were not contacted and therefore felt discouraged to comply to the screening follow-up program.

The findings of this study with regard to the importance of cervical cancer screening also revealed that all women could view cervical cancer screening as important if they had enough knowledge about cervical cancer. A need for knowledge about cervical cancer screening was noted from participants' responses, which was more linked with death that:

> P18: "Yes, I find it (cervical cancer screening) very important as I am started getting more information lately. I must know what happens in my uterus in time so that I am able to get assistance early before is too late and they fail to find solutions."

> P19: "In my view. I find them (Pap smear) to be important. "I see those that are suffering from it (cervical cancer), they leave. I mean to say, they pass away."

P20: “They are very important. You can be affected by cancer unaware and eventually lead you to death if you did not check yourself.”

P22: “Yes it is important. Many women died from cervical cancer.”

The findings in this study, were also justified by Wong (2011:105, 110) who suggested that the provision of HPV education to all women should be a high priority to overcome knowledge deficit among women. The findings in this study, also indicated that participants viewed cervical cancer screening as important because they feared some complications related to cervical cancer. Women who participated in a study on combining breast and cervical screening in an attempt to increase cervical screening uptake, an intervention study in a South African context in Tshwane, had low level of awareness of cervical cancer (Maree et al 2012a:83) which further emphasises the importance of knowledge.

5.5.4 Possible consequences of not screening for cervical cancer

In the study, participants were requested to describe the possible consequences of not screening for cervical cancer. All participants were aware of consequences such as death, cancer kills, loss of uterus and some other complications.

The findings revealed that participants were aware of the consequences of not screening for cervical cancer which were listed as complications of cervical cancer, death, loss of the uterus. Participants responded as follows:

P2: “Your uterus will rot and you will die.”

P21: “A person can get ill or it may intensify to an extend of incurability or in the end crippled or be unable to bear children.”

P6: “You will have different illnesses and end up having cancer as it was not detected early.”

According to Deroche, Phiri, Michelow, Smith and Firnhaber (2015:1) in a study conducted in 2015 on Costs and Cost Effectiveness of Three Approaches for cervical cancer screening among HIV-Positive Women in Johannesburg, South Africa, South

Africa has highest rates of HIV and HPV and a high incidence and mortality from cervical cancer even though cervical cancer is largely preventable when detected early. Cervical cancer screening is considered by Lynge et al (2014:667) to be the oldest and most wide-spread cancer screening activity and that it is expected that the majority of people be aware of the consequences of not screening. cervical cancer screening is a critical health service that is often unavailable to women in under-resourced settings and a van-based mobile clinic was established on 1 October 2012 for the Central Karoo site and 30 September 2013 for Thabo Mofutsanyana site (the two rural districts in South Africa) by a South African non-governmental organisation to expand access to cervical cancer screening service (Schnippel et al 2015:1, 13).

Participants' also supported the findings of Fangjian, Jacqueline and Abbey (2015:646) who indicated that "the percentage of cervical cancer deaths is highest among women aged 45-54 and national guidelines recommend regular cervical screening to women between 30 and 70 years".

Knowledge with regard to the consequences of not screening for cervical cancer as stated by participants in this study, could be further intensified by regular health talks such as, stages of cervical cancer, signs and symptoms, complications and importance of screening for cervical cancer. Such health information could be necessary to empower and encourage women for cervical cancer screening as suggested by Blomberg et al (2008:568) which will further increase the responsibility of women for their health maintenance and cervical cancer prevention.

5.5.5 Encouragement of other women for cervical cancer screening.

Women who participated in the study were therefore asked if they can encourage other women for cervical cancer screening and they all indicated that they accept only one participant of who indicated that she could not encourage others for cervical cancer screening based on the fact that she did not have an idea by responding as follows:

> P17: "No. I am clueless."

The findings indicated that the majority of participants could encourage other women for cervical cancer screening. The women felt cervical cancer screening is important and

necessary for all women to make all women aware, be assessed, diagnosed and screened for cervical cancer. The responses were evidenced as follows:

> P1: “So that one does not discover the problem late when cancer has already progressed and also that one may get help at an early stage.”
>
> P2: “Yes. If she delays, the uterus will be complicated by the time she does screening, then she will die.”
>
> P15: “Yes, a lot because screening is important and cervical cancer has bad consequences and can lead to loss of life.”

The barriers for cervical cancer screening were also identified by Ostenson, Alder, Elfstrom Sundstrom, Zethraeus, Arbyn and Andersson (2015:12) by stating that time and travel costs and other direct non-medical costs incurred in attending clinic-based cervical cancer screening can be considerable, while these may also affect the cost-effectiveness of a screening program. Ostenson et al (2015) further indicate that screening compliance was significantly associated with age, income, time off work, accompanied by a companion, and HPV knowledge.

Questions asked by participants concurred with conclusion made by Maree and Moitse (2014:1) in a study on exploration of knowledge of cervical cancer and Cervical Cancer Screening amongst HIV-positive women that, knowledge was low among women of unknown status of HIV and that knowledge does not mean having had Pap smear. Questions asked during interviews proved that less is known about cervical cancer especially the causes, signs and symptoms.

The questions raised by participants made the researcher to conclude that, intensified health education, universal availability of screening services, information sources and campaigns about cervical cancer and screening could reduce women’s mortality (Logan, Khambaty, D’Souza & Menezes 2010:474).

5.6 CONCLUSION

The in-depth interviews with participants was conducted between women of the ages 30 and 70 according to the National Cervical Cancer Screening Policy Guideline (2013). The

interview process, discussion and presentation of the findings of the in depth individual interviews of 23 women in ten clinics of Makhuduthamaga Sub-district were presented. The findings indicated that:

- There is lack of knowledge among participants regarding cervical cancer screening.
- The majority of women did not undergo cervical cancer screening due to lack of knowledge and those who underwent screening had limited knowledge and some underwent screening for diagnostic purposes.
- Participants viewed cervical cancer screening as important following participation in the research study.
- Participants felt it necessary to encourage other women for cervical cancer screening.
- Participants displayed an idea of the consequences of not screening for cervical cancer.

5.7 FOCUS GROUP DISCUSSION WITH PROFESSIONAL NURSES

Focus group discussions were conducted with professional nurses in ten clinics of Makhuduthamaga Sub-district. The researcher aimed to gather information about the perceptions of professional nurses with regard to Cervical Cancer Screening in relation to the National Policy Guideline of Cervical Cancer Screening. De Vos et al (2008:299, 300), defines focus group as a carefully planned discussion designed to obtain perceptions on a defined area of interest in a permissive, non-threatening environment whereby the researcher creates a tolerant environment that encourages participants to share perceptions, points of view, experiences, wishes and concerns, without pressurising participants to vote or reach consensus.

The staff establishment for the selected clinics was +/- 5 professional nurses and therefore a smaller focus groups/mini-focus group discussion was secured (Krueger & Casey 2009:68). Participant numbers were between four and five which, however made it easy for the group to be managed.

A focus group discussion was conducted in each of the ten randomly selected clinics of Makhuduthamaga Sub-district. Invitations were sent by the Primary Health Care

Manager to participating clinics (Appendix F) and the purpose of the study was explained. Voluntary participation and anonymity, was ensured with professional nurses (Appendix J).

Table 5.4 Number of professional nurses in focus group discussions

Focus group	Number of participants
1	5
2	6
3	5
4	5
5	3
6	5
7	5
8	5
9	3
10	4
Total	**46**

5.7.1 The interview process

Data saturation was reached within groups and across groups in all ten clinics. According to De Vos et al (2008:299), the researcher in a focus group creates a conducive environment that encourages participants to share points of view, experiences, wishes and concerns without pressurising participants to vote or reach consensus as a result the researcher served as a chairperson in the group discussions. The researcher also used semi structured interviews as it has much of the freewheeling quality of unstructured interviewing and requires all the same skills for reliable and comparable quality data (Bernard 2013:182). The researcher was able to explore the feelings, attitudes, beliefs, prejudices, reactions and experiences of the participants, in a better way that would not be so accessible through other approaches e.g. observation, interview or surveys. The focus group discussion in the study, therefore achieved a chain or cascaded effect, where participants could listen to each other's memories and experiences and triggered ideas in other participants (Gray 2014:470).

The focus group discussions with the professional nurses took place at their respective clinics in a private room provided by the manager. Focus group discussions were

conducted in the morning, before starting the clinic routine or in the afternoon after workload was reduced depending on the preference of the participants with the agreement of the operational manager.

An interview guide with open ended questions was used to direct and stimulate the discussion (Appendix N). The focus group interviews with professional nurses took +/- 45 minutes.

As a reminder, the researcher visited the Sub-district office a week before conducting the interviews. The Sub-district manager informed the participating clinics through letters a week before data collection to make professional nurses aware and ready for voluntarily participation. The researcher visited the clinics after a week and the information letters and consent forms were given and signed the same day by professional nurses who were voluntarily willing to participate in the study. The job description of all professional nurses in Makhuduthamaga Sub-district, stipulates and expect the professional nurses to conduct 2 (two) cervical cancer screening per day. All professional nurses who were willing to participate in the study therefore met the inclusion criterion.

5.8 FINDINGS

5.8.1 Presentation and discussion of findings

Findings were coded into themes and sub-themes to classify responses of participants. The Major themes that emerged are: Uptake of cervical cancer screening, Information to women, Importance of cervical cancer screening, Performance of cervical cancer screening, Implementation of the National Cervical Cancer Screening Policy Guideline and training/In-service as illustrated in Table 5.4. Participants in focus group discussions were identified according to group number and participant number: Group 1 Participant 1 (G1/P1), Group 2 Participant 3 (G 2/P3) etc.

Table 5.5 Major themes and sub-themes of participants' responses

Major themes	Sub-themes	Sub-categories
Theme 1 Uptake of cervical cancer screening	High uptake	Demographics Consistent health education HIV positive women done Pap smears yearly
	Low uptake	Long interval (10 years) Lack of resources, Privacy invasion Age discrepancy Cultural beliefs, Unavailability of Pap smear results, communication system Incompetency of staff and lack of commitment, time factor Demographics Deceiving campaigns Lack of knowledge from clients, and reluctance
	Inconsistent	Lack of resources Incompetency of staff
Theme 2 Information to women about cervical cancer screening	Informed	Health education Promotional material Media
	Partially informed	Literacy level in community Health education Lack of resources Cultural beliefs and practices
Theme 3 Importance of cervical cancer screening	Important	Cancer prevention and screening Cancer early diagnosis and management Diagnostic Avoidance of danger/complications Prevention of death Good for women and her health
Theme 4 Performance of cervical cancer screening	Duration	+/-5 minutes +/-10 minutes +/-15 minutes
	Follow-up programme and plan	10 years 5 years 3 years yearly HIV+ yearly HIV+ 6/12 6 weeks post-natal

Major themes	Sub-themes	Sub-categories
Theme 5 Implementation of National cervical cancer screening policy	Easy to implement	In-service each other It is straight forward and give direction Duration of performing Pap smear is short
	Difficult to implement	Low uptake Lack of resources e.g. infrastructure, disposable vaginal speculums Shortage of manpower Clients don't show up for results No conduction of Pap smears during holidays due to lack of transport No phone for tracing results and Clients not getting results 10 years interval too long Difficulty in tracing clients Cervical smear results are inadequate Use of alysbery instead of a brush
	Not sure	No policy No standardised training Not receiving Pap smear results
Theme 6 Training/In-service on cervical cancer screening	Trained	37/46 Professional nurses were trained
	Not trained	9/46 Professional nurses were not trained

5.8.1.1 The uptake of cervical cancer screening

Different views were raised by participants regarding the uptake of cervical cancer screening. Reasons for either the low or high uptake were given by participants in different group discussions. The responses of participants with regard to the uptake of cervical cancer screening is considered an important factor in the study as highlighted by Rubio, Pearson, Clark and Breitkope (2007:334) that the relationship of physician with patients improved the health outcomes related to increased feelings of satisfaction with care.

Participants in groups indicated that the high uptake was related to reasons such as consistent health education given to women on the importance of screening, high number of HIV positive women who are encouraged to do Pap smears yearly and accessibility and campaigns which were stated as follows:

> G3/P5: “We are encouraging clients to do Pap smear every day so they voluntarily come and do the test. And every patient that has been diagnosed as HIV we do tell them that they must do Pap smear yearly, so they come even though they are not yet acquainted to it because they seem as if when they do it every year it will cost them.”

Demographics were stated by participants as contributing to the high uptake of cervical cancer screening in other clinics as reflected in the responses:

> G3/P1: “The other thing is that we are serving a large population and because our clinic is easily accessible and clients like to come to our clinic as it is accessible.”

The impact of cervical cancer screening campaigns were highlighted by participants as contributing to high uptake of cervical screening as indicated in the response below:

> G7/P1: “It is high. “Because I have seen them doing some campaigns since I came here now I am satisfied about how they do their screening.”

The application of strategies such as health education, conduction of cervical cancer screening campaigns and accessibility of services of cervical cancer was highlighted in the study to contribute towards the high uptake of cervical cancer screening. Participants in group 3 and group 7 indicated that the uptake of cervical cancer screening is high in their clinics with the said reasons. Only one participant in group 7 indicated that the uptake is high but differed with other participants as she considered the high uptake during campaigns only while other participants considered all the months. The information given by participants was validated and indeed the uptake was high only during campaigns in group 7 and there was no record of health education given to clients. Group 3s uptake of cervical cancer screening was high and consistent in all the months (2015) and there was a record of health education on importance of cervical cancer screening every month in 2015. Continuity of application of such strategies can benefit a large number of women.

Although different reasons were provided by professional nurses for the low uptake of cervical cancer screening in clinics, the study was found necessary to concientise

professional nurses about the primary prevention of cervical cancer related deaths through education, clear communication and financial support as highlighted by Marek, Dergez, Kricskovics, Kovacs, Rebek-Nagy,Gocze, Kiss, Ember and Gocze (2011:5122). Participants who believed that the uptake of cervical cancer screening is low and inconsistent, attributed it to different reasons as stated in the following responses.

> G1/P4: “Low. The 10 years interval is long before we can repeat the other smear.”

The ten years interval for cervical cancer screening for women with normal results remained a concern for participants who felt that it contributes to the low uptake of cervical cancer screening and stated that:

> G1/P4: “Low. The 10 years interval is long before we can repeat the other smear.”

Some participants indicated that women are more concerned about the invasion of their privacy and perceived Pap smear as an insult:

> G1/P3: “They refuse to do Pap smear as they feel is an insult.”

