COLLEGE OF MEDICINE

THE STATE OF CERVICAL CANCER SCREENING IN IMPRISONED WOMEN IN MALAWI: A CASE OF MAULA PRISON

By

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DECLARATION

I, Regina Mendulo hereby declare that this dissertation is my original work and has not been presented for any awards at the University of Malawi or any other University.

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CERTIFICATE OF APPROVAL

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DEDICATION

To Watiyankha, my little humorous angel in heaven.

ABSTRACT

Background: Malawi is one of the countries with the highest burden of cervical cancer in the world with less than ten percent of women screened for cervical cancer. The study aimed to investigate the state of cervical cancer screening among incarcerated women at Maula prison. Findings of this study provide knowledge of the challenges that prisoners face when accessing screening services so that relevant policies and strategies may be developed to address the challenges.

Methods: The study employed a cross-sectional qualitative study design. A total of 31 prisoners aged between 18 to 49 participated in the study. Among these, 15 women participated in in-depth interviews, while 16 women participated in two focused group discussions (FGDs) consisting of 8 women per group. All interviews were recorded and transcribed verbatim. Data was analysed using a thematic content analysis approach.

Results: All participants were knowledgeable of cervical cancer. Screening services were periodically provided in the prison. Early diagnosis and treatment were the key benefits for undergoing screening. Poor environment consisting of poor sanitation and hygiene, Preference of female health practitioners during screening, poor treatment by prison officers & health care givers when accessing care and poor living conditions were reported as challenges that affected screening uptake in the prison.

Conclusion: Incarcerated women experience gender-specific health-related challenges, including menstruation, pregnancy, and development of certain forms of cancer that affect their sexual reproductive health. The prison culture hinders prisoners from receiving quality care while in

incarceration. Positive living conditions, environment and policies must be put in place to support screening uptake among this population.

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LIST OF ABBREVIATIONS AND ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
ART	Antiretroviral Therapy
CECAP	Cervical Cancer Control Programme in Malawi
CHAM	Christian Health of Malawi
COMREC	College of Medicine Research and Ethics Committee
COVID-19	Corona Virus
EHP	Essential Health Package
HIV	Human Immunodeficiency Virus
HPV	Human Papillomavirus
KCH	Kamuzu Central Hospital
MDG	Millennium Development Goals
NCDs	Non-Communicable Diseases
NHP	National Health Policy
QECH	Queen Elizabeth Central Hospital
SDG	Sustainable Development Goals
SRH	Sexual Reproductive Health
SRHR	Sexual Reproductive Health Rights
STDs	Sexually Transmitted Diseases
STI	Sexually Transmitted Infections
TB	Tuberculosis
UN	United Nations
UNFPA	United Nations Population Fund
WHO	World Health Organization

CHAPTER I: INTRODUCTION AND BACKGROUND

1.1 Introduction

The global cancer burden is estimated to have risen to 18.1 million new cases and 9.6 million deaths in 2018 [1]. One in 5 men and one in 6 women worldwide develop cancer during their lifetime, and one in 8 men and one in 11 women die from the disease. By 2030, the number of cancer cases is projected to increase to 24.6 million and the number of cancer deaths, to 13 million [1]. In Africa alone, the burden is anticipated to double to 1.3 million new cases and 970,000 deaths by 2030 [2]. While cancer of the lung (12.7%), breast (10.9%), colorectum (9.7%), stomach (7.8%) and prostate (7.2%) are the most common types of cancer globally in sub-Saharan Africa (SSA) these are less common [2,3]. Cervical cancer is the most common malignancy among women in Malawi, accounting for over 40% of female cancers [4]. Women's cancers, including breast, cervical and ovarian cancer, lead to hundreds of thousands of premature deaths among women and it is a major cause of mortality and morbidity [5].

Cervical cancer is a disease that results from failure of the mechanisms that regulate normal cell growth and cell death leading to uncontrollable proliferation of cervical cells. The cancerous cells tend to proliferate uncontrollably, invading neighbouring tissues and eventually, spreading to other parts of the body [6]. Cervical cancer occurs in the lower part of the uterus that connects to the vagina; in the cells of the cervix [7]. It is caused by the sexually transmitted Human Papillomavirus (HPV), which is the most common viral infection of the reproductive tract[8]. Almost all sexually active individuals will be infected with HPV at some point in their lives and some may be repeatedly infected. The peak time for infection is shortly after becoming sexually active [8]. Most HPV infections resolve spontaneously and do not cause symptoms or disease. However, persistent infection with specific types of HPV (most frequently, types 16 and 18) may lead to precancerous lesions. If untreated, these lesions may progress to cervical cancer [8].

Cervical cancer is the fourth most common cancer among women globally. The burden faced by low- and middle-income countries is significantly greater than high-income countries [3]. The disparity is a direct result of the differences in resources. Developed nations have organized vaccination and screening programs that have decreased their cervical cancer incidence [3]. In many countries there is insufficient capacity to provide these screening and treatment services or the existing services are not accessible and affordable to most affected women [9]. The problem is further compounded by late presentation in most sub-Saharan African settings, including Malawi [10]. It is estimated that 3, 684 women develop cervical cancer and 2, 314 die from the disease annually in Malawi [11]. Malawi has the highest rate of cervical cancer in the world with age standardized rate (ASR) of 75.9 per 100 000 and HPV prevalence at 33.6% [11]. Most cancers are diagnosed at advanced stages and are therefore not amenable to treatment, resulting in poor prognoses. In Malawi, some studies indicate that fewer than 10% of Malawian women have ever been screened for cervical cancer [12,13]. Malawi is however, making good progress regarding awareness, screening and vaccination in prevention of cervical cancer. This is evident as one can easily access the services in almost all main hospitals as well as private hospitals across the country [6].

1.2 Background

Crime rates around the world are declining while the prison populations are increasing [14]. Worldwide, prisoners disproportionately come from marginalised and poor backgrounds [14]. In 2018, it was estimated that there were over 11 million people in prison globally, either in pre-trial detention or after conviction and sentence [15]. There are very significant regional differences in prison populations. Since 2000, the total prison population in Oceania has increased by 86 per cent; in America by 41 per cent; in Asia by 38 per cent; and in Africa by 29 per cent [15].

Female prisoners are a minority group within prison populations worldwide and usually accounting for between two and nine percent of the prison population in a country [16]. Many of these women serve short sentences, often for non-violent crimes [14]. The number of women and girls in prison rapidly increased by 53% between 2000 and 2017 while the male prison population increased by around 20% globally [14]. Malawi has a total population estimated at 17,563,749 as of 2018 Population and Housing Census Report [17]. The Malawi prison system has 30 prison stations, with only three as maximum prisons [18]. These include Maula in Lilongwe, Chichiri in Blantyre and Zomba Prison. The prison population consists of 1,717 in the Northern region, 3,784 in Central region, 4,072 prisoners in the Eastern region and 3,025 prisoners in the Southern region. In total there were 12,598 prisoners in Malawi's 30 prisons in 2016 [18]. Of the 12,598 prisoners, female prisoners account for 2.7% of this population [18].

According to the Inspectorate of Prisons, the Malawi government remained largely noncompliant with the High Court's 2009 requirement to improve prison conditions [19]. A 2014 inspection tour that covered 90 percent of prisons found recurrent problems of poor sanitation, poor diet, overcrowding, prisoner abuse, poor ventilation, detention without charge beyond 48 hours, understaffing, prison staff corruption, and insufficient prisoner rehabilitation such as education and vocational training [19]. There were also concerns of children not always being held separately from adults [19]. Several hundred irregular migrants as young as 13 were held with the general prison population even after their immigration-related sentences had been served [19].

The impact of overcrowding on the lives of prisoners can be enormous, leading to insanitary and violent conditions that are harmful to their physical and mental well-being and which do not support rehabilitation [14]. Staff working in overcrowded prisons are also at risk and are more

likely to face potential violence, the risk of contracting infectious diseases, increased stress and mental health issues [14]. In addition, Prisons that cater for a predominantly male prison population are ill-equipped to address the needs of women prisoners [15]. Female prisoners are affected structurally, financially and physically in prisons through gender inequity and insensitivity of human rights, neglect, poor sexual reproductive health and a general lack of public health concern [16]. Sexual reproductive health is defined as "A state of complete physical, mental, and social wellbeing and not merely the absence of disease and infirmity in all matters related to the reproductive system and its functions and processes" [20]. Sexual Reproductive Health Rights (SRHR) therefore, implies that people should have a satisfying and safe sexual life and that they shall be assisted to have the capacity to reproduce and the freedom to decide if, when and how often to do so [20].

1.3 Problem Statement

As one of the lead causes of death among women in Malawi, cervical cancer is of primary focus for the Malawi Health sector [21]. Cervical cancer is said to kill more women in Africa than any other cancer and accounts for over 40% of female cancers in Malawi [4,21]. In the fight against cervical cancer, the Malawi Ministry of Health in collaboration with UNFPA and other stakeholders developed a four-year National Cervical Cancer Control Strategy (2016-2020) [6]. This strategy was developed to incorporate emerging issues from existing efforts at cervical cancer prevention and control, to incorporate HPV vaccine and promote integration of cervical cancer screening into HIV care. The strategy outlines comprehensive interventions to be taken by government and other partners in mitigating the burden of cervical cancer [4]. The strategy categorised its interventions in three phases; primary, secondary and tertiary. The cervical cancer prevention and treatment strategy is based on a single visit (screen-and-treat) approach with

screening using VIA and treatment/ management with cryotherapy and/or referral for surgery and palliative care where applicable [4].

While cervical cancer screening services have been provided to the public adequately and free, the situation is not the same for Malawian prisons despite the need for attention regarding the women's complex health care needs [19,20]. Many female prisoners have a background of mental disorders and substance misuse [22]. Many substance-using women become involved in sex work before their arrest as a means of funding their drug habit. Other women have engaged in high-risk sexual activity when intoxicated, cannot remember what partners they have had and therefore have high risk of contracting STDs [23]. The level of abnormal cervical smear results appears to be higher than normal among this population of women. Often times, these women neglect their health while outside prison and have great needs related to health services when incarcerated [23]. Prison is often a time when they can be encouraged to accept further investigation and treatment regarding their health.

Upon reviewing of literature, it has been observed that research and interventions on prisons are usually centred around HIV, tuberculosis, STI and communicable diseases. In addition, most studies and interventions focus on education and vocational training for prisoners in readiness for their release [18]. There has not been enough literature surrounding women prisoners and their health specifically cervical cancer in prisons in the past years [18].

Detainees' rights to access specific medical care depend upon the availability of the service to the general female public within a given country. This position is reflected in Rule 10 of the United Nations Rules for the Treatment of Women Prisoners and Non-custodial Measures for Women Offenders (Bangkok Rules of 2010) that states that gender-specific health care services in prisons

must at least be equivalent to those available in the community [24]. Section 42 (1, b) of the Constitution of the Republic of Malawi provides for the right to be detained under conditions consistent with human dignity, which shall include at least the provision of reading and writing materials, adequate nutrition and medical treatment at the expense of the State [25]. Although the legal framework safeguards the rights of prisoners, the prison conditions do not conform to the standards set by the Constitution or instruments of international law of which Malawi is part of [26]. It is to this view that the study sought to investigate the state of cervical cancer screening among women during incarceration.

1.4 Rationale for the Study

Health care provision to female prisoners as stipulated in the Malawi Prison Act and the constitution of Malawi Section 42 (1, b) is not carried out to full satisfaction [25]. Malawi as a member of the United Nations, is expected to comply with the UN Rules for the Treatment of Women Prisoners and Non-Custodial Measures for Women Offenders (the Bangkok Rules). Rule number 6 of the Bangkok Rules under the Humane Provision of Health Care Services, Mental Health Care and Substance Abuse Treatment Programmes, stipulates that the health screening of women prisoners shall include comprehensive screening to determine primary health-care needs [24]. This therefore means women are entitled to and have the right to access good medical care as required while in prison. However, this provision is often not possible especially in overcrowded prisons in underdeveloped and developing countries like Malawi [14]. The prison systems simply provide the basic and affordable care in accordance to the state economical capacity [14]. Sub Saharan African (SSA) prisons have seen a substantial increase in women prisoners in recent years. Despite this increase, women prisoners constitute a minority in male dominated prison environments, and their special health needs are often neglected[16]. Research activity on prison health remains scant in SSA, with gathering of strategic information generally

restricted to infectious diseases (HIV/TB), and particularly focused on male prisoners. Health care provisions for women in SSA prisons are anecdotally reported to fall far short of the equivalence care standards mandated by human rights and international recommendations, and the recent agreements set out in the Southern African Development Community (SADC) Minimum Standards for HIV in Prisons [16].

Studies have shown the continued operation of Malawian prisons at over capacity with female prison environments generally characterized by lack of safe water, congested cells, poor ventilation and inadequate sanitation compounding the risk of illness, food contamination and spread of infectious disease [19]. Being a minority among the prison populations, Female prisoner's health is side-lined in many ways [27]. A review of literature in Malawi shows that there is an absence of information concerning women prisoners and cervical cancer screening in prison. There is a strong reliance on donors (faith-based organizations, well-wishers and non-governmental organizations) providing female sanitary wear, clothes, cleaning products, nutrition and health support in female prisons in Malawi [28].

This study is based on the premise that there is inadequate understanding of female criminology and that the confinement of female prisoners raises a number of heath care difficulties for the prisoners. Investigating the prisoners' self-reported access to cervical cancer screening services at Maula prison and the challenges they face in utilizing these services will not only contribute to the health sector literature but also support in identifying situation appropriate interventions for women prisoners. Upon discovering the underlying causes of low cervical cancer screening in our prisons, the findings of the study will inform policy makers, influencers and actors in the health sector of the need for urgent attention and action to the prison population. Imprisoned people are frequently re-incarcerated after release, cycling between prison and the general community [29].

