

KNOWLEDGE, ATTITUDES, AND PRACTICES (KAP) ON CERVICAL CANCER  
SCREENING AMONG HEALTH CARE WORKERS IN OSHIKOTO REGION,

NAMIBIA.

A THESIS

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FLAVIA STRATO SHAYO

STUDENT NUMBER: 201401598

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MAIN SUPERVISOR: DR SOLOMON D YIGEREMU

## **ABSTRACT**

The aim of this study was to determine the knowledge, attitudes and practices on cervical cancer screening among healthcare workers in Oshikoto Region, Namibia.

Descriptive quantitative cross-sectional study was conducted, using a self-administered questionnaire and interviews completed between July and August in 2017. The study participants were doctors and nurses who provide health services at general OPD (Out Patient Department), ANC (Antenatal Care Clinic) and ART (Ant Retroviral treatment) clinics at Onandjokwe, Omuthiya and Tsumeb district hospitals in Oshikoto Region, Namibia.

A total of 151 health professionals were interviewed, of which 82% were females, 19% were males comprised registered nurses 48%, enrolled nurses 44% and doctors 18%.

Among the participants 56% had adequate knowledge regarding cervical cancer causes, 91% risk factors, 91% symptoms, and 95% prevention. However, the study found nurses have poor knowledge on the causes of cervical cancer compared to doctors with significant statistically differences (P value 0.01). With regards attitudes of cervical cancer screening practices, majority of participants 93% scored favorable attitudes. The study showed among participants 91% have ever screened patient for cervical cancer and 74% performed pap smear test to the patient. There were significant test results related to the knowledge of prevention of cervical cancer disease and performed pap smear test (P value 0.01). The study results also showed that the most common reasons of low usage of cervical cancer are lack of awareness (48%) and no symptoms of cervical cancer (37%).

The major key recommendation based on the findings of this study were to provide in-service training at each district hospital, raise awareness of cervical cancer disease, review the nursing curriculum by scrutinizing the content in order to update knowledge, provide support and empowered the health centers, clinics and outreach points by providing education and necessary equipment for cervical cancer screening procedure.

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## LIST OF ABBREVIATIONS AND/OR ACRONYMS

<b>ANC</b>	<b>Ante Natal clinic</b>
<b>ART</b>	Ant Retroviral Treatment
<b>CIN</b>	Cervical Intraepithelial Neoplasia
<b>CI</b>	Confidence Interval
<b>DNA</b>	Double Nucleic Acid
<b>HIV</b>	Human Immunodeficiency Virus
<b>HPV</b>	Human Papilloma Virus
<b>IUD</b>	Intra Uterine device
<b>ID</b>	Identity
<b>KAP</b>	Knowledge, Attitudes and Practices
<b>OPD</b>	Out Patient Department
<b>PCR</b>	Polymerase Chain Reaction
<b>PAP</b>	Papanicolaou
<b>RHMT</b>	Regional Health Management Team
<b>STI'S</b>	Sexual Transmitted Infections
<b>WHO</b>	World Health Organization
<b>VIA</b>	Visual Inspection by Acetic acid
<b>VS</b>	Versus

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**Dedication**

I would like to dedicate this study to Chairman of research and ethical committee at Onandjokwe Hospital, Dr. A.Munyika as an encouragement for them to do more research at the hospital.

## DECLARATIONS

I, Dr. Flavia Strato Shayo, hereby declare that this study is my own work and is a true reflection of my research, and that this work, or any part thereof has not been submitted for a degree at any other institution.

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## **CHAPTER 1**

### **ORIENTATION AND BACKGROUND OF THE STUDY**

#### **1.1 INTRODUCTION**

This chapter introduces the study and explains in detail the background of the study, the problem statement, the purpose, objectives and the significance of the study.

#### **1.2 ORIENTATION OF THE STUDY**

Cervical cancer is the second most common cancer among women worldwide (Jemal et al., 2011). There were an estimated 527,600 new cervical cancer cases and 265,700 deaths worldwide in 2012 of which nearly 90% were from developing countries (Torre et al., 2015). Cervical cancer has remained the leading cause of cancer-related deaths in developing countries (Global Burden of Disease Cancer Collaboration et al., 2015)

In Sub-Saharan Africa, 34.8 new cases of cervical cancer are diagnosed per 100,000 women annually, and 22.5 per 100,000 women die from the disease (“PR 223 - Latest world cancer statistics, Global cancer burden rises to 14.1 million new cases in 2012: pr223\_E.pdf,” n.d.)

The research done in Namibia by Zahedi, Sizemore, Malcolm, Grossniklaus, and Nwosu, (2014) indicates that every year, 132 women are diagnosed with cervical cancer and 59 die from the disease. The risk factors known to increase the incidence of cervical cancer are early marriage (child marriage), delivery of the first baby before the age of 20, too many or too frequent childbirths, multiple sexual partners, poor practice of personal hygiene, low socio-economic status, Human Papilloma Virus infection, Herpes Simplex Virus type II infection, HIV positive status, use of oral contraceptives, and smoking. (“CDC - What Are the Risk Factors for Cervical Cancer?,” n.d.)

The ideal age for cancer screening is 30–40 years. This is the age when women are at the highest risk of having precancerous lesions (International Agency for Research on Cancer, 2005) however, younger women who have been sexually active should also be screened earlier as they may have lesions and even cancer especially if they have HIV infection (Maggwa, Hunter, Mbugua, Tukei, and Mati, 1993).

Cervical cancer screening and early detection and treatment of precancerous lesions shows to decrease the morbidity and mortality, the psychological burden, and economic costs to the individual and society (Bradley et al., 2008). This entails the organization of cervical cancer screening services that requires, among other things, the training and deployment of health care workers at the various levels of the health care delivery system. Low utilization of cervical cancer screening has been a challenge in most of the developing countries (Akinyemiju, McDonald, & Lantz, 2015; Najdi A et al., 2016; Oyeboode et al., 2015; Suoma, 2009). There are several reasons for low uptake of cervical cancer screening practice in developing countries among which health care providers and other related factors play important roles (Lim & Ojo, 2016). Lack of knowledge, lack of positive attitude and practice by health care workers on cervical cancer screening may also contribute to missed opportunities of the patients who visit health facilities regularly for other medical services (Van Bogaert & Knapp, 2001). The missed opportunity may result in delayed early detection of pre-cancerous lesions and treatment, which leads to a poor prognosis of the disease.

### **1.3 STATEMENT OF THE PROBLEM**

The Namibian Ministry of Health and Social Services recommends Pap Smear Testing to be done annually to HIV positive patients who are sexually active and every three (3) years by women who are below or over the age of 21 who are HIV negative (“Namibia-National-ART-guidelines-2014.pdf,” n.d0.). The 2013 Namibia Demographic Survey included cervical cancer screening tests response among women aged 15-49 and only 25% were screened for cervical cancer (Namibia Demographic and Health Survey 2013 [FR298] - FR298).

At Onandjokwe Hospital, it has been observed that very few out-patient women take advantage of Pap smear screening service that is available. Records from OPD, ART clinic and ANC showed that an average of only 45 patients had a Pap Smear done out of the 6,600 women who visited the clinics per month in the year 2014. Given the state of affairs as discussed above it is fair to conclude that, there are missed opportunities and many hindrances to cervical cancer screening with regards to the community and this worsens the problem, which is a public concern. There are several factors associated with low usage of cervical cancer screening in developing countries; lack of awareness on availability of cervical cancer screening services, women fears of screening procedure and negative outcome, social stigmatisation, cost of accessing services, inadequate infrastructure, waiting time, health care personnel attitudes and possible violation of privacy (Lim & Ojo, 2016a).

Healthcare workers are entrusted by the community to bridge the gap of knowledge on cervical cancer disease prevention. Their knowledge and attitudes on cervical cancer screening practices would influence the uptake of cervical cancer screening practices if properly harnessed or embraced and reduction of mortality caused by cervical cancer related disease. However, little is known about the healthcare workers' knowledge and attitudes on cervical cancer screening practices in Namibia and this fact can also inhibit effective action to shoot down the negative impact or effects of cervical cancer and spontaneous action.

Evidence has shown that the major source of information on cervical cancer screening comes from hospitals and healthcare facilities (Nayak, Murthy, Swarup, Dutt, & Muthukumar, 2016) . Consequently, health care providers play a big role in creating awareness and promoting cervical cancer screening to the community. Thus, their attitude is often crucial in gaining women's confidence and influence on screening practices.

#### **1.4 PURPOSE OF THE STUDY**

The purpose of this study was to determine the knowledge, attitudes and practices on cervical cancer screening among healthcare workers in Oshikoto Region, Namibia, which it is hoped will strengthen the stride towards gaining a greater millage to premature diagnosis and to a greater extent to ensure that lives are saved.