The use of sterilised vaginal speculums also contributed to the low uptake of cervical cancer screening, especially when the autoclave machine was not functional as highlighted by participants:

> G1/P5: “Another reason is that the autoclave machine is not working so we rely on transport to come and take vaginal speculums to another clinic for autoclaving.”

Cultural believes and age discrepancy between nurses and women also led to the reluctance of older women to be screened by young professional nurses:

> G1/P4: “Isn’t it in culture you must respect the old ladies, so immediately you talk about Pap smear exposing their private parts its another thing.”

> G1/P2: “Its like they don’t want their private parts to be seen by young nurses.”

> G1/P4: “The community they respect their culture and if you tell them about Pap smear they feel you are undermining their culture.”

Participants also viewed receiving cervical smear results from laboratory as a challenge which discouraged women to screen for cervical cancer and stated that:

> G1/P1: “The other one is that those who have done Pap smear don’t get results, some are discouraged because they don’t get the results. We don’t have phones to enquire. We just inform the courier to bring them (results) but they don’t come.”

The low uptake of cervical cancer screening is a global concern as little is known about the perceptions of women towards cervical cancer screening utilisation (Fletcher et al 2014:1229). Nurse practitioners are therefore said to be playing an important role in inter-grating new guidelines into practice and improving the quality of healthcare regarding women’s cervical health and cancer prevention (Schwaiger et al 2011:417). Focus group discussions were conducted by the researcher in this study, to allow professional nurses to express their views and perceptions about the low uptake, practices and experiences as a collective to guide and influence each other’s views. Professional nurses are also concerned about the low uptake but faced with some factors which influence the uptake negatively as indicated in their responses.

Participants stated that professional nurses are lacking knowledge and the skill of conducting cervical cancer screening:

> G4/ P1: “Its down. Due to lack of knowledge and skill of the personnel.”

The availability of resources, were found to be influencing the uptake of cervical cancer screening in clinics. Human resource was also a major concern to some participants.

> G4/P3:”Shortage of resources.”

> G5/ P4: “The uptake is too low. Don’t be surprised. There is no time, staff and the clinic is always full while we are expected to do two clients per day but we fail because sometimes we have only two professional nurses on duty.”

> G9/ P1: “These nowadays uptake is low. We have a problem of out of stock of cytology book from laboratory but recently it came from last week from now we are going to start.”

Participants indicated that women are affected by myths towards cervical cancer screening and think cervical cancer screening is painful but can treat STIs. The following were responses from participants:

> G7/P2: “The other thing is the perception of women to Pap smear because some still think is painful and when you tell them what you are going to use, they say it is a steel, so they don’t want to do it as they still think is painful.”

> G7/P5: “Mina to my observation, from the clients’ perspective I have noted that people still believe that they only do Pap smear when they have got STIs and they only request Pap smear when they have STI ...”

The lack of specialisation of the cervical cancer screening services was viewed as discouraging women to screen for cervical cancer as women wait for a long time for cervical cancer screening as reflected by participants:

> G7/P5: “Looking at the way our clinic is structured, the nurse patient ratio is too high and number of clients coming to our clinic is actually discouraging the women from coming to wait in a long queue because by the time they come to the clinic, because clients coming to our clinic come as early as 04H00 am in the morning. So for one to come for a Pap smear and you find that long queue to me it becomes discouraging to this lady who is motivated to come for a Pap smear and wait in the long queues.”

Participants indicated that some women are just reluctant to screen without reasons while others are assumed by participants to be having a negative attitude towards cervical cancer screening as reflected in the statements:

> G8/ P1: “The uptake is low. People do not want to screen for cervical cancer.”

> G8/ P2: “They are just reluctant because of attitude because we always give them information.”

The availability of resources, were found to be leading to the fluctuation/inconsistency of the uptake of cervical cancer screening in clinics. The availability of the examination lamp

used during the performance of cervical cancer screening, autoclave machine and sterilised speculums were also highlighted as a factor influencing cervical cancer screening. The following were responses from participants:

> G2/P1: “In the previous month, it was good but from April 2015, we are having a challenge of examination lamp.”

> G10/ P4: “It is inconsistent. Because we do not have an autoclave machine.”

> G10/P4: “No. when we have sterilised speculums from other clinics then the number go up but once those are finished, the number goes down because we wait for the supervisor to take unsterilised ones to other clinics.”

The issue of time taken to perform cervical cancer screening was raised by participants as influencing the uptake of cervical cancer screening at the clinic. Participants responded as follows:

> G10/ P5: “And also the time factor because sometimes we find ourselves few as professional nurses while we take time to do cervical cancer screening.”

Although the availability of resources was identified as playing a bigger role with regard to cervical cancer screening, other factors which were stated by professional nurses as influencing the uptake of cervical cancer screening need to be taken into consideration. More efforts are necessary as a way of support and encouragement of staff to screen more women as a preventive and diagnostic measure for cervical cancer through provision of the necessary resources for cervical cancer screening.

5.8.1.2 Information to women about cervical cancer screening

Participants were asked if ever women were well informed about cervical cancer screening in relation to the uptake in the clinics. Participants indicated that various means of informing clients on health issues are used to inform women about cervical cancer screening. Participants indicated that some health education, promotional materials and media are used to inform women about cervical cancer screening. The following statements were stated by participants:

G9/ P1: “Every morning we are giving health education before we start with the routine especially concerning cervical cancer screening.”

G9/ P5: “Yes. Even in the consulting rooms we give health education about Pap smears especially women who are child bearing age and above we talk about Pap smears.”

G1/P5: “We give them pamphlets that inform them about cervical cancer screening.”

Media as other means of information to women about cervical cancer screening is believed by participants in the study to have an impact on the uptake of cervical cancer screening. Participants’ responds were as follows regarding the media:

G1/P3: “Some they just come and ask say they heard from the media and they just ask if possible to do them Pap smear.”

The bulletin boards are said to be serving as source of information to clients with regard to services rendered in clinics of which cervical cancer screening services are also indicated:

G7/P4: “Besides, we are also using the board which is written all services that the clinic offers, that is one of the thing that we use to give the information.”

It is expected by Kim1 and Kim2 (2014:9) in the study on: Cervical cancer and sexual lifestyle: a systematic review of health education interventions targeted at women that extra efforts are made to educate all women irrespective of colour or race about HPV and cervical cancer screening to improve the uptake of cervical cancer screening and prevention of cervical cancer. Health education was proved to increase the likelihood of an individual practicing positive health behaviours (Bennefield 2015:90).

Professional nurses are expected by Pickle, Altshuler and Scott (2014:6) to educate and encourage women about cervical cancer screening. The increase of patient knowledge with reproductive health topics, using culturally appropriate patient-centred education materials and cancer screening strategies were identified by Pickle, Altshuler and Scott

(2014:6) as appropriate for emphasising cervical cancer screening to increase knowledge to women about screening.

A study by MacLaughlin et al (2011:361) revealed that published reports indicated that patients' knowledge of Human Papiloma Virus (HPV) and its association with cervical cancer is increasing. In this study, professional nurses were expected to comment about the knowledge of women receiving health care in their clinics with regard to cervical cancer screening. Across all the focus groups discussions in different clinics, participants indicated that women seeking health care in their clinics are informed even though some indicated that they are partially informed about cervical cancer screening. The following were participants' responses:

> G10/ P1: "I think not all of them are informed about cervical cancer screening because we give them only when we do campaigns spreading information, so we do not conduct campaigns in our clinic to be honest thus why we only have few for health services."

Literacy level seemed to play a role as reflected in this response:

> G4/P2: "I think it can be some in the sense that the level of literacy, level of education in the community is low, so there are those who will along the way know more or better than the others."

The findings further indicate that the lack of resources poses serious challenge to professional nurses to render the cervical cancer screening services. Based on the responses indicate by the participant professional nurses sometimes find themselves in a dilemma when providing the cervical cancer screening service to women, as reflected below:

> G10/P4: "The challenge goes back to the community because even though we give information about cervical cancer screening, they will take all speculums from one clinic to the other for the campaign and when the community comes to do cervical cancer after the campaigns speculums won't be available. The other thing is that on the ordering form from the depot, there its written that there are disposable speculums but when ordered they are not delivered. We are not sure that they are not available or they are just not delivered."

It is very important that policy makers address the lack of resources in clinics for professional nurses to provide services of high standard when needed by clients to reduce the mortality rate of women.

Health education has been regarded by Basil, Wittet, Lim, Winkler, Paul and Jeronimo (2014:597) strategy which could improve the uptake of cervical cancer screening through flexibility in accommodating women preferences and provision of unique education to women about cervical cancer screening. Cultural beliefs, was found to be dominant in the Makhuduthamaga Sub-district as raised by participants as follows:

> G1/P4: "The community they respect their culture and if you tell them about Pap smear they feel you are undermining their culture."

> G1/P4: "Isn't in culture you must respect the old ladies, so immediately you talk about Pap smear exposing their private parts it is another thing."

The findings indicated that cultural issues need to be addressed properly with the involvement of the community structures and stakeholders to win the battle of cervical cancer screening to save women' lives as culture is also said by Ross, Nunez-Smith, Forsyth and Rosenbaum (2008:1) to be playing a role in cervical cancer screening.

The study findings indicated that too much is being achieved with regard to health education is concerned. If adequate health education is given the uptake of cervical cancer screening wouldn't be so low as stated by the participants. The review and evaluation of the methods and health information covered during health education need to be done to identify if there are gaps. The evaluation would be done because it is expected that health education should have an impact on behavioural change to people (Prendergast & Hunter 2014:2015).

The findings also suggests that intensified health education stressing primary prevention and the importance of cervical cancer screening through health information could improve the understanding, need and encouragement for cervical cancer screening to women.

The findings implies, that cultural issues in relation to cervical cancer need to be addressed in collaboration with relevant stake holders in the community. The findings further revealed that mobilisation strategies with regard to cervical cancer screening need to be instituted as supported by Agurto, Bishop, Sanchez Betancourt and Robles (2004:91). Agurto et al (2004:91) stated that quality communication strategies that take into account broader cultural frameworks could be a better way of resolving cultural believes as barriers to cervical cancer screening. The findings were based on statements made by participants such as:

> G10/P4: "The other thing is the attitude of older people refusing to be seen by young nurses when naked."

Although the government is trying its best by providing free basic education to all, it is important that all suitable people are encouraged to attend school to improve their educational level. The literacy level could help women to understand more about cervical cancer screening and opt for screening.

The focus groups confirmed that not every woman is informed about cervical cancer screening. The findings in this study are therefore related to the low uptake of cervical cancer screening. Some efforts are still necessary to ensure that all women are informed about cervical cancer screening.

5.8.1.3 Importance of cervical cancer screening

Cervical cancer screening is regarded as vital to all women. The nationally organised cervical cancer prevention programs are regarded as important interventions to decrease incidences and mortality rates related to cervical cancer (Tranberg, Larsen, Mikkelsen, Svanholm & Anderson 2015:2). As a follow-up question to the women's responses in in-depth interviews, the focus group participants were also asked about their view point regarding the importance of cervical cancer screening.

All participants in various focus groups indicated that they consider cervical cancer screening as important for various reasons for the benefit of clients e.g. Cancer screening, Cancer early detection, Cancer diagnosis, STI's, diagnosis as Cancer is dangerous to women. The following reasons were participants' responses:

> G1/P5: “Because primary health care we believe deals with primary prevention, so it is important to screen than to treat.”

Participants believed that Cervical Cancer Screening is very important for reasons such as early detection and diagnosis as reflected in the following responses:

> G5/P5: “It is going to help us screen clients at risk of cervical cancer, for early detection of cervical cancer and identify clients with cervical cancer.”

The danger of cervical cancer was highlighted by participants as also stated by the World Health Organization as follows:

> G9/P1: “Ja, cervical cancer screening is important because it is said that, according to the World Health Organization, it say that many women die because of cancer of the cervix and if women are not informed and not doing Pap smear many women will die so it is important for women to make Pap smears in order to prevent cancers.”

The diagnosis of cervical cancer and STIs was reflected as the reasons for screening women for cervical cancer as stated by participants:

> G6/P4: “It is important because if we screen, we can diagnose/detect cancer or some conditions like STIs early but if we do not do pap smears we can detect it late.”

The early diagnosis and management of cervical cancer was also reflected by participants:

> G4/P3: “Yes. For early diagnosis and management.”

Participants stated that some women do not report STIs, therefore cervical cancer screening will diagnose unreported cases of STIs as indicated in the responses:

> G6/P1: “The other thing is that we can diagnose sexually transmitted diseases that are not reported.”

The well-being of women was also stated as another indication for cervical cancer screening:

> G7/P1: “Because its good for the women and for her health.”

The findings with regard to the importance of cervical cancer screening indicated that professional nurses are aware and knowledgeable and understand the need for screening women. Practically it is expected that the knowledge that professional nurses poses about cervical cancer screening be implemented through intensified health education and other strategies. The product of what professional nurses and other health workers did with regard to cervical cancer screening would be by the increased number of cervical cancer screening and in order to reduce cancer related deaths. The findings indicated that more is still needed to be done to ensure that all women are up to date with their schedule of cervical cancer screening.

5.8.1.4 Performance of cervical cancer screening

Some participants viewed the skill of conducting cervical cancer screening as difficult, easy while others were not sure weather is easy or difficult. Participants supported their responses by giving reasons.

Participants regarded the performance of cervical cancer screening as easy because the cervical opening was easily visualised.

> G1/P5: “Yes. Because the cervical Os is easy to detect.”

> G1/P4: “I can say its easy because the adequacy is good this days. You can determine the condition of the cervix.”

> G7/P4: “Yes. You are right but when you say easy it needs to be classified because in terms of our data as facility, our facility does almost 98% of endocervical component present so it means the skill yes we are working at it as the clinic is the best, like speaker number 5 said its not a difficult procedure, does not even take long but the most important is to get the endocervical component present but that is the easiest for us at the clinic.”

The alysbery (instrument used for taking cervical smear during the performance of cervical cancer screening) was said by participants as easy to use and the conduction of cervical cancer screening therefore easy:

> G2/P2: “Because the instrument is easy to use and we c2an easily visualise the cervix, so it is easy to do Pap smear.”

Training on cervical cancer screening benefitted professional nurses on the skill of cervical cancer:

> G9/P4: “Ja it is easy because as professionals we were trained on how to conduct Pap smears.”

Gender issues regarding the service providers also emerged as follows:

> G9/P3: “I can say is easy because our clients prefer the female professionals that is why they allow us to conduct Pap smears unlike the male ones as they feel free.”