As potential carriers of transmissible diseases they pose risks to themselves, their immediate families and the wider community, with detrimental effects on public health [29]. Cervical cancer identification and treatment at early stages will significantly reduce cancer related deaths in Malawi [10]. As the health sector joins hands in the fight against cervical cancer morbidity and mortality in Malawi, prison health must come out as an essential part of the community wellbeing where its health achievements have a positive impact on the country's development [16].

1.5 Research Objectives

1.5.1 Broad Objective

The broad objective of this study was to investigate the state of cervical cancer screening for imprisoned women at Maula prison in Malawi.

1.5.2 Specific Objectives

The specific objectives of this study were to:

i. Assess awareness of cervical cancer among imprisoned women at Maula Prison.

ii. Describe cervical cancer screening utilization among female prisoners at Maula prison.

iii. Assess factors affecting cervical cancer screening by female prisoners at Maula Prison.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter presents literature relevant to this study. The review will focus on prisons, cervical cancer, Malawi Health Policy Environment for cervical cancer, Prison and its implications on female reproductive and general health of prisoners, Cervical Cancer screening, screening in imprisoned women, Prevention of cervical cancer, and Perceived barriers to cervical cancer screening.

According to World Health Organization's (WHO) statistics, common cancers are one of the most prevalent causes of mortality worldwide [8]. Viral infections contribute to 15-20% of all human cancers, whereby several viruses play significant roles in the multistage development of malignant cancers [30]. In May 2018, the Director-General of the World Health Organization called for action towards achieving the global elimination of cervical cancer whose burden is estimated to have risen to 18.1 million new cases and 9.6 million deaths in 2018 with a projected increase to 24.6 million cases and 13 million cancer deaths [1].

2.2 Definition of Terms

Cervical cancer: Cervical cancer is a disease that results from failure of the mechanisms that regulate normal cell growth and cell death leading to uncontrollable proliferation of cervical cells. The cancerous cells tend to proliferate uncontrollably, invading neighbouring tissues and eventually, spreading to other parts of the body [11].

Cervical cancer occurs in the lower part of the uterus that connects to the vagina; in the cells of the cervix. The natural history of the disease is well understood, from persistent HPV infection, there is a very slow progression of the disease, which can take 10-20 years, particularly in immunocompetent women, from normal (healthy) to pre-cancer, to invasive

cancer [11]. Cervical cancer rates are highest in Eastern Africa and lowest in Western Asia. Studies have shown that sexual behaviour at an early age and increasing incidence of HPV infection cause cervical cancer incidence to increase among younger women [3]. Studies have estimated that over 80% of sexually active women will be infected with genital HPV at some point in their lifetime. Oncogenic HPV infection is the major etiological agent of cervical cancer of which 70% are caused by HPV-16 and HPV-18 type [3].

Human Papillomavirus: HPV is a sexually transmitted virus that can be passed through genital or skin-to-skin contact. HPV infection can lead to various types of diseases from benign lesions to cancer. In 2007, an International Agency for Research on Cancer (IARC) working group classified 21 HPV types (HPV 6, 11, 16, 18, 26, 31, 33, 35, 39, 45, 51, 52, 53, 56, 58, 59, 66, 68, 70, 73 and 82) as the most prevalent for their association with cervical cancer [31].

Papanicolaou smear: A Pap smear, also known as a Pap test, is a screening procedure for cervical cancer. It tests for the presence of precancerous or cancerous cells on the cervix. The cells are gently scraped away and examined for abnormal growth [32].

Screening: Is a public health intervention provided to an asymptomatic target population that is not undertaken to diagnose a disease, but to identify individuals with increased probability of having either the disease itself or a precursor of the disease [6].

2.3 National Health Policies on Cervical Cancer

Primary health care has been a priority for Malawi from its commitment to the Millennium Development Goals (MDGs) up until 2015 when they ended. Additionally, goal number 3 of the Sustainable Development Goals (SDGs) states “ensure healthy lives and promote well- being for all at all ages”, goals 3.4 and 3.7 talk about “reducing premature mortality from non-

communicable diseases (NCDs)" and "ensuring universal access to sexual and reproductive health care services" respectively [33]. These goals reinforce the need for United Nations (UN) member countries to remain committed into taking action towards achievement of the set goals.

The Malawi ministry of health formulated the National Health Policy (NHP) which serves as an overarching policy document, anchoring all sector strategies and individual policies. Integration of the Essential Health Package (EHP) service delivery at all levels, prioritizing health promotion, disease prevention, and community participation in health service delivery, strengthens public–private partnerships and encourages efficient, cost-effective use of health resources [34]. The National Health Sector Strategic Plan of 2011-2016 addressed the burden of disease by delivering an expanded EHP through public health interventions including, but not limited to, health promotion, disease prevention, and increasing community participation [34].

The National Reproductive Health Strategy 2006-2010 and later the National Sexual and Reproductive Health and Rights Strategy 2011-2016 were furthermore developed to give direction and guidance to implementation of a comprehensive and integrated Reproductive Health program in order to achieve the best quality integrated Reproductive Health (RH) for all Malawians, and women in particular. Although it was acknowledged that reproductive cancer services are a critical component of the national RH program, only cervical cancer was addressed in the National Reproductive Health Strategy [6]. The Malawi National Reproductive Health Service Delivery Guidelines of 2014-2019, the 2005 National Service Delivery Guidelines for Cervical Cancer Prevention and the 2004 National Cervical Cancer Prevention Program Strategy are evidence of the Ministry of Health commitment to ensuring that efforts aimed at mitigating the burden of cervical cancer are guided by relevant strategies [34]. Furthermore, the recognition of the public health importance of cancer in general and cervical cancer in particular

warranted inclusion of cancer in the current list of Essential Health Package (EHP) conditions as highlighted in the Malawi Health Sector Strategic Plan 2011-2016 [34].

2.4 Prison and its Implications On Female Reproductive and General Health of Prisoners

A World Health Organisation (WHO) article of 2011 stipulated the situation of female prisoners as among the poorest of any population group and the apparent inequalities pose both a challenge and an opportunity for country health systems [35]. Current provision of health care to imprisoned women fails to meet their needs and is, in too many cases, far short of what is required by human rights and international recommendations [35]. The evidence includes a lack of gender sensitivity in policies and practices in prisons, violations of women's human rights and failure to accept that imprisoned women have more and different health-care needs compared with male prisoners, often related to reproductive health issues, mental health problems, drug dependencies and histories of violence and abuse [35].

Women in correctional institutions have substantial reproductive health problems, yet they are underserved in receipt of reproductive health care [36]. They generally have more, and more specific, health problems than male prisoners and tend to place a greater demand on the prison health service than men do. This is the case right from the start of their imprisonment, as so many women prisoners have had no contact with health services during the period before admission to prison [36]. As a consequence, most women in prison have little idea of their own health status and may be less aware than most people of healthy lifestyles. Women prisoners frequently suffer from mental health problems, among which post-traumatic stress disorder, depression and self-harming are regularly reported [34]. They suffer from mental health problems to a higher degree than for both male prisoners and the general population with rates as high as 90% [37]. Evidence shows that women prisoners are more likely to self-harm and

commit suicide than male prisoners, while this is the opposite in the community. A study was conducted to assess the level of risk for sexually transmitted diseases (STDs) and the reproductive health needs of 484 incarcerated women in Rhode Island, in order to plan an intervention for women returning to the community. The study revealed high risks for STDs and pregnancy, which was characterized by inconsistent birth control (66.5%) and condom use (80.4%), multiple partners (38%), and a high prevalence of unplanned pregnancies (83.6%) and STDs (49%). Only 15.4% said it was not likely that they would have sexual relations with a man within 6 months after release. The study concluded that reproductive health services must be offered to incarcerate women because such interventions will benefit the women, the criminal justice systems, and the communities to which the women will return to [23].

A study conducted in Zambia to identify and examine the interaction between structural, organisational and relational factors influencing its women prisoners' health and healthcare access revealed that Zambian women's prisoners' health and access to healthcare is influenced by weak resourcing for prisoner health, administrative biases, and a prevailing organisational and inmate culture. It also highlighted the urgent need for investment in structural improvements in health service availability but also interventions to reform the organizational culture which shapes officers' understanding and responsiveness to women prisoners' health needs [38].

A study conducted in Western Africa in 2013 examined the health status of women with a recent history of incarceration and explored if/how women were accessing health care resources at the time immediately following release [39]. Women in the study reported below average health status compared with the general population. The major health issues identified by participants included specific health problems affected by incarceration, mental health needs, routine health promotion and maintenance, recovery from substance abuse as a major health concern, and social and environmental barriers to care [39]. The study concluded that Women leaving jail or

prison have significant and complex health care needs. This period of transition appears to be an opportune time to offer support, services, and other health- promoting interventions [39].

In addition to the above discussion, Cervical cancer is an AIDS defining illness in HIV infected women. HIV and HPV have a synergistic relationship. HIV infected women have higher prevalence of HPV infection, persistent infection with HPV, infection with multiple types of HPV, and cervical pre-cancer than HIV-uninfected women [40]. HIV also increases the risk of cervical cancer by 2-22 folds [20]. The increased susceptibility to HPV infection among HIV infected women leads to a greater risk of developing pre-cancer and cancer at younger ages, which increases with the degree of immunosuppression. HIV infected women also have an increased risk of pre-cancer progression to invasive disease [40]. This therefore entails that HIV positive women are at higher risk of suffering from cervical cancer than other women. There has not been a causal relationship established between imprisonment and cervical cancer among women in the past, however the conditions of the prisons may increase the risk of suffering from cervical cancer due to predisposition conditions before incarceration.

2.5 Cervical Cancer Screening in Malawi

Adoption of routine cervical cancer screening in Malawi is very low, even though it has the highest cervical cancer burden in the world [12]. The Malawi Ministry of Health, through Sexual and Reproductive Health Unit, implemented a screen-and treat programme for cervical cancer using visual inspection with acetic acid (VIA) approach [12]. The programme started in 2004 and targeted women aged 30-50 years old. As of June 2011, there were a total of 81 health facilities providing cervical cancer services (50 VIA only, 29 VIA and cryotherapy and 2 VIA, cryotherapy, loop electrosurgical excision procedure (LEEP) and major surgery). Cumulatively,

a total of 59,217 women were screened, 5,744 (9.7%) were VIA positive and 1,777 (3.0%) had suspected cervical cancer [12]. This study demonstrated that 12.0% and 32.1% of cervical cancer cases were aged 20-29 years and 50 years or more respectively. This would suggest that the VIA Programme in Malawi could be missing at least 44% of women with cervical cancer [12].

Data on population-based, age-specific prevalence of HPV is not available in Malawi. However, WHO estimates that the overall HPV prevalence is about 34% [5]. Studies from other countries reported HPV prevalence in women having two peaks, one at 15-29-year age group and the other at 60-69-year age group [7]. This, together with high HIV prevalence could be some of the reasons for cervical cancer occurrence in young and older age groups.

Cervical cancer screening is the only established public health cancer screening programme in Malawi [21]. Currently there are four main central hospitals offering dedicated diagnostic and curative cervical cancer services; Queen Elizabeth Central Hospital (QECH), Zomba Central Hospital (ZCH), Mzuzu Central Hospital (MCH) and Kamuzu Central Hospital (KCH) [32]. Most CHAM facilities are also providing cervical cancer screening and treatment of precancerous lesions for either free or at a subsidized fee. There is increasing coverage of cervical cancer screening by Nkhoma mission hospital that is currently using thermo-coagulation for treatment of cervical precancerous lesions. Some private hospitals also provide cervical cancer screening using Pap smear at a cost which is affordable to a few at risk women in the country [32].

A multi-level assessment of Malawian women's knowledge and perceptions of cervical cancer risk and screening was carried out and conducted interviews with 60 adult Malawian women aged 18–62 at facilities with cervical cancer screening. Eligible participants were recruited

regardless of HIV status or history of screening and asked about their experiences with cervical cancer disease and screening. Half of the sample had either never been screened for cervical cancer or were at the facility for their first-ever screen. Most women said that cervical cancer is dangerous, and many knew someone affected. Many women spoke about the importance of screening for prevention of cancer. Social networks were identified as a key determinant of screening, and gender issues were likewise highly salient. Despite high knowledge levels about cervical cancer, there remain significant challenges to improving screening, including interpersonal and system-level barriers. The study recommendations included; strengthening of service delivery for future works, targeting of social networks and intimate partners, and to develop targeted communication strategies for HIV-positive and -negative groups, especially in high-burden settings [12]. From this study, it is evident that frequent cervical cancer screening, with a follow-up of abnormalities can considerably decrease the rate of cervical cancer, and therefore the death and morbidity linked with it [2].

2.6 Cervical Cancer Screening in Imprisoned Women

Women in jail and under community justice supervision reported a high prevalence of risk factors for cervical cancer in a study conducted in 2006 [41]. Because of their high prevalence of abnormal Pap testing, women in criminal justice settings may be appropriate targets for improved cervical cancer screening, prevention with HPV vaccination, risk reduction education, and treatment [41]. A study conducted in Brazil among female prisoners for screening of cervical cancer in prisons revealed that it is neither systematic nor regular, and that results are not communicated to women in a significant number of cases. It concluded to say it is necessary to organize health services within the prison environment, ensuring that tests are done and that there is investigation for human papillomavirus. That would increase the diagnosis of cervical cancer at less advanced stages of the disease [42].