#### **1.5 OBJECTIVES OF THE STUDY**

1. To assess the knowledge of and attitudes towards cervical cancer screening of healthcare workers in Oshikoto Region, Namibia.
2. To explore the extent to which healthcare workers engage their patients/clients in cervical cancer screening practices.
3. To identify healthcare workers' perceived reasons for low utilization of available cervical cancer screening services by women in Oshikoto Region, Namibia.

## **1.6 SIGNIFICANCE OF THE STUDY**

The Knowledge, Attitudes, and Practices (KAP) survey in northern Namibia aimed to collect data on what is known, believed and done in relation to cervical cancer screening practices among healthcare workers.

The study findings might contribute to the understanding of the gaps in knowledge of cervical cancer and cervical cancer screening practices among healthcare workers, which could inform the Oshikoto Regional Health Management Team (RHMT) and Ministry of Health and Social Services in designing interventions aimed at making healthcare workers become champions in the fight against cervical cancer disease and its related effects and implications.

It is believed that the findings will facilitate the process of identifying areas for potential health service quality improvement, and revitalize implementation of existing national guidelines, contributing to an increase in cervical cancer screening uptake that will hopefully lead to a decrease in cervical cancer morbidity and mortality rates.

To date, there has been no study in Namibia to determine the knowledge and attitudes on cervical cancer screening practices among healthcare workers. Therefore, to address the issue, the researcher thought it was significant to understand healthcare workers' levels of knowledge, their attitude and screening practices. Understanding the levels of knowledge, attitudes and practices among health professionals will play a key role in identifying some of the barriers hindering success in the fight against cervical cancer and design interventions to address the identified challenges.



## 1.7 DEFINITION OF TERMS

### Introduction

Knowledge, attitude, and practice (KAP) surveys are widely used to gather information for planning public health programmes in countries. The public health professionals have an implicit assumption that knowledge is based on scientific facts and universal truths(*Chapter 3. Fundamentals of the Scientific Approach Approaches to Knowing Defining Science Importance of Basic Research Review Questions/Exercises*, n.d.). The knowledge in this survey assessed the extent of health care workers knowledge about causes, symptoms, risks and prevention of cervical cancer disease. Measuring attitudes is the second part of a standard KAP survey questionnaire. The term attitude refers to a person's general feelings about an issue, object, or person (Ajzen & Fishbein, 2004).The third part of KAP surveys is investigation of health related practices where by it concerns the use of different treatment and prevent option. In this study practice refers to the actions or behavior relating to the cervical cancer screening.

Knowledge of the causes, symptoms, risks and prevention of cervical cancer in this study was assessed to be good if health care professionals scored correctly more than three questions out of four and poor knowledge if they scored below three over four on the questions.

Attitudes towards cervical cancer screening practices was assessed to be favorable if healthcare professionals scored more than three out of five questions and less than three were considered unfavorable attitude .

Practices of cervical cancer refer to the actual application or use of an idea, belief, or method, as opposed to theories relating to it. The practices of screening cervical cancer in this study included looking at how proportions of healthcare workers provide education and conduct cervical cancer screening and number of Pap smear performed to the clients.

## **1.8 CHAPTER SUMMARY**

Cervical cancer is the second most frequent cancer among women across all age groups and second in cancer-related deaths in Namibia. Despite the evidence that screening of cervical cancer helps in detection of the early cervical changes and could offer early treatment to the patients; developing countries including Namibia have continued to have low screening coverage and high morbidity and mortality rates. Healthcare workers are always perceived by community members to be knowledgeable on health related matters and are expected to provide health education and services on preventive and curative care to clients attending their facilities. This study focused on determining knowledge, attitudes and practices on cervical cancer screening among healthcare workers, which might have significant contributions on the utilization of cancer screening services. This chapter explained the purpose of the research, problem statement and the settings where the study was conducted.

It is therefore anticipated that, the research findings will provide an understanding of the gaps of knowledge of cervical cancer and cervical cancer screening practices among healthcare workers and this will inform the Oshikoto Regional Management Team (RMT) and Ministry of Health and Social Services how to design interventions to close the gaps.

The next chapter presents the literature review related to this study and the information gathered influenced this study.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 INTRODUCTION**

This chapter presents the literature review of this study. It will provide the details of the various related studies. A literature review is a critical analysis of published sources, or literature, on a particular topic. It is an assessment of the literature and provides a summary, classification, comparison and evaluation of knowledge, attitudes, and practices on cervical cancer screening among health care workers (Mongan-Rallis, n.d.). In this study the researcher obtained and reviewed various KAP surveys of cervical cancer among health care workers from published journals, cervical cancer guidelines, web sources and reports.

The literature review details various studies on knowledge, attitudes and screening practices of cervical cancer among healthcare workers in developed and developing countries.

#### **2.2 WHAT IS CERVICAL CANCER?**

Cervical cancer refers to abnormal growth of cell lining the cervix (the lower part of the uterus). The abnormally growing cervical cells may be diagnosed at different stages defined as cervical intraepithelial neoplasia (CIN): CIN1, CIN2, or CIN3 and if left untreated, CIN2 or CIN3 (collectively referred to as CIN2+) can progress to cervical cancer (WHO Guidelines for Screening and Treatment of Precancerous Lesions For Cervical Cancer Prevention [WHO-GSTPLCCP], 2013). Following the HPV infection, about 10-15 years later the superficial cells of cervix starts with abnormal multiplication (CIN 1), the atypical cells might involve two layers of epithelium (CIN2) and eventually full thickness of epithelium (CIN3) and progress to cervical cancer. A good number of immunocompetent clients can clear the HPV infection. In the study done in Europe demonstrated that up to 69% patients cleared the HPV infection by natural immunity compared to only 22.8% among HIV positive clients which increases the risk of more HIV positive client to develop cervical cancer (Branca et al., 2003). The progress from CIN1 to CIN2 and CIN3 is also faster among HIV positive clients and chances for regression are rare (Motamedi, Böhmer, Neumann, & von Wasielewski, 2015).

### 2.3 CERVICAL CANCER SCREENING METHODS

Cervical cancer screening detects pre-invasive neoplasia and making treatment possible before the disease become invasive. There are different screening tests for cervical cancer such as VIA/VILI (Visual Inspection With Acid or Lugol's Iodine), Cervical cytology (Pap Smear) and HPV DNA PCR test .The accuracy of the screening tests in detecting cervical neoplasia varies in accuracies due to several factors including differences in testing, training of providers, quality assurance methods and consistency of reference standards used to establish true positive disease.

VIA was the first test introduced in 1930 by Schiller (Lynette Denny, MD, Section Editor, Barbara Goff, and the Deputy Editor, and Sandy J Falk, n.d.). A positive test is the detection of well-defined, dull acetowhite lesions on the cervix. The objective of VIA is to detect acetowhite lesions leading to the early diagnosis of high-grade cervical intraepithelial neoplasia and early preclinical, asymptomatic invasive cancer. A major advantage with VIA is that it is a real-time screening test, as the outcome is known immediately after the administration of the test, so that further investigations or treatment can be planned and carried out during the same visit. However, it has poor specificity and is thus replaced with cervical cytology (Pap Smear ).Visual inspection is indicated for women who do not have access to cytology and HPV DNA test and there is no absolute contraindication to Visual inspection test, however women with Iodine allergy can use acetic acid (Arbyn et al., 2008).

Cervical cytology became the standard screening test for cervical cancer and premalignant cervical lesions with the introduction of the Papanicolaou (Pap) Smear in 1941 (Papanicolaou & Traut, 1997). Cervical Pap Smear Test is performed under speculum gynecology examination where by a cytology sample is taken from the external surface of the cervix (ectocervix) and the cervical canal (endocervix) to evaluate the transformation zone (squamocolumnar junction), the area at greatest risk for neoplasia. When pre-cancerous lesions are detected, further evaluation may be warranted with colposcopy with or without biopsy (Foxy et al., 2017).

HPV DNA is an alternative to cytology cervical cancer screening which is more used to detect high risk HPV infections and provides more clinical sensitivity and specificity for detection of cervical intraepithelial neoplasia grade 2 or 3 and treatable cancer ( $\geq$ CIN 2) to minimize redundant or excessive follow-up procedures (Meijer et al., 2009).

Both Pap smear and HPV DNA Test require gynecology speculum examination procedure and it is basically done by use the same procedure.

The effectiveness of the Pap smear in reducing cervical cancer incidence and mortality has already been demonstrated in many developed countries (Mandelblatt et al., 2002). However, the use of Pap smear in resource-limited setting has proved to be challenging due to the fact that it needs well trained lab personnel, developed lab systems and effective connection to give back reports to clients (Denny, Kuhn, Pollack, Wainwright, & Wright, 2000). The same authors go on to confirm further that the World Health Organization (WHO) recommends VIA as alternative screening methods in resource limited settings and cryotherapy as treatment of choice after VIA as they are cost effective and acceptable by women in the countries such as Malawi and Madagascar.