Although some participants indicated that the skill of performing cervical cancer screening is easy, others indicated that they are not sure while others said is difficult based on reasons given. The following were participant‘s responses:

> G3/P5: “To others it can be difficult because they are not yet trained but if you are trained, you can be acquainted to it.”

> G3/P4:”It is difficult to us because we don’t know how to do it.”

> Participants viewed the performance of cervical cancer screening as difficult because they could not receive the Pap smear results from the laboratory.

> G4/P4: “Not always easy because people can do it but results don’t come back and we sent specimens.”

The interpretation of the cervical cancer screening results made participants to doubt their skill of performing Pap smear as most of the results had the endocervical component absent i.e. inadequate.

> G10/P3: “With the skill we are sure that we have the skill but when the results comes they say the endocervical component is absent so we tend to doubt our skill.”

The inclusion of a standardised cervical cancer screening skill during the training of professional nurses was found necessary to determine their competency in performance of Pap smear tests. Participants were therefore not sure if their performance of cervical cancer screening was easy as stated in the responses:

> G10/P5: “As respondent 3 has said regarding the results, because I think it goes back to training, because. A ke re this thing was not part of our training during our training, as nurses it was an in-service training, so one was not certified to be competent because we were only shown on how to do it then you proceed. So we are not sure if we are really competent, we think we are competent because we did not like pass the procedure.”

Participants were concerned about the brush used for cervical cancer screening which were not available when ordered from laboratory whereas producing quality results unlike the alysbery which were designed differently.

> G10/P3: “I think the other thing is the brush and the other thing is the … I think there is a problem with the spatula that we are using as it is not like, properly designed as there are different spatulas. With the brush the results come back with endocervical component present unlike the spatula.”

A challenge of obtaining quality cervical smear was experienced by participants while the skill of performing Cervical Cancer Screening was perceived as easy. Participants were therefore concerned about obtaining quality cervical smear for the presence of endocervical component.

> G7/P5: “Yes the skill is easy, doing the procedure is easy but the challenge is when we do not get the endocervical component because most of the results come with

> the endocervical component absent and you might not have done it correctly thus the challenge but doing the whole procedure is not a problem."

The findings in the study proved that the skill of Cervical Cancer Screening is not standardised. The fact that participant were able to indicate that the Cervical Cancer Screening results comes back being inadequate, proves the incompetency of professional nurses in performing Cervical Cancer Screening. The findings of response such as:

> "the skill is easy but the results are inadequate",

> "we are not sure if what we are doing is correct as we were never certified if we are doing the correct thing" and " the skill is difficult"

is an answer to the low uptake of cervical cancer screening in Makhuduthamaga Sub-district. The findings in this regard therefore emphasised the need for a standardised training for the performance of cervical cancer screening skill. The need for standardisation and training about cervical cancer screening was evidenced through the difference with regard to the duration as per the participants' responses. Participants in focus groups were asked to evaluate themselves with regard to how long they take to perform Pap smear on a woman. Participants stated various times spent on performing cervical cancer screening to clients. The following were their responses:

> G4P1: "Depends on actual caring of the procedure and preparation is +/- 10 minutes."

> G2/P2: "It depends on the size of the woman but all in all I can say 3 minutes."

> G10/P4: "Besides filling the forms or including the filling of forms I take 1-2 minutes in total is +/- 5 minutes."

> G7/P5: "If everything is ready and you knew that this woman will be coming everything prepared, there was proper planning, I think I can take 7 minutes."

> G4/P3: "+/- 2 minutes."

G7/P1: " 20 minutes for screening."

G4/P4: "+/- 15 minutes including counselling."

G7/P4: "You mean the actual skill or the average? Because the average, someone may take 7 minutes, someone 15 minutes but honestly the average of a doctor and nurse can take 38 minutes but the skill is around 25 minutes."

The findings regarding the duration of performing cervical cancer screening revealed the difference in duration of the procedure. Finhaber, Mayisela, Mao, Williams, Swarts, Faesen, Levin, Michelow, Hudgens, Williamson, Allan, Lewis and Smith (2013:7) highlighted that the cervical cancer screening is influenced by cost, patient population, availability of skilled human resource and laboratory capacity. It was further stated by Finhaber et al (2013:7) that quality assurance should be considered at all times and determination of the best screening approach be considered. The need for training of staff and standardisation of the cervical cancer screening procedure was also identified in this regard.

Follow-up screening is also necessary to women. All participants indicated that the encouragement of women for follow-up cervical cancer screening is important and responded as follows with regard to the follow-up program:

G10/P5: "It is 10 years for normal results and yearly for HIV+ clients."

G6/P1: "Their follow-up is 5 years."

G5/P2: "It also depends on the HIV status, those with normal results is 3 years and those with abnormal results we follow the recommendations."

G8/P2: "We say they must come every year."

G8/P1: "But for the HIV positive clients we say they must come every six months."

G1/P1: "We also encourage post-natal mothers to do Pap smear after 6 weeks postnatally."

The findings in this regard revealed that most professional nurses are not sure or knowledgeable about the cervical cancer screening service follow-up that they are expected to give to clients. According to the National Cervical Cancer Screening Policy Guideline (2013) the follow-up for results is 3 to 4 weeks, follow-up screening for normal results is 10 years while for HIV positive women is screening upon diagnosis and then yearly or three- yearly depending on the results of the initial and subsequent screens according to Lince-Deroche, Phiri, Michelow, Smith and Firnhaber (2015:2).

The findings also indicated that consideration of professional nurses' practice with regard to follow-up of patients who have undergone cervical cancer screening is important as also supported by Prendergast & Hunter (2014:215). The participants' responses also supports the need for integration of reproductive health service into the HIV programme:

> G9/P3: "Conduct training twice per year as we are living in difficult situation for example the condition of HIV/AIDS as some conditions may be contraindicated to cancer of the cervix as we were only in serviced. They must conduct training as some of us were only in serviced. Age, a kere they say screen age above 30 years, even a child at age 15 years they are sexually active or heredity, reduce age as long as they are sexually active. If it is heredity they can diagnose the child early."

as a means of strengthening the service (Ezechi, Gab-Okafor, Ostergren & Pettersson, 2013:1).

5.8.1.5 The implementation of the National Cervical Cancer Screening Policy Guidelines

The National Cervical Cancer Screening Policy is expected to guide professional nurses when screening clients for cervical cancer. Participants had different views with regard to the implementation of the policy. Eleven out of forty six participants indicated that they have never seen the policy and could not say much about it and requested it from the researcher at the later stage. Some participants indicated that the policy is easy to implement but related the policy to the lack of resources which made it to be difficult to implement. Participants who indicated that implementation of the policy is attributed their comments to the lack of resources. Participants' responses were as follows:

G4/P4: “I did not see any policy in this clinic.”

G3/P2:”We have never seen it in the facility.”

G3/P5: “So are you going to make sure that you provide us with enough of the disposable speculums and the policy after the study to distribute?”

Participants’ were asked to share their views on the implementation of the National Cervical Cancer Screening Policy Guidelines and responded as follows:

G3/P5: “Yes. It is easy even though nna I am having a suggestion to say how about to have the…what can I say, the specimens that are ready made to use and dicard not the ones that are autoclaved even though is not for us because other clinics do not have autoclave machine and they come far from other clinics … I cannot say the name of the clinic, coming to do the autoclave, so it makes a problem because you find that if somebody does not have the love of doing that, it means patients will suffer to be done that because they must come and autoclave and so if they have the specimen that they use and discard I think it can be accessible.”

Although some participants stated that they did not have the policy nor having seen the policy as reflected by G4/P4 responses, they could not state if the policy is easy or difficult to implement. Participants who viewed the policy as easy, were concerned about the shortage and use of sterilised vaginal speculums which were shared among clinics. Participants preferred disposable vaginal speculums than the sterilised ones as stated by G3/P5.

The implementation of the National Cervical Cancer Screening Policy was a challenge due to lack of communication systems as reflected in the following responses:

G5/P1: “To make follow-up is difficult because we do not have telephones to trace clients unless we use home-based carers to trace.”

Resources for performing cervical cancer screening such as lights were mentioned as affecting the implementation of the National cervical Cancer Screening Policy Guideline negatively.

G6/P1: “Unless when we do not have resources e.g. lights, in that case we cannot do it.”

Shortage of staff was also reflected as a challenge for the performance of cervical cancer screening as reflected in the following responses:

G1/P5: “Sometimes you find that there are example 10 clients who want to do Pap smear and I am 1 professional nurse who should do it, obviously I won’t be able to do it, maybe I will give them another return date to come and don’t show up.”

The low uptake was stated as a clear indication of difficulties faced by participants on the implementation of the cervical cancer screening policy as highlighted in the responses.

G1/P4: “That one I can say no. We say its difficult because the uptake is low. It also depends on the availability of nurses.”

The ten years screening interval was also a challenge in the implementation of National Cervical Cancer Screening Policy as professional nurses could not trace women due for screening. Participants preferred a shorter cervical cancer screening interval and reflected their responses as follows:

G5/P5: “The challenge for tracing is for the 10 years clients though not all because others do come and say I have to do Pap smear because is now 10 years but some do not come.”

G7/P4: “I think is easy to implement but the guideline was first developed by the government or department but 10 years is too long especially for the healthy ones, if the private sector do it in 2 years so why can’t they do it in 2 years. But yona is easy to implement.”

Although some participants viewed the implementation of the National Cervical Cancer Screening as difficult, others viewed the policy as easy to implement. The following responses were views for participants who regarded the policy as easy to implement but depended on the availability of resources:

G7/P4: “I think is easy to implement but the guideline was first developed by the government or department but 10 years is too long especially for the healthy ones, if the private sector do it in 2 years so why can’t they do it in 2 years. But yona is easy to implement.”

G8/P2: “I can say it is easy but sometimes it is a problem because of the shortage of staff, meaning that we have to sit down and plan because things becomes easy when you plan.”

Some participants did not experience challenges in the implementation of the National Cervical Cancer Screening Policy Guideline and appreciated its use as reflected by the response:

G9/P1: “Yes. It is easy to implement because it guides you on how to do or follow the procedure of cervical cancer screening and even how to use the cytology form, you write your name your council number, its easy to use.”

G2/P3: “Yes. If you have a problem we in-service each other.”

The findings indicated that, even though participants stated that the implementation of the National Cervical Cancer Screening Policy easy, some challenges such as lack of resources and the ten years interval were mentioned by participants as affecting the implementation. Challenges with implementation of the cervical cancer screening policy were also identified by Sibiya and Graiger (2010:23) in a study regarding registered nurses’ perceptions of the cervical screening programme in primary health care clinics in KwaZulu-Natal Province.

In this study, participants indicated that the policy is difficult to implement and substantiated their reasons for the difficulties they faced. The issue of not screening women, for cervical cancer during public holidays due to the unavailability of courier services were raised. The following responses were reflected:

G1/P1: “During holidays there is no courier coming so we do not do Pap smear.”

The unavailability of cervical cancer screening results to women as linked to availability and functionality of telephones in the clinics were highlighted as related to difficulty in implementing the National Cervical Cancer Screening Policy Guideline.

> G1/P5: “No phone for tracing results and clients do not get results.”

The poor infrastructure which leads to lack of privacy and the lack of equipment’s for conducting cervical cancer screening were also a concern and raised as a reason for the low uptake of cervical cancer screening. The following responses were reflected by participants:

> G1/P5: “The infrastructure for example in the chronic where I am working is where we are seeing our HIV clients and find that I must do Pap smears and there is a coach but there is no curtain for privacy, no fitted lamp, there is no screen so privacy there is compromised and exposing the woman there you find that someone is knocking and without saying come in the person already came in.”

The findings generally indicated that understanding the policy was not a problem to professional nurses but difficult to practice/implement due to lack of resources. The lack of resources appeared to be an umbrella challenge, for rendering of the cervical cancer screening services in the study and thus even though some viewed the policy as easy to implement they also mentioned the lack of resources as making it difficult to implement the policy.

5.8.1.6 Training/in-service on cervical cancer screening

Participants were asked if ever they were trained for cervical cancer to identify if their skill/training of performing cervical cancer screening is related to the low uptake. Although training involves some costs and resources to improve the skill of professional nurses, the adequacy rate and reduction of costs also depends on the skill of performing cervical cancer screening as expected by the National Cervical Cancer Screening policy (2013). The following were responses of participants when asked if they were trained:

> G5/P3: “I attended a 2 days workshop.”

G5/P2: “We were trained in a 1 day workshop.”

G1/P1: “In serviced.”

G5/P2: “I was not in serviced.”

The findings show that 37/46 (80%) of participants attended cervical cancer training or in-service. There is a need of all professional nurses working in clinics to be trained for cervical cancer screening. The incompetency of staff in cervical cancer screening in the study was found to be related to the lack of training especially in clinics with large number of professional nurses trained to perform cervical cancer screening. The findings also highlighted lack of standards with regard to the training which was identified when some participants were only in- serviced in the facility while others attended some workshops while the period of training also differs. The findings indicated that there is a need for a standardised cervical cancer screening to all professional nurses.

5.8.1.7 Recommendations by participants

Recommendations regarding the provision of the cervical cancer screening were shared by participants as follows:

Availability of adequate resources

- **Provision of communication system.** (G1/P5: “Communication system.”). (G3/P5: “Especially those who do not have phones we have a problem of accessing them.”)
- **Provision of adequate human and material resources**. (G1/P4: “Man power and resources.”) (G3/P2: “Give enough resources for example books as they finish quickly’’).
- **Provision of transport to all clinics**. (G1/P3: “Transport for health education in the community.”)
- **Provision of brushes for cervical cancer screening than speculums.** (G6/P1: “If we can have the disposable speculums and brushes.’’).
- **Provision of enough, correct and disposable speculums**. (G8/P1: “We recommend for disposable speculums.”)