Additionally, in 2011, another study was conducted in San Francisco aimed at determining jail inmates' knowledge of cancer screening tests, their frequency of screening, and their willingness to undergo screening in jail in order to assess preventive health services for jail inmates [43]. It revealed that having ever had a Pap test while incarcerated was significantly associated with being up to date on cervical cancer screening knowledge. Increased knowledge about colon cancer screening was significantly associated with being White and having health insurance. Jail inmates, particularly African Americans, had significantly lower frequency of sigmoidoscopy and colonoscopy than the general population. The study recommended that Jail could be an appropriate venue in which to provide cancer screening for a high-risk population [43].

Studies in Malawi have not documented that there is a higher risk of cervical cancer among the prison population than the general population or that there are any structural issues reported that affect cervical cancer screening in Malawian prisons. The structural limitations observed for prisons in Malawi, was the legal framework regarding the prohibition of provision of condoms in prisons [44]. Even though the need for condoms in eradicating sexually transmitted infections among the prison population is vital, provision of this is not allowed because it is assumed to promote homosexuality, an illegal act in the laws of Malawi [44].

2.7 Prevention of Cervical Cancer

Universal access to cervical cancer screening and treatment of pre-cancerous lesions is a highly effective intervention that has led to a 70% reduction in mortality due to cervical cancer in developed countries [5]. Cervical cancer is preventable via HPV vaccination (primary prevention for pre-adolescent and young adolescent girls) and cervical screening (secondary prevention for women). Organised and comprehensive approaches to cervical screening have thus far been

implemented mainly in high income countries, and as a direct consequence, 85% of cervical cancers occur in less-developed regions [9]. Furthermore, in 2014, estimated rates of HPV vaccine uptake in young adolescent females were over 30% in developed countries but less than 3% in less-developed regions [32].

In Malawi, the attempts to prevent and reduce mortality and morbidity rates of cervical cancer among women have gained significant recognition. The Ministry of health in collaboration with its partners and stakeholders developed a National Cervical Cancer Control Strategy for 2016-2020. In this Strategy, it has categorized cervical cancer prevention measures into three; Primary, Secondary and Tertiary [6]. Under the Primary prevention, the aim is preventing HPV infection and minimizing exposure to the cofactors for cervical cancer development. Some key interventions include; HPV vaccination for girls aged 9–13 years before sexual debut, Sexuality education tailored to age & culture, Condom promotion or provision for those who are sexually active and lastly Male circumcision [4]. Secondary prevention is aimed at early detection and treatment of precancerous lesions and cancer in women at risk, most of whom will be without symptoms [6]. This stage utilizes a single visit "screen and treat" strategy for secondary prevention of cervical cancer, where women are examined for precancerous lesions using visual inspection with acetic acid (VIA), and eligible lesions are removed immediately [6]. It also involves the following interventions; Counselling and information sharing about screening for cervical cancer, Screening and treatment of precancerous lesions with country appropriate or health facility appropriate methods and at a minimum, screening for every woman 30–49 years of age at least once in a lifetime [6].

Tertiary prevention involves timely diagnosis and treatment of invasive cervical cancer in order to decrease the number of deaths due to cervical cancer. This component of care requires specialised diagnostic equipment, access to histopathology laboratories and specially trained

health personnel to provide the required care. Unlike the former two, this is usually offered at a higher level of care such as a tertiary health facility than primary or secondary health care facilities. Key interventions include; a functioning referral mechanism from primary and/or secondary care facilities to tertiary facilities that offer cancer diagnosis and treatment, timely cancer diagnosis, exploring the extent of invasion and treatment appropriate to each stage, based on diagnosis, treatment largely comprise of surgery and/or radiotherapy. Palliative care for women with life-threatening cervical cancer that is aimed at improving quality of life, control symptoms and minimize suffering is also provided for at this stage [6].

Furthermore, the Cervical Cancer Control Program (CECAP) was established in 2004. In the same year, The MoH produced the National Cervical Cancer Prevention Program Strategy and later in May 2005, the National Service Delivery Guidelines for Cervical Cancer Prevention. These documents aimed at providing the up-to-date knowledge and direction on cervical cancer control and form a foundation for policy makers, program managers and service providers at all health facilities in both the public and private sectors, as well as non-governmental organizations (NGOs) in planning, implementation and monitoring of cervical cancer control activities in the country. The global health development assistance community has recently increased its investments in cervical cancer prevention in Malawi [32].

2.8 Knowledge of Cervical Cancer Screening Among Women

As highlighted above, various studies conducted around the topic of cervical cancer, rank it as the as the third most common cancer among women worldwide and it is the most common cancer in women in 42 low-resource countries. A study conducted in 2018 discovered that cervical cancer was the leading cause of cancer-related death among women in sub-Saharan Africa, central America, south-central Asia, and Melanesia [2]. Malawi is one of the countries where

the burden of cervical cancer is considerably high [12]. Formative research targeting cervical cancer prevention is needed, particularly research that explores ways to deliver cervical cancer information efficiently and effectively to Malawian women.

Similarly, another study conducted in Chiradzulu District aimed to describe the knowledge and practices of cervical cancer and its screening as well as the educational preferences of women living in a rural community in the district. The survey was carried out among women between the ages 30 and 45 using convenience sampling. The study calculated a sample size of 282 and used structured interviews to collect the data. The study revealed that most of the women (93.4%) had heard of cervical cancer and the visual inspection with acetic acid (VIA) screening programme but only 22.9% indicated to have undergone screening. The most common reason for not going for screening was reported to be as lack of knowledge of the screening programme. On the other hand, having a demonstration of the VIA procedure was the most popular educational method for most of the participants (92%). The study concluded by recommending the adoption of demonstrational education materials as giving a fresh approach to educational programmes aimed at preventing cervical cancer [45].

Another study conducted in 2012 aimed to garner Malawian women's understanding of cervical cancer and to shed light on preferences for health information delivery, including community health advocacy. Qualitative, in-depth interviews were conducted with 30 Malawian women and analysed for recurring themes. In this study, women generally had limited cervical cancer knowledge, which supported misperceptions about the disease, including factors pertaining to risk and prevention. Nonetheless, women reported that receiving cervical cancer information from trusted sources would help promote preventive behaviours. Women noted that they received most of their health information from hospital personnel, but distance was a barrier.

Women also expressed interest in community health advocacy. The study recommended that perspectives from Malawian women may be vital toward informing efforts to increase cervical cancer knowledge and prevention [46]. Knowledge and access to knowledge regarding cervical cancer seems to be the greatest barrier of women accessing screening services in Malawi. This therefore clearly describes the need for intense awareness messaging to the Malawian population inclusive of prisons.

2.9 Access to Health Services in Prison Compared to the General Population

Health services in Malawi are provided by public, private for profit (PFP) and private not for profit (PNFP) sectors. The public sector includes all health facilities under the Ministry of Health (MOH), district, town and city councils, Ministry of Defence, Ministry of Internal Affairs and Public Security (Police and Prisons) and the Ministry of Natural Resources, Energy and Mining. Health care in prisons is managed by the Malawian Prison Health Services (MPHS), supported by the Prison Service Commission and is structured according to the category of the prisons [29]. All prisoners on entry or within 14 days of admission are required to undergo a mandatory screening for HIV, TB, STIs, Nutrition and Mental health [47]. A referral system between the prison healthcare service and the local ministry of health services is required to ensure continuity of care for more complicated cases and those needing hospital admission [47].

Malawian studies in prison health described the access to health care services as unsatisfactory compared to services received in normal health facilities [29]. Additionally, many HIV+ inmates on lifesaving treatment felt that the nutrition they receive in prison is especially inadequate. It is argued that female prisoners also had less access than men to health care, including HIV services [29]. Studies have shown adequate availability of HIV and TB drugs compared to other diseases in prison. Poor conditions of detention are compounded by the unavailability of timely or

appropriate heath care provision, which is generally less efficient than the community-based health services [28].

Availability of trained human resources for the provision of healthcare is a challenge in most clinics in Malawi, including the prison health care system [47]. The prison services adopted the use of peer educators to support with health care provision with the aim of improving the human resource in prison clinics [47]. Peer educators are prisoners who have basic literacy skills (junior certificate of education) and are convicted prisoners with a minimum sentence of two years to avoid a high rotation and need for retraining. They are trained for specific tasks such as retrieving files, health promotion and assisting clinicians. The ration of support to the prisoners is 1 peer educator to 30 prisoners [47].

In summary of this section, it is evident that female prisoners do not have adequate healthy structures compared with male prisoners and there is generally poor access to health care in Malawian prisons. Knowledge of cervical cancer among women in Malawi is commonly associated with misconceptions and lack of understanding of the screening programmes available. Although Malawi has a positive policy environment aimed at treatment and reduction of cervical cancer related deaths among Malawian women, there still remains a knowledge gap regarding screening uptake for cervical cancer in Malawi prisons.

CHAPTER THREE: METHODOLOGY

3.1 Introduction

This section describes the methodological approach used in the study. It describes the research design, study setting, study population, study period, sample size, data collection, data analysis and management and presentation of findings. It also looks at dissemination of results, ethical considerations and study limitations.

3.2 Study Design

The study employed the cross-sectional qualitative study design. This design is best suited to get an in-depth understanding of a phenomenon, situation, problem, attitude or issue, by taking a cross-section of the population. It is useful in obtaining an overall 'picture' as it stands at the time of the study [48]. It provides a snapshot of health care needs of a population at a given point in time and it also provide a basis for designing of public health measures and interventions such as health promotion campaigns.

The benefits associated to using this study design include, its ability to estimate prevalence of outcome of interest since the sample is usually taken from the whole population, it is relatively inexpensive and takes little time to conduct, it assesses various outcomes and risk factors and there is no loss to follow-up [49]. More importantly, the design is useful for public health planning, understanding disease aetiology, generation of hypotheses and establishing the best ways to utilizing health services [50].

3.3 Study Place

The study place was Maula prison in Lilongwe, located in the central region of Malawi. It was selected due to its significant number of female prisoners in custody and an active, functional health facility at the premises. The prison records indicated to have a total of 84 female prisoners

at Maula prison during the study, which outlined the highest number of female prisoners from the other prisons in the region and the country, followed by 60 female inmates from Chichiri prison, Blantyre. Additionally, the location was convenient, easily accessible to the researcher and less costly for the researcher to reach.

3.4 Study Population

The study targeted female prisoners at Maula prison that were above 18 years of age, within the reproductive age group women who are in incarceration at the prison (on remand, transfer and sentenced).

3.5 Study Period

This study was carried out from January 2018 to August 2020. Data collection was conducted from February 2020, while data analysis and compilation were carried out from March to May 2020. The report writing exercise was carried out from June to August 2020.

3.6 Sampling and Sample Size

3.6.1 Inclusion Criteria

The study targeted women between 18 to 49 years of age, who were in incarceration and had at least attended primary school education and had undergone screening before and were on remand or were serving their sentence. Remand in custody refers to a term used when a person is detained in a prison until a later date when a trial or sentencing hearing will take place. Sentencing on the other hand refers to confinement in prison as a punishment imposed on a person who has been found guilty of a crime.

3.6.2 Exclusion Criteria

The study did not target any women over 49 years of age, who had not attended formal education and were on transfer.

3.6.3 Sample Selection

The prison wardens were available throughout the study, monitoring and supervising the prisoners as mandated. During the entry meeting, the wardens, clinic officers and the Officer in Charge were briefed of the purpose and inclusion criteria of the study in order to effectively support the identification of the target group since prisoners live in confined areas with limited access by the researcher. There was a total of 84 female prisoners as at 22 February 2020 at Maula prison. The female prisoners were briefed of the aim and purpose of the study. The prisoners were given a chance to walk away if they were uninterested or unavailable to participate, 44 prisoners requested to be excused. A total of 31 individuals who were eligible out of 40 were selected to participate in the survey by the researcher. The participants were purposively and conveniently sampled. 15 participants were purposively selected to participate in in-depth interviews based on their age (≥18 to 49 years), voluntariness, knowledge of cervical cancer and their education background in order to differentiate the group's level of understanding of Cervical cancer. A total of 16 women were selected to participate in FGDs. The participants were divided into 2 groups of 8 participants in each group, using convenient sampling due to their convenient accessibility and proximity [51]. The sample deliberately included women who had undergone screening before, either in prison or before incarceration with the aim of enhancing and enriching discussions over experiences, perceptions and exploring unanticipated issues that may arise during the discussion [51].

3.6.4 Sample Size

Out of 84 qualified participants, 40 were willing to participate in the study while 31 met the inclusion criteria. Both IDIs and FDGs took into consideration the concept of data saturation, a principle widely used for determining sample size and evaluating its sufficiency [13].

3.7 Data Collection

The study used interview guides to collect data through IDIs and FDGs. The tools consisted of questions including the socio-demographic profile, knowledge of cervical cancer, access to screening services, prison conditions in relation to health, benefits of screening and challenges faced in the prison in accessing health care and screening. Interview guides were developed in English and translated into the local language, Chichewa for easy communication and interaction.

3.8 Data Management and Analysis

The study used voice recorders and manuscripts to record data in its discussions with participants. The recorded data was transcribed using Express Scribe Transcription software as well as underwent manual transcription to ensure all the information shared was captured accurately. Demographic data was analyzed in excel and presented descriptively in the data collection section.

The study adopted Inductive Content Analysis to the data analysis process. Inductive content analysis is a method for identifying, analysing and reporting patterns or themes within the data [52]. This is a very helpful tool in organizing data. Through a process of coding, patterns, categories and themes were identified, grouped and compared [52]. Initial codes were developed and closely examined to check whether they reflected the contents of the data material.