Namibia has not yet established cervical cancer screening programmes however, women get screening during their postnatal care as part of comprehensive primary healthcare during postnatal visits. Currently, some of the hospitals within the country provide Pap Smear Cervical Cancer Screening Test to the women who are HIV infected during the follow up visits at their clinics as a part of the integration of the service at primary healthcare level. The main screening test used for primary screening in Namibia is cytology (Pap smear) with the screening age of 21-64 years with the frequency of screening after every one (1) year (Human Papillomavirus and Related Diseases Report NAMIBIA, n.d.)

## **2.4 EPIDEMIOLOGY OF CERVICAL CANCER**

As of 2017, the world population of women aged 15 and older who are at the risk of developing cervical cancer has been estimated to be 2,784 million (Bruni, Rosas, Serrano, Mena, & Gómez et al., 2017). The estimated cervical cancer incidence in US, Canada, Australia, most of Europe, China and middle East, is lowest, (less than 7.9 per 100,000) (Bruno, et al., 2017). In 2012, 528, 000 new cases and 270,000 deaths were estimated to have occurred worldwide, with the majority of these cases and deaths (90%) occurring in low- and middle-income countries (Torre et al., 2015). In Ethiopia, cervical cancer is the second most commonly diagnosed cancer and the leading cause of cancer death in women, with about 8000 newly diagnosed cases and 4700 deaths every year (Gizaw et al., 2017).

In South Africa, the current estimates indicate that, every year 7735 women are diagnosed with cervical cancer and 4248 die from the disease (“South Africa Human Papillomavirus and Related Cancers, Fact Sheet, 2017). Namibia has a population of 813,157 women ages 15 years and older who are at risk of developing cervical cancer. Current estimates indicate that every year 132 women are diagnosed with cervical cancer and 59 die from the disease. Cervical cancer ranks as the 2nd most frequent cancer among women in Namibia and the 3rd most frequent cancer among women between 15 and 44 years of age. Data is not yet available on the HPV burden in the general population of Namibia (“Namibia Human Papillomavirus and Related Cancers, Fact Sheet, 2017)

## **2.5 GLOBAL OVERVIEW KAP ON CERVICAL CANCER AMONG HEALTHCARE WORKERS**

The knowledge, attitudes and screening practices on cervical cancer among healthcare workers could be one of the determinants of increasing of cervical cancer screening uptake in most the women (Akinyemiju et al., 2015; Idowu, Olowookere, Fagbemi, & Ogunlaja, 2016; Pegu, Dhiman, Chaturvedi, & Sharma, 2017). There is a wide disparity in rates of screening for cervical cancer between countries. The average screening coverage rate in developed countries stands at 63% compared to 19% in developing countries (Gakidou et al., 2008). The reasons for the low coverage rates of cervical cancer screening in most of developing countries are lack of national guidelines on cervical cancer screening and poor quality control, monitoring and evaluation of the screening programmes, women lack of awareness of cervical cancer screening methods, long queues at health centers and waiting times, poor infrastructure and lack of screening equipment and staff knowledge on cervical cancer screening and practices (Othman & Rebolj, 2009 as cited in Allen 2012).

Data regarding KAP survey on cervical cancer screening and practices among twenty-two (22) participants of Haitan healthcare workers reported lack of knowledge on cervical cancer disease as 69% of the participants stated they had inadequate knowledge. Zahedi et al., (2014) assert that, with regards to attitudes towards cervical cancer screening to their patients, 52% were willing to do visual screening, 100% agreed screening programme should be started in their community, 25 % stated that screening was too difficult while the majority stated that additional training was definitely needed to perform Pap Smear. However in terms of cervical cancer screening practices, only 17% of participants had ever performed Pap smear tests and those health care workers stated that they had been working more than 5 years yet, none of them had performed Pap smear screening on patients at any given working experience.

Another study done in Morocco at primary healthcare settings on awareness of cervical cancer risk factors, screening practices and attitudes among nurses highlighted two major findings, which are the first one related to the knowledge of cervical cancer screenings which was good however, there were gaps in knowledge on certain risk factors. The majority, 75%, of nurses agreed that STI'S (sexual transmitted infection's) was one of the main risk factors for cervical cancer, 87% HIV, 71% smoking, 72% family history of cervical cancer, 54% contraception, 61% multi-partners and 89% HPV infection. The difference in knowledge on the risk factors could provide another research opportunity for the future. The second observation on that study was screening practices and attitudes. It was found that 90% of the participants occasionally screening their clients for cervical cancer and the main reasons were that patients refused to be screened by male nurses, many clients awaiting services at facilities leading to limited time for screening, and inadequate space for the examination (Najdi et al., 2016).

A KAP survey among healthcare workers in Republic of Korea which had the same experience of good knowledge on symptoms (more than half of the participants), risk (81%) prevention (79%) and treatment of cervical cancer 83%. However, inadequate knowledge on the causes of cervical cancer disease noted was that (31%) respondents failed to associate HPV as the one of the cause of cervical cancer. With regards to attitude and practices of cervical cancer, the majority of the respondents (81%) reported cervical cancer screening programme as a priority health care programme in their community where as 71% of the participants suggested routine education of patients on the subjects in question. All participants, according to Trans et al., (2011) reported to be offering cervical cancer screening at their facilities. However, the study found high significant differences of Pap smear screening practices to the patients where by 21% of urban healthcare workers compared to 2% of rural health care workers. The same authorities reiterated further that participants responded that the barriers of Pap Smear screening were due to; (51%) inadequate training of staff, 43% insufficient medical supplies and 45% inadequate laboratory facilities.



A survey done in South Africa, which examined the associations between multiple dimensions of health care access and cervical cancer screening, observed that 25% of the women who attended health facilities for themselves or for children had received pelvic examination with or without Pap smear within the previous three years. The results suggested that the number of healthcare providers available and types of providers were mostly significant dimensions of access to care associated with screening for the women who visited health facility in the previous twelve (12) months. Of note, there were no significant association between cervical cancer screening and affordability, accessibility, accommodation and acceptability dimensions of access to cervical cancer screening.

The most common barriers of low rates of routine screening were noted to be caused by lack of knowledge about cervical cancer or screening, due to fear of unfavorable and unexpected results, and the lack of adequate medical infrastructure and qualified personnel. More importantly, the study noted that patient level factors were less important predictors of screening compared with availability of physicians and physicians' recommendation for free cancer screening (Akinyemiju, McDonald, & Lantz, 2015b).

Another cross-section survey done in Ethiopia assessed healthcare workers' knowledge, attitudes, and practices related to cervical cancer. It was reported that knowledge surrounding cervical cancer was high; awareness of etiology and risk factors was low among nurses however; only few healthcare providers had performed Pap smear to the patients (Kress et al., 2015). However, the authors emphasize that because knowledge, attitude and screening practices of cervical cancer may differ from setting to setting, hence, these results may not be conclusive or practical to every situation or set up, thus conducting this study in the Namibian health system will yield commendable revelation and implications.

The research done in Namibia and Zambia to assess the availability and access to cervical cancer services reported that the population of both countries had a very low level of awareness of cervical cancer screening. The discovery was that the health care workers were not informed of the causes of cervical cancer; and a low uptake of Pap smear testing was due to the lack of prioritization on cervical cancer screening by healthcare workers (Chingore-Munazvo, 2010).

In Namibia, six hundred and seven (607) cases of cervical cancer were diagnosed between the years 1995 and 2000; these cases were referred for treatment to the Windhoek Central Hospital Iita, (2009). This data suggests therefore that in Namibia there is a lack of successful large scale screening programs regardless of the intensity of the infections and the mortality rates.

It cannot be over-emphasized that the role of healthcare workers remains one of the key factors in increasing of cervical cancer screening programmes, therefore assessing Namibia's health care providers' knowledge, attitudes and cervical cancer screening practices to their patients is relevant and way overdue.

## 2.6 CHAPTER SUMMARY

Cancer of the cervix is the leading cause of cancer deaths among women in developing countries and it ranks as the 2nd most frequent cancer among women in Namibia. Although screening is a known cost effective strategy used in reducing the burden of cervical cancer worldwide, its uptake particularly in developing countries is still abysmal. One of the reasons of the low coverage of cervical cancer screening uptake in developing country is lack of awareness of cervical cancer screening methods among women. The knowledge, attitudes and screening practices on cervical cancer among healthcare workers could be one of the determinants of increasing of cervical cancer screening uptake in most the women. This chapter details the knowledge, attitudes and screening practices on cervical cancer among health care workers in different countries, which might have contribute on identifying the gaps and provide the questions for the future research. The next chapter presents the methodology used to assess the KAP study on cervical cancer in Northern Namibia.

## **CHAPTER 3**

### **RESEARCH METHODOLOGY**

#### **3.1 INTRODUCTION**

The previous chapter provided a detailed explanation and literature review in wide view on the knowledge, attitudes and practices on cervical cancer screening among health care workers. The current chapter describes the methodology used to assess the KAP study on cervical cancer in Northern Namibia, specifically in Oshikoto Region. This following section provides the details on the study design, setting, population, sampling, data collection and analysis and research ethics.

