YANGON UNIVERSITY OF ECONOMICS
DEPARTMENT OF ECONOMICS
MASTER OF DEVELOPMENT STUDIES PROGRAMME

A STUDY ON AWARENESS, PRACTICES, AND PERCEIVED BARRIERS ON CERVICAL CANCER SCREENING AMONG WOMEN IN MAGWAY TOWNSHIP

WINDIA SOE
MDevS - 50 (18th BATCH)

JUNE, 2025

YANGON UNIVERSITY OF ECONOMICS

DEPARTMENT OF ECONOMICS

MASTER OF DEVELOPMENT STUDIES PROGRAMME

A STUDY ON AWARENESS, PRACTICES, AND PERCEIVED BARRIERS ON CERVICAL CANCER SCREENING AMONG WOMEN IN MAGWAY TOWNSHIP

A thesis submitted in partial fulfillment of the requirements
for the Master of Development Studies (MDevS) Degree

Supervised by

Daw Phyu Win Ei
Associate Professor
Department of Economics
Yangon University of Economics

Submitted by

Windia Soe
Roll No. 50
MDevS- 18th Batch.
(2023-2025)

JUNE, 2025

YANGON UNIVERSITY OF ECONOMICS
DEPARTMENT OF ECONOMICS
MASTER OF DEVELOPMENT STUDIES PROGRAMME

This is to certify that the thesis entitled **"A Study on Awareness, Practices, and Perceived Barriers on Cervical Cancer Screening among Women in Magway Township"** submitted as partial fulfillment towards the requirements for the degree of Master of Development Studies has been accepted by the Board of Examiners.

BOARD OF EXAMINERS

Dr. Tin Tin Htwe
(Chairperson)
Rector
Yangon University of Economics

Dr. Tin Tin Wai
(Examiner)
Pro-Rector
Yangon University of Economics

Dr. Naw Htee Mue Loe Htoo
(Examiner)
Professor (Head)
Director, MDevS Program
Department of Economics
Yangon University of Economics

U Hla Aung
(Examiner)
Associate Professor
Department of Economics
Yangon University of Economics

Daw Phyu Win Ei
(Supervisor)
Associate Professor
Department of Economics
Yangon University of Economics

JUNE, 2025

ABSTRACT

Awareness and barriers to cervical cancer screening remain significant issues for women, contributing to low participation in prevention and early detection. This study aimed to assess women's awareness about cervical cancer and screening, practices related to prevention and identify perceived barriers to cervical cancer screening. A descriptive study was conducted at five volunteer clinics in Magway with a sample of 267 women aged 18 to 55. The findings revealed that while most women had heard of cervical cancer and believed in the benefits of prevention, overall knowledge was poor. Many women lacked understanding of key risk factors, symptoms, and correct screening practices. Cultural beliefs, fear, embarrassment, family influence, financial concerns, and inconvenient clinic services were major barriers that limited actual screening behavior. Addressing these gaps requires improved education, community involvement, supportive clinic environments, and culturally sensitive interventions to increase screening rates and reduce the burden of cervical cancer.

.

ACKNOWLEDGEMENTS

I wish to express my deepest gratitude to everyone who supported me throughout the completion of this thesis.

First and foremost, I am sincerely thankful to Professor Dr. Tin Tin Htwe, Rector of Yangon University of Economics, for her vital support and for granting me the opportunity to pursue and complete the Master of Development Studies program. Her leadership has been instrumental in my academic journey.

I am also deeply appreciative of Professor Dr. Tin Tin Wai, Pro-Rector of Yangon University of Economics, for her unwavering encouragement and support, which significantly contributed to my success in this program.

My heartfelt thanks go to Professor Dr. Naw Htee Mue Loe Htoo, Professor and Head of the Department of Economics, for her continuous guidance and invaluable advice throughout my studies. Her mentorship has been essential in the completion of this thesis.

I am equally grateful to Professor Dr. Yin Myo Oo, Professor, for her constant encouragement, which has been a steady source of motivation.

Additionally, I extend my sincere thanks to Associate Professor Sayar U Hla Aung for his contributions in survey design and invaluable assistance during the data analysis phase.

I am profoundly thankful to Associate Professor Daw Phyu Win Ei, my supervisor, for her expert guidance and steadfast support. Her insights and mentorship have greatly shaped this thesis.

Finally, I wish to express my sincere appreciation to all the study respondents in Magway Township for their cooperation and permission, which were crucial for data collection in this research.