The data was further re-read and re-organised by the researcher to ensure alignment and logic flow of the data set. The themes were re-checked to see if they were relating well with the data set and if they were capturing true reflection of the findings [52]. The themes and data were also checked and reviewed by two external individuals; one was a health personnel and the other, a non-health personnel, to assure logic and understanding of the content. This was done in order to confirm that the findings were making sense and were easy to follow by anyone including experts and non-experts in the field. The themes from the data were later presented in a separate section with the discussion.

3.9 Dissemination of Results

The results will be disseminated to the department of Public Health at the College of Medicine in partial fulfilment of the requirement of attaining a Masters' Degree in Public Health, the office of the Chief Commissioner of prisons in Malawi, the authorities of the Maula Prison for their use and record and lastly, to the female prisoners at the Maula prison as feedback of the study.

3.10 Ethical Considerations

Prison research is needed to focus on improving quality of life and reducing behaviours that lead to further violence, incarcerations, neurological and other mental health decline, infectious disease transmission, and other health-related conditions prevalent in this population [25]. Prison research efforts need to focus on prevention and rehabilitation as well as health promotion and disease prevention of conditions prevalent in this population that may be contributing to greater high-risk behaviors and general health deterioration [25]. The following ethical principles were applied during the study [53].

3.10.1 Ethical Approval

The study obtained ethical approval from the College of Medicine Research and Ethics Committee (COMREC) and a Permission and support letter was obtained from the Malawi Prisons Authority.

3.10.2 Participant Volunteerism and Written Informed Consent

The participants were made aware that participating in the study was entirely voluntary and no one was obliged to participate unwillingly. The study used written informed consent forms for participant's willingness to participate in the study, ensure confidentiality and safety during the study period. The participants were fully informed about the nature, and the purpose of the research, expected benefits to the participant or society, the procedures, and the possible risks of the research, and other ethical issues considered. Questions were asked to the participants to assess whether the consent form was understood or not. The informed consent form was available in two language versions, English and Chichewa. The consent forms adopted formats for both literate and illiterate subjects as per COMREC research standards. All participants indicated their acceptance to participate in the study by signing the consent form through writing their names or their initials. The study did not have any participants who were unable to read or write their names in the least.

3.10.3 Confidentiality, Privacy, and Anonymity

The Researcher maintained confidentiality, privacy, and anonymity throughout the study. The information that was gathered was not accessible to those not directly involved in the study. Interview guides were administered by the researcher in a private setup. Brief and correct information were given to participants of the study to ensure they fully understand and are aware of the topic under discussion. Data collected was only accessible to the researcher, the statistician and supervisor. The data collected will be stored safely for a period of 36 months after analysis.

Publication of results after successful completion of the study will be done accurately and correctly based on the scientific evidence of the study.

3.10.4 Justice

There were no direct personal benefits linked to participation of the study such as monetary gain. This is because the study is self- sponsored and there were no funds available for disbursement of allowances for participation into the study. However, the study assisted the institution, policy makers and health professionals in identifying the factors that influence cervical cancer screening in prisons, which could aid in future planning and care provision for the benefit of the prison population.

3.10.5 Respect for Persons

Prisoners are an extremely vulnerable population, with severely restricted autonomy and need to be protected from the risk of coercion, undue inducement, and exploitation. In this study, the respondents' right to autonomy was respected by ensuring they were notified that they can refuse to participate in, or withdraw, from the study at any time with no coercion. The research did not intend to pose any potential physical or emotional harm to the participants through adoption of third-party monitoring by having prison officers always present during interactions.

CHAPTER FOUR: RESULTS

4.1 Introduction

This section presents the findings from in-depth interviews and focus group discussions regarding the state of cervical cancer screening in imprisoned women at Maula Prison. The findings of the study are presented according to themes that were derived from the data set. The chapter is divided into 6 thematic sections as follows; Knowledge of Cervical cancer and its risk factors, Access to Cervical cancer screening services in prison, perception of prisoner's health status, Benefits of cervical cancer screening services, and Challenges faced by inmates in accessing cervical cancer screening services.

In order to describe and understand the sampled population, the study recorded demographic data of the participants as follows, women aging from 18 to over 35 years of age, with 20 women who were married, 6 single and 5 were divorced. 16 women recorded to have 1 to 2 children, 11 women had more than 3 children while 4 participants reported to have none. 18 participants had completed their primary school education, 12 completed their secondary school education while 1 was attending tertiary education before incarceration. The participants reported their sentences ranging from 1 to 36 months in incarceration. The study did not record any reasons of imprisonment of its participants, because the characteristic was not contributing to any of the study objectives and therefore would not have added any value to the study findings.

4.2 Knowledge of Cervical Cancer and Its Risk Factors

This section presents findings on the knowledge of cervical cancer among imprisoned women at Maula prison. It sought to explore the extent to which women are aware of the disease. It also discussed the possible risk factors associated with the disease to learn their understanding of the causes of the disease.

4.3 Knowledge of Cervical Cancer

The majority of women in both in-depth interviews and FGDs reported to have heard about cervical cancer at least more than once. The common source of knowledge of cervical cancer was from attending Primary school education and from media awareness messages that are heard over the radios and television. There is no vernacular term for cervical cancer or any cancer in general in Malawi. The term 'Khansa' is used following the part of the body that is affected whenever referring to any type of cancer. For instance, the term 'khansa ya khomo lachibelekelo' literally translates to cancer of the cervix while breast cancer is referred to as 'Khansa ya mmawere'.*'*

> *(….) Yes, I have heard about cervical cancer and what it does to women. I know that a person can lose their womb because of it".* (Interview participant 2)

When asked to define what they understood by the term cervical cancer, varying definitions were shared but the majority of the participants defined cervical cancer as:

> *"A disease where a woman is found to have sores around the cervix and is caused by having sexual intercourse from a very young age".* (Interview participant 8).

> *"This is the disease where the vagina walls become dry and pale showing that there is a disease consuming blood in the vaginal area."* (Interview Participant 6)

Most inmates perceived cervical cancer as deadly if one does not get screened in time and acquire medical attention. The study revealed that the topic of cervical cancer inspired fear and anxiety among most women as it is perceived to be very dangerous to the extent that one loses their womb or even die from it. Another participant in one of the Focus group discussions

expounded on why cervical cancer and any other cancer inspires fear among people, she continued to say:

> *"This 'khansa' disease is worse than HIV, because when you are found to be HIV positive, you can still live a long full life with the ARVs which are provided by the government for free, but cancer I have heard that you have to go to India to get treatment, otherwise here in Malawi, you will die".* (FDG1 participant 3)

> *"When I hear that someone has cervical cancer, we just assume they are in terrible state"* (FDG 2 participant 6, 5)

From the study, it was assumed that the definitions were varying based on the level of education of the women. While the majority of the women attended primary school and have the Junior Certificate of Education (JCE), the others defined cervical cancer as they had 'heard" within their communities and in public messages/jingles on radios and Television.

4.4 Risk Factors Associated with Cervical Cancer

Upon exploring the possible risk factors associated with Cervical cancer, the women perceived the following factors contributed to women in general suffering from the disease; use of vaginal muscle tightening chemicals and soaps, reoccurring vagina infections, having multiple sexual partners, and use of contraceptives.

4.4.1 Vaginal Soaps and Douching

Use of vaginal tightening chemicals/soaps to wash and insert into the vagina was a popular factor that may lead to cervical cancer as shared by the prisoners. It was believed among the women of childbearing age that after a woman gives birth to a child through natural delivery, the vagina muscles become loose and does not provide the same pleasure during sexual intercourse as it did

before childbirth. It's to these beliefs that women resolve to use vagina muscle tightening soaps/ chemicals by washing with and inserting them into the vagina to tighten its muscles.

> *"You know women talk and share tips about making a man feel good when they are in bed with you. One of my friends was putting muscle tightening chemicals and soaps in the vagina in order to keep it small for men. She got very sick. I believe It is those medicines that can also cause cervical cancer".* (FDG 2 participant group, 8)

> *"Herbal medicine is worn together with the underwear in order to tighten the vagina musclea"* (FDG 1 participant 4).

A term they referred to as *"Mankhwala ovalira"* which translates to medicine that is worn.

The women further reported that these muscle tightening chemicals include pouring soda drinks such as coca cola, inserting a combination of herbal medicines inside the vagina and other items for a period of at least 2 days and 5 days respectively.

> *"Us Muslims are taught some tricks to make a man cry in bed, we used to insert a hot egg into the vagina to make it warm and tight before having sex"* (interview 11)

While over half of the participants agreed that this was a possible contributing factor to Cervical cancer, some of the women believed that cervical cancer is mainly caused by general lack of personal hygiene around the genitals.

> *"As a woman, you need to clean your private parts often, when you bath but don't wash your private parts, they stink, the smell means there are bad things there and then you have infections."* (IDI participant 6)

4.4.2 Recurrent Vagina Infections

It was discovered during the study that the sanitary conditions of the female section in the prison were not ideal and they posed a health concern among the prisoners. The prisoners used common bathrooms and toilets to which disinfectants are not provided for use in the bathrooms or on utensils.

> *"The sanitary conditions here in prison are very bad and there is nothing we can do about it, for example, one bathing basin is used by a minimum of 14 people each morning. There is no chlorine that we use to clean the utensils. So, if the previous user had an infection, it is just a matter of time it comes to me".* (IDI participant 13)

The basins are cleaned with tap water in readiness for the next person to use. The women believed this practice increased their chances of contacting infectious diseases such as candidiasis which is very common among the women at Maula Prison. Treatment of the infections is also minimal at the prison, as treatment is provided when the medication is available and most times, it is not available at the prison clinic. Due to the frequency of recurrence of the infections, these women choose not to seek for treat anymore as treatment was of no point. When asked how often they would describe the recurring infections, most of the women described it as a monthly recurrence.

> *"Even after you receive medicine for the infection, soon after you recover, you will see that you have Mauka again."* (IDI participant 8)

> *"When you have had Mauka for a long time without treatment or multiple times, they can make you barren, I think that is also the beginning of cancer"* (FDG2 participant 3)

4.4.3 Multiple Sex Partners and Use of Contraceptives

Having multiple sexual partners at a younger age was one of the common responses to the possible causes of cervical cancer among women. Some of the participants had shared that men are the carriers of the disease and they infect women during intercourse, especially when they are uncircumcised. Most of the women on the other hand perceived that this it is as a result of accumulation of different sperm cells from different men for an elongated period e.g. from teenage to thirties. Some of the women were quoted as follows:

> *"Imagine a 14 year-old starting to have sex, the cervix is tender and not mature enough to begin having children, this increases the chances of getting cervical cancer."* (FDG1 participant 8)

> *"Different men have different kind of semen and when you start to have sexual intercourse while you are young, that should affect your womb because of different semen."* (FDG1 participant 5)

> *"HPV is the virus that causes cervical cancer, men do not get infected with the virus but once it is in the cervix, you develop cervical cancer."* (IDI participant 13)

> *"Uncircumcised men carry the virus when they don't clean their genitals well and when you have sex with such men, you get cancer."* (FDG 2 participant 4)

On the other hand, the women also thought that the use of contraceptives was considered to be a contributing factor for cervical cancer. It was described during the interviews that some of the contraceptives such as pills and the injection, have negative side effect on different women,

depending on their body types. Some women experienced dryness in their genitals, heavy menstruation, sores and experience very low libido during the time they are using contraceptives. It was thought that the hormones that are found in contraceptives have got an effect on the reproductive system of the women. They said continuous use of such contraceptives may also result into cancer of the cervix.

> *"I went to get an injection after giving birth to my first child, everything was okay from the day of the injection until I started my menstruation, I experienced continuous bleeding for 3 months, which happened throughout the duration of the injection. I suspect, this can also cause cancer because the chemicals in the injection are very bad"*. (IDI participant 7)

> *"I know a woman who was using contraceptive pills for years, the pills did not show any negative side effects all along until she was found with cervical cancer"*. (IDI participant 9)

4.5 Access to Cervical Cancer Screening Services at Maula Prison

This section presents the experiences of women who have undergone screening in prison or before incarcerations as well as those that have not utilized but have heard similar experiences from others that have undergone screening. It focused on the accessibility and availability of cervical cancer screening services at Maula prison. The prison Officer in Charge was interviewed to assess the environment of the female prison in terms of health care provision and the availability of screening services at the prison. It was discovered that Maula prison had a total of 84 female prisoner's incarceration, a functional dispensary, and a consultation room. It was also reported that cervical cancer screening services were made available in the prison randomly depending on the availability of the screening entity (both government and NGOs). When asked

about the willingness of prisoners to participate in the screening exercises, it was reported that there was good representation with more women agreeing to screen than those that did not agree to.

Similarly, interaction with the prisoners also revealed that Cervical cancer screening services are not always available at the prison. These services are outsourced and not available at the prison clinic. Women who show cervical cancer-like symptoms at the prison clinic are referred to Kamuzu Central Hospital (KCH) for screening and treatment.