#### **3.2 RESEARCH DESIGN**

The study employed a Quantitative, Cross Sectional Design. Cross-sectional surveys are descriptive studies aimed at determining the frequency of a particular attribute, such as a specific exposure, disease or any other health-related event, in a defined population at a particular time period.

The study assessed health care workers' knowledge, attitudes, and practices on cervical cancer screening in Oshikoto Region between July and August 2017 using self-administered, anonymous questionnaire.

### **3.3 STUDY SETTING**

The study was conducted in Oshikoto Region located at the central Northern part of Namibia. Oshikoto Region covers an area of thirty-eight thousand six hundred and eight-five square Kilometers (38,685km<sup>2</sup>) with population of one hundred and eighty-one thousand and six hundred (181,600) people. Omuthiya Town located 598km from the capital city; Windhoek is the Oshikoto Regional Headquarters. The region has three district referral hospitals, namely, Onandjokwe, Omuthiya and Tsumeb. Onandjokwe district hospital has three health centers and nine clinics; Omuthiya District Hospital has eight clinics, and Tsumeb Hospital has five clinics. Onandjokwe Hospital also acts as intermediate hospital level B because it serves as the referral point for the other two district hospitals for patients who need specialized care.

All district hospitals and health centers in Oshikoto Region provide Pap smear cervical cancer screening test to all women who attend postnatal care at six weeks post-deliveries as part of the comprehensive package during postnatal care and follow up visits. Due to recent integration of primary health care services, some of the district hospitals and health centers provide Pap smear cervical cancer screening test to all women who attend HIV clinic.

### **3.4 STUDY POPULATION**

The target population for the study was health care workers who have primary contact with women visiting the three district hospitals of Omuthiya, Onandjokwe and Tsumeb in Oshikoto Region for cervical cancer screening, which included doctors and nurses at OPD, ANC and HIV care outpatient clinics.

The total number of health care workers who are working at OPD, ANC and HIV clinics from three hospitals was three hundred and twenty-seven (327) of which thirty (30) were doctors and two hundred and ninety-seven (297) were nurses at the time the study was conducted. The data was obtained from the human resource departments and nurse manager's office at the facilities.

#### **3.4.1 INCLUSION AND EXCLUSION CRITERIA**

Only health care workers (doctors and nurses) who are working in outpatient clinics from three districts hospitals were included in the study. The study excluded health care professionals who had work experience of less than one year and those who were absent during the study period due to leave or illness and those that were not willing to participate in the study.

### 3.5 SAMPLING AND SAMPLE

A sample size of 151 healthcare workers was obtained by this study. The sample size was obtained using EPI info 7 statistical calculators for single population survey representing the study population of 327 health care workers in outpatient clinics in three districts hospitals. A 65% prevalence of knowledge of cervical cancer screening among healthcare workers was used to calculate the sample size from the similar study done in Nigeria (Gharoro & Ikeanyi, 2006). A 95% Confidence Interval (CI) that the true proportion in the target population fell within a 5% margin of error was considered. A stratified random sampling method was used to select the sample size from the parent stratum  $N = 327$  where by 30 were number of doctors  $N_1$  and 297 numbers of the nurses  $N_2$ . In order to ensure that the number of units selected for the sample from each stratum was proportionate to the number of nurses and doctors in the population, a different sample size was taken from each strata according to the parent stratum. A stratified random sampling method was used to select the 169 participants from each stratum in which 15(9%) were doctors ( $n_1$ ) and 154(91%) were nurses ( $n_2$ ). Due to the fact that some of the participants could not be obtained because of leave, relocation or outreach, the researcher selected every 10<sup>th</sup> of following missing participants which could be a doctor or a nurse. This study used the contingency error of 9% and only 151 participants were only obtained. Doctors were 12, registered nurses were 72 and enrolled nurses were 67.

### **3.6 DATA COLLECTION**

The appointment for the data collection day was requested from the management of the three hospitals. The list of names of 169 participants that were randomly selected was given to the matron of the respective department, and participants were notified on the day of data collection. A self-administered questionnaire without identifiers was used to collect data from each participant from different hospitals on their appointment days. The healthcare workers, who were busy or not available on that day, were reconsidered and the principal investigator approached the hospital administration and would reschedule.

#### **3.6.1 DATA COLLECTION INSTRUMENTS**

The study used a validated questionnaire, with minor modifications, from a similar study done in Ethiopia on the knowledge and practices of cervical cancer screening among healthcare providers (Kress et al., 2015). The closed ended questions were used to collect the intended data (Multiple-choice types of questions). The questionnaire had three pages of multiple-choice questions. The questionnaire variables were (i) socio-demographic information such as, gender, age, professional status (Registered nurses, enrolled nurses) and doctors (General practitioner and specialist), years of professional experience, religion and district hospital and department ii) knowledge regarding cervical cancer causes , symptoms, risk factors and prevention,(iii) attitudes were assessed based on the following aspects: (i) knowledge about cervical cancer is an essential part of women's healthcare; (ii) Cervical cancer is a very serious disease; (iii) Cervical cancer screening programs should be started in my hospital; (iv) Cervical cancer screening is part of your job description (v) Easiness cervical cancer diagnosis; (vi) Practices or patterns of engagement in cervical cancer screening; and (vii) the perceived reasons for low usage of the cervical cancer screening service.



### **3.6.2 DATA COLLECTION PROCEDURE AND PROCESS**

Data collection process took place in the months of July and August in 2017 in all three district hospitals. Data collection took about three consecutive weeks from the second week of July to the first week in August 2017. Some of the hospitals took more days on the data collection because some of the healthcare workers were not available on some of the days of the data collection and thus data collection would be rescheduled for another day. Names of the participants appeared on the envelope containing questionnaires of each participant. The matron received the questionnaire and handed it to the selected participants for completion. The participants were put in one room for explanation for the purpose of the study and were provided with a consent form. The questionnaires were completed under the supervision of the principal investigator and the matron of the hospital and they were helpful on the issue of any clarity needed from the questionnaire. It took about 15 minutes for each participant to complete the answering of the questionnaires. Each questionnaire was checked for completeness before submission.

### **3.6.3 VALIDITY**

Validity is defined as the extent to which an instrument measures what it purports to measure (Kasenga, Hurtig, & Emmelin, 2007). Validity can be divided into internal and external validity. Internal validity refers to the condition that observed differences on the dependent variable as direct result of the independent variable, not some other variable (Onwuegbuzie, 2000). In this study, the researcher reviewed and referenced previous research literature on knowledge, attitudes practices towards cervical cancer screening among healthcare workers.

External validity refers to the extent to which the results of a study can be generalized to and across populations, settings, and time (Onwuegbuzie, 2000). In this study data from different district hospitals in Oshikoto Region was collected. Onandjokwe, Omuthiya and Tsumeb are the only referral hospitals in the region with the higher number of healthcare workers and only hospitals with doctors unlike the health centers in the region.

### **3.6.4 RELIABILITY**

Reliability refers to the extent to which results are consistent over time and an accurate representation of the total population under study is referred to as reliability and if the results of a study can be reproduced under a similar methodology in a correlation manner then the research instrument is considered to be reliable. The data collection tools used in previous study of KAP of cervical cancer screening was modified to meet the requirements of the current study.

### **3.6.5 PILOT STUDY**

The pilot study was conducted with five participants from the clinic outside the study region under study and they were not part of the study. As the result of the pilot study, some of the questions were modified to capture the relevant information. For instance, one of the initial questions that were asked was whether the healthcare workers had ever performed Pap smear. The respondents felt the question was directly asked to them whether they have already done a Pap smear on themselves. So, the questionnaire was modified by asking whether the healthcare workers ever carried out a Pap smear to the patients in their working experience.

### **3.7 DATA ANALYSIS**

The data analysis of this study was based on principles of descriptive studies, which summarized and described the data with tables and charts and did not test any hypothesis. The 151 collected questionnaires were checked for completeness immediately after collection in the presence of the study participants and uncompleted areas were corrected by the participants. Each questionnaire was assigned a serial number for easier entry into the Excel spreadsheet the day after collection. The data was validated by looking at missing, incomplete, and inconsistent data compared to the objectives and aim of the study. Then, the data was exported to EPI info software version 7 for analysis. The data was presented in the form of tables and graphs.

The analysis is divided into four sections. The first part was the demographic information of healthcare workers such as gender, age, professional category, and years of professional experience, religion, department and hospital facility.

The second sections assessed the knowledge on cervical cancer screening on the causes, symptoms, risk factors and prevention. To measure levels of various aspects of knowledge, attitudes and practices (KAP) on cervical cancer screening, the analysis was done on the basis of scalar score used in a similar study of KAP towards Diabetic disease with few modifications (Memon et al., 2015).