Windia Soe
MDevS II-50
MDevS 18th Batch
(2023-2025)

TABLE OF CONTENTS

LIST OF TABLES

LIST OF ABBREVIATION

DHIS-2	District Health Information Software-2
DNA	Deoxyribonucleic Acid.
HPV	Human Papilloma Virus
MMK	Myanmar Kyats
MOH	Ministry of Health
SD	Standard Deviation
VIA	Visual Inspection with Acetic acid
WHO	World Health Organization

CHAPTER I
INTRODUCTION

1.1. Rationale of the Study

Cervical cancer remains a significant global public health challenge, ranking as the second most common cancer and cause of cancer-related death among women of reproductive age worldwide. This burden is particularly pronounced in countries with a low Human Development Index (HDI), where high-risk human papillomavirus (HPV) types 16 and 18 are responsible for approximately 71% of cervical cancer cases (Wu et al., 2025). The natural progression of cervical cancer is well established: persistent infection with high-risk HPV types can lead to precancerous lesions and, if untreated, invasive cancer. Key risk factors contributing to this progression include tobacco smoking, HIV infection, early onset of sexual activity, prolonged use of hormonal contraceptives, and having multiple sexual partners. Despite being largely preventable through effective screening and vaccination programs, disparities in access to these life-saving interventions remain a major obstacle, especially in low HDI regions where economic and healthcare system limitations prevail. Recognizing this, the World Health Organization launched its Global Initiative in 2020, aiming to accelerate the elimination of cervical cancer as a public health problem by 2030 through widespread vaccination, screening, and treatment (WHO, 2020)

Southeast Asia exemplifies the global inequities in cervical cancer burden. The region accounts for an estimated 84% of cervical cancer cases and 88% of related deaths in lower-resource countries. Although screening modalities such as Pap smears, HPV DNA testing, and visual inspection with acetic acid (VIA) are available, coverage remains insufficient due to infrastructural, educational, and cultural barriers. This inadequate screening coverage contributes to late-stage diagnoses and poor outcomes (Chua et al., 2021).

In Myanmar specifically, cervical cancer is the second most prevalent cancer among women and the leading cancer diagnosis among those aged 15 to 44 years.

Annually, over 5,200 women are diagnosed with cervical cancer and nearly 3,000 succumb to the disease. The disease disproportionately affects married women aged between 40 and 60 years. Despite the availability of preventive measures, limited public awareness, outdated health policies, inadequate healthcare infrastructure, and gaps in clinician training have constrained effective screening and treatment services: challenges that are particularly acute in rural and underserved areas of the country (Yin Yin Wint, 2019).

Beyond its direct health impact, cervical cancer imposes substantial economic and social burdens. The costs associated with diagnosis, treatment, and palliative care can be overwhelming, especially for low-income families. Additionally, the disease severely diminishes quality of life, disrupts family stability, and exacerbates existing gender inequities. Premature mortality from cervical cancer results in an average loss of 26 years of life per affected woman, disproportionately affecting populations with lower socioeconomic status (Herzog & Wright, 2007).

Early detection and timely treatment are critical to improving survival rates and quality of life. However, multiple barriers—ranging from limited awareness and pervasive cultural stigma to restricted availability of screening services—delay care-seeking and diagnosis, particularly in developing countries. Public health education and community outreach programs are therefore essential to dispel myths, reduce stigma, and encourage screening uptake. Primary prevention strategies focus on mitigating risk factors and promoting early detection through accessible screening methods such as Pap smears and VIA, which require women to be informed, motivated, and empowered to participate (Petry et al., 2014).

This thesis focuses on cervical cancer awareness, perceptions, and screening practices among women in Magway Township, Myanmar. By thoroughly assessing women's knowledge, attitudes, and perceived barriers to cervical cancer screening, the study aims to identify gaps and challenges specific to this community. The findings are intended to guide the development of culturally sensitive and targeted health interventions, as well as inform policy reforms that address the unique social, cultural, and healthcare access factors influencing screening behaviors. Ultimately, the goal is to enhance cervical cancer education and promote increased screening uptake at the local level. Achieving these objectives is expected to provide not only improving women's health outcomes in Magway but also advancing national

strategies and global initiatives dedicated to reducing the incidence and mortality of cervical cancer and moving toward its elimination goals.