> *"Screening is only available when organizations come to do the screening. It is not available at the prison clinic. And it is difficult to go for screening while we are here, in prison."* (FDG1 Participant 3)

> *"There was a time I was suspecting that I have cancer of the cervix. I was bleeding but yet I have already reached menopause. I was also experiencing sharp back and abdominal pain. This was during the time I was already here in prison." I reported to the clinic to request for screening, the clinic was unable to do so, but they arranged for me to go for check-up at Central hospital".* (IDI participant 7)

For most women at Maula prison, access to cervical cancer screening services were provided from organizations who visit the prison at least once a year. Even when these services are available, not all inmates are screened and informed of the outcome of the screening, only a selected few have this access to the services due to a few reasons such as inadequate sensitization and favouritisms by prison officers. While the majority of the long-sentenced prisoners (more than 24 months incarceration) described the access of the service as free to the public (for all who wish to access in the prison), short- sentenced inmates had a different view of this. The study

revealed that inmates that have been in the prison longer tend to gain favours from the prison authorities and benefit from interventions that come to the prison most often unlike the others. For instance, when the prisons are visited by charity organizations, only few inmates that have been in the prison for long and some others who get along with officers are the ones that benefit from the visit. On the other hand, when there is research going on, the officers select anyone they like to participate and leave the favourites aside. Refusing to participate may result into bad relationships with the officers and the inmates that have stayed for a long time.

> *"Sometimes we are forced to participate in events that we don't want to and other times, we are refused to participate in events that we were willing to take part in."* (IDI participant 9)

On the other hand, poor health care access in the prison is perceived to have affected the prisoner's attitude and health seeking behaviour to the extent that, prisoners believe they deserve the lack of adequate medical attention. The inmates see this as normal for offenders and most of all they reported to have lost faith in the government's capacity to provide medical support in the prison and feel that they are undeserving of decent living and health standards while in prison, simply because they are offenders.

> *"For a woman to know that they have cervical cancer and seek medical attention while here in prison is difficult, imagine I have been here for a year, these services have not been provided to us since. If I have the cancer, doesn't this mean the situation is worsening as time goes?"* (IDI participant 15)

4.6 Perception of Prisoner's Health Status

This section presents findings regarding women's perception of their health status before and while in prison, to understand the different circumstances that women face in the prison and how they affect their sexual reproductive health. Additionally, it sought to explore the health seeking behaviour of the women before and while in prison.

Most inmates believed their health status was declining during the period they have been in incarceration as compared to the time they were not in prison. They shared the following reasons that contributed to these views:

4.6.1 Length of Time to Process Hospital Referral Requests

Hospital referrals take time to process and are made only to the government hospitals. Some prisoners expressed interest to go to private hospitals for better treatment, but this is not possible during their incarceration even if the prisoner or their family could meet the cost.

> *"It takes a minimum of 7 days to process a hospital referral. Unless it's an emergency, the internal processes to finalize a referral takes long. The issue is presented to the officer on duty and the officer has to contact the Police who were responsible of bringing me to the prison, after that then they arrange for me to go to the hospital. By the time they come to get me to the hospital, I have suffered for a long time."* (FDG2 Participant 7)

> *"Some of us could inform our relatives to help us pay for better medical care if we were given the opportunity to do so. There is no medicine at the KCH except paracetamol."* (IDI participant 5)

Since money is not easy to make in the prison, inmates have limited access to drugs especially when their families do not bring them any. These women often live with the pains of disease and have poor access to health facilities during the period they are in prison.

4.6.2 Pro-longed Scheduled Visits for Some Medical Procedures

Other than normal consultations, some medical services have specific dates to be provided to the prison population and not basing on demand or need. These include cancer screening services, HIV and Tuberculosis testing and treatment among others. Periodic provision of these services puts the prisoners at a disadvantage as their medical conditions may worsen and this contributes to an unhealthy prison population all together.

> *"You cannot depend on the medical visits that are done here in the prison, the organizations come as they wish and not because there is a demand of the particular service"* (IDI participant 3)

> *"You might have come into prison with the disease and because there is no good screening here, the problem may be worsening."* (FDG1 participant 4)

> *"I have been diagnosed of cervical cancer, and I had scheduled visits to review my health. While I am here, I have no idea if the situation is worsening or the same since we are not allowed to go out for check-up visits."* (FDG2 participant 5)

4.6.3 Lack of Sanitary Environment and Utensils Used in Prison

During the period of study, the female ward at Maula prison had a total of 84 prison inmates as at 22 February 2020. These inmates used common toilets and bathing basins. There seems to be pressure on the resources available due to the numbers of inmates. For instance, one (1) bathing

basin is used with at least a minimum of 14 women every day. Soap is not provided for by the prison, but inmates families who can provide soap to their relations, do so. These bathing basins are not allocated to specific group of people for a specific period to ensure their care or cleanliness. They are left for the use by anyone who wishes to utilize them at random. In addition, the prison service does not provide disinfectants or antiseptic such as chlorine for cleaning in these common areas and utensils to avoid transmission of infections. Infections such as Candidiasis never end in the prison.

Other than the environment, the prison dietary conditions was also perceived to affect women's health while in prison, especially women with pre-existing conditions such as HIV.

> *"For me who is HIV positive, while I was at home, I made sure I ate food and fruits that would boost my immune system and compliment my diet, while here in prison, we have no choice but eat what is provided for us and eating fruits is considered a luxury here in prison".* (IDI participant 5)

4.7 Benefits of Cervical Cancer Screening Services

The participants shared that early diagnosis and treatment were the key benefits of cervical cancer screening. They explained during the FDGs that going for screening was good for their health and also to know their status and be assisted accordingly.

> *"Why would I not go for screening when its available??, I am my own keeper, even if my husband can refuse me, I would still do it because I don't want to die early"* (IDI participant 13).

> *"It is good to go for screening because you know your health and how to take care of yourself"* (FDG1 participant 3)

"It is also good to do the screening especially for young girls who are about to start having families, it's good for their planning". (FDG2 participant 5)

The participants also indicated that they were more willing to go for screening when they were advised by medical doctors to do so. They believe if it is coming from the medical doctor, then there could be signs and symptoms of cervical cancer. Other women shared that they underwent screening after a friend had undergone screening with a negative outcome (no cervical cancer). The participants were also able to describe some of the consequences of not going for screening in time and reported that Screening reduces their risk of dying significantly.

"When I was growing up, my mother told me there are two people who I must never lie to, a doctor and a teacher. So, if a doctor says you need screening, I cannot refuse or hide my condition. Those people know a lot about the body." (IDI participant 10)

"When they catch the cancer at an early stage, it can be treated before it spreads to the other parts of the body. I lost my uterus after giving birth to my first born, lucky enough they found that I had cancer while it was still early and now, I am fine." (IDI participant 8)

7.8 Challenges Faced by Inmates in Accessing Cervical Cancer Screening Services

The study explored some challenges that the women face when accessing cervical cancer screening services and how this affects their willingness to go for screening in the prison. There were several factors including, pain during the screening process, presence of male practitioners conducting screening, poor treatment by authorities and health workers and favouritism.

7.8.1 Pain During the Process

Half of the women in one of the FGDs mentioned that screening was a painful process. The extent of the pain varied among the participants, from extreme pain to a mere discomfort. The women did not describe the source of this pain but majority of them perceived that one of the possible causes of the pain could be as a result of contracted muscles of the vagina wall due to sexual inactivity and use of cold water when cleaning their genitals. Additionally, continuous bleeding for 48 hours after undergoing screening and elongated menstruation with heavy bleeding following screening was another issue's participants experienced and shared after undergoing screening. These issues negatively affected their life in prison since sanitary pads in the prison were scarce.

> *"When we bath with hot water, and have sex regularly, the body is kept warm, soft and the muscles are relaxed while when we bath cold water, plus not having sex tightens our muscles, perhaps this is why the machine was very painful. Am sure if I underwent screening while I was at home, the pain would not be the same."*

> *"It would help if they tell us they are coming one week in advance so that, we can use hot water when we are bathing, this would help with the pain during the screening process."* (IDI participant1).

> *"After I came back from screening, I started bleeding continuously for a week, this happened while I had already had my menstruation the previous week." (IDI participant 1)*

4.8.2 Presence of Male Practitioners Conducting Screening

Some of the women reported that they felt uncomfortable to undress and undergo the procedure with male health service providers. The women therefore opted to shun away from undergoing screening when it's conducted by men. The women described the matter as embarrassing and scary because it's easy to get raped.

> *"It is easy to undress in front of another female and it is also less scary because women don't rape each other."* FDG 1

> *"It is embarrassing for a man to see my private parts after a long time."* (IDI Participant 15)

4.8.3 Poor Treatment by Authorities and Health Workers

Despite the availability of the screening services from time to time, one of the barriers to accessing screening services was due to poor treatment of the health workers providing the services. The treatment instils fear in the inmates, and they tend to look away from seeking medical care. Most of the women believed that prison authorities and the medical personnel in the prison feel that prisoners are bad people who have lost their rights as long as they are serving their sentence.

> *"The officer was harsh and shouted at me during the screening process. The equipment they use is very good, but it is painful when it is inserted. I was not allowed to express any pain or discomfort during the process because I am a prisoner."* (IDI participant 11)

4.8.4 Favoritism by Prison Officers

For most women at the prison, access to cervical cancer screening services was not easy, not all inmates are screened and informed of the outcome of the screening, only a selected few have this access to the services due to favoritism by prison officers. While most of the long-sentenced prisoners (more than 24 months incarceration) described the access of the service as free to the public (for all who wish to access in the prison), short- sentenced inmates had a different view of this. The study revealed that inmates that have been in the prison longer tend to gain favors from the prison authorities and benefit from interventions that come to the prison most often unlike the others.

> *"Sometimes we are forced to participate in events that we don't want to and other times, we are refused to participate in events that we were willing to take part in."* (IDI participant 9)

> *"I was told I have the virus for cervical cancer a year after the time I was screened"* (IDI participant 12)

CHAPTER FIVE: DISCUSSION

5.1 Introduction

The discussion of the findings of this study were outlined in the thematic areas developed from the previous chapter.

5.2 Knowledge of Cervical Cancer and Its Risk Factors

The women's knowledge of cervical cancer screening while in prison was one of the focus areas of the study. Knowledge, attitude, perceptions and practice of the community about any disease including cervical cancer and its factors offer crucial opportunity for comprehensive prevention and control strategies of the disease. While lack of knowledge of screening programmes is the most common reason for not being screened for cervical cancer among women in the society [52,54], the situation is different among imprisoned women at Maula Prison. To this group of women, lack of information did not come out as a hindrance to screening at all. While some of the women were well-informed about its source as a sexually transmitted virus, others reported misconceptions and myths about the disease. The participants in this study perceived cervical cancer as dangerous, common and may affect any woman of childbearing age. Earlier studies, from Malawi suggest trends of increasing knowledge about cervical cancer and a heightened sense of susceptibility [12]. This is consistent with the findings of this study. The increase in knowledge for cervical cancer may be attributed to the two initiatives the government of Malawi undertook in the past years from 2016. The Malawi primary school curriculum and structure covers subjects of health, social and life skills as early as standard 3 [55]. More knowledge of sexual reproductive health education is believed to be obtained from extra-curricular clubs and classes such as the Girl Guides Associations [56]. These clubs help young girls understand more of their sexual reproductive health through the various topics outlined in the Comprehensive Sexuality Education tool [56].

Additionally, the Malawi government through the ministry of health embarked on a mission to ensure universal access to sexual and reproductive health care services for all through their commitment to the SDGs [33]. Malawi introduced the National Cervical Cancer Control strategy for 2016- 2020 in the fight against cancer mortality and morbidity. Awareness of the disease was one of the areas that required interventions [6]. Messages were publicly circulated through mass media across the country utilised radio jingles, television promotion clips, posters and through T-shirts [6,32]. Messaging of cervical cancer awareness focused on describing the diseases, its possible causes, and it's prevention [32]. Furthermore, awareness campaigns were also carried out to introduce Cervical Cancer Vaccine for all girls from the age of 9 years old [6]. The interventions as highlighted above are believed to have contributed to the increase in knowledge of cervical cancer among women as evidenced in this study.

5.3 Access and Benefits of Accessing Cervical Cancer Screening Services

Despite having most of the participants undergone screening once or never, most of the women understood the benefits of screening for early diagnosis and treatment avoids adverse effects of the disease. The main barrier that affected the women's access to screening while in prison was the availability of the services. The services that were provided in the prison were reported as outsourced, made available from time to time and were carried out through mobile clinics. Various studies have shown that Mobile Health Clinics are effective in facilitating access to health care, particularly for minority groups [57]. They are also believed to improve the health seeking behaviour of people due to their convenience [57]. However, the availability of these services in the prison were rather unpredictable and often took long (more than 12 months). This finding contribute to the broader literature around high knowledge of cervical cancer against low screening among women in Malawi [58]. A study conducted in Ethiopia found out that 53.7% of its participants had good knowledge of cervical cancer and only 9.9% of participants had been screened for cervical cancer before the study [59]. Similarly, a study conducted in Malawi

discovered high awareness of cervical cancer with about half of the participants as screening-inexperienced (never screened or screened for the first time) while all of the women understood the benefits of screening and the importance of early identification before the cancer progresses [12]. This therefore indicates the need for further research to establish various reasons why knowledgeable women do not go for Cervical Cancer screening.

5.4 Perception of Health Status in Prison

Poor diet and hygiene, prolonged scheduled visits and poor referral system were contributing factors to poor women's health in the prison. The women perceived being in prison has a negative impact on their health. Unsanitary conditions of the prison made the health conditions worse for the women as they often resulted into recurrent infections and transmission of communicable diseases [28]. As a low resource country, Malawi requires to intensify its health systems strengthening approaches particularly those targeting prisons [60]. Medical conditions of prisoners are likely to worsen during incarceration due to poor access of health care [26]. The government of Malawi must look beyond correction purposes of prisons and begin to focus on wellbeing of its prisoners since health of the prisoners have an impact on the community and families which they return to upon release [39].