The knowledge scores on the causes were considered good if respondents identified three out of four questions correctly and less than three correct answers were considered as poor knowledge on the part of the respondent.

The knowledge scores on the risk factors, symptoms, and prevention of cervical cancer was considered good for the respondents when more than three out of five were correct while less than three was considered poor knowledge.

The third section analyzed the attitudes of the health care professionals towards cervical cancer screening and the favorable attitude was considered if the respondents scored three out of five or above; those who scored less than three out of five were considered to have unfavorable attitude.

The fourth section presented the extent to which healthcare workers engaged their patients in cervical cancer screening practices and lastly reasons perceived for low usage of cervical cancer screening were analyzed.

The data was analyzed using Epi-INFO 7 and the percentage scores of knowledge, attitudes and practices of cervical cancer screening were presented in tables. It was noted that some perceived that reasons of the low usage of cervical cancer screening across provider type was due to the fact that most healthcare workers did not received special training and development in this devastating health challenge. The years of professional experience versus number of Pap smear performed were evaluated using a  $\chi^2$  test where a  $P < 0.05$  was considered statistically significant.

The results of the study are divided into four sections; the first section describes the demographic information of healthcare workers such as gender, age, professional status (doctor or nurse), years of professional experience, religion and district hospital and department. The second section describes the healthcare workers knowledge on causes, risk factors, symptoms and treatment of cervical cancer. The third section describes the attitudes towards cervical cancer screening.

The fourth section describes the pattern of engagement in cervical cancer screening; and lastly perceived reasons for low usage of the cervical cancer screening services is described.

### **3.8 RESEARCH ETHICS**

The study followed and complied with the Ethical Principles and Guidelines for the protection of human subjects of research and reviewed by the “UNAM” postgraduate research committee. The participants were adult, mentally stable and were ensured confidentiality. The participants were briefed on the aim of the study; they allowed asking questions for clarification and those who agreed to sign consent forms were given questionnaires. The study considered the issue of anonymity and as such no name/ID (identity) was used. Moreover, the principal investigator followed the participants at their work stations so that choice of participating in the study was not coercive by the presence of the district admonition supervisors. The questionnaire was delivered in a sealed envelope and collected in a sealed, same envelope. A password protected computers was used to keep the excel sheets and secure lockable cabinet was also used to store filled questionnaires.

The research proposal was submitted to the Postgraduate Studies Committee of the Faculty of Health Sciences as well as the Postgraduate Studies Committee of the University of Namibia. The University of Namibia Research Ethics Committee reviewed the research for the required ethical standards and consideration and Ethical Clearance Certificate was then issued.

The researcher then applied for the approval and permission to conduct the study from the Research Ethical Committee of the Ministry of Health and Social Services and permission was given to conduct the research study.

### **3.9 CHAPTER SUMMARY**

The preceding chapter described the research methodology used in this study. In summary, the research was conducted using descriptive, quantitative analysis, and data was collected among healthcare workers in Oshikoto Region. This chapter described in detail the data collection procedure, sampling, and how the raw data was analysed to obtain meaningful results according to the objectives of the study. Lastly, the chapter described the important ethical aspects of the study. The following chapter covers data collection, presentation and data analysis of data. The collected data is presented in form of tables and graphs.

## **CHAPTER 4**

### **PRESENTATION OF FINDINGS AND DISCUSSION**

#### **4.1 INTRODUCTION**

The previous section presented the methodology of the study on KAP on cervical cancer screening among healthcare workers in Oshikoto Region. This descriptive and quantitative study was aimed at determining the knowledge, attitudes and practices of cervical cancer screening among healthcare workers. This chapter presents the study population, sample and sampling procedure, data collection procedure and analysis of the raw data. Research data was collected from close ended questions contained in 151 questionnaires that were completed by healthcare professionals in the months of July to August from three district hospitals (Onandjokwe, Omuthiya and Tsumeb) in the Oshikoto Region. Hundred and fifty-one of healthcare workers completed the questionnaire out of the 169 of the intended sample size of healthcare professionals. Participants met the inclusion criteria and a response rate of 89% was obtained. This chapter also presents the findings of the knowledge, attitudes and practices of cervical cancer screening of the 151 healthcare professionals. The results of the study are divided into five sections; the first section describes the demographic information of healthcare workers (i.e.) gender, age, professional status (doctor or nurse), years of professional experience, religion, work department and in-service training. The second section describes the knowledge of causes, risk factors, symptoms and prevention of the cervical cancer disease. The third section describes attitudes towards cervical cancer screening practices, while the fourth section describes the extent to which healthcare workers engage their patients/clients in cervical cancer screening practices. The last section describes the perceived reasons for low usage of cervical cancer screening practices.



#### 4.2.2 PRESENTATION OF THE RESULTS

The study findings are discussed according to study objectives as follow

#### 4.2.3 DEMOGRAPHIC INFORMATION OF HEALTH CARE WORKERS

The table below shows that the majority of healthcare workers were female, 82%. Forty-seven per cent of all the participants had an age range between 31-35 years. The 48% of respondents were registered nurses, enrolled nurse were 44%, and doctors were 8%. About 44% of participating healthcare workers had work experience of more than 10 years and 23% had experience ranging from 8-9 years. The majority of the respondents, 99% were Christians. The healthcare workers who worked at ANC, General OPD and ART Clinic were 80%, 50% and 21% respectively and 87% work at Onandjokwe, 40% Omuthiya and 24% were from the Tsumeb Hospital.

TABLE 1: DEMOGRAPHIC INFORMATION OF HEALTH CARE WORKERS

Variables	Number of health care professional
Gender (n=151)	
Male	28(18.5)
Female	123(81.5)
Age group ( Years) (n=151)	
25-30	12(8.0)
31-35	71(47.0)
36-45	19(12.6)
≥46	49(32.5)
Professional category	
Registered nurse	72(47.7)
Enrolled nurse	67(44.4)
Doctors	12(8.0)
Years of Professional experience	
1-5	34(22.6)
6-10	50(33.1)
>10	67(44.4)
Religion	
Christian	150(99.3)
Muslim	1(0.7)
Department	
ANC	80(53.0)
General OPD	50(33.1)
ART Clinic	21(13.9)
Hospital facility	
Onandjokwe	87(57.6)
Omuthiya	40(26.5)
Tsumeb	024(15.9)

#### 4.2.4 KNOWLEDGE ON THE CAUSES, RISK FACTORS, SYMPTOMS AND PREVENTION OF CERVICAL CANCER

Table 2 shows that 56% of the respondents scored good knowledge on causes, 91% on risk factors, 95% on symptoms and 95% on prevention of cervical cancer disease

TABLE 2: KNOWLEDGE ON THE CAUSES, RISK FACTORS, SYMPTOMS AND PREVENTION OF CERVICAL CANCER

Knowledge scores	Knowledge causes	Knowledge risk factors	Knowledge symptoms	Knowledge Prevention
Good knowledge	85 (56.3%)	138(91.2%))	144(95.4%))	143(94.7(%))
Poor knowledge	66 (43.7%))	13(8.6%))	7(4.6%))	8(5.3%))

#### 4.2.4 KNOWLEDGE ON THE CAUSES OF CERVICAL CANCER ACROSS DOCTORS AND NURSES

The results show that among participants, the majority of the nurses showed to have poor knowledge on the causes of cervical cancer (47%) and only (8% n=1) of doctors scored poor knowledge with a significant statistical difference in knowledge on the causes between doctors and nurses at ( $\chi^2$  6.63 and P-value=0.01).

TABLE 3: KNOWLEDGE ON THE CAUSES OF CERVICAL CANCER ACROSS DOCTORS AND NURSES

Knowledge scores causes*	Doctors n =12	Nurses n =139	Total n =151
Poor knowledge	1(8.3)	65(46.8)	66(43.7)
Good knowledge	11(91.7)	74(53.4)	85(56.3)

\*<sup>1</sup>Cervical cancer is one of the leading causes of death in women worldwide

<sup>2</sup>The purpose of screening for cervical cancer is to detect pre-cancerous changes

<sup>3</sup>Cervical cancer is caused by a virus that is spread sexually .

<sup>4</sup>Cervical cancer is most common among women in their 20s.

#### 4.2.5 KNOWLEDGE ON THE RISK FACTORS OF CERVICAL CANCER ACROSS DOCTORS AND NURSES

Results show that none of the doctors were classified as having poor knowledge on risk factors of cervical cancer and only 9% of nurses were found to have poor knowledge. There were no significant difference in knowledge on risk factors of cervical cancer between doctors and nurses ( $\chi^2 = 1.22$  and P-value 0.27).