1.2 Objectives of the Study

The objective of the study are-

(1) To examine women's awareness and practices about cervical cancer screening among women aged 18-55 years in Magway Township

(2) To explore perceived barriers to cervical cancer screening among women aged 18-55 years in Magway Township

1.3 Method of Study

This study employed a quantitative descriptive study design to assess awareness, practices and barriers to cervical cancer screening among women in Magway. The study was conducted at five Voluntary Clinics, areas chosen for their diverse population profiles and significant healthcare needs. The target population comprised women aged 18 years and above who attended these clinics for any medical consultation during the study period. A sample of 267 women was systematically recruited to ensure adequate representation and statistical reliability. The questionnaire was pretested for clarity and cultural appropriateness before administration. Participation in the study was voluntary, and informed consent was obtained from all respondents to ensure ethical compliance. Collected data were analyzed using descriptive statistics.

1.4 Scope and Limitations of the Study

This study assessed awareness, practices, and perceived barriers to cervical cancer screening among women aged 18 and above attending five Voluntary Clinics in Magway. It focused specifically on clinic visitors and does not include women under 18 or address cervical cancer treatment. The geographic scope was limited to selected clinics in Magway, which may not represent women in other regions or those not accessing healthcare.

1.5 Organization of the Study

The organization of this study is structured to provide a comprehensive examination of the awareness and barriers to cervical cancer screening among women

in Magway. Chapter I introduces the study by outlining the background and rationale, the objectives, the methods used, and the scope and limitations. Chapter II provides a literature review. Chapter III offers an overview of cervical cancer occurrence in Myanmar. Chapter IV presents the analysis of awareness, practices and barriers to cervical cancer screening among women. Finally, Chapter V summarizes the key findings of the research and provides suggestions.

CHAPTER II
LITERATURE REVIEW

2.1 Global Cervical Cancer Occurrence

Cervical cancer, which is the focus of this study, ranked eighth globally with 662,301 new cases, accounting for 14.1% of all cancer cases. This places cervical cancer among the most prevalent cancers affecting women, underscoring its importance as a public health priority, particularly in regions with limited screening and prevention resources. Additional notable cancers included bladder (5.6%), non-Hodgkin lymphoma (5.6%), oesophagus (5%), and pancreas (4.7%). Less common cancers, such as those of the vagina, vulva, penis, and Kaposi sarcoma, each contributed less than 1% to the global burden (World Cancer Research Fund, 2025).

The data clearly indicate that breast cancer is by far the most common cancer among women, with 2,296,840 new cases, making up 46.8% of all female cancer diagnoses. This is followed by cancers of the trachea, bronchus, and lung, which collectively account for 908,630 cases or 16.2%. Colorectal cancer ranks third, with 856,979 cases, representing 15.2% of the total. Cervical cancer remains a significant concern, ranking fourth with 662,301 new cases and accounting for 14.1% of the cancer burden among women. This underscores the urgent need for effective prevention and screening measures, particularly in regions with limited resources. Thyroid cancer is also prominent among women, with 614,729 cases (13.6%), followed by cancers of the corpus uteri (8.4%), stomach (6%), and ovary (6.7%). Other notable cancers include those affecting the liver and intrahepatic bile ducts (4.8%), non-Hodgkin lymphoma (4.6%), pancreas (4%), and leukaemia (4.4%) (World Cancer Research Fund, 2025).

2.2 Global Burden of Cervical Cancer

Cervical cancer remains a significant global health concern, ranking as the fourth most common cancer among women worldwide. In 2022, there were

approximately 660,000 new cases of cervical cancer and about 350,000 related deaths. Strikingly, almost 94% of these deaths occurred in low- and middle-income countries, reflecting profound disparities in access to preventive and healthcare services. The highest incidence and mortality rates are found in regions such as sub-Saharan Africa, Central America, and Southeast Asia, where limited access to national HPV vaccination programs, cervical screening, and timely treatment services exacerbates the burden. These inequities are further compounded by broader social and economic determinants, including poverty, gender bias, and health system limitations. Cervical cancer is caused by persistent infection with high-risk types of human papillomavirus (HPV), and women living with HIV are at particularly high risk, being six times more likely to develop cervical cancer than women without HIV. It is estimated that approximately 5% of all cervical cancer cases are directly attributable to HIV infection. The disease disproportionately affects younger women, often striking during their most productive years and resulting in significant social consequences; notably, about 20% of children who lose their mother to cancer do so as a result of cervical cancer. The impact is felt not only by affected women but also by their families and communities, amplifying cycles of poverty and vulnerability (WHO, 2025).