Administration process

- **Grading of the infrastructure** (G1/P4: “Grading of the infrastructure.”)
- **Lab technician clinic visit for results interpretation** (G2/P1: “Lab technician must come to us sometimes and interpret results as others results really we cannot interpret to patients, we face challenges to interpret results to clients.’’)
- **Provision of a guide to treat micro- organisms identified in the smears. (**G2/P1 Again they must give us something to guide us to treat micro- organisms found in the smears.”).
- **Short turnaround time for Pap smear results than 3-4 weeks**. (G3/P5: “Time frame for results is too long, if you say clients must in 3-4weeks, we miss them.’’)
- **Decentralisation of laboratory services for accessibility**. G3/P5: “Time frame for results is too long. It (laboratory service) must be done nearby for easy access of results as it is done in Polokwane.”).
- **Couriers to visit clinics on weekends and public holidays**. (G1/P3: “Couriers to come on weekends and holy days.”)
- **Identification and provision of dedicated specialised personnel to render reproductive health services including Pap smear in the clinics**. (G4/P3: “If there can be a personnel dedicated for reproductive health issues including Pap smear in the clinic.”).
- **Reduction of 10 years screening interval for follow-up to 2years and 3years for HIV positive women.** (G5/P1: “10 years screening for follow-up is too long because clients may experience problems while still waiting for 10 years to lapse. Even the 3 years period for the HIV positive clients is too long.’’).
- **Reduction of Cervical Cancer Screening ages from 30 to 25**. (G6/P4: “Reduction of the years from 30 to 25 because most women are affected by cancer.’’)
- **Performance of Cervical Cancer Screening to all women who are sexually active irrespective of age.** (G9/P3: ‘’ even a child at age 15 years they are sexually active or heredity, reduce age as long as they are sexually active. If it is heredity they can diagnose the child early.’’).
- **Provision of standardised cervical cancer screening training in basic training of professional nurses.** (G10/P5: “Screening be part of training for nurses.”).
- **Training of all categories of nurses**. (G4/P1: “I also recommend that the government department must conduct workshops, training actually for all staff.”).
- **Management support.** (G7/P5: “The support that we get from the management is not much, management all the way is a big challenge in this Sub-district.”).

All focus groups discussions contributed towards the provision of the cervical cancer screening service through recommendations. Most of participants were concerned about the ten years interval of screening for normal results, disposable speculums, lack of resources and training.

> G9/P4: “Duration of negative results is too long, reduce to 2 years if negative results.” G5/P1: “We recommend the disposable vaginal speculums although it is said their expensive.”

> G4/P1: “I would say that clinics are generally understaffed and sometimes its not easy for most women to be done cervical cancer screening due to that, if the actual, shall I say staff development of each clinic can be maintained.”

> G4/P4: “Training for all staff.”

5.9 CONCLUSION

Chapter 5 presented the description and analysis of the qualitative research phase as part of the sequential explanatory design. The presentation and discussion of the individual and focus group discussions were also presented in this chapter. Chapter 6 will present the integration and discussion of the quantitative and the qualitative results.

CHAPTER 6

INTEGRATION AND DISCUSSION OF THE QUANTITATIVE RESULTS AND QUALITATIVE FINDINGS

6.1 INTRODUCTION

Chapter 6 outlines an integration and discussion of the quantitative and qualitative findings of the mixed method research. The results were analysed separately in chapter 4 (Quantitatively) and chapter 5 (Qualitatively) and integrated in this chapter to provide a broader picture on how the quantitative and qualitative research findings complement each other. Quantitative data were obtained by use of a checklist on the evaluation of the National Cervical Cancer Screening guideline. Qualitative data were obtained through in-depth interviews with women and focus group discussions with professional nurses. Integration as a state of mixing the analysed results from quantitative and qualitative phases, in this study occurred when the results are interpreted to be reported (Creswell et al 2004:10).

6.2 THE MIXED METHOD APPROACH

A mixed method research is defined by Gray (2014:194), as the collection and analysis of both quantitative and qualitative data in a single study and therefore applied in this study. The rationale is further indicated by Bowen (2009:30) that convergence of information from different sources increases trustworthiness of the findings.

6.3 THE INTEGRATION PROCESS

Mixed method analysis was based on multiple strategies in the study for merging quantitative and qualitative data i.e. (1) Merging with a matrix, i.e. to compare qualitative quotes representing major themes across levels of a categorical variable differentiating types of participants and to examine the quantitative characteristics of each group (2) Merging in a discussion, which is regarded as a straight forward strategy to present and interpret the two sets of data (3) Merging by data transformation, where a process of quantitating qualitative information or qualitating quantitative information occurs by

converting one type of information to the other to facilitate further analysis e.g. by creating dichotomous variables representing the presence or absence of a qualitative code or theme for an individual participant for percentages or use of rubrics for quantitating (Clark, Garrett, Leslie-Pelecy 2011:156-157).

Through interpretation and explanation of quantitative and qualitative results for further discussion, implications and future research (Ivankova, Cresswell & Stick 2009:16) was done. The strategies applied in the` integration of the quantitative and qualitative phases are reflected in Figure 6.1, but for this study merging by data transformation was dressed minimally e.g. in Table 6.1 when the responses of focus groups were quantified and also in some of integration through a discussion.

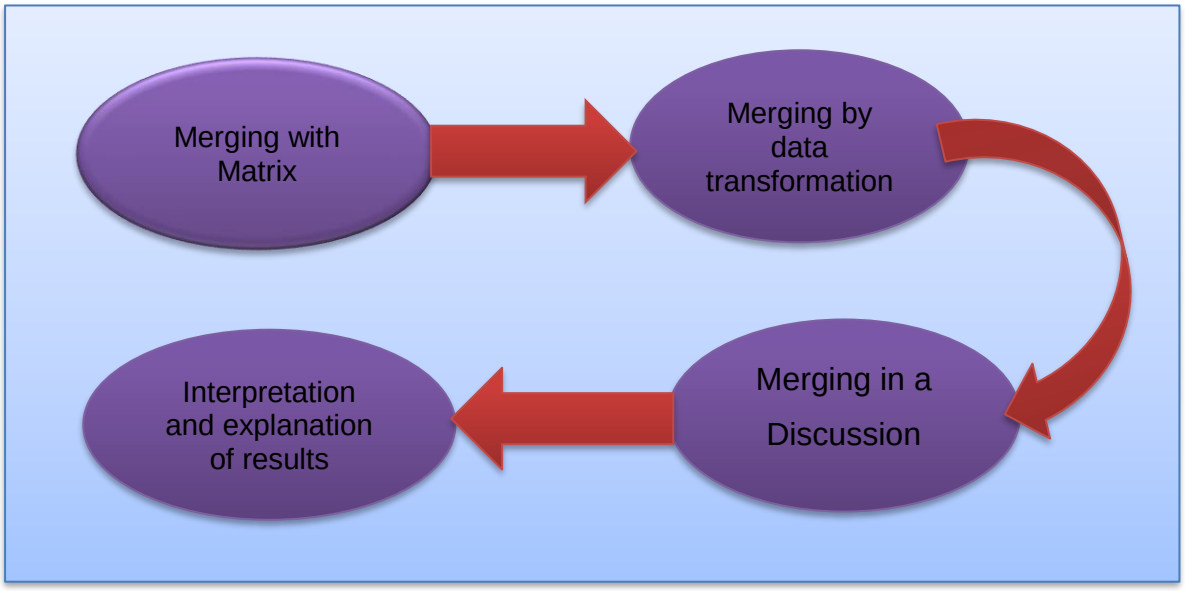


Figure 6.1 Sequential strategies for merging qualitative and quantitative data in MMR

(Adopted from Clark, Garrett, Leslie-Pelecy 2011:156-157;
Ivankova, Cresswell & Stick 2009:11)

6.3.1 Merging with matrix

Merging by matrix was highlighted by Clark et al (2011:164) as the integration of the quantitative and qualitative results by comparing to identify meaningful similarities and differences in the data. Qualitative themes and quantitative results of Cervical Cancer Screening from women and professional nurses were analysed and compared in order to

draw conclusions Clark et al (2011:165). In the study, findings from focus group discussion with professional nurses and women revealed areas which needed improvements and compliments with regard to Cervical Cancer Screening through integration, as observed in Table 6.1.

Table 6.1 Merging with a matrix

Variables	Activities	Completed/ managed/ available n=10	Professional nurses N=46	Focus groups (professional nurses)
Primary prevention/ Information	Sexually Transmitted Diseases	3 (30%)	N=0	"Every morning we are giving health education before we start with the routine especially concerning Cervical Cancer Screening." "Yes. Even in the consulting rooms we give health education about Pap smears especially women who are child bearing age and above we talk about Pap smears." "I think not all of them are informed about Cervical Cancer Screening because we give them only when we do campaigns spreading information, so we do not conduct campaigns in our clinic to be honest thus why we only have few for health services and when the community comes to do cervical cancer after the campaigns speculums won't be available."
	Postponement of sexual activity to older age.	3 (30%)	N=0	
	Effective management of STIs	7 (70%)	N=46	
	Decrease parity.	4 (40%)	N=0	
Secondary prevention	Three (3) free smears with a 10 year interval commencing at not earlier than 30 years.	3 (30%)	N=0	"The challenge for tracing is for the 10 years clients though not all because others do come and say I have to do Pap smear because is now 10 years but some do not come." "I think is easy to implement but the

Variables	Activities	Completed/ managed/ available n=10	Professional nurses N=46	Focus groups (professional nurses)
				guideline was first developed by the government or department but 10 years is too long especially for the healthy ones, if the private sector do it in 2 years so why can't they do it in 2 years. But yona is easy to implement."
	Cervical Cancer Screening procedure	3 (30%)	N=40	"I can say its easy because the adequacy is good this days. You can determine the condition of the cervix." "Ja it is easy because as professionals we were trained on how to conduct Pap smears."
			Not sure=6	"Depends on actual caring of the procedure and preparation is +/- 10 minutes." "It depends on the size of the woman but all in all I can say 3 minutes." "Besides filling the forms or including the filling of forms I take 1-2 minutes in total is +/- 5 minutes." "If everything is ready and you knew that this woman will be coming everything prepared, there was proper planning, I think I can take 7 minutes." "+/- 2 minutes." "20 minutes for screening." "+/- 15 minutes including counselling."

Variables	Activities	Completed/ managed/ available n=10	Professional nurses N=46	Focus groups (professional nurses)
				"You mean the actual skill or the average? Because the average, someone may take 7 minutes, someone 15 minutes but honestly the average of a doctor and nurse can take 38 minutes but the skill is around 25 minutes." A ke re this thing was not part of our training during our training, as nurses it was an in-service training, so one was not certified to be competent because we were only shown on how to do it then you proceed. So we are not sure if we are really competent, we think we are competent because we did not like pass the procedure."
	Proposed programme dates given to woman.	4 (40%)	N=14 (10yrs) N=1 (5yrs) N=1 (3yrs) N=1 (1yr) N=6 (HIV+1yr) N=1 (HIV+6/12) N-12 (Recommen-dation) N=2 (not sure) N=2 (3-4wks results)	"It is 10 years for normal results and yearly for HIV+ clients." "Their follow-up is 5 years." "It also depends on the HIV status, those with normal results is 3 years and those with abnormal results we follow the recommendations." "We say they must come every year." "But for the HIV positive clients we say they must come every six months." "We also encourage post-natal mothers to do Pap smear after 6weeks postnataly."
Follow-up criteria	An effective follow-up system in place.	5 (50%)	N=46	"To make follow-up is difficult because we do not have telephones to trace

Variables	Activities	Completed/ managed/ available n=10	Professional nurses N=46	Focus groups (professional nurses)
				clients unless we use home-based carers to trace."
	A plan in place to find patients who do not return voluntarily.	9 (90%)	N=46	"To make follow-up is difficult because we do not have telephones to trace clients unless we use home-based carers to trace."
Quality assurance/ training	Adequacy rate of screening facility is at least 70%.	2 (20%)	N=2	"Yes the skill is easy, doing the procedure is easy but the challenge is when we do not get the endocervical component because most of the results come with the endocervical component absent and you might not have done it correctly thus the challenge but doing the whole procedure is not a problem." "I think the other thing is the brush and the other thing is the … I think there is a problem with the spatula that we are using as it is not like, properly designed as there are different spatulas. With the brush the results come back with endocervical component present unlike the spatula." "As respondent 3 has said regarding the results, because I think it goes back to training, because. A ke re this thing was not part of our training during our training, as nurses it was an in-service training, so one was not certified to be competent because we were only shown on how to do it then you proceed. So we are not sure if we are really competent, we

Variables	Activities	Completed/ managed/ available n=10	Professional nurses N=46	Focus groups (professional nurses)
				think we are competent because we did not like pass the procedure." "With the skill we are sure that we have the skill but when the results comes they say the endocervical component is absent so we tend to doubt our skill." "Our facility does almost 98% of endocervical component present so it means the skill yes we are working at it as the clinic is the best, like speaker number 5 said its not a difficult procedure, does not even take long but the most important is to get the endocervical component present but that is the easiest for us at the clinic."
	If less than 70% staff to be trained.	6 (60%)	N=35	"I attended a 2 days workshop." "We were trained in a 1 day workshop." "In serviced." " I was not in serviced." "Yes. If you have a problem we in-service each other."
	Availability of sterilisation machine in the facility.	9 (90%)	N=41	"Yes. It is easy even though nna I am having a suggestion to say how about to have the…what can I say, the specimens that are ready made to use and discard not the ones that are autoclaved even though is not for us because other clinics do not have autoclave machine and they come far from other clinics…I

Variables	Activities	Completed/ managed/ available n=10	Professional nurses N=46	Focus groups (professional nurses)
				cannot say the name of the clinic, coming to do the autoclave, so it makes a problem because you find that if somebody does not have the love of doing that, it means patients will suffer to be done that because they must come and autoclave and so if they have the specimen that they use and discard I think it can be accessible."

The primary prevention which is reflected in table 6.1 as implemented by only 30% (3/10) of the clinics as stated by the operational managers, contradicts with what professional nurses shared. None (0%) of the professional nurses mentioned if they give health education about topics such as: Sexually Transmitted Diseases, postponement of sexual activity to older age and decrease parity even though they stated that they give health education every morning which also contradicted the recording in Health Education Books. The early age at first sexual intercourse and early age of first pregnancy were identified as risk factors of cervical cancer by Louie, de sanjose, Diaz, Casttellsague, Herrero, Meijer, Shah, Franceschi, Munoz and Bosch (2009:1193) in a study on risk factors for cervical cancer in developing countries. The inadequate health education given to clients as confirmed by some participants when stated that:

> "I think not all of them are informed about Cervical Cancer Screening because we give them only when we do campaigns spreading information, so we do not conduct campaigns in our clinic to be honest thus why we only have few for health services and when the community comes to do cervical cancer after the campaigns speculums won't be available."

The inability to conduct campaigns could also increase the risks of cervical cancer due to lack of information to women.