TABLE 4: KNOWLEDGE ON THE RISK FACTORS OF CERVICAL CANCER ACROSS DOCTORS AND NURSES

Knowledge score of most important risk factors <sup>1</sup>	Doctors n =12	Nurses n=139	Total n =151
Poor knowledge	0(0)	13(9.4)	13
Good knowledge	12(100)	126(90.7)	138

<sup>1</sup> Infection with the human immunodeficiency virus (HIV)

<sup>2</sup> Infection with human papilloma virus (HPV)

<sup>3</sup> Having multiple sex partners

<sup>4</sup> Use of intrauterine devices (IUDs)

<sup>5</sup> Onset of sexual intercourse at early age

#### 4.2.6 KNOWLEDGE ON SYMPTOMS OF CERVICAL CANCER DOCTORS VS NURSES

Results show that none of the doctors (0%) scored poorly on the knowledge on the symptoms of cervical cancer and only 5% of nurses scored poorly on the knowledge with no significant differences in knowledge on symptoms of cervical cancer disease between doctors and

Nurses ( $\chi^2=0.63$  and P-value =0.43).

TABLE 5: KNOWLEDGE ON SYMPTOMS OF CERVICAL CANCER DOCTORS VS NURSES

Knowledge scores symptoms <sup>1</sup>	Doctors n =12	Nurses n =139	Total n =151
Poor knowledge	0(0)	7(5.0)	7(4.6)
Good knowledge	12(100)	132(94.7)	144(95.4)

<sup>1</sup>Foul smelling vaginal discharge

<sup>2</sup>Postcoital bleeding

<sup>3</sup>Postmenopausal bleeding.

<sup>4</sup>Menorrhagia

<sup>5</sup>Abdominal pain

#### 4.2.7 KNOWLEDGE REGARDS PREVENTION OF CERVICAL CANCER DOCTORS VS NURSES

Results indicate knowledge regarding cervical cancer prevention across doctors and nurses. None of the doctors (0%) scored poorly on knowledge and only 6% of the nurses scored poorly on knowledge with regards to prevention of cervical cancer disease with no significant difference in knowledge between doctors and nurses (  $\chi^2 = 0.73$  and P-value 0.4).

TABLE 6: KNOWLEDGE REGARDS PREVENTION OF CERVICAL CANCER  
DOCTORS VS NURSES

Knowledge Score on Prevention <sup>1</sup>	Doctors n =12	Nurses n =139	Total N =151
Poor knowledge	0(0.0)	8(5.8)	8(5.3)
Good knowledge	12(100)	131(94.2)	143(94.7)

<sup>1</sup> Cervical cancer is preventable

<sup>2</sup>It is possible to detect pre-cancerous cervical cells

<sup>3</sup>There is a vaccine that can prevent cervical cancer

<sup>4</sup>Cervical cancer is not curable

<sup>5</sup>If untreated cervical cancer is fatal

#### 4.2.8: ATTITUDES TOWARDS CERVICAL CANCER SCREENING

Result shows that only 7% of the healthcare workers scored unfavourable attitudes on cervical cancer screening while the majority of the respondents (93%) scored favourable attitudes

TABLE 7: ATTITUDES TOWARDS CERVICAL CANCER SCREENING

Attitude Score <sup>1</sup>	Doctors n =12	Nurses n =139	Total n =151
Unfavourable Attitude	3(25)	7(5.0)	10(6.6)
Favourable Attitude	9(75)	132(95.0)	141(93.4)

<sup>1</sup>cervical cancer is an essential part of women's health care

<sup>2</sup> Cervical cancers is a very serious disease

<sup>3</sup> A cervical cancer screening program should be started in my hospital

<sup>4</sup>Cervical cancer screening is the part of your job description

<sup>5</sup>Is it easy to diagnosis cervical cancer

.



#### 4.2.9 EXTENT TO WHICH HEALTH CARE WORKERS ENGAGE THEIR PATIENTS IN CERVICAL CANCER SCREENING PRACTICES

The table below indicates that 60% of the respondents had previously provided education and screened their clients for cervical cancer disease and almost 74% of the respondents had performed Pap smear procedure before. Among those who performed Pap smear, 34% of respondents performed (1-5) times, 6% of the respondents (6-10) times and 33% of respondents (>10) times. However, there were 26% of healthcare workers who had never performed Pap smear. Among the healthcare professionals who had performed Pap smear, only 18% were not able to perform Pap smear comfortably.

TABLE 8: EXTENT TO WHICH HEALTH CARE WORKERS ENGAGE THEIR PATIENTS IN CERVICAL CANCER SCREENING PRACTICES

Questions	Yes	NO	
Have you ever provided education and screened patients for the cervical cancer disease?	91(60.3)	60 (39.7)	
Have you ever performed Pap Smear on patients?	112 (74.2)	39(25.8)	
	1-5	6-10	>10
Number of Pap smear performed	52 (34.4)	9(6.0)	50(33.1)
	Not comfortable	Somehow comfortable	Very comfortable
How comfortable are you to perform Pap smear?	27(17.9)	36(23.8)	48(31.8)

#### 4.2.10 KNOWLEDGE ON CERVICAL CANCER DISEASE VS PRACTICES OF PERFORMING CERVICAL CANCER SCREENING TEST

The results indicate that there was no a significant relationship on the knowledge on cervical cancer causes, risk factors, symptoms and attitudes of cervical cancer screening with practices of performing Pap smear. However, knowledge on prevention of cervical cancer disease showed to have a significant relationship with the increased tendency to perform Pap smear screening tests with ( $X^2=5.9$  and P-Value 0.01).

TABLE 9: KNOWLEDGE ON CERVICAL CANCER DISEASE VS PRACTICES OF PERFORMING CERVICAL CANCER SCREENING TEST

Score	Perform Pap smear		Total	X <sup>2</sup> test	P-Value
	<u>YES</u>	<u>NO</u>			
Poor knowledge causes	47(42.0)	19(43.7)	66(43.7)	0.5	0.7
Good knowledge causes	65(58.0)	20(51.3)	85(56.3)		
Poor knowledge risk factors	7(6.3)	6(15.4)	13(8.6)	3.1	0.1
Good knowledge risk factors	105(93.8)	33(84.6)	138(91.4)		
Poor knowledge symptoms	6(5.4)	1(2.6)	7(4.6)	0.5	0.5
Good knowledge symptoms	106(94.6)	38(97.4)	144(4.6)		
Poor knowledge prevention	3(2.7)	5(12.8)	8(5.3)	5.9	0.01
Good knowledge prevention	109(97.3)	34(87.2)	143(94.7)		
Unfavorable attitudes	7(6.3)	3(7.7)	10(6.6)	0.1	0.8
Favorable attitudes	105(93.8)	36(92.3)	141(93.4)		

#### 4.2.11 YEAR OF PROFESSIONAL EXPERIENCE VS CERVICAL CANCER SCREENING PRACTICES

The table below indicates that healthcare professional who had experience of less than 5 years, 31% had performed Pap smear while those with professionals experience of more than 5 years, 69% had performed Pap smear. The results show that there is no significant relationship in the numbers of the years of professionals experience and the number of performed Pap smear, with ( $\chi^2 = 0.7$  and P value 0.4).

TABLE 10: YEAR OF PROFESSIONAL EXPERIENCE VS CERVICAL CANCER SCREENING PRACTICES.

Professional Experiences	Perform Pap smear screening test		Total
	YES	NO	
< 5 years	35(31.3)	15(38.5)	50(33.1)
>5 years	77(68.8)	24(61.5)	101(66.9)

#### 4.2.12 HEALTH CARE WORKERS PERCEIVED REASONS FOR LOW USAGE OF CERVICAL CANCER SCREENING AMONG PATIENTS

Results indicate that 73% of the respondents thought that they lack awareness of the indication and benefits of cervical cancer screening test; 38% of the respondents thought patients don't have symptoms of the disease; 17% of the respondents thought patients might be afraid of pain during screening procedure; 13% of respondents thought patients might be fearing of bad results; and 30% of respondents perceived long travel distance to the service delivery point; 17% respondents thought that fear of pain during screening procedure and 14% perceived patients fear of bad results.

TABLE 11: HEALTH CARE WORKERS PERCEIVED REASONS FOR LOW USAGE OF CERVICAL CANCER SCREENING AMONG PATIENTS

Questions	Health care professionals responded YES n=151
Lack of awareness of the indication and benefits of cervical cancer screening test among patients	73(48.3%)
No symptoms of the disease	57(37.7%)
Long travel distance to the service delivery point	45(29.8%)
Fear of pain during screening procedure	26 (17.2%)
Fear of bad results	20(13.2%)

## **4.2 DISCUSSION**

### **4.2.1 INTRODUCTION**

The previous chapter presented the results of the study in detail based on the objectives of this study. This study forms part of the evaluation of the current level of knowledge, attitudes and screening practices of healthcare workers on cervical cancer in three district hospitals in the Oshikoto Region of Namibia. Three main findings were highlighted by this study. The first is related to the knowledge on causes, risk factors, symptoms and prevention of cervical cancer disease; the second observations concerns the attitudes and screening practices of cervical cancer among health care workers on clients. The study found low favorable attitudes on the cervical cancer screening and practices towards cervical cancer screening reported. Lastly, the study discussed the health care professionals' perceived reasons of low usage of cervical cancer screening testing by the patients, majority reasons were lack of awareness of the indication and benefits and no symptoms to the patients.