Despite these challenges, cervical cancer is one of the most preventable and treatable forms of cancer. Prophylactic vaccination against HPV, along with regular screening and timely treatment of pre-cancerous lesions, are effective and highly cost-effective strategies for reducing incidence and mortality. Early diagnosis and prompt treatment can lead to cure in the vast majority of cases. Recognizing these opportunities, countries worldwide have committed to accelerating the elimination of cervical cancer as a public health problem, with the World Health Organization setting ambitious targets for 2030: 90% of girls fully vaccinated with the HPV vaccine by the age of 15, 70% of women screened with a high-performance test by ages 35 and 45, and 90% of women identified with cervical disease receiving appropriate treatment. Achieving these targets will require addressing persistent inequities and strengthening healthcare systems globally (WHO, 2025).

China and India reported the highest absolute numbers, with 150,659 and 127,356 new cases, respectively, both countries having an ASR of 17.7 per 100,000. Indonesia ranked third with 36,964 new cases and a notably higher ASR of 23.3, indicating a significant disease burden relative to the population size. Brazil and

Russia followed, with 18,715 and 18,369 new cases, and ASRs of 12.7 and 17.6, respectively. The United States, while having a substantial number of cases (13,920), reported a relatively lower ASR of 6.3 per 100,000, reflecting the impact of widespread screening and prevention programs. Nigeria, despite a slightly lower number of new cases at 13,676, exhibited a much higher ASR of 26.2, underscoring a significant public health challenge in comparison to other highly populated countries. Japan reported 10,958 new cases with an ASR of 12.5, while Tanzania and South Africa, though lower in absolute numbers (10,868 and 10,532, respectively), had some of the highest incidence rates globally, with ASRs of 64.8 and 33.2 per 100,000. These elevated rates highlight the disproportionate burden of cervical cancer in certain regions, particularly sub-Saharan Africa (World Cancer Research Fund, 2025).

India recorded the highest number of cervical cancer deaths at 79,906, with an ASR of 11.2, reflecting both its large population and substantial disease burden. China followed with 55,694 deaths, but with a lower ASR of 4.5, likely due to better access to screening and early detection. Indonesia was third, with 20,708 deaths and a notably higher ASR of 13.2, indicating more limited access to prevention and treatment services. Brazil and Russia reported 9,905 and 7,903 deaths, with relatively moderate ASRs of 6.5 and 6.4, respectively. Notably, several African countries featured prominently in terms of both absolute deaths and particularly high mortality rates. Nigeria had 7,093 deaths with an ASR of 14.3, while Tanzania reported 6,832 deaths but had an exceptionally high ASR of 42.2, the highest among the top ten countries. The Democratic Republic of Congo also faced a significant challenge, with 6,187 deaths and an ASR of 24.6. South Africa and Ethiopia rounded out the list, with 5,976 and 5,975 deaths, and ASRs of 19 and 16.8, respectively (World Cancer Research Fund, 2025).

2.3 Risk Factors and Stages of Cervical Cancer

Risk factors are elements or exposures that increase the likelihood of developing a disease, such as cervical cancer. Cervical cancer, like many cancers, is influenced by a combination of behavioral, biological, and environmental factors. One of the most critical risk factors for cervical cancer is persistent infection with high-risk types of human papillomavirus (HPV), particularly HPV types 16 and 18. Almost all cases of cervical cancer are linked to HPV infection, underscoring its central role in the etiology of the disease. Early initiation of sexual activity and having multiple

sexual partners increase the risk of HPV transmission and, consequently, the risk of developing cervical cancer. Additional factors that elevate the risk include smoking, which impairs the immune system's ability to clear HPV infections and introduces carcinogenic substances to cervical tissues, and long-term use of oral contraceptives, which has been linked to a modestly increased risk when used for five years or more (Kashyap et al., 2019).

Immunosuppression is another major risk factor. Women living with HIV or those taking immunosuppressive drugs are more vulnerable to persistent HPV infections and a faster progression from precancerous lesions to invasive cancer. Co-infection with other sexually transmitted infections, such as Chlamydia trachomatis, has also been associated with an increased risk. Socioeconomic factors play a significant role as well; women living in poverty are less likely to have access to regular cervical cancer screening, timely diagnosis, and preventive healthcare. Furthermore, dietary patterns low in fruits and vegetables, being overweight, and a history of multiple full-term pregnancies have all been identified as contributors to heightened risk. Early age at first full-term pregnancy, particularly under 17 years, increases risk, as does a family history of cervical cancer, suggesting a possible genetic predisposition (Momenimovahed & Salehiniya, 2017).