The need to improve quality health care services by increasing public knowledge could help women recognise the related risks factors to cervical cancer and experience

pregnancies with higher preparation as reflected by Sardasht, Shourab, Jafarnejad and Esmaily (2013:57) in a study on application of Donabedian quality-of-care framework to assess the outcomes of preconception care in Urban Health centers, Mashad, Iran in 2012. Acoording to professional nurses, the Sexually Transmitted Diseases are well managed as contradicted to the responses of three Operational Managers who reflected that professional nurses in their clinics could not manage STIs well.

Although health education was identified by Sardasht (2013:57) as necessary to improve quality health care services, immunisation against HPV was considered as an effective cancer prevention option by WHO, UNFPA, UICC, FIGO and other organisations that influence public health policies globally as cervical cancer is a major cause of death. Cervical Cancer Screening services are limited and as a result HPV vacines can bring great benefit worldwide (Basu, Banerjee, Singh, Bhattacharya & Biswas 2013:193).

The secondary prevention of Cervical Cancer Screening which was based on the application of the Cervical Cancer Screening policy guideline regarding three free smears with a 10 year interval commencing at not earlier than 30 years inadequately adressed and proposed programme dates given to woman revealed a high challenge in this regard. 30% (3/10) Operational Managers stated that the 10 years interval is well implemented in contrast to professional nurses, as none of the professional nurses were able to implement the 10 years interval of Cervical Cancer Screening as they stated that:

> “The challenge for tracing is for the 10 years clients though not all because others do come and say I have to do Pap smear because is now 10 years but some do not come.”

However, few reports that provide risks of invasive cervical cancer (ICC) following negative screening results were reported by Rositch (2014:1) to have been received and in women with no history of cervical intraepithelial neoplasia (CIN) results were similar in the 10 years interval as revealed by Rositch, Silver and Gravitt (2014:1) in a study on Cervical Cancer Screening in older women. However, the human papilomavirus in HIV-infected women was revealed as a risk for ICC as low CD4 cell count was associated with abnormal visual inspection with acetic acid (VIA) and raised the need for early initiation of ARTs for elligible women and expanded progammes for Cervical Cancer Screening and VIA with inceased availability of ARTs and care for HIV positive women as revealed

by Reddy, Njala, Socker, Schooley, Flores, Tseng, Pfaff, Jansen, Mitsuyasu and Hoffman (2015:385) in a study on high-risk human papillomavirus in HIV-infected women undergoing cervical cancer screening in Lilongwe, Malawi: a pilot study.

The results revealed a need to review the 10 years interval for Cervical Cancer Screening in consideration of the HIV positive epdemic. A challenge with regard to false negative cytology results as revealed by Castillo, Astudillo, Clavero, Velasco, Ibanez and de Sanjose (2016:5) in a study on poor Cervical Cancer Screening attendance and false negatives, a call for organised screening, need to be considered for the reduction of the 10 years interval of the negative Pap smear results. The reduction in the 10 years was also supported by Canadian Task Force on prevention health care (2013:38) where a strong association between the introduction of screening and reduced incidence of cervical cancer was revealed for women aged 30-69 years.

The performance of Cervical Cancer Screening was said to be easy by only 30% (3/10) of the Operational Managers whereas 87% (40/46) of focus group participants indicated that the Cervical Cancer Screening procedure is easy. Professional nurses perceived the performance of Cervical Cancer Screening as easy based on the adequacy, visualisation of the cervix and training. Cervical Cancer Screening is mostly conducted to look for abnormal cells (cytology) of which the results could either be normal or abnormal if enough cells were collected and could be seen clearly enough and there was no infection to affect analysis of the results (adequate smear) (Cervical Screening – Results [S.a.]).

Operational managers indicated that such results are obtained as agreed with professional nurses responses in the two clinics who could obtain a good adequacy rate.

> “I can say its easy because the adequacy rate is good this days.”

> “Ja it is easy because as professionals we were trained on how to conduct Pap smears.”

Which contradicted with 80% (8/10) of clinics with professional nurses who had inadequate smears as confirmed by the researcher through the Cervival Cancer Screening results and professional nurses who stated that:

> "A ke re this thing was not part of our training during our training, as nurses it was an in-service training, so one was not certified to be competent because we were only shown on how to do it then you proceed. So we are not sure if we are really competent, we think we are competent because we did not like pass the procedure."

However 87% (40/46) stated that the procedure is easy against 13% who stated that they are not sure as they were not trained.

The results revealed that the skill of Cervical Cancer Screening is related to training on how to perform Cervical Cancer Screening and availability of correct equipments to obtain quality smear ulike just to visualise the cervix. The need for training of health workers to obtain quality smear was revealed in this study and supported by Fokom-Domgue, Comberscure, Fokom-Defo, Tebeu, Vassilakos, Kengne and Petignat (2015:10) in a study on performance of alternative strategies for primary Cervical Cancer Screening in sub-Saharan Africa, systematic review and meta-analysis of diagnostic test accuracy studies where it was indicated that HPV testing accuracy are dependent on adequate training and quality assuance achievements.

Correct programme dates were well implemented by 40% (4/10) of the Operational Managers where as 60% stated different incorrect programme dates which reflected inadequate practices with regard to secondary prevention of Cervical Cancer Screening. The need to inform women of Cervical Cancer Screening results in a uniform manner as stipulated in the national guidelines for follow-up was highlighted by the National Board of Health (2007:7) in the Cervical Cancer Screening guideline 2007 summary recommendations. The different programme dates stated by professional nurses which is contrary to the National Cervical Cancer Screening Policy Guideline 2013 revealed a gap within the professional nurses which can be closed by training and inservice of all health personnel as sugested by Fokom-Domgue et al (2015:10) and the National Board of Health (2007:4) that "a woman should be provided with information on Cervical Cancer Screening in the form of a nationally issued booklet sent out from the first invitation and available electronically via internet. The results revealed that there is a need for more efforts and strategies for the improvement of the Cervical Cancer Screening services.

The results in table 6.1 revealed that follow-up of women who were screened were a challenge as 50% (5/10) Operational managers stated that they rely on home-based cares for follow-up of women as supported by all 46/46 (100%) professional nurses who stated that communication system is also a challenge when it comes to follow-up of clients.

> "To make follow-up is difficult because we do not have telephones to trace clients unless we use home-based carers to trace."

Even though the communication system was raised as a challenge leading to some difficulties in follow-up of clients where only home-based carers are used, the 10 years was identified as contributing to the challenges faced with follow-up by Goldhaber-Fiebert, Denny, De Souza, Kuhn and Goldie (2009:4) as the interval between screening appointments is long and adherence level is very low.

The results reveal a need for multiple strategies for control of cervical cancer as supported by Jong-Min (2012:138) in the study on screening of uterine cervical cancer in low-resource settings.

With regard to the quality assurance which was based on the adequacy rate and training of staff if the adequacy rate is les than 70% and availability of functional sterilisation machine in the facility, Table 6.1 reflects that only 20% (2/10) of the Operational managers could obtain adequacy rate of 70% which was also confirmed by professional nurses that their adequacy rate is 70%. The National Cervical Cancer Screening Policy Guideline indicates that if 70% adequacy cannot be obtained by professional nurses, then training for those professional nurses must be conducted. The results revealed that 35/46 professional nurses were trained with regard to cervical cancer screening. Even if the number of trained professional nurses is high in the study, professional nurses associated the inadequacy rate of less than 70% with lack of equipments like the spatula and inavailability of the brush which is designed for Cervical Cancer Screening by stating that:

> "I think the other thing is the brush and the other thing is the … I think there is a problem with the spatula that we are using as it is not like, properly designed as there are different spatulas. With the brush the results come back with endocervical component present unlike the spatula."

According to Kawanga, Moodley, Bradley and Hoffmann (2004:40), facility managers should ensure that their facilities have the right equipments for screening and infection prevention in sufficient quantitiies to meet the workload of their facilities. It is very important that Operational managers adhere to what Kawaga et al (2004:40) stated to improve the Cervical Cancer Screening services. Some participants also indicated that they never attended a standardised Cervical Cancer Screening course where they were certified to be competent in the cervical cancer screening procedure, as a result they indicated that they are not sure if they are competent as stated:

> "A ke re this thing was not part of our training during our training, as nurses it was an in-service training, so one was not certified to be competent because we were only shown on how to do it then you proceed. So we are not sure if we are really competent, we think we are competent because we did not like pass the procedure."

The results revealed that regardless of the training that professional nursess received, professional nurses continued to obtain the adequacy rate of less than 70% and a blame was related by professional nurses to the use of incorrect alysberies and inavailability of brushes meant specifically for cervical cancer screening. The results also revealed that the period of training/inservice training received were not the same as reflected by professional nurses while others used to provide inservice training to each other:

> "I attended a 2 days workshop.""We were trained in a 1 day workshop."

> "Yes. If you have a problem we in-service each other."

The results revealed that the difference in period of training of professional nurses also impact on the provission of the service of Cervical Cancer Screening whereas Kwaga et al (2004:40) further ilustrated that facility managers need to first establish whether there are sufficient trained staff to perform the number of Pap smears required to meet the anticipated monthly screening workload. The results reveal that the training offered are not standardised in terms of the planning, period, content and practice and a need for standardising the inservice training and workshops is important to practice similarities in Cervical Cancer Screening.

The availability of sterilisation machine was observed in 90% (9/10)of the clinics for sterilising Cervical Cancer Screening packs though the vaginal speculums to be sterilised were insufficient for the clinics as stated by professional nurses. Professional nurses further declared that they prefer the disposable vaginal speculums for screening women cervical cancer as reflected by the responses:

> "Yes. It is easy even though nna I am having a suggestion to say how about to have the … what can I say, the specimens that are ready made to use and discard not the ones that are autoclaved even though is not for us because other clinics do not have autoclave machine and they come far from other clinics … I cannot say the name of the clinic, coming to do the autoclave, so it makes a problem because you find that if somebody does not have the love of doing that, it means patients will suffer to be done that because they must come and autoclave and so if they have the specimen that they use and discard I think it can be accessible."

The results therefore reveals that the availability of the disposable vaginal speculums in facilities could also concur with the infection control principles unlike the sterilisation machine where the principles may be compromised. It is therefore necessary that Operational managers ensure the availability of the disposable vaginal speculums to adhere to the infection control principles.

6.3.2 Merging in a discussion

The presentation and interpretation of both quantitative and qualitative results based on the practice, perceptions of Cervical Cancer Screening. The merging process in this regard occurred at the level of data analysis and the interpretation of the results that emerged during merging. Detailed discussion and complexity of the results in relation to merging i.e. at matrix and the literature is made for further research Clark et al (2011:169).

6.3.2.1 Information to women

The responses from women during individual interviews revealed 10/23 (43.4%) lack of information and understanding with regard to Cervical Cancer Screening as evidenced in the health education book where insufficient health talks are recorded. However a contrast was observed from operational managers and professional nurses with regard to information where 37/46 (80.4) stated that health education is given every day in the clinic:

> "Every morning we are giving health education before we start with the routine especially concerning Cervical Cancer Screening."

where as 9/46 (19.5%) stated that women are partially informed about Cervical Cancer Screening:

> "I think not all of them are informed about Cervical Cancer Screening because we give them only when we do campaigns spreading information, so we do not conduct campaigns in our clinic to be honest thus why we only have few for health services and when the community comes to do cervical cancer after the campaigns speculums won't be available."

According to the Cervical Cancer Screening policy guideline (2013), primary prevention of cervical cancer should include specific topics which were revealed in the study from operational managers as: Stopping of smoking 4 (40%), High rate of Sexually Transmitted Diseases and Human Papilloma Virus (stress the use of barrier method in health talks) 3 (30%), postponement of sexual activity to older age 3 (30%), effective management of STIs 7 (70%), decrease parity 4 (40%).

Although STIs are syndromically well managed in all clinics of Makhuduthamaga, it is still important that cervical cancer prevention is addressed in terms of sexual risk reduction behaviour through health education interventions. Such interventions should aim at preventing Sexually Transmitted Disease, especially HPV and its potential of developping into cervical cancer (Shephered, Peersman, Weston & Napuli 2000:689). Health education books also revealed that none of the ten clinics' professional nurses were giving the said specific health topics except one clinic where professional nurses

managed to give health talks once a month only about the impotance of Cervical Cancer Screening. Smoking habits are said to be major cofactor on cervical on cervical HPV driven carcinogenesis and therefore important to advise smokers to quit smoking (Fonseca-Moutinho, Petry & Zeferino 2011:4).

The qualitative findings revealed that primary prevention of Cervical Cancer Screening is not adequately marketed in Makhuduthamaga Sub-district clinics and proved by responses from women who stated that:

> "I do not know anything about screening and that is why I volunteered to be interviewed so that you can explain to me so that I can understand. I sometimes heard from the radio and did not pay more attention."

The findings indicate that, women are less informed about Cervical Cancer Screening. It is important that adequate information about cervical cancer is given to the community to save women from cervical cancer as also observed by Assoumou, Mabika, Mbiguino, Mouallif, Khattabi and Ennaji (2015:1) in a study on awareness and knowledge regarding cervical cancer, Pap smear screening and human papillomavirus infection in Gabonese women. However, the qualitative study of barriers to Cervical Cancer Screening among Nigerian women (Modibbo, Dareng, Bamisaye, Jedy-Agba, Adewole, Oyeneyin, Olaniyan & Adebamowo 2015:1) highlighted the need to intervene to increase cervical cancer awareness and screening uptake in multicultural and multireligious commnunities to take into consideration the varying cultural and religious beliefs in order to design and implement effective Cervical Cancer Screening intervention programmes.

The findings therefore revealed a need of intervening in terms of workshops or training is critical to close the knowledge gap among women and Profesional Nurses. The knowledge gap was also identified by some professional nurses who stated that "Its (uptake) down. Due to lack of knowledge and skill of the personnel" and stating that the lack of knowledge contributes to the low uptake of Cervical Cancer Screening. A knowledge is therefore confirmed in this regard in Makhuduthamaga Sub-district and urgent attention could improve the cervical screening services. A cross-sectional study on knowledge, attitude, and practice on cervical cancer and screening among female health care providers of Chennai corporation conducted by Anantharaman, Sudharshini

and Chitra (2013:124) also identified knowledge, attidtude and practice gap among health care providers and recommended that it be urgently addressed.