#### **4.2.2 KNOWLEDGE**

The study (table 2) found that 56% of respondents scored sound knowledge on the causes of cervical cancer, while 91% of respondents scored respectable knowledge on risk factors, 95% of respondents scored good on symptoms and 95% of respondents scored good in prevention. The current finding on the knowledge of the cause, symptoms and risk factors of cervical cancer is higher than the study conducted in Tanzania which was 40%, probably because the study population included only the nursing cadre without the doctors, unlike in this study. However, other studies reported higher knowledge, for example Ethiopia reported 87% and Nigeria reported 97% (Dulla, Daka, & Wakgari, 2017; O, U, & T, 2013; Urasa & Darj, 2011). The differences could be explained by either true reflection of more knowledge in their geographic area or the multiple groups of participants, not only doctors and nurses involved might pull the results to be skewed to one side. The low proportion of healthcare workers who are knowledgeable on causes of cervical cancer poses a risk of poor understanding of cancer disease in the community.

Among respondents who scored poorly (44%), on knowledge of the causes of cervical cancer, the majority were enrolled nurses (53%) followed by registered nurses (45%). The study done in Tanzania also showed that there was a difference in knowledge regarding causes of cervical cancers among nursing the cadres, where registered nurses had more knowledgeable (Urasa & Darj, 2011). This could be explained by the nature of training received during college education and probably lack of on-going mentorship after graduation.

Overall, the majority of the respondents had adequate knowledge of the risk factors (91%), symptoms (95%), and prevention (95%) on the cervical cancer disease. These findings are in line with the study done in Ethiopia by Dulla et al (2017). However, the study done in Uganda and Cameroon reported low scores on the knowledge of the risk factors (McCarey et al., 2011; Mutyaba, Mmiro, & Weiderpass, 2006). The low proportion in Uganda and Cameroon studies might be attributed to the involvement of students in the study population who might not have had conceptual understanding of the theoretical knowledge at the time the study was conducted.

#### **4.2.3 ATTITUDES**

Healthcare workers' attitudes on screening practices play a major role in increasing of the cervical cancer screening uptakes (Lim & Ojo, 2016a). The study found that 93% of the respondents had favorable attitudes on cervical cancer screening practices. This finding observed in Oshikoto Region was also previously observed in the study conducted in Ethiopia (Kress et al., 2015) where a high number of participants acknowledged that screening was important and was a necessary component to be considered in women health. The worries remain with the perceived reasons for low usage of cervical cancer among the Oshikoto Region women, which should be addressed, including 48% of respondents who lack of awareness of the benefits of cervical cancer screening tests, Patients don't have symptoms of cervical cancer (38%), long travelling distance to the service delivery points (30%) and fear of pain during procedures (17%) and fear to receive bad results (13%). These results are congruent with the observation in the Republic of Korea and South-eastern Nigeria (Ezem, 2007; Tran et al., 2011) where lack of awareness and fear contributes to above 50% of mothers not opting for cervical cancer screening. This reveals a lack of awareness campaigns in the community about the disease and the failure of the health systems to effectively disseminate information to the consumers of healthcare services.

#### **4.2.4 PRACTICES**

With regards to practices and engagement of the patients on cervical cancer screening, this study reported that 60% of the respondents educated and screened patients on cervical cancer disease; 74% performed Pap smear test to the patients; 34% performed (1-5) number of Pap smear tests and 35% performed more than 10 (see Table 8). Notably, the study found that knowledge on prevention of cervical cancer disease showed to have a significant relationship with increased tendency to perform Pap smear screening tests (table 8). This study findings shows different observation reported among Ethiopian health care workers where by 22% performed Pap smear and 28% of the participants performed more than 10(Kress et al., 2015). This may be related to the fact that the study included the medical students, interns and pediatricians who are less likely to perform more numbers of Pap smear. Similarly low screening practices was observed in the study done in Uganda where 87% had never done Pap smear and 56% had never done speculum with the same trend of low screening practices reported in Morocco and Korea (Mutyaba et al., 2006; Najdi A et al., 2016; Tran et al., 2011). Low screening practices affect the uptake and referral of eligible clients for the screening services. In the present study, the years of professional experience was not significantly associated with performance of Pap smear test to the patient. Those who had 1-5 years of professional experiences performed almost the same numbers with the ones with more than 10 years' experience. This might be due to the fact that there are others confounding factors, which this study did not look at and more research is needed on that area.



Health care workers perceived reasons for low usage of cervical cancer screening among patients observed in our study affirms similar findings among health care workers. The most common reason for low usage of cervical cancer screening among patients observed in our study among were Lack of awareness of the indication and benefits of cervical cancer screening test among patients (48%). This similar view has also been expressed by health workers from other centers in Nigeria (Ezem, 2007; Pegu et al., 2017). Other reasons given for not undergoing the screening test include no symptoms of the disease , Long travel distance to the service delivery point, fear of pain and fear of bad results . These findings are in consonance with other studies in Nigeria (Pegu et al., 2017) .

## **CHAPTER 5**

### **CONCLUSIONS, RECOMMENDATIONS AND LIMITATIONS**

#### **5.1 INTRODUCTION**

The previous chapter presented the KAP study findings and a discussion. This chapter aims to present the conclusions derived from the study findings, recommendations of the study and the limitations of the study. The conclusion will be based on the study findings, the objectives of the study and contributions of new knowledge.

#### **5.2 CONCLUSIONS**

Overall, the study results indicated that healthcare workers were knowledgeable about risk factors, symptoms, prevention of cervical cancer and at least above 50% of the respondents had knowledge of the causes. Importantly nurses observed to have inadequate knowledge of prevention of cervical cancer compared to the doctors. Since they are frontline health personnel their decision will affect early cervical cancer screening and referral and this area need to be researched more. Irrespective of participants' knowledge, favorable attitudes and engagement of the patients towards cervical cancer screening, the study observed that perceived reasons for low usage of cervical cancer screening tests in the health facility were due to lack of awareness of the indication and benefits of cervical cancer screening test, patients present with no symptoms of disease, patients travel long distance to the service delivery point, fear of pain during the procedure and fear of bad results.

### **5.3 RECOMMENDATIONS**

The aim of this study was to determine the knowledge, attitudes and practices of healthcare workers on cervical cancer screening in Oshikoto Region. The findings of this study elaborated the key main area in need of improvement on cervical cancer screening practices in Oshikoto Region. The following are recommendations may be used for the MOHSS, health care workers, training institution and communities within Namibia.

#### **5.3.1 RECOMMENDATIONS FOR MOHSS**

Provide support and empowered to the health centers, clinics and outreach points by providing education and necessary equipment for cervical cancer screening procedure. This can be done by sharing the results of this study with the Oshikoto Regional Health Management Team (RHMT), the Ministry of Health and Social Services and other stakeholders in the health fraternity. Interventions such as cervical cancer screening programme aimed to raise awareness of cervical cancer should be designed.

#### **5.3.2 RECOMMENDATIONS FOR HEALTH CARE WORKERS**

Provide in-service training to health care workers, which will refresh their understanding of cervical cancer; provide hands-on demonstrations on how to perform Pap smear and build skills and motivate the health care workers to perform more number of Pap smear test.

#### **5.3.3RECOMMENDATIONS FOR TRAINING INSTITUTION**

The gaps in knowledge among nurses and doctors call for attention to review the nursing curriculum and modify the teaching on cervical cancer, (i.e.) practical sessions for Pap smear procedures, reading results and advocacy; it also suggest more research should be done on this area.

#### 5.3.4 RECOMMENDATIONS FOR COMMUNITIES

Community health education: Raise awareness in the community so that women can demand these services at nearby facilities. This may involve the use of radio sessions; use of local churches and traditional leaders; and the use of newspapers and television as media through which information can be disseminated. As part of demand creation, the messages can be delivered through the media should be delivered by known popular senior government officials such as president, minister, etc.

#### **5.4 LIMITATIONS OF THE STUDY**

The strength of the present study is that it is the first study done in Namibia to determine the knowledge, attitudes and practices of cervical cancer among health care workers. On the other hand, the study has some limitations. Firstly due to resource constraints (time, money and data clerks) the study was conducted in one region only (Oshikoto Region) so the results cannot be generalized. Secondly this study is based on the measure of the self-administered questionnaire, and that may affect the report. The method used for estimating the practice of Pap smears were self-reported history, which may not give the actual picture due to inaccurate recall bias. Thirdly the target group was health care providers and because the topic is sensitive, it could lead to social desirability bias. Fourthly the study design is descriptive cross sectional study which may not establish temporal relationships between exposure and outcome measures. Lastly the role of human papilloma vaccines was not addressed by this study.