5.5 Challenges Faced by Inmates in Accessing Cervical Cancer Screening Services

Despite the willingness of women to undergo screening while in prison, they also expressed concern over favouritism and poor treatment by prison officers as a challenge that contributed to low screening among the women. While most of the prisoners who were serving longer sentences (more than 12 months) described the access of the service as free to the public (for all who wish to access in the prison), the inmates who were serving shorter sentences had a different view of this. The study revealed that inmates that have been in the prison longer tend to gain favours from the prison authorities and benefit from interventions that come to the prison most

often unlike others. A study conducted in Louisiana, USA revealed that prisoners reported negative experiences with healthcare during incarceration including disrespect from Prison Officers [61]. With the increasing pressure on the human resource to manage the increasing numbers of inmates at the Maula prison, it is believed that the poor treatment of inmates is as a result of this pressure. A 2018 Malawi Inspectorate of Prisons Report to the Malawi Parliament indicated to have 630% over capacity with a total of 3026 inmates against 480 recommended capacity of the Maula Prison [60]. Overall, in 2018, the Malawi prison system reported to be at 260 percent of its official capacity, with 14,778 prisoners occupying spaces built for only 5,680 persons [60]. Reported common causes of death in the prisons include tuberculosis, diarrhoea, anaemia, and malaria [19]. With the prisons at overcapacity, it is evident that prison officers are overwhelmed and overworked in order to manage the pressure thereby resulting to poor service provision to the inmates.

It was clear from the participants that screening was essential in preventing Cervical Cancer, however, the findings of this study revealed that the participants experienced and perceived cervical cancer screening as unpleasant, uncomfortable and painful, similar to a study carried out to investigate Women's attitudes and beliefs about cervical cancer in Malawi [49]. The study revealed that despite having good knowledge and understanding of the benefits of screening and the importance of identifying problems early, before cervical cancer has progressed, most of the women had never been screened or were screened for the first time during the study due to rumours about dangers and discomforts of screening [49]. It was highlighted that confidence and relief is a guarantee upon undergoing screening particularly after a negative result. Women who received negative results from screening previously, expressed their interest to recommend screening to others [62,63]. The study participants that underwent screening before incarceration disclosed to have known someone who was diagnosed of cervical cancer as one of the reasons they underwent screening. This finding is contributing to the broader literature from sub-Saharan

Africa who identified the importance of interpersonal relationships for promoting cervical cancer screening [12]. The findings were also similar to the Cervical cancer screening uptake and challenges study in Malawi [4].

Despite the participants' perception of the screening process, the attitudes of medical care givers during the screening process was another factor that affected the screening culture among women in prison. This was described as demotivating and demeaning for the women who had gone through a similar experience. This finding is consistent with a study conducted on women prisoners' experiences of primary care in prison in England. The study revealed that women prisoners perceived staff's quality of care as poor and complained about difficulties in accessing care or medication, disrespectful treatment, and breaches of confidentiality by practitioners in the prison. This therefore calls for a mindset change by channelling information about prisoner's health to prison officers. This may improve the attitudes of prison officers and improve the prisoners' access to health.

Preference of having female practitioners conducting the screening exercise other than male health practitioners was also expressed as one of the factors that can improve screening in the prison. The participants described the presence of a male practitioner as a hindrance to women's willingness to access screening. Similar to this finding was the Impact of Patient- Provider Race, Ethnicity, and Gender Concordance on Cancer Screening study conducted in 2017 in America [62]. The study revealed and recommended that in the attempt to increasing the screening culture among women prisoners, use of female health practitioners may significantly impact the practice [62]. Due to the nature and sensitivity of the exercise, the women reported to have felt shy and uncomfortable to undress in the presence of a male unlike fellow women.

Incarcerated women generally experience gender-specific health-related challenges, which include menstruation, pregnancy and childbirth, care of their children within and outside of prison, development of certain forms of cancer, and are often exposed to gender-based violence in the form of physical/sexual abuse by prison officers and male prisoners [64]. The Maula prison was not exceptional over these conditions. In light to the general sexual reproductive health of the women prisoners, toilets and bathrooms used in the prison were not to the best hygienic and sanitary condition. There was inadequate provision of disinfectants for regular cleaning of floors, utensils and toilets. It was discovered during the study that disinfectants are usually on low supply or at all not available for months in the prison. In 2001 to 2017, a study conducted in SSA reported prisons conditions were characterized by insufficient, overflowing, non-functional toilets and bathing facilities with some water points close to sanitation outflows, and bathing buckets sometimes used as toilet facilities in the night [65]. This is assumed to increase the spread of infectious diseases among the women prisoners that further degrades their health. Furthermore, the medication to treat infections such as Candidiasis among others, are also inadequate and often not available at Maula Prison. This therefore indicates that cases of disease infections may be persistent, reoccurring and usually untreated among the prisoners. This finding is in line with a study that conducted a systematic review of dynamic models of infectious disease transmission in prisons and the general population. In this study, it was perceived that Incarcerated populations experience elevated burdens of infectious diseases, which are exacerbated by limited access to prevention measures. The study revealed that prison-based screening and treatment may be highly effective strategies for reducing the burden of HIV, TB, HCV, and other sexually transmissible infections among prisoners [66].

5.6 Study Limitations

The study did not interview Prison Clinic Officers to discuss their view of the matter due to limited financial and human resource and this was considered as one of the study limitations.

The study did not review prison clinic records to establish the level of participation in cervical cancer screening exercises at the prison. Future research is needed to establish the factors that affect cervical cancer screening in imprisoned women from the Prison Management's perspective. This literature may contribute into policy and intervention approaches for prison health. However, the strengths of the study dwell on the thoroughness of the data collection and analysis for the women prisoners. The methods used in obtaining data supports and provides insights to the qualitative aspect of cervical cancer screening in imprisoned women.

Other challenges that were encountered during the study period include delayed feedback on the protocol from COMREC which delayed the data collection and analysis of the study. This was however resolved by adjusting the research schedule to reflect new times after multiple follow ups with COMREC.

The impact of Covid-19 Pandemic across the globe and in the country which resulted to the closure of the college affected the study since there was limited access to the library and other materials that could have been helpful to the study. Additionally, the pandemic affected both the academic and employment schedules which implied focusing more time responding to the outbreak and ensuring safety of the researcher and their surroundings. This was addressed by adopting to new schedules from work and flexibility of the study supervisor as they operated and provided support from home throughout this period. Personal Protective Equipment was utilised at each time the researcher was in contact with participants or the prison staff. In so doing, the researcher managed to finalise the process while protecting themselves and their counterparts.

5.7 Conclusion and Recommendations

5.7.1 Conclusion

The study revealed that the women at Maula prison had knowledge of cervical cancer and its associated risk factors even though some women reported misconceptions. The women perceived their health was deteriorating during the period of incarceration as a result of poor prison conditions and environment. The women expressed interest to undergo screening in the prison with a few challenges described as hindrance to the screening process. Improving the challenges would significantly increase screening uptake among the population. Recommendations to improve screening uptake in the prison are as follows, inclusion of cervical cancer screening to the mandatory health screening exercise that is conducted upon entry into the prison by all prisoners and ensuring consistent provision of cervical cancer screening services at the prison which should be conducted by female health practitioners. Secondly, conducting in-depth awareness and sensitization with participants before screening in order to eradicate fears, provide assurance and clarification of the screening process and lastly, channeling information and conducting awareness and sensitization sessions to prison officers and health workers may improve the prisoners' access to health care during incarceration.

5.7.2 Recommendations

The recommendations highlighted below were discussed and derived with support from the participants of the study to ensure appropriate and suitable interventions for the beneficiaries here in referred to as participants of the study. The study recommends consideration of the strategies below that may increase cervical cancer screening uptake among female prisoners. The recommendations are presented according to emerging themes.

5.7.2.1 Consistent Provision of Screening Services and Use of Female Health Practitioners During Screening Exercise

Ensuring consistent provision of cervical cancer screening services at the prison and ensuring the availability of female health practitioners to perform the procedure was one of the approaches that may increase uptake of screening among inmates. Taking into consideration the number of inmates that are sent into the prison each month, it was considered reasonable to organise screening exercises consistently. The participants of the study described provision of screening services bi-monthly as ideal and commendable compared to the current practice of once a year. However, the aim concern is to ensure that all women in incarceration are screened, aware of their status regarding cervical cancer and they are treated accordingly during the period they are in prison. The study therefore recommends the inclusion of cervical cancer screening to the mandatory health screening exercise that is conducted upon entry into the prison by all prisoners.

Additionally, the study further recommends use of female health practitioners in carrying out the screening exercise in female Prisons. Use of male practitioners has an effect on the women's participation in screening exercises due to the sensitivity of the procedure. Adoption of female health practitioners in carrying out the screening in prison may encourage women to undergo screening comfortably hence increasing the uptake of screening among imprisoned women.

5.7.2.2 Conducting in Depth Awareness and Sensitization Meetings for Knowledge Sharing in Prisons

Conducting in-depth awareness and sensitization with participants before screening in order to eradicate fears, provide assurance and clarification of the screening process was also considered one of the strategies that may increase screening uptake in the prison. Due to the varying beliefs and myths around cervical cancer among women in prison, conducting in depth awareness and sensitization meetings before the screening process would increase the prisoners' knowledge of

cervical cancer and the screening process. It is believed that more understanding of the matter may assist the women to make informed decisions towards screening. The meetings must aim at informing and supporting women understand the process of screening and therefore minimize the spread of myths and rumours of bad screening experiences which discourage other inmates who are willing to access the services.

The study also recommends health awareness and sensitisation sessions targeting prison officers with the aim of addressing poor treatment to prisoners. Poor treatment of prisoners in the prison and while accessing medical care was mentioned to be a hindrance to screening and accessing health care all together. Treatment of the prisoners by prison officers can be affected by several contributing factors which the study did not explore. However, channelling information and conducting awareness and sensitisation sessions to prison officers may improve the prisoners' access to health care during incarceration.

5.7.2.3 Use of Models in Knowledge Management

The study also recommends the use of models in Knowledge Management among women prisoners. Creating platforms to share successes and lessons learnt with inmates by their fellow inmates who have undergone the Screening process, would also be one of the effective ways to encourage women in prison to get screened for cervical cancer. Model women are considered to be, an individual or group of women that have undergone screening and came out with either a positive or a negative result. It is assumed that upon sharing of their experiences of screening regardless to their outcome, the other women would be motivated and encouraged to do the same. The discussions, however, must emphasize the importance of going for screening even when they do not feel or see any signs of the disease. This approach may also increase the uptake of screening among prisoners which will eventually lead to a decrease of the burden of cervical cancer as a result of early diagnosis and treatment.

5.7.2.3 Conducting Further Prison Studies

Lastly, the study recommends further prison studies to establish the perception of Prison Management to Cervical Cancer vulnerability in female prisoners and to measure the effectiveness of Cervical Cancer Screening services in prison. The study recognised one of its limitations as lack of data from the above mentioned areas. Conducting further research in these areas may provide a clearer picture of the women's health and improve the provision of healthcare to the female prison population.

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APPENDICES

Appendix 1: Informed Consent Form

College of Medicine

1**) English version**

Title: Investigating the state of cervical cancer screening in imprisoned women in Malawi: A case of Maula prison.

Principal Investigator: Regina Mendulo College of Medicine, University of Malawi Self-Sponsorship

Introduction

I am a student at College of Medicine, a constituent college of University of Malawi, pursuing a master's degree in Public Health. In partial fulfilment of the degree program, lam required to undertake a research project. My study is entitled " The state of Cervical Cancer Screening in Imprisoned Women in Malawi: A case of Maula Prison ". I am going to give you information and invite you to be part of this research. You do not have to decide today whether you will participate in the research. I wish to inform you that participation is voluntary, and you are free to withdraw at any stage of the study when you wish to. During the interview you will be asked questions relating to cervical cancer, awareness and accessibility of cervical cancer screening services. Information shared during this study is confidential and will be treated with high discretion and confidentiality. Your identity will be kept anonymous and for use only for and during this study.

Purpose of the study.

As a minority group among the prison population, the female prison population is perceived to be negligible. Health care provision to female prisoners as stipulated in the Malawi Prison Act

and the constitution of Malawi Section 42 (1, b) is not carried out to full satisfaction [10]. Additionally, there has not been adequate research regarding the health of female prisoners particularly around the area of cervical cancer and its implications during incarceration. The findings of this study will provide information that may help to influence decision making for policy makers and actors in the health sector. In the hope of reducing the number of deaths as a result of cervical cancer.

Type of Research Intervention

The study will involve interaction with female prisoners, in order to explore their understanding towards the issue. The interaction will involve the use of interview guides for one on one interaction and focus group discussions. Kindly know that you will not receive any direct benefit from the study such as monetary gain. The study does not intend to pose any potential physical or emotional harm to the participants Nevertheless, the information that will be obtained from this study will be used to influence policy making regarding ways and means of improving the health of female prisoners and more specifically for cancer screening.

Participants Selection

I am inviting female prisoners within the age range of 18 to 49 years of age at Maula prison.

Voluntary Participation

Your participation in this research is entirely voluntary. It is your choice whether to participate or not and you may change your mind later and stop participating even if you agreed earlier.

Procedures and Protocol

You are being invited to take part in the research which aims at investigating the state of cervical cancer in imprisoned women in Malawi; Maula prison.

Duration

This study will be done over a period of ten (10) days. An interview guide will be provided to you which will take about 30 minutes of your time.

Risk

There is a possibility that the women may not be open to discuss matters concerning their sexuality to the researchers. To avoid this circumstance, participants are advised and given full information regarding the study and how it influences their health and the health of other women prisoners. Thereby minimizing the risk.