6.3.2.2 Secondary prevention of cervical cancer screening

The quantitative results revealed that only three clinics (30%) are able to perform three smears per life time of a woman, 50% (5/10) are able to re-screen a woman with inadequate Pap smear results and refer a woman to a competent screening service and only one (10%) clinic did not allow a woman to request more than 3 smears. Qualitative findings with ragrd to the performance of Pap smears, revealed that 35/46 (76%) of professional nurses viewed Cervical Cancer Screening as an easy procedure and viewd it in terms of time and visibility of cervical Os, adequacy and use of the vaginal spatula, 5/46 (10.8%) viewed screening as difficult and 13% (6/46) were not sure as Cervical Cancer Screening was never part of the professional nurses basic training and were never certified to be competent in Cervical Cancer Screening.

Qualitative findings from women revealed that 10/23 (43,4%) screened for cervical cancer for reasons such as fear of death, loss of uterus etc while 56,5% (13/23) did not screen for cervical cancer because of lack of information. The qualitative findings further revealed that professional nurses did not have enough knowledge with regard to the secondary prevention of cervical cancer as they did not say any information with regard to the three smears per life time, re-screening and referral of a woman with inadequate smear results and that no more than three smears should be requested in a woman's life as stated in the Cervical Cancer Screening Policy Guideline including the one clinic which the operational manager said they are aware.

Although competency is important, the findings revealed that professional nurses are not well informed with regard to the 3smears per life time, re-screening and what should happen if more than 3 smears is requested as said in the Cervical Cancer Screening Policy guideline to equipt all women visiting the clinic with such information to encourage them for screening. The lack of information from professional nurses proved that there is a need for training of professional nurses with regard to policy guidelines on Cervical Cancer Screening (Rahman & Kar 2015:105)

Managing of women who screened for cervical cancer also include encouraging women to come for results where an exact return date should be given and if not tracing should be done accordingly. The qualitative results revealed that professional nurses were not sure of the programe dates to be given to women after screening for cervical cancer. Only 2/46 (4.3%) were able to state that after screening for cervical cancer, women could come for results in 3 to 4 weeks. However different programe dates were given as 14/46 (30.4%) were aware of the 10 years interval between screening for normal results, 1/46 (2.2%) professional nurses stated that, the interval is 5 years while 1/46 (2.2%) professional nurses stated that the interval is 1 year, 1/46 (2.2%) professional nurses stated that for HIV+ the interval is 6 months while the other professional nurse i.e. 1/46 (2.2%) indicated that the HIV+ is one year. The quantiative results also revealed that only 4/10 (40%) operational managers were able to give the correct programe dates for women screened for cervical cancer. Reflecting on the qualitative findings and qualitative findings proved that not enough information regarding the programme dates are given to women after screening for cervical cancer. Evidence with regard to incorrect programe dates was confirmed in the Pap smear register where collumns for follow-up, return of results, date results received, intervention for results and signatures were empty in all clinics and also incorrect programe dates were also given by 60% of the operational managers.

6.3.3.3 Follow-up and referral system

The quantitative and qualitative findings revealed that the tracing and referall of women for their abnormal Pap smear results is done by professional nurses in Makhuduthamaga Sub-district. All professional nurses and operational managers indicated that home-based carers are used for tracing women with abnormal Pap smear results and referred to hospital with results for further management. The attention provided to abnormal Pap smear results raises a concern as women with normal results are unable to come for results and are also not informed of the follow-up dates as communication system remains a challenge and professional nurses end up using their own mobile phones for tracing women with abnormal results. The implications of the findings regarding the normal results is that return for results is not necessary of which this is not the case as women should be given detailed information about their results.The findings revealed that less attention is given to women with normal results and that it is necessary to consider also the normal screening results as important at all times. The attention needed for women with normal cervical cancer results were also emphasised by Maryland (2013:7)

in a study on family planning programme clinical guidelines where it was stated that clients should be told that “normal results do not necessarily indicate absence of disease. No screening test is 100% accurate as some cases of the disease may be missed and normal results never rule out the later development of the disease.” It is therefore necessary to trace women also with normal results to empower them on such information.

The qualitative results revealed that follow-up of women who screened for cervical cancer is so important. Professional nurses and the operational managers stated that home-based carers are used for follow-ups and 5/10 (50%) of clinics rely on home-based carers for follow-up as there are no telephones as stated by Operational managres in 9 (90%) clinics. Although home-based carers are used for tracing, 1 operational manager stated that they are able to trace women not keeping appointment at colposcopy as they keep record and established a relation with clients who are reffered to colposcopy clinics. The other manager stated that tracing women not keeping appoinment at colposcopy is difficult as no feedback is received from the hospital regarding the reffered clients.

A clear indication is made by the quatitative findings that availability of resources and feedback mechanism with regard to clients attending colposcopy clinic is necessary to encourage and make follow-up for defaulters and to ensure continuity of care. Professional nurses expressed difficulties experienced with follow-up of women by stating that:

> “To make follow-up is difficult because we do not have telephones to trace clients unless we use home-based carers.”

The responses indicate that some challenges are experienced by professional nurses in providing the cervical cancer screening service. However more efforts on Cervical Cancer Screening service are necessary as the progression and regression of cancer cells are said by Engstrom-Melnyk (2014:1527) to be depending on the specific immune ressponse and T-cell mediated processes. As a result folow up of women who screened for cervical cancer may be beneficial for women through better management and care.

A need for a better provission of screening services was further emphasised by Mupepi, Sampselle and Johnson (2011:943) in a study on Knowledge, attitudes and Demographic factors influencing Cervical Cancer Screening behaviour of Zimbabwean women where

the accessibility of screening services could be improved through planning and implementation of screening programs with the involvement of community leaders and culturally appropriate messages. Mupepi et al (2011:943) further stated that health education should be intensified aiming at encouraging women and their partners to comply with diagnosis and treatment regimes.

The results indictes that collaboration with relevent stake holders from senior management and community for the provission of the Cervical Cancer Screening service is very crucial to save the lives of women. The need for ensuring follow-up to women was also stressed by Garner (2003:245) who stated that :“a see and treat approach” be instituted for the management of cervical dysplacia whereby colposcopy and treatment are performed in a single visit and therefore reducing the need for follow-up which will reduce the loss to follow-ups.

6.3.3.4 Adequacy rate

The quantitative results revealed that professional nurses face a challenge in obtaining a quality smear where only 2/10 (20%) were able to obtain adequacy rate of 70% and above. Only 8/10 (80%) can obtain adequacy rate of less than 70% while 6 (60%) clinics were able to train some professional nurses on Cervical Cancer Screening. The qualitative findings concurred with the quantitative results when professional nurses reflected that they are unable to obtain quality smear by stating that:

> “With the skill we are sure that we have the skill but when the results comes they say the endocervical component is absent so we tend to doubt our skill.”

The responses indicates that acknowledgement is made by participants that they have a challenge with regard to the performance of Pap smears. Statements such as:

> “Ja it is easy because as professionals we were trained on how to conduct Pap smears.”

reflect clearly that one can do better when trained to do screening. The findings therefore emphasised that training of professional nurses about Cervical Cancer Screening is important.

6.3.3.5 Training

The need for training of professional nurses about Cervical Cancer Screening was revealed in both qualitative and quantitative findings. The performance of Cervical Cancer Screening was stated by professional nurses as difficult and the difficulty being evaluated through the adequacy rate which is not easily obtained like the procedure of screening.The qualitative results indicated that only 60% (6/10) of the clinics were able to train their professional nurses on Cervical Cancer Screening even if only 20% of the clinics could obtain more than 70% of the adequacy rate. With regard to traing about Cervical Cancer Screening the focus group discussion results revealed that only 37 professional nurses were trained while only 9 professional nurses were not trained. The qualitative and quantitative findings therefore concur and confirms the question of low uptake in the study. The standardised training and inclusion in the basic nursing training is necessary in the study and could therefore benefit a large number of professional nurses and women.

6.3.3.6 Importance of screening

Qualitative results revealed that all women and professional nurses who participated in the study viewed Cervical Cancer Screening as important as observed from women responses such as"

> "It is important to do Cervical Cancer Screening because you do not know what is happening in your uterus."

However contradiction is observed as viewing the Cervical Cancer Screening could motivate professional nurses to encourage and screen more women in cervical cancer as health education will be intensified and recorded in health education books. Perceiving Cervical Cancer Screening as important by women and professional nurses need to be strengthened by putting theory into practice as rvealed in high uptake of screening as reflected by Mamahlodi, Kuonza and Candy (2013:9) in their study on Cervical Cancer Screening programme in Limpopo Province January 2007 to December in 2010 where a need for sthrengthening of coverage among women at higher risk (30 years and older) was highighted.

6.3.3.7 Availability and implementation of policy

The inavailability and challenges with regard to the implementation of the National Cervical Cancer Screening Policy (2013) was revealed in the qualitative findings. Evidence was observed when stated that*:*

> "We have never seen it (the policy) in the facility." "So are you going to make sure that you provide us with enough of the disposable speculums and the policy after the study to distribute?"

Although some responses reflected that the policy is easy to implement, some indicated that is difficult with regad to tracing of clents due to lack of resources, the 10 years which is too long and the inavailability of the very policy where some responses indicated that they never saw the policy and was even requested from the researcher*:*

> "I think is easy to implement but the guideline was first developed by the government or department but 10 years is too long especially for the healthy ones, if the private sector do it in 2 years so why can't they do it in 2 years. But yona is easy to implement."

The findings refelects a co-relation between the low uptake of Cervical Cancer Screening and the challenges faced with the policy itself by professional nurses in the study. The integration of the qualitative and quantitative findings in the study revealed some of the challenges with regard to the implemetation of the National Cervical Cancer Screening Policy and a need for intervention was therefore identified.

6.4 CONCLUSION

Findings in the study reavealed inadequate provision of primary prevention information about Cervical Cancer Screening services to women which leads to lack of information, low uptake of cervical cancer screening in Makhuduthamaga Sub-district. Inadequate information/knowledge and challenges to professional nurses was also revealed in the study while dedication of professional nurses with regard to Cervical Cancer Screening irrespective of lack of training was also observed. The results also revealed that lack of

information with regard to Cervical Cancer Screening to women is related to willingness to screen for Cervical Cancer Screening. The unavailabilty of the policy on cervical cancer screening as reflected by some professional nurses in focus group discussions and the gaps identified in the policy implementation in clinics is found to be related to inadequate Cervical Cancer Screening services. The lack of standardised cervical cancer screening training to professional nurses in their basic training creates challenges in the provision of the screening services.

Chapter 7 will conclude the study by presenting the limitations and recommendations for practice and continuity of research.

CHAPTER 7

CONCLUSION, LIMITATIONS AND RECOMMENDATIONS

7.1 INTRODUCTION

Chapter 7 presents the study conclusion, limitations and recommendations from the qualitative findings and quantitative results based on the aims, objectives and research questions of the study.

7.2 THE STUDY PURPOSE

The study aimed at the evaluation of implementation of the National Cervical Cancer Screening Policy Guideline and establishing the awareness and importance of cervical cancer screening from women and professional nurses in Makhuduthamaga Sub-district.

This purpose was achieved as the researcher managed to establish from both women and professional nurses the awareness of importance of cervical cancer screening and evaluated the implementation of the National Cervical Cancer Screening Policy.

7.3 THE STUDY FINDINGS

The objectives of the study were also met as the researcher managed the following:

- To evaluate the implementation of the National Cervical Cancer Screening Policy guideline, in Makhuduthamaga Sub-district.
- To establish women's perceptions of Cervical Cancer Screening.
- To establish the perceptions of professional nurses regarding Cervical Cancer Screening.
- Developed recommendations to inform the National Cervical Cancer Screening policy, research and clinical practice including the development of the health education and in-service programs.
- Obtained answers to the quantitative and qualitative research questions as listed in 1.5 of the study.

7.3.1 Objective 1: To evaluate the implementation of the policy guideline pertaining to cervical cancer screening in Makhuduthamaga Sub-district

This objective was achieved quantitatively through the administration of a checklist with Operational Managers and the review of health education books, Pap smear registers and Pap smear results. The understanding and implementation of the National Cervical Cancer Screening Policy was evaluated through all activities addressed in the policy guideline (Appendix O). The understanding and implementation of the policy guideline was also reviewed qualitatively through focus group discussions with professional nurses.

7.3.1.1 Summary

The qualitative findings indicated that there is a challenge in the understanding and implementation of the National Cervical Cancer Screening Policy as 6 out of 10 clinics were not in possession of the policy nor having seen the policy and requested the policy from the researcher. Responses from participants indicated that it is difficult to implement the policy especially with lack of resources, lack of information and standardised training. Professional nurses were also not certain of the programme dates for Cervical Cancer Screening and the competency with regard to the skill of performing cervical cancer screening. The quantitative results indicated that in average 6 clinics were not implementing the policy efficiently (Appendix P). Furthermore, the primary prevention, secondary prevention, referral system and quality assurance was found to be a challenge as evidenced in the health education books, Pap smear register and Cervical Cancer Screening results and therefore related to the low uptake of Cervical Cancer Screening in the clinics.

7.3.1.2 Conclusion

The results revealed that there is a need for provision of adequate resources, standardised training for all professional nurses and other health care providers as supported by Krishnan, Madsen, Porterfield and Varghese (2013:17).

7.3.2 Objective 2: To establish the women's perceptions of cervical cancer screening

This objective was achieved through in-depth individual interviews conducted with women by use of an interview guide (Appendix I) to establish women's understanding, awareness and practice of cervical cancer screening.

7.3.2.1 Summary

The in-depth interviews revealed that women lack information and understanding with regard to cervical cancer screening as evidenced by participants asking some questions after the interview. Responses from participants indicated that with the limited knowledge they had about cervical cancer screening, they still perceived cervical cancer screening as important. With adequate information from health care providers women may return for Pap smear results and come for follow-up according to the policy programme and encourage other women for cervical cancer screening.

7.3.2.2 Conclusion

The lack of information revealed in the findings indicates that there is high need for intensified health education to the community through the use of various strategies to increase the uptake of cervical cancer screening thus reducing the morbidity and mortality rate of women as also supported by Sawadogo et al (2014:4-5).

7.3.3 Objective 3: To establish the perceptions of professional nurses regarding cervical cancer screening

This objective was achieved through focus group discussions conducted with professional nurses where the perception was explored by use of an interview guide (Appendix N). The perceptions of cervical cancer screening by professional nurses was also linked to the uptake of cervical cancer screening and the quantitative results of the implementation of the National Cervical Cancer Screening Policy Guidelines.