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## 7. APPINDECES

### 7.1. RESEARCH PERMISSION LETTER

CENTRE FOR POSTGRADUATE STUDIES  
University of Namibia, Private Bag 13301, Windhoek, Namibia  
340 Mandume Ndemufayo Avenue, Pioneers Park  
☎ +264 61 206 3275/4662; Fax +264 61 206 3290; URL: <http://www.unam.edu.na>

  
**UNAM**  
UNIVERSITY OF NAMIBIA

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**RESEARCH PERMISSION LETTER**

Student Name: Flavia Strato Shayo

Student number: 201401598

Programme: MPH

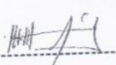
Approved research title: Knowledge, attitude, and practice (KAP) on cervical cancer screening among health care workers in Oshikoto Region, Namibia.

**TO WHOM IT MAY CONCERN**

I hereby confirm that the above mentioned student is registered at the University of Namibia for the programme indicated. The proposed study met all the requirements as stipulated in the University guidelines and has been approved by the relevant committees.

The proposal adheres to ethical principles as per attached Ethical Clearance Certificate. Permission is hereby granted to carry out the research as described in the approved proposal.

Best Regards

  
Name: Dr Marius Hedimbi  
Director: Centre for Postgraduate Studies  
Tel: +264 61 2063275  
E-mail: [directorpgs@unam.na](mailto:directorpgs@unam.na)

23/06/17  
Date

Centre for Postgraduate Studies
Office of the Director
2017 -06- 23
University of Namibia
<b>UNAM</b>

## **7.2 MINISTRY OF HEALTH APPROVAL LETTER**



REPUBLIC OF NAMIBIA

Ministry of health and social services

Private bag 13198  
Windhoek  
Namibia

Ministerial Building  
Harvey Street  
Windhoek

Tel: 061-2032150  
Fax: 061-22558  
Email: [shimenghipangelwa71@gmail.com](mailto:shimenghipangelwa71@gmail.com)

OFFICE OF THE PERMANENT SECRETARY

Ref: 18/3/3 FS  
Enquiries: Mr.J. Nghipangelwa

Date 9 January 2018

Dr.Flavia Strato Shayo  
Onandjokwe District Hospital  
Oshikoto Region

Dear Dr. Shayo

**RE: Knowledge, attitudes, and practices (KAP) on cervical cancer screening among health care workers in Oshikoto region, Namibia.**

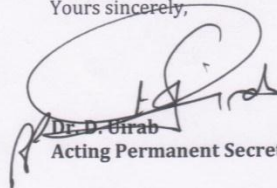
1. Reference is made to your application to conduct the above-mentioned study.
2. The proposal has been evaluated and found to have merit.
3. **Kindly be informed that permission to conduct the study has been granted under the following conditions :**
  - 3.1 The data to be collected must only be used for academic purposes;
  - 3.2 No other data should be collected other than the data stated in proposal;
  - 3.3 Stipulated ethical considerations in the protocol related to the protection of Human Subjects' Should be observed and adhered to, any violation thereof will lead to termination of the study at any stage;
  - 3.4 A quarterly report to be submitted to the Ministry's Research Unit;
  - 3.5 Preliminary findings to be submitted upon completion of the study;

*"Your Health our concern"*

3.6 Final report to be submitted upon completion of the study;

3.7 Separate permission should be sought from the Ministry of Health and Social Services for the publication of the findings.

Yours sincerely,

  
Dr. D. Girab  
Acting Permanent Secretary



*"Your Health Our Concern"*

### **7.3. INFORMED CONSENT DOCUMENT**

#### Consent to Participate in Research

##### Identification of Investigators & Purpose of Study

You are being asked to participate in a research study conducted by (FLAVIA STRATO SHAYO) from University of Namibia. The purpose of this study is to (to determine the knowledge, attitudes and practices on cervical cancer screening among health care workers in Oshikoto region). This study will contribute to the researcher's completion of her (master's thesis of public health).

##### Research Procedures

Should you decide to participate in this research study, you will be asked to sign this consent form once all your questions have been answered to your satisfaction. This study consists of a self-administered questionnaire and you will be asked to circle answers to a series of questions related to knowledge, attitudes and practices on cervical cancer screening.

##### Time Required

Participation in this study will require approximately 15 minutes of your time to answer 13 questions.

##### Risks

The investigator does not perceive more than minimal risks from your involvement in this study (that is, no risks beyond the risks associated with everyday life).

##### Benefits

There are no direct benefits to the participant, however the results of this study will help to identify the area of improvement on cervical cancers screening programme in Oshikoto region.

### Confidentiality

The study will consider the issue of anonymity and as such no name/ID (identity) was used. The questionnaire will be delivered in a sealed envelope and collected in a sealed, same envelope. A password protected computer will be used to keep the excel sheet and secure lockable cabinet will be used to store filled questionnaires.

### Participation & Withdrawal

Your participation is entirely voluntary. You are free to choose not to participate.

Should you choose to participate, you can withdraw at any time without consequences of any kind.

### Questions about the Study

If you have questions or concerns during the time of your participation in this study, or after its completion or you would like to receive a copy of the final aggregate results of this study, please contact:

Researcher's Name

Dr. Flavia Strato Shayo

Hospital

Onandjokwe Intermediate Hospital

Contact info:

Telephone: 081 4807711

Email Address: noraflavi@yahoo.com

### Giving of Consent

I have read this consent form and I understand what is being requested of me as a participant in this study. I freely consent to participate. I have been given satisfactory answers to my questions. The investigator provided me with a copy of this form. I certify that I am at least 18 years of age.

☐ I give consent to be (video/audio) recorded during my interview. \_\_\_\_\_  
(initials)

(If applicable, please include this consent box and statement.)

\_\_\_\_\_  
Name of Participant (Printed)

_____	_____
Name of Participant (Signed)	Date

_____	_____
Name of Researcher (Signed)	Date



Research Topic: Knowledge, Attitude, and Practices (KAP) on cervical cancer screening among healthcare workers in Oshikoto Region, Namibia

1. **Age(Yrs.):**    a)25-30 years                                  b)31-35years  
                             c) 36-45years                              d) More than 46 years

3. **Profession:** a) Registered Nurse                      b) Enrolled Nurse  
C) General Doctor

**5. Religion:**    a) Christian                      b) Muslim                      c) others specify.....

[illegible]

**9. Circle True (T) or False (F) responding to the following statements regarding of knowledge of the causes of cervical cancer disease;**

- i) Cervical cancer is one of the leading causes of death in women worldwide Y/N
- ii) The purpose of screening for cervical cancer is to detect pre-cancerous changes Y/N
- iii) Cervical cancer is caused by a virus that is spread sexually Y/N
- iv) Cervical cancer is most common among women in their 20s Y/N

**10. The following are the risk factors associated with developing cancer of cervix; Circle 'T' for True and 'F' for False**

- i) Infection with the human immunodeficiency virus (HIV)
- ii) Infection with human papilloma virus (HPV)
- iii) Having multiple sex partners
- iv) Use of intrauterine devices (IUDs)
- v) Onset of sexual intercourse at early age .

**11. The following are the symptoms of cancer of cervix; Circle 'T' for True and 'F' for False**

- a) Foul smelling vaginal discharge. T / F
- b) Post-coital bleeding. T / F
- c) Postmenopausal bleeding. T / F
- d) Menorrhagia. T / F
- e) Abdominal pain. T / F

**12. With regards to the prevention of cervical cancer: Circle your response.**

- i) Cervical cancer is preventable Y/N
- ii) It is possible to detect pre-cancerous cervical cells Y/N
- iii) There is a vaccine that can prevent cervical cancer Y/N
- iv) Cervical cancer is not curable Y/N
- v) If untreated cervical cancer is fatal Y/N

**13. Regarding attitudes towards cervical cancer screening: Circle your response**

- i) Cervical cancer is an essential part of women's health care **Y/N**
- ii) Cervical cancer is a very serious disease **Y/N**
- iii) A cervical cancer screening program should be started in my hospital **Y/N**
- iv) Cervical cancer screening is the part of your job description **Y/N**
- v) Is it easy to diagnosis Cervical cancer **Y/N**

**14. Regarding cervical cancer screening practices: Circle your response**

- i) Have you ever provided education and screened patients for the cervical cancer disease? **Y/N**
- ii) Have you ever performed Pap smear on patients? **Y/N**
- iii) If you have performed a Pap smear, approximately how many have you ever performed? (Circle only one): **1–5 / 6–10 / >10**
- iv) How comfortable are you performing a Pap smear? (Circle only one): **Not comfortable / somewhat comfortable / Very comfortable**

**15. What do you think are the reasons why women in the region are not utilizing available screening services?**

- i) Lack of awareness of the indication and benefits of cervical cancer screening test among patients **Y/N**
- ii) No symptoms of the disease **Y/N**
- iii) Long travel distance to the service delivery point **Y/N**
- iv) Fear of pain during screening procedure **Y/N**
- v) Fear of bad results **Y/N**