Benefits

There are no direct benefits to participants for participating in this study. However, the findings of this study will be used to influence policy and inform decisions for the prison facilities.

Reimbursements

You will not be provided with any payment to take part in the research.

Confidentiality.

The identity of participants will not be shared with external parties except the researchers. The information that collected from the research will be kept confidential. Any information about you will have a number allocated to it instead of your name. Only the researchers will know what your number is and it will not be shared with or given to anyone except College of Medicine Research Ethics Committee (COMREC).

Sharing the Results

The knowledge that I get from doing this research will be shared with College of Medicine and COMREC. The findings will also be shared with the institution under which the research will be conducted.

Right to Refuse or Withdraw

You do not have to take part in this research if you do not wish to do so. You may also stop participating in the research at any time you choose. It is your choice and your rights will still be respected.

Who to Contact

If you have any questions you may ask now or later, even after the study has started. If you wish to ask questions later, you may contact any of the following: Regina Mendulo, P.O. Box 30719, Lilongwe. Phone: 0888298411/999741999, Email: reginamendulo.rm@gmail.com. This proposal has been reviewed and approved by College of Medicine Research Ethics Committee (COMREC), which is a committee whose task it is to make sure that research participants are protected from harm. If you wish to find about more about COMREC, contact: Khama Mita, College of medicine - COMREC, P.O. Box 360, Chichiri, Blantyre, 0885528248, kmita@medcol.mw. Permission to conduct the research at Maula Maximum Prison has been granted by the Chief Commissioner of Prions.

I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions that I asked have been answered to my satisfaction. I consent voluntarily to participate as a participant in this research.

Print Name of Participant : _____

Signature of Participant : _____

Date : _____

Day/month/year

If illiterate

A literate witness must sign (if possible, this person should be selected by the participant and should have no connection to the research team). Participants who are illiterate should include their thumb-print as well.

I have witnessed the accurate reading of the consent form to the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.

Print name of witness :_____ AND Thumb print of participant

Signature of witness : _____

Date : _____

Statement by the researcher/person taking consent

I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the participant understood. I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily. A copy of this ICF has been provided to the participant.

Print Name of Researcher/person taking the consent: _____

Signature of Researcher /person taking the consent: _____

Date: _____

(Day/month/year)

Appendix 2: Interview Guide (English Version)

Interview Guide

Demographic Data	**Response**
Marital Status	
Age	
Number of Children	
Education background	
Prison sentence	

1. Tell me what you know about cervical cancer?
2. What do you think are the some of the causes of cervical cancer?
3. How would you access cervical cancer screening service while in incarceration?
4. How often would you utilise cervical cancer screening services when available?
5. Can you describe the reason you would utilise cervical cancer screening services
6. What are some of the reasons you would not utilise cervical cancer screening services?
7. What do you suggest should be done to improve utilisation of screening services among imprisoned women?
8. What challenges do you encounter in relation to cervical cancer screening?
9. How best can we address challenges faced in relation to cervical cancer screening?

- End of Interview guide, Thank you for your participation-

Appendix 3: Focus Group Discussion Guide (English Version)

Focused Group Discussions Guide Themes

Theme 1: Knowledge of Cervical Cancer and cervical cancer screening services

- What is the first thing that comes to your mind when you hear about cervical cancer?

Theme 2: Causes of Cervical Cancer

- What do you think are the causes for cervical cancer?

Theme 3: Effects of prison on women's health and screening for cervical cancer

- How can you differentiate your health status now while you are in prison compared to before?
- Can you say being in prison has increased your chances of developing cervical cancer?
- Can you describe your experience of screening?

Concluding remarks/ clarifications

Thank you for your participation.

Appendix 4: Informed Consent Form (Chichewa Version)

Fomu Yachilolezo

Mutu: Chikhalidwe cha Kafukufuku wa khansa yanchibelekero mu akazi otsekeredwa mu ndende ku Malawi: Nkhani ya Ndende ya Maula prison.

Wofufuza Wamkulu Mkulu: Regina Mendulo, College of Medicine, University of Malawi.

Choyamba

Ndine wophunzira ku sukulu yau kachenjede la Koleji College of Medicine, University of Malawi, yemwe ndimachita maphunzio a masters digiri a zaumoyo. Pokwaniritsa pang'ono gawo la digiriyi, ndikufunika kuchita kafukufuku. Phunziro langa lili ndi mutu wa " Chikhalidwe cha Kafukufuku wa khansa yanchibelekero mu akazi otsekeredwa mu ndende ku Malawi: Nkhani ya Ndende ya Maula prison". Ndati ndipeleke chidziwitso ndikukuitanani kuti mudzakhale nawo pa kafukufukuyu. Simuyenera kuchita kusankha lero kuti muchite nawo kafukufukuyu. Ndikufuna kukudziwitsani kuti kutenga nawo mbali ndi mwaufulu, ndipo muli ndi mwayi woti muchite kafukufukuyo mukafuna. Pakucheza kwathu mufunsidwa mafunso okhudzana ndi khansa ya khomo lachiberekero, kuzindikira komanso kupezeka kwa upangili wofufuza khansa ya khomo lachiberekero. Zonse zokambilana mu kafukufukuyi ndizachinsinsi ndipo zimasankhidwa ndikusungidwa mwachinsinsi. Chidziwitso chanu sichikhala chosadziwika ndikugwiritsa ntchito pokhapokha phunziroli.

Cholinga cha kafukufuku.

Zoyang'anira zaumoyo kwa amayi omwe ali mndende monga zikulembedwera mchilamulo cha Malawi Prison Act komanso lamulo la Malawi Gawo 42 (1, b) zikusonyeza kuti sizikukwanilitsidwa mu mandende athu. [10] Kuphatikiza apo, sipanakhale kafukufuku wokwanira wokhudza ndi umoyo wa akaidi achikazi makamaka kuzungulira khansa ya khomo lachiberekero ndi ka khalidwe ka m'ndende. Zotsatira za phunziroli zikuwunikira zomwe

zingathandize kwa opanga mfundo ndi ochita nawo gawo lazachipatala. Poyembekeza kuchepetsa chiwerengero chaimfa chifukwa cha khansa ya khomo lachiberekero.

Mtundu wa Kafukufuku

Phunziroli liphatikizira kulumikizana ndi akaidi achimayi, kuti athe kuwunika kumvetsetsa kwawo pankhaniyi. Kuyanjanaku kungaphatikizepo kugwiritsa ntchito malangizo azolumikizirana pamodzi pakukambirana limodzi ndi zokambirana pagulu.

Chonde dziwani kuti simulandila phindu lililonse kuchokera ku kafukufukuyu monga ndalama. Phunziroli silikukonzekera kuvulaza ena mwakuthupi kapena m'malingaliro kuwunika.

Kasankhidwe ka otenga nawo mbali mukafukufuku

Ndikuyitanitsa andende achikazi azaka zapakati pa 18 ndi 49 ali kundende ya Maula.

Kutengapo mbali mwakufuna kwanu

Kutenga nawo mbali kwanu pa kafukufukuyu ndikudzifunira nokha. Ndi kusankha kwanu kutenga nawo mbali kapena ayi ndipo mungasinthe malingaliro anu pambuyo pake ndi kusiya kutenga nawo gawo ngakhale mutavomereza kale.

Ndondomeko

Mukupemphedwa kutenge nawo mbali pa kafukufukuyu yemwe akufuna kumvetseta za khansa ya khomo lachiberekero mwa azimayi omwe ali mndende m'Malawi; Ndende ya Maula. **Nthawi**

Phunziroli lidzachitika kwa masiku khumi (10). Kucheza kwathu mu kafukufukuyi kudzakhala kwa mphindi 30 za nthawi yanu.

Chiopsezo

Pali chiopsezo choti azimayiwo osankhidwa munkalembela wakafukufukuyi, sangakhale omasuka kukambirana nkhani zokhudzana ndi zogonana kwa ofufuzawo. Popewa izi, malangizo ndi zidziwitso zokwanira zidzapelekedwa kwa otenga nawo gawo wa potsimikizila phindu la kafukufukuyi pa moyo wawo komanso ena amundende.

Phindu

Palibe phindu mwachindunji kwa omwe akutenga nawo mbali kafukufukuyi. Komabe, zomwe zidzapezeka pa kafukufukuyu zitha kugwiritsidwa ntchito pokopa mfundo komanso kudziwitsa anthu zisankho zandende.

Kubwezera

Simudzapatsidwa malipiro alionse kuti mutenge nawo mbali pa kafukufukuyu.

Kusunga chinsinsi.

Chidziwitso cha omwe atenga nawo mbali sichidzagawidwa ndi magulu akunja kupatula akatswiri ofufuzawo. Zambiri zomwe zizipezeka mukafukufukuyu zizisungidwa

mwachinsinsi. Zambiri zokhudzana ndi inu zidzakhala ndi nambala yomwe yapatsidwa m'malo mwa dzina lanu. Ofufuzawo okha ndi omwe angadziwe kuti nambala yanu ndi yotani ndipo siingagawidwe ndi wina aliyense kupatula College of Medicine Research and Ethics Committee (COMREC).

Kugawa kwa Zotsatira za kafukufuku.

Zotsatila zomwe zipezeke pakuchita kafukufukuyu zidzagawidwa ndi College of Medicine ndi COMREC. Kuphatikiza apo zotsatila zopezekazi zidzagawanidwanso ndi bungwe lomwe kafukufukuyu akuchitikila ku ndende ya Maula.

Ufulu Wokana kapena Kuchoka

Simuyenera kuchita nawo kafukufukuyu ngati simukufuna kutero. Mutha kuyimitsanso kutenga nawo gawo mu kafukufukuyi nthawi iliyonse yomwe mungasankhe. Kusankha kwanu komanso ufulu wanu udzalemekezedwa.

Yemwe Mungalumikizane naye

Ngati muli ndi mafunso omwe mungafunse tsopano kapena pambuyo pake, ngakhale kafukufuku atayamba. Ngati mukufuna kufunsa mafunso pambuyo pake, mutha kufunsa awa: Regina Mendulo, P.O. Box 30719, Lilongwe. Foni: 0888298411/999741999, Imelo: reginamendulo.rm@gmail.com .

Malangizowa adawunikiridwa ndikuvomerezedwa ndi College of Medicine Research and Ethics Committee (COMREC), yomwe ndi komiti yomwe ntchito yawo ndikuonetsetsa kuti omwe akuchita kafukufuku atetezedwa mu njira ina iliyonse. Ngati mukufuna kudziwa zambiri za COMREC, kulumikizanani ndi: Khama Mita, College of medical - COMREC, P.O. Box 360, Chichiri, Blantyre, 0885528248, kmita@medcol.mw. Chilolezo chochita kafukufukuyu ku Maula Maximum Prison chaperekedwa ndi Chief Commissioner of Prions.

Ndawerenga zomwe tawerengazi, kapena zawerengedwa kwa ine. Ndakhala ndi mwayi wofunsa mafunso okhudza izi ndipo mafunso aliwonse omwe ndafunsa ayankhidwa kuti ndikhutitsidwe. Ndivomera kutenga nawo nawo mbali pa kafukufukuyu.

Lembani Dzina la wophunzira :_____

Chizindikiro cha Wophunzira : _____

: _____ (Tsiku / mwezi / chaka)

Ngati osatha kuwerenga kapena kulemba

Mlaliki wodziwa kuyenera kulemba (ngati n'kotheka, munthuyu ayenera kusankhidwa ndi wophunzirayo ndipo sayenera kugwirizana ndi gulu lofufuza). Ophunzira omwe sadziwa kuwerenga ayenera kuphatikizapo chidindo cha chala chawo.

Dzina lofalitsa la umboni : _____ ndi chidindo cha chala chawo

Chizindikiro cha mboni : _____

Tsiku : _____

(Tsiku / mwezi /Chaka)

Ndondomeko ya wofufuza / munthu amene amavomereza

Ndawerenga mosamala zonse zofunika mukafukufuyu kwa munthu amene angathe kutenganawo mbali, ndipo mwakukhoza kwanga ndikuonetsetsa kuti wophunzirayo wamvetsetsa. Ndikutsimikizira kuti wophunzirayo wapatsidwa mwayi wakufunsa mafunso okhudza kafukufukuyu, ndipo mafunso onse omwe wophunzirayo wafunsa, ayankhidwa molondola komanso mwakukhoza kwanga. Ndikutsimikizira kuti munthuyo sanakakamizidwe kuti apereke chilolezochi, ndipo chilolezochi chaperekedwa momasuka ndi mwaufulu. Momwemonso, Fomuyi yaperekedwa kwa wophunzira.

Dzina la Wosaka / munthu yemwe atenga chilolezo

Chizindikiro cha mboni _____

Tsiku _____

Tsiku / mwezi / Chaka

Appendix 5: Interview Guide (Chichewa Version)

Mafuso achiwelengelo	**Yankho**
Ndinu apa banja?	
Muli ndi zaka zingati	
Muli ndi ana angati	
Maphunziro anu	
Chilango Chaku ndende	

Malangizo:

a. Chonde welengani ndikumvetsetsa funso lililonse musanayankhe.