7.3.3.1 Summary

The qualitative results revealed that professional nurses considered cervical cancer screening as important, regardless of the low and inconsistent uptake of cervical cancer screening mostly due to lack of resources. The importance of cervical cancer screening was also emphasised by Hoste, Vossaert and Poppe (2013:2) who stated that the incorporation of HPV testing into cervical cancer screening strategies can increase disease detection (improving benefits) and increased length of screening intervals (decreasing harm). Furthermore, professional nurses displayed dedication in screening women for cervical cancer, irrespective of the inadequate knowledge due to lack of training and the lack of resources as indicated in participants' responses.

The quantitative results revealed that inadequate information with regard to cervical cancer screening is provided to women which also concurred with responses from interviews whereby participants stated that less is known with regard to Cervical Cancer Screening.

7.3.3.2 Conclusion

Support of professional nurses with regard to provision of cervical cancer screening service, resources and training could benefit professional nurses to improve their potential to render the cervical cancer screening service. Implementation of interventions to increase access and uptake of cervical cancer screening in all areas as reflected by Ndejjo, Mukama, Musabyimana and Musoke (2016:2), is vital in Makhuduthamaga Sub-district.

7.3.4 Objective 4: To develop recommendations which will inform the National Cervical Cancer Screening Policy Guideline

Based on the results in the study, recommendations were developed to enhance cervical cancer screening by impacting on the National Cervical Cancer Screening Policy, education, clinical practice and research:

7.4 RECOMMENDATIONS OF THE STUDY

The cervical cancer screening teaching programmes for the in-service of professional nurses and health education for women in Makhuduthama Sub-district were developed.

Following the results of the study, the recommendations were developed as follows:

7.4.1 Policy

- **Review of the National Cervical Cancer Screening Policy guideline (2013)**

The National Cervical Cancer Screening Policy (2013:1) recommends a 10 years screening interval due to the fact that: “Cancer of the cervix develops over time from a precursor lesion and progression of the disease is slow and may take as long as 10-20 years before the disease becomes invasive and for younger than 30 years the low-grade lesions regress to norma”. However, the American Cancer Society (www.cancer.org) reflected that risk factors of cervical cancer like HIV cervical pre-cancer develop into an invasive cancer faster than it would in normal. Professional nurses in focus group discussion also reflected their concerns about the 10 years interval which makes it difficult for them to trace, identify and manage women who are due or not due for screening. The study on Cervical Cancer Screening and Prevention conducted by Wen Jim (2010:5) also supported the reduction of the 10 years interval for Cervical Cancer Screening.

The National Cervical Screening Policy should therefore take into consideration the HIV pandemic in relation to the reduction of 10 years interval to the 3 years interval, to incorporate screening of HIV positive as reflected by Dartell, Rasch, Iftner, Kahesa, Mwaiselage, Junge, Gernow, Ejlersen, Munk and Kjaer (2014:901), as high grade Sil positive is higher in HIV positive women than HIV Negative women. The reduction of age from 30 to 21 years is also supported by A Cancer Journal of Clinicians (2012:211).

- **Follow-up and referral system**

A clear indication with regard to what is expected with regard to the plan on how women who have been screened for cervical cancer should be managed is recommended in this study. The results revealed that professional nurses relied only on home-based carers

with regard to follow-up of women who have been screened. The follow-up of women referred for colposcopy remained a challenge as the referral system does not have a feedback mechanism .i.e. no link between the two institutions with regard to the management of women with abnormal results.

A recommendation of clear guidelines on follow-up plan and institution of an electronic mechanism among facilities rendering the Pap smear services could be beneficial to women and improve the follow-up system.

7.4.2 Practice

Health information

The results revealed that the clinic with high uptake of cervical cancer screening in the study, stressed the importance, signs and symptoms of cervical cancer screening in health talks and encouraged women to screen for cervical cancer. The inclusion of topics that stresses the importance of cervical cancer screening in the policy guideline is therefore recommended in this regard. A health information programme was developed as a guideline for health education sessions.

To establish cervical cancer screening campaigns

The researcher initiated cervical cancer screening campaigns in 2012 in Makhuduthamaga Sub-district to make women aware that cervical cancer can be detected early. In-service education was offered to professional nurses on screening and treating as an affordable and possible programme for cervical cancer screening management. The outcome of campaigns conducted by the researcher in this study revealed a need for intensified cervical cancer screening campaigns as a way of educating, making the community aware of cervical cancer where it will serve as a teachable moment for all health personnel.

The awareness campaigns of cervical cancer screening were also supported by Hyacinth, Adekeye, Ibeh and Osoba (2012:7) who regarded educational level, awareness about Pap smears, treatability of cervical cancer and preventability of cervical cancer as factors that improves the utilisation of cervical cancer screening. The inadequate knowledge and

practice among certain women groups regarding cervical cancer screening was also identified by Al-Meer, Aseel, Khalaf, Al-Kuwari and Ismail (2011:859) in a study on knowledge, attitude and practices regarding cervical cancer and screening among women visiting primary health care in Qatar. An increased awareness of women regarding risk factors and overcoming barriers of fear and embarrassment about cervical cancer screening was also recommended by Al-Meer et al (2011:860

- **Availability of resources**

Disposable vaginal speculums and correct alysberies or brushes should be available at all times in clinics. Resources availability ensures that women access the cervical cancer screening services at all times. Results revealed that incorrect alysberies are supplied to clinics for performance of Pap smears whereas brushes are not supplied at all, resulting in difficulty in obtaining quality cervical smears. Results also revealed shortage of sterile vaginal speculums which professional nurses recommended the disposable vaginal speculums which could be replaced by disposable one's as recommended by professional nurses.

7.4.3 Education

7.4.3.1 To incorporate standardised cervical cancer screening skill in the basic training of all health care workers

Results revealed that most professional nurses were not competent in performing cervical cancer screening. The low adequacy rate was therefore linked to the training of cervical cancer screening which differed with regard to the period of training, professional nurses basically share the skill with colleagues who are in need of support.

The incorporation of cervical cancer screening training in the basic training of professional nurses could therefore improve the skill of cervical cancer screening.

7.4.3.2 Development of teaching programmes

The cervical cancer screening teaching programme for the in-service of professional nurses and health education for women in Makhuduthama Sub-district were developed.

7.4.3.2.1 In-service education

An in-service programme was therefore developed as a guideline for in-service education of professional nurses in Makhuduthamaga Sub-district.

Makhuduthamaga Sub-district

Annual in-service education programme for professional nurses

Cervical cancer screening and cancer management

Venue: Rotation in all clinics of Makhudthamaga Sub-district

Time: 09h00

Month and year	**Days and time**	**Topics**	**Strategy**	**Target group**
February–November	Weekly on Tuesdays 09h00–12h00 Content to be covered over two sessions	Cervical cancer aetiology and pathophysiology National Cervical Cancer Screening Policy discussion Record-keeping: Cytology form and Pap smear register Cervical cancer performance Interpretation and management of Pap smear results	Lecture and demonstration	Professional nurses

Compiled by: Makunyane CM

(Adapted from Jane Furse hospital teaching programme 2017

Signature: ……..

Date: ……..

7.4.3.2.3 Health education programme

A health education programme was developed as a guideline for health education content to be taught to women in Makhuduthamaga Sub-district.

Makhuduthamaga Sub-district

Annual in-service education programme for all clinic clients

Cervical cancer screening and cancer management

Venue: In all clinics of Makhudthamaga Sub-district

Time: 07h00

N.B. ALL HEALTH STAFF TO ROTATE DAILY ON GIVING HEALTH EDUCATION

Month and year	Days and time	Topics	Strategy	Target group
January–December	Monday-Sunday 07h00–08h00	• Definition of cervical cancer and risk factors • Transmission of cervical cancer • Signs and symptoms (stages) • Importance of cervical cancer screening • Preventive measures • Cultural issues and practices related to cervical cancer	Lecture and discussion	All clinic clients

Compiled by: Makunyane CM

(Adapted from Jane Furse hospital teaching programme 2017

Signature: ……..

Date: ……..

7.4.4 Further research

Further research is recommended for example:

- Cervical cancer progression and screening in women living with HIV Makhudthamaga Sub-district.
- An investigation regarding the efficiency of the referral system and feedback mechanism for women diagnosed with cervical cancer.
- The role of community structures, religious and traditional leaders with regard to cervical cancer screening in Makhuduthamaga Sub-district.

7.5 LIMITATIONS OF THE STUDY

Shortage of staff, abseentism due to ill-health of staff and attendance of workshops by the selected staff during the study period in selected clinics posed limitations to the study as more information could have been obtained from those who were absent. The study was conducted in one Sub-District and may not be generalised to other districts unless if there is an indication of low uptake of cervical cancer screening.

7.6 CONCLUSION

The study aimed at establishing knowledge and awareness of the importance and practice of Cervical Cancer Screening from women and professional nurses in Makhuduthamaga Sub-district. Findings revealed lack of knowledge with regard to cervical cancer screening among women. Women expressed lack of knowledge of cervical cancer screening and hoped participation in the study could inform them about cervical cancer screening. Participants viewed cervical cancer screening as important and necessary to encourage other women for screening for fear of complications. The lack of knowledge influenced the uptake of cervical cancer screening negatively in the sub-district.

Professional nurses supported the importance of cervical cancer screening and displayed passion about cervical cancer screening regardless of lack of resources and adequate knowledge. The findings therefore indicated that provision of resources and provision of standardised training could improve the cervical cancer screening service.

The findings also revealed that there is a challenge with regard to the implementation of the National Cervical Cancer Screening Policy Guidelines which were not accessible in some clinics and made it difficult to refer to the guidelines accordingly. Although participants had different views with regard to the implementation of the National Cervical Cancer Screening Policy, findings revealed that the policy is not effectively implemented and accessible to some stake holders. The findings therefore revealed a need for regular in service education and practice with regard to cervical cancer screening to empower professional nurses in this regard.

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APPENDIXES

APPENDIX A

University of South Africa (HSHDC) Ethical Clearance

UNISA university of south africa

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

REC-012714-039

HSHDC/343/2014

Date: 4 November 2014 Student No: 3161-743-3

Project Title: A mixed- method approach on the perspectives of cervical cancer screening in Makhuduthamaga Sub-District

Researcher: Coshiwe Matildah Makunyane

Degree: D Litt et Phil Code: DPCHS04

Supervisor: Dr JM Mathibe-Neke
Qualification: PhD
Joint Supervisor: -

DECISION OF COMMITTEE

Approved √ **Conditionally Approved** ☐

Prof L Roets
CHAIRPERSON: HEALTH STUDIES HIGHER DEGREES COMMITTEE

For **Prof MM Moleki**
ACADEMIC CHAIRPERSON: DEPARTMENT OF HEALTH STUDIES

PLEASE QUOTE THE PROJECT NUMBER IN ALL ENQUIRES

APPENDIX B

Limpopo Province Department of Health and Social Development application for permission

P.O. BOX 912
NEBO
1059
11 December 2014

THE HEAD OF DEPARTMENT: ETHICS COMMITTEE
Department of Health and Social Development
Private Bag X9302
POLOKWANE
0700
Dear Sir/Madam

REQUEST FOR PERMISSION TO CONDUCT A RESEARCH STUDY ON: MIXED METHOD APPROACH ON PERCEPTIONS OF CERVICAL CANCER SCREENING IN THE MAKHUDUTHAMAGA SUB-DISTRICT

I am a clinical nurse practitioner in Makhuduthamaga Sub-District. I am a postgraduate student at UNISA for PHD in community science. I hereby request permission to conduct a research study on mixed method approach on perceptions of cervical cancer screening in the Makhuduthamaga Sub-District clinics. The study aims at empowering women with knowledge on the importance, effects and dangers of not doing cervical cancer screening. The study will also investigate the perceptions of cervical cancer screening amongst professional nurses and women. Self-administered interview guides will be used to collect data.

The study will commence on February 2015 as approval has been granted by Human Research Ethics Committee of UNISA. The name of the Sub-District, clinics and participants will not be disclosed in the report and information given will be treated with confidentiality. A copy of the report will be provided to the Sub-District Management.

Should you need more information, I can be contacted on the number provided below.

Your permission to conduct the study will be highly appreciated.

Yours Faithfully

Makunyane CM
PHD candidate (UNISA)

APPENDIX C

Department of Health permission letter

LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF HEALTH

Enquiries: Latif Shamila

Ref:4/2/2

Coshiwe MM
University of South Africa
P.O Box 392
South Africa
0003

Greetings,

RE: A mixed –method approach on the perspectives of cervical cancer screening in Makhuduthamaga Sub-District

The above matter refers.

1. Permission to conduct the above mentioned study is hereby granted.
2. Kindly be informed that:-
   - Research must be loaded on the NHRD site (http://nhrd.hst.org.za) by the researcher.
   - Further arrangement should be made with the targeted institutions.
   - In the course of your study there should be no action that disrupts the services.
   - After completion of the study, a copy should be submitted to the Department to serve as a resource.
   - The researcher should be prepared to assist in the interpretation and implementation of the study recommendation where possible.
   - The above approval is valid for a 3 year period.
   - If the proposal has been amended, a new approval should be sought from the Department of Health.

Your cooperation will be highly appreciated.

Head of Department

20/01/2014
Date

18 College Street, Polokwane, 0700, Private Bag x9302, POLOLKWANE, 0700
Tel: (015) 293 6000, Fax: (015) 293 6211/20 Website: http/www.limpopo.gov.za

APPENDIX D

Makhuduthamaga Sub-district application letter

PO BOX 912
NEBO
1059
11 February 2014

Makhuduthamaga Sub-District Manager
Private Bag X431
JANE FURSE
1085
Dear Sir/Madam

REQUEST FOR PERMISSION TO CONDUCT A RESEARCH STUDY AT THE SUB-DISTRICT

I am a postgraduate student at the University of South Africa (UNISA) for PHD in community science. I hereby request permission to conduct a research study on mixed method approach on perceptions of cervical cancer screening among professional nurses and women in the Makhuduthamaga Sub-district clinics. The study aims at empowering women with knowledge on the importance, advantages and dangers of not doing cervical cancer screening. The study will also investigate the perceptions of cervical cancer screening amongst professional nurses and women. Interview guides will be used to collect data.

The study will be commenced once approval has been granted by Human Research Ethics Committee of UNISA. The name of the Sub-District, clinics and participants will not be disclosed in the report and information given will be treated with confidentiality. A copy of the report will be provided to the Sub-District Management.

Should you need more information, I can be contacted on the number provided below. Attached receive the proposal for the study. Your permission to conduct the study will be highly appreciated.