Other factors that have been studied include lack of regular Pap smear screening, which reduces the opportunity for early detection of precancerous changes, and exposure to diethylstilbestrol (DES) in utero, which is associated with a rare form of cervical and vaginal cancer. Interestingly, the use of intrauterine devices (IUDs) has been found to lower the risk of cervical cancer, possibly due to increased healthcare contact and the resultant higher likelihood of screening. Overall, while HPV infection remains the most significant risk factor, a combination of reproductive behaviors, lifestyle factors, immune status, and access to healthcare services all contribute to an individual's risk profile for cervical cancer. Understanding these risk factors is essential for designing effective prevention, screening, and education programs (Agustiansyah et al., 2021).

The staging of cervical cancer is a crucial aspect of diagnosis and treatment planning, as it provides information on how far the cancer has spread from its original site. Staging is primarily determined by the extent of tumor invasion into nearby tissues and organs, as well as the presence of metastasis to lymph nodes or distant sites. Cervical cancer most commonly spreads to adjacent pelvic tissues and lymph

nodes, but can also metastasize to distant organs such as the lungs, liver, or bones. Importantly, when cervical cancer spreads, the secondary tumor retains the histological characteristics of the primary cervical tumor (American Cancer Society, 2017).

Cervical cancer is classified into four main stages. In Stage I, cancer cells are confined exclusively to the cervix, and this stage typically offers the best prognosis with early intervention. Stage II is characterized by the tumor extending beyond the cervix to invade the upper part of the vagina or other nearby tissues, but it does not reach the pelvic wall or the lower part of the vagina. Stage III indicates more advanced local spread, with the tumor invading the pelvic wall or the lower part of the vagina. In some cases, the tumor may block the ureters, leading to impaired kidney function. Stage IV represents the most advanced stage, where the cancer has invaded adjacent organs such as the bladder or rectum or has spread to distant organs, including the lungs, liver, or bones (Cohen et al., 2019; Tsikouras et al., 2016).

Accurate staging is essential for selecting the most appropriate treatment strategy and for predicting patient outcomes. The staging process typically involves a combination of clinical examination, imaging studies such as MRI or CT scans, and sometimes surgical assessment of lymph node involvement. Early-stage cervical cancer may be treated with surgery or localized radiotherapy, while more advanced stages often require a combination of radiotherapy, chemotherapy, and sometimes targeted therapy. Understanding the stage of the disease helps clinicians tailor treatment to individual patient needs and is a critical factor in improving survival and quality of life for women diagnosed with cervical cancer (Cohen et al., 2019; Tsikouras et al., 2016).

2.4 Prevention of Cervical Cancer

Prevention of cervical cancer involves a combination of primary and secondary strategies designed to reduce the incidence of the disease and detect precancerous changes before they progress to invasive cancer. The most effective primary prevention measure is the vaccination of adolescent girls against the two most carcinogenic types of human papillomavirus (HPV), types 16 and 18, which are responsible for the majority of cervical cancer cases. The HPV vaccine is most beneficial when administered before the onset of sexual activity, ideally for girls and boys between ages 9 and 14, according to recommendations by the Centers for

Disease Control and Prevention (CDC). The vaccination schedule typically involves two doses for those under 15 and three doses for older teens and young adults. Widespread HPV vaccination has the potential to prevent most cases of cervical cancer, especially when coverage is high and vaccination occurs before exposure to the virus (Denny, 2008).

Secondary prevention focuses on detecting and treating precancerous lesions before they develop into invasive cancer. Regular cervical cancer screening is a proven and cost-effective method for reducing mortality. The most common screening tests are the Pap smear (cytology) and HPV testing. The Pap test allows for the early detection of abnormal cervical cells, while HPV testing identifies women at risk of developing cervical cancer by detecting high-risk viral types. In resource-limited settings, visual inspection with acetic acid (VIA) offers a practical alternative, as it is inexpensive, can be performed by trained healthcare workers, and provides immediate results. However, VIA is less specific than cytology and may result in unnecessary referrals. Screening is generally recommended for women aged 21 to 65, with frequency and choice of method guided by age, risk factors, and available resources. For instance, the US Preventive Services Task Force recommends cytology every three years for women aged 21 to 29, and for women aged 30 to 65, screening every three years with cytology, every five years with HPV testing, or every five years with cotesting (Denny, 2005).

Tertiary prevention, though not a primary focus, emphasizes prompt treatment of detected precancerous lesions and early-stage cervical cancer to prevent disease progression and improve survival outcomes. The choice of screening method, target age group, and screening frequency should be informed by the natural history of cervical cancer, the sensitivity and specificity of tests, and the healthcare system's capacity. Countries with limited resources are advised to prioritize screening women aged 30 and older, as cervical cancer is rare before this age, and to use methods that best fit their infrastructure. Ultimately, an integrated approach combining HPV vaccination, effective screening, timely treatment, and public education can dramatically reduce the burden of cervical cancer globally (Denny, 2008; Denny, 2005).

2.5 The Effectiveness of Screening of Cervical Cancer

Screening for cervical cancer is a cornerstone of secondary prevention and has been instrumental in reducing the incidence and mortality of this disease, especially in countries with well-established and organized screening programs. Population-level screening has achieved reductions in cervical cancer rates by as much as 50% to 80%, underscoring its effectiveness. In regions with robust screening infrastructure, most cervical cancer cases now occur among women who have never been screened or are rarely screened. Conversely, disparities in access to screening are a primary cause of the wide gaps in cervical cancer outcomes between high-resource and low-resource countries, as well as between advantaged and disadvantaged populations within countries (Eun & Perkins, 2020).

2.5.1 Benefits of Cervical Cancer Screening

The primary aim of cervical cancer screening is to identify asymptomatic women who have precancerous lesions, enabling early intervention and treatment before progression to invasive cancer. Three main types of screening tests are widely used: cervical cytology (Pap testing), human papillomavirus (HPV) testing, and cotesting (a combination of both tests) (Eun & Perkins, 2020).

Cervical cancer screening plays a critical role in the early detection and prevention of cervical cancer. Its primary purpose is to identify precancerous changes and early-stage cervical cancer before symptoms develop, allowing for timely intervention and treatment. Screening methods, such as the Pap smear, HPV DNA testing, and visual inspection with acetic acid (VIA), help detect abnormal cervical cells caused by persistent infection with high-risk human papillomavirus (HPV) types. Early detection through screening significantly reduces cervical cancer incidence and mortality by enabling the removal or treatment of precancerous lesions (Saslow et al., 2012).

The benefits of cervical cancer screening include improved survival rates due to earlier diagnosis, decreased need for invasive treatments, and reduced healthcare costs associated with advanced cancer management. Additionally, screening programs contribute to increased awareness of cervical cancer risk factors and promote health-seeking behaviors among women (Arbyn et al., 2020). Implementing organized screening within healthcare systems, particularly when combined with HPV

vaccination, is essential to achieving population-level reductions in cervical cancer burden.

2.5.2 Screening Guidelines and Target Populations

There is a broad consensus on the need for cervical cancer screening among women with a cervix, but specific recommendations regarding age and screening intervals vary slightly across organizations:

(a) Age to Start Screening: Most guidelines recommend beginning screening at age 21 or 25, depending on vaccination status and local epidemiology. Screening before age 21 is not advised, as HPV infections and minor abnormalities are common and typically resolve spontaneously in this age group.

(b) Screening Interval and Methods: For women aged 21–29, cytology (Pap test) every three years is standard. For women aged 30–65, options include cytology every three years, HPV testing every five years, or cotesting every five years. HPV primary screening is increasingly preferred due to its higher sensitivity and longer screening interval.

(c) Age to End Screening: Screening is generally discontinued at age 65 for women who have had adequate prior screening and are not otherwise at high risk. Adequate screening is defined as two consecutive negative HPV or cotests or three consecutive negative Pap tests in the preceding ten years, with the most recent within five years and no history of high-grade precancer in the past 25 years.

(d) Special Circumstances: Women who have undergone a total hysterectomy (removal of the cervix) for benign reasons do not require further cervical cancer screening. However, women with a history of cervical pre-cancer or cancer, those exposed to diethylstilbestrol (DES) in utero, or those who are immunocompromised (including HIV positive individuals) require individualized screening protocols, often with more frequent testing (Eun & Perkins, 2020).

2.6. Review on Previous Studies

Cervical cancer remains a significant global health concern, particularly in low- and middle-income countries where screening coverage is often low. Awareness of cervical cancer and its prevention plays a crucial role in influencing screening uptake. Multiple studies have documented varying levels of awareness among women worldwide. Olusola et al. (2019) conducted a study in Nigeria and reported moderate awareness of cervical cancer, with many women aware of the disease but lacking detailed knowledge about risk factors and screening methods (Olusola et al. 2019).. Similarly, in India, Sharma et al. (2018) found that although general awareness of cervical cancer