1. Munamva bwanji za khansa ya mchibelekero?
2. Kodi khansa ya pachibelekero imayamba bwanji?
3. Kodi chithandizo cha khansa ya Mchibelekero mumachipeza bwanji pamene muli kundende?
4. Ngati chithandizo chounika khansa ya nchibelekelo chilipo muno mu ndende, mungagwilitse ntchito kangati?
5. Ndi zifukwa zanji zomwe zingakupangitseni kuti mugwiritse ntchito chithandizo chounika cha khansa ya chiberekero?
6. Ndizifukwa zanji zomwe zingakulepheletseni kugwilitsa ntchito njira zowunikila khansa ya nchibelekelo zitakhalapo.
7. Kodi tingachite chiyani kuti tipititse ntchito yowunika ndikugwilitsa ncthito chithandizo cha Khansa ya Mchibelekelo pakati pa amayi omwe ali m'ndende kuti chipite patsogolo?
8. Ndi zovuta zanji zomwe mumakumana nazo pankhani za kawunikidwe ka Khansa ya nchibelekero nthawi yomwe muli kuno ku ndende?
9. Kodi tingathetse bwanji mavuto omwe mukukumana nawo okhudzana ndi kuwunidwa khansa ya Mchibelekero kuno ku ndende?

Mapeto a Mafunso,

Appendix 6: Focus Group Discussion Guide (Chichewa Version)

MITU YA NKHANI

Mutu oyamba: Kudziwa za khansa yachiberekero komanso machitidwe a kansa ya chiberekero

- Kodi chinthu choyamba chimene chimabwera m'maganizo mwanu ndi chiyani mukamva za khansa ya pachibelekero?

Mutu wachiwili: Zifukwa za Khansa ya Chiberekero

- Kodi mukuganiza kuti khansa ya nchibelekelo imayamba chifukwa chiyani?

Mutu wachitatu: Zotsatira za ndende pa umoyo wa amayi

- Mukusiyanitsa bwanji umoyo wanu pakati pa nthawi yomwe muli muno mu ndende ndi mmene munali kunja?
- Kodi mukuganiza kuti Kukhala mundende kukuwonjezera mwayi wanu wodwala khansa ya Mchibelekero?
- Kodi chithandizo cha kuwunikidwa cha khansa ya nchibelekelo mungachipeze bwanji kuno ku ndende?

Mawu omaliza / kufotokozera.

- Mapeto a Mafunso, Zikomo chifukwa chotenga nawo mbali -

Appendix 7: Department Authorisation Letter

COLLEGE OF MEDICINE
Public Health Department

TO: Chairperson, COMREC

FROM: MPH Tutor

DATE: October 29, 2019

SUBMISSION OF MPH RESEARCH PROPOSAL

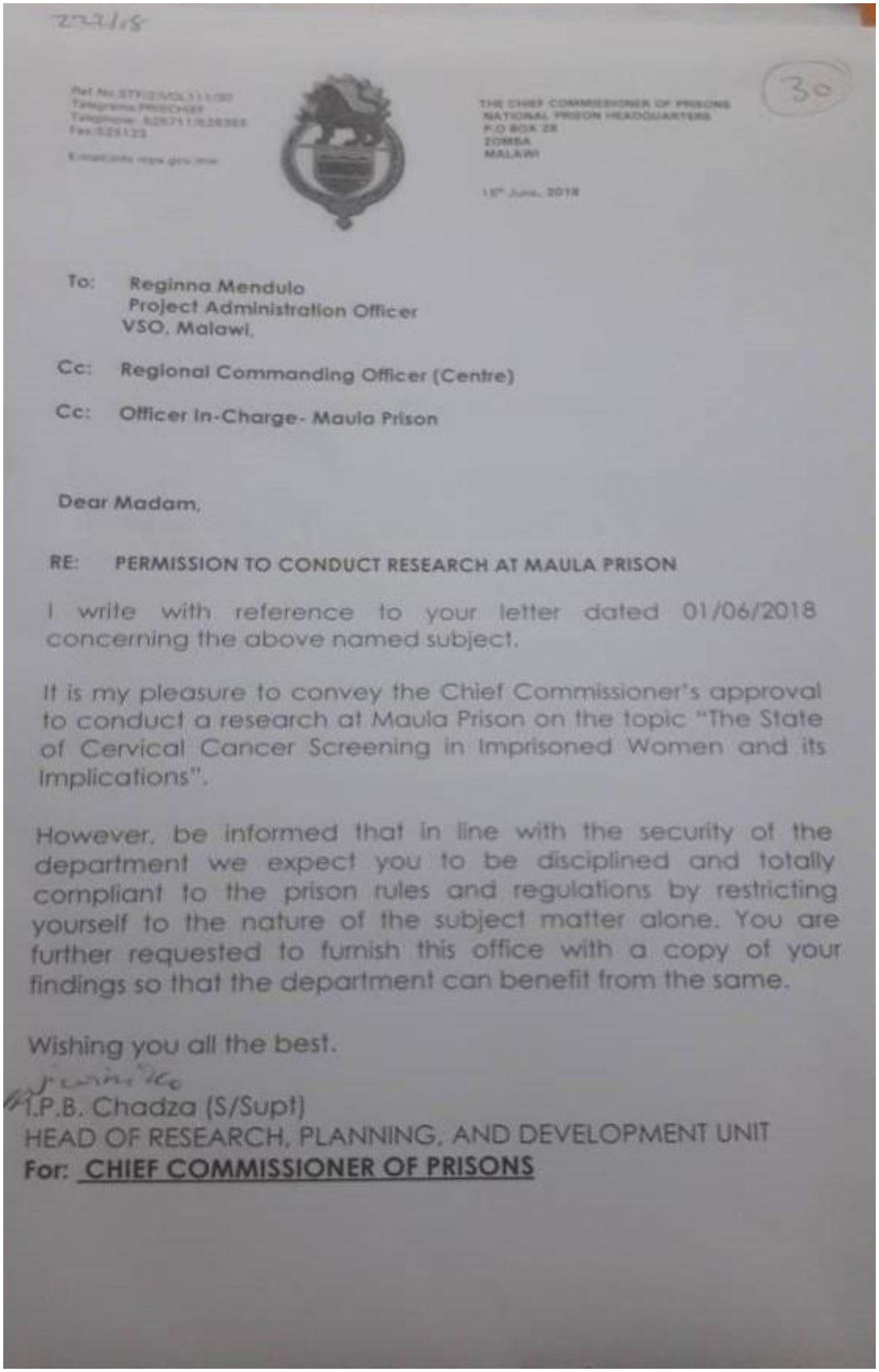
Please find enclosed research proposal from our MPH student Regina Mendulo, version I, entitled, **"The state of cervical cancer screening in imprisoned women in Malawi: A case of Maula Prison."**

The proposal was reviewed by the Public Health Research and Postgraduate Committee and was approved for submission to COMREC. The thesis supervisor of this student Dr. Isabel Kazanga Chiumia has endorsed the submission.

Thank you.

Dr. Susan Carnes Chichlowska
MPH Tutor

Appendix 8: Permission Letter- Maula Prison Services



THE CHIEF COMMISSIONER OF PRISONS
NATIONAL PRISON HEADQUARTERS
P.O BOX 29
ZOMBA
MALAWI

15th June, 2018

To: Reginna Mendulo
Project Administration Officer
VSO, Malawi.

Cc: Regional Commanding Officer (Centre)

Cc: Officer In-Charge- Maula Prison

Dear Madam,

RE: PERMISSION TO CONDUCT RESEARCH AT MAULA PRISON

I write with reference to your letter dated 01/06/2018 concerning the above named subject.

It is my pleasure to convey the Chief Commissioner's approval to conduct a research at Maula Prison on the topic "The State of Cervical Cancer Screening in Imprisoned Women and its Implications".

However, be informed that in line with the security of the department we expect you to be disciplined and totally compliant to the prison rules and regulations by restricting yourself to the nature of the subject matter alone. You are further requested to furnish this office with a copy of your findings so that the department can benefit from the same.

Wishing you all the best.

I.P.B. Chadza (S/Supt)
HEAD OF RESEARCH, PLANNING, AND DEVELOPMENT UNIT
For: CHIEF COMMISSIONER OF PRISONS

Appendix 9: Certificate of Ethics Approval

CERTIFICATE OF ETHICS APPROVAL

This is to certify that the College of Medicine Research and Ethics Committee (COMREC) has reviewed and approved a study entitled:

P.11/19/2890 - The State of Cervical Cancer screening in Imprisoned Women in Malawi by Regina Mendulo

On 07-Feb-20

As you proceed with the implementation of your study, we would like you to adhere to international ethical guidelines, national guidelines and all requirements by COMREC some of which are indicated on the next page for your study

07-Feb-20

Approved by College of Medicine 07-Feb-2020 (COMREC)

Prof. E. Umar -Chairperson (COMREC)

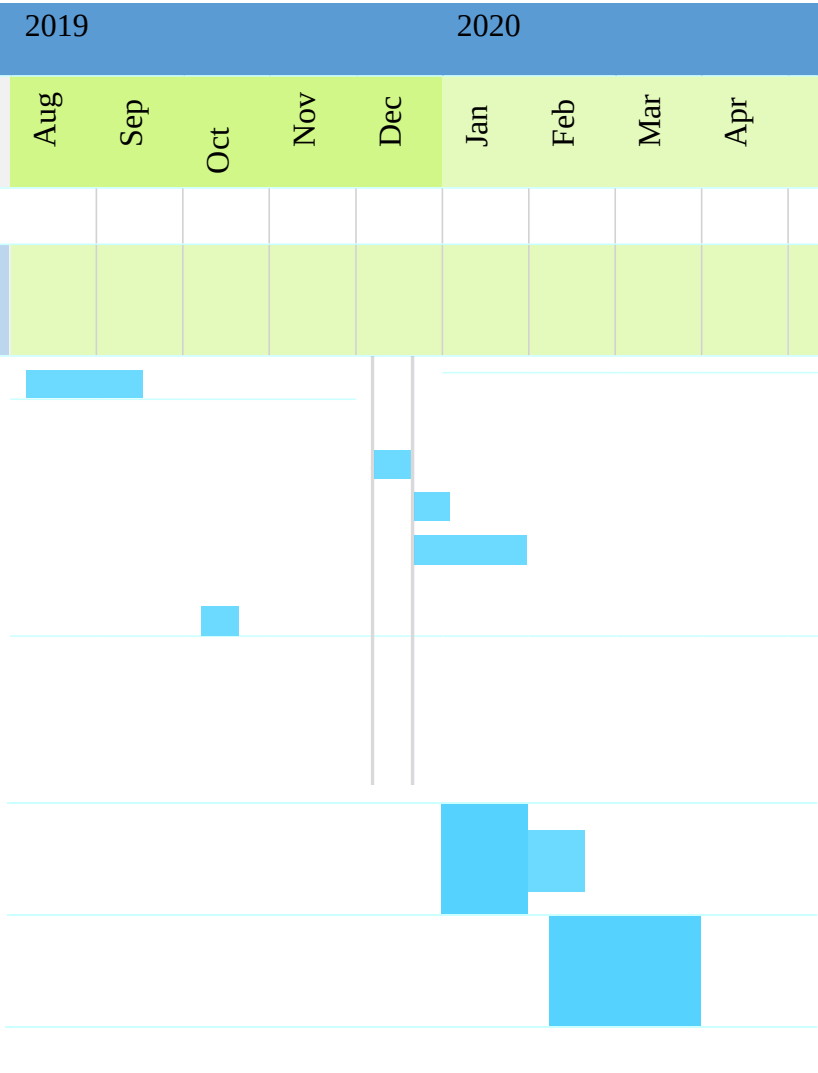
Date

Appendix 10: Work Plan

Investigating the state of cervical cancer screening in imprisoned women in Malawi: Maula Prison

Project Lead: Regina Mendulo

WBS	Task Name	Resource Names	Start	Finish	Duration	Percent Complete
1	Proposal writing	Regina Mendulo	Thu 01-Aug-19	Wed 30-Oct-19	65	100%
2	Proposal submission to COMREC	Regina Mendulo	Wed 30-Oct-19	Wed 30-Oct-19	1	100%
3	Incorporation of feedback	Regina Mendulo	Tue 17-Dec-19	Tue 24-Dec-19	6	
4	Data collection	Regina Mendulo	Thu 30-Jan-20	Thu 27 Feb-20	16	100%
5	Data analysis	Regina Mendulo	Mon 27-Feb-20	Mon 02-Mar-20	26	100%



6	Report writing	Regina Mendulo	Tue 03-Mar-20	Mon 30-Mar-20	20	100%	
7	Submission of research report	Regina Mendulo	Sun 05-Apr-20	Mon 06-Apr-20	1	100%	
8	Final corrections and binding	Regina Mendulo	Wed 03-Jun-20	Tue 09-Jun-20	5	100%	
9	Final Submission	Regina Mendulo	Mon 15-Jun-20	Mon 15-Jun-20	1	100%	
10	Dissemination of findings	Regina Mendulo	Tue 30-Jun-20	Tue 30-Jun-20	1	100%	
11	Supervision	Dr Isabel Chiumia	Mon 16-Mar-20	Sat 01-Aug-20	100	100%	

Appendix 11: Activity Budget

No.	Item		Quantity	Unit of Measure	Cost (MK)	Amount (MK)
	Stationary	Printing Paper	1	Realm	3000	3000
		Notebooks	5	One	150	750
		Flash Drive (2GB)	1	One	4000	4000
		Pens	5	Unit	70	350
		Markers	1	Box	2500	2500
		Stapler	1	Unit	5000	5000
		Staples	1	Box	1500	1500
		Box file	1	Unit	3000	3000
	Printing	Interview Guides	45	Pages	100	4500
		Reports,	50	Pages	100	5000
		Binding	3	copies	5000	15000
	Transport costs.	To & from research site	1	Fuel	25400	20000
	Equipment	Laptop	1	Unit	130,000	130000
	Overhead costs	10% research fee	1	1	20,000	20,000
TOTAL						**220000**