Yours faithfully

Makunyane CM
Cell: 072 236 4959

APPENDIX E

Permission letter from Makhuduthamaga Sub-district

Enq:
Cell: 073 2401 732

LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

MAKHUDU THAMAGA SUB DISTRICT
Private Bag X431
JANE FURSE
1085

2015-02-04

DEPARTMENT OF HEALTH

Ms C.M Makunyane

P.O Box 912

Nebo

1059

Madam

RESPONSE ON THE REQUEST TO CONDUCT A STUDY ON THE CERVICAL CANCER SCREENING.

Kindly be informed that your letter dated the 02nd February 2015 requesting permission to conduct a study at Makhudu Thamaga facilities has been received.

Permission is granted to conduct the study in the facilities chosen. The information is requested at the completion of the study for improvement of the service.

Hoping to find the response in order.

Thank you

PHC Coordinator

MAKHUDUTHAMAGA SUB DISTRICT
PRIVATE BAG X431
2015 -02- 04
TEL: 013 265 1634
PHC OFFICE

APPENDIX F

Permission letter from Makhuduthamaga Sub-district to clinics

Enq:
Cell: 073 2401 732

LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

MAKHUDU THAMAGA SUB DISTRICT
Private Bag X431
JANE FURSE
1085

2015-02-04

DEPARTMENT OF HEALTH

Operational Manager

Sir/ Madam

PERMISSION TO CONDUCT THE STUDY OF CERVICAL CANCER SCREENING IN RESPECT OF MAKUNYANE C.M PERSAL NUMBER: 14367661.

You are kindly requested to support the above- mentioned clinical nurse practitioner to conduct the study of cervical cancer screening at your facilities.

The exact date of the study will be communicated in due course.

Hoping to receive a positive support regarding the request.

Thank you in advance for your cooperation

PHC Coordinator

MAKHUDUTHAMAGA SUB DISTRICT
PRIVATE BAG X431
2015 -02- 04
TEL: 013 265 1634
PHC OFFICE

APPENDIX G

Information sheet to women

My name is Matildah Makunyane. I am a student at UNISA. As part of my studies, I am conducting a study on cervical cancer screening in Makhuduthamaga Sub-District. The study is aimed at empowering women with knowledge on the importance, effects and dangers of not doing cervical cancer screening.

You are invited to participate in the study. As a participant in this study, you will be asked to respond to questions which will be asked during an interview and a tape recorder used for recording information. Participation in the study is voluntary and will take 10 to 15 minutes of your time. There are no personal benefits to participation. You may refuse to answer any question presented during the study if you so wish. You may decide to withdraw from the study at any time without any penalty. All information you provide is considered completely confidential, your name will not be identified individually in any way in any written reports of this research. There are no known or anticipated risks associated with your participation in this research.

If you have any questions or concerns, please feel free to ask me. There is a consent form, which you need to sign for participation in the study.

Thank you for taking the time to read this information letter.

APPENDIX H

Consent form for women

I _____understood the content of this letter and give consent to participate willingly in this study. I am aware that I can withdraw my consent and participation in the study at any time without prejudice. I also acknowledge that I have been given the opportunity to ask any questions and declare myself prepared to participate in the study.

_____ _____

(Signature of participant) **(Date: dd/mm/yy)**

_____ _____

(Signature of researcher) **(Date: dd/mm/yy)**

APPENDIX I

Women qualitative research questions

QUALITATIVE RESEARCH QUESTIONS FOR WOMEN

1.1. Age…….

1.2. Kindly explain to me, your understanding of cervical cancer screening?

1.3. Did you ever do cervical cancer screening? Yes? No? then Why?

1.4. Do you think that screening for cancer of the cervix is important?

1.5. Describe the possible consequences of not doing cervical cancer screening.

1.6. Can you encourage someone to do cervical cancer screening? Yes? No? then Why?

APPENDIX J

Invitation for focus group discussion

Dear Colleague

INVITATION TO PARTICIPATE IN A FOCUS GROUP DISCUSSION

TITLE: A MIXED METHOD APPROACH ON THE PERSPECTIVES OF CERVICAL CANCER SCREENING IN MAKHUDUTHAMAGA SUB-DISTRICT: A FOCUS GROUP ON CERVICAL CANCER SCREENING

My name is Matildah Makunyane. I am a student at UNISA. As part of my studies, I am conducting a study on cervical cancer screening in Makhuduthamaga Sub-District. The study is aimed at empowering women with knowledge on the importance of cervical cancer screening, the effects and dangers of not screening.

The research will explore the perceptions of women and professional nurses regarding cervical cancer screening. The findings will be used to develop recommendations and guidelines for cervical cancer screening.

You were selected to participate in this study because you are a professional nurse who practices in Makhuduthamaga Sub-District where the research is conducted. You therefore meet the criteria for participation in the study and believe that you are a relevant source of the information needed for the study.

You are kindly requested to participate in this study which will be held in the selected Sub-District. If you agree to participate in the study, you are requested to be interviewed by the researcher. A tape recorder will be used and notes taken during the interview session. You are requested to feel free, take your time, be open, honest and give as much information as you can.

Your responses in the study will be anonymous, confidential and only be used for the study. The names of the participants will not be reflected in any of the transcripts to maintain anonymity and confidentiality. The transcripts will be released to authorized people only for the study purpose. After transcription the audiotapes will be stored for review and will later be destroyed after data has been finally captured.

Your participation in the study will be voluntary, free from harm and free to withdraw at any time without any penalty or prejudice.

There will be an average of 5 to 10 participants in a group, who will be interviewed together. The interview will last for ± an hour. There are no right or wrong answers in a focus group interview as you have to offer your point of view with regard to the topic. You do not need to agree with others, but you should listen respectfully as others share their views. My role as the interviewer will be to guide the discussion.

Date of interview: ----------
Time: ----------
Venue: ----------
Please give a written consent for the interview by completing the attached form and return it. Attached please find a reply and consent form above is information regarding focus group discussion.

I thank you in advance for your assistance in this project.

Yours sincerely

……

MAKUNYANE CM

APPENDIX K

Reply and consent form (A and B) for professional nurses

To: MATILDAH MAKUNYANE
PO BOX 912
NEBO
1059

Re: Participation in research

Thank you for inviting me to participate in a focus group interview aimed at empowering women with knowledge on the importance of cervical cancer screening, the effects and dangers of not screening.

I understand that the information will be treated confidentially, and that I participate freely and voluntarily, and may withdraw from the interview at any time without prejudice.

Date of interview……..
Time of interview……

I have carefully read and I understand this agreement, and I freely and voluntarily consent and agree to be interviewed.

NAME ----------
SIGNATURE ----------
DATE ----------

APPENDIX L

Information sheet to professional nurses

My name is Matildah Makunyane. I'm doing my PHD degree with UNISA. As part of my studies, I am conducting a study to obtain information on the perceptions of cervical cancer screening among professional nurses and women in Makhuduthamaga Sub-District. The study is aimed at empowering women with knowledge on the importance, effects and dangers of not doing cervical cancer screening.

You are invited to participate in a focus group discussions. As a participant in this study, you will be asked to respond to questions which will be asked by use of an interview guide and a tape recorder used for recording information. Participation in the study is voluntary and will take 10 to 15 minutes of your time. There are no personal benefits to participation. You may refuse to answer any question presented during the study if you so wish. You may decide to withdraw from the study at any time without any penalty. All information you provide is considered completely confidential, your name will not be identified in any way in any written reports of this research. There are no known or anticipated risks associated with your participation in this research.

If you have any questions or concerns, please feel free to ask me. Should you wish to be informed about the study results, a summary of the findings will be made available on request. There is a consent form, which you need to sign for participation in the study.

Thank you for taking the time to read this information letter.

APPENDIX M

Consent form for professional nurses

A MIXED METHOD APPROACH ON THE PERSPECTIVES OF CERVICAL CANCER SCREENING IN MAKHUDUTHAMAGA SUB-DISTRICT

You are kindly requested to participate in a research study which will be held in the selected Makhuduthamaga Municipality clinics. The study is on "A mixed method approach on the perspectives of cervical cancer screening in Makhuduthamaga Sub-District". If you agree to participate in the study, you are requested to be interviewed by the researcher. The tape recorder will be used and notes taken during the interview session. You are requested to feel free, take your time, be open, honest and give as much information as you can to improve cervical cancer screening in Makhuduthamaga, Sekhukhune District, Limpopo Province.

Your responses in the study will be anonymous, confidential and only be used for the study. Your participation in the study will be voluntary, free from harm and free to withdraw at any time from participation if you so wish. A copy of the consent form will be given to you.

I, (full names)……have read and understood the informed consent, and agree to participate in the study: A mixed method approach on the perspectives of cervical cancer screening in Makhuduthamaga Sub-District.

Signature of respondent: ……. Date: ……..

Signature of witness: ……..... Date: …….

Signature of researcher: …… Date: ……

APPENDIX N

Focus group interview guide

1. **Opening question:**

1.1. How is the uptake of cervical cancer screening in your clinic?

2. **An introductory question:**

2.1. In your opinion, are women seeking health care at your clinic informed about cervical cancer screening?

3. **A transition question:**

3.1. Do you consider cervical cancer screening important? Why?

4. Key question:

4.1. Do you consider cervical cancer screening procedure/skill easy to conduct?

4.2. How long do you take to conduct cervical cancer screening to a woman?

4.3. Do you normally encourage women to do follow up screening? If yes, what is the plan for follow up?

4.4. Do you consider the National cervical cancer screening guidelines easy to implement?

4.5. Were you trained or ever attended an in-service on cervical cancer screening?

5. **Ending question:**

5.1. Do you have any recommendations regarding cervical cancer screening?

Thank you for your participation.

APPENDIX O

Cervical cancer screening checklist

Clinics will be visited by the researcher and the following documents will be needed for data collection. 1. Health education book. 2. Cervical cancer screening register. 3. Clients' Pap smear results. The Primary prevention will be established in the health education book through health information covered on day to day to clients by professional nurses. The secondary prevention, referral criteria, follow up criteria, quality assurance and infection control will be established in the available Pap smear register, Clients' pap results and a means of sterilisation of cervical screening packs for the clinics.

Activities	**Implemented**	**Not Implemented**
1. Target population: 30yrs.		
2. PRIMARY PREVENTION:		
2.1. Stopping of smoking.		
2.2. High rate of sexually transmitted diseases and human papilloma virus (stress the use of barrier method in health talks)		
2.3. Postponement of sexual activity to older age.		
2.4.Effective management of STIs		
2.5. Decrease parity.		
3. SECONDARY PREVENTION		
3.1. SCREENING		
3.1.1. General		
I. Three (3) free smears per life time are proposed with a 10year interval between each smear, commencing at not earlier than 30years.		
II. A woman with an inadequate smear should be re-screened. If second smear is also inadequate, client to be referred to a known		

Activities	Implemented	Not Implemented
competent screening service.		
III. Should more than 3 smears be requested by a woman, the extra cost will have to be carried by her.		
4. REFERRAL CRITERIA		
4.1. Referral system in place.		
4.2. Proposed programme dates given to woman.		
4.3. Low-grade sill and atypical squamous cells (ASCUS) repeat the smear in 12months.		
5. FOLLOW UP CRITERIA		
5.1. An effective follow up system in place.		
5.2. A plan in place to find patients who do not return voluntarily.		
5.3. Patients who do not keep their appointment at colposcopy clinics to be traced by the original screening institution.		
6. QUALITY ASSURANCE		
6.1. Adequacy rate of screening facility is at least 70%.		
6.2. If less than 70% staff to be trained.		
7. INFECTION CONTROL		
7.1. Availability of sterilisation machine in the facility.		

APPENDIX P

Clinics' average implementation of the national cervical cancer screening policy guideline

Clinics	Q1	Q2.1	Q2.2	Q2.3	Q2.4	Q2.5	Q3.1.I	Q3.1.II	Q3.1.III	Q4.1	Q4.2	Q4.3	Q5.1	Q5.2	Q5.3	Q6.1	Q6.2	Q7.1	VAR00027	VAR00028	
1	1	1	1	1	1	1	0	0	0	1	1	1	1	1	0	0	0	1	12	1	Implemented
2	1	1	1	1	1	1	1	0	0	1	0	1	0	1	0	0	1	1	12	1	Implemented
3	1	0	0	0	1	0	0	0	0	1	1	1	0	0	0	0	0	1	6	3	Not implemented
4	1	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	1	1	7	3	Not implemented
5	1	1	0	0	1	1	0	1	1	1	0	1	1	1	0	0	1	1	12	1	Implemented
6	1	1	1	1	1	1	1	1	0	1	0	1	0	1	1	0	0	1	13	1	Implemented
7	1	0	0	0	0	0	0	1	0	1	0	1	1	1	0	1	1	1	9	3	Not implemented
8	1	0	0	0	0	0	1	1	0	1	1	1	1	1	0	0	1	1	10	1	Implemented
9	1	1	0	0	1	1	0	1	0	1	0	1	1	1	0	0	0	1	10	3	Implemented
10	1	0	0	0	1	0	0	0	0	1	1	1	0	1	0	0	1	1	8	3	Not implemented
																			Average =9.7		

Where 1 = implemented 0= not implanted

APPENDIX Q

Letter from the statistician

TO WHOM IT MAY CONCERN

I hereby state that I have analysed data for the document titled:

A mixed method approach on the perspectives of cervical cancer screening in Sekhukhune District, Limpopo Province.

By

Makunyane Coshiwe Matildah

Dissertation

UNIVERSITY OF SOUTH AFRICA

Disclaimer

At time of submission to student, Statistical analysis and technical care was attended to as requested by student and supervisor. Any corrections and technical care required after submission is the sole responsibility of the student.

Kind Regards

Mr MV Netshidzivhani, Research Statistician - University of Limpopo

Email:mnetshid23@gmail.com

CELL: 072 246 4551

DATE: 24 May 2016

APPENDIX R

Letter from the editor

MM Mohlake
Reakgona Disability Centre
University of Limpopo
Turfloop Campus
Private Bag x 1106
Sovenga
0727

24 February 2017

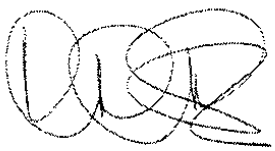
To Whom It May Concern:

This letter is meant to acknowledge that I, MM Mohlake, as a professional editor, have meticulously edited the PhD thesis of Ms Coshiwe Matildah Makunyane on perceptions of cervical cancer screening among professional nurses and women in the Makhuduthamaga Sub-district clinics.

Thus I confirm that the readability of this work in question is of a high standard.

For any queries please contact me.

Regards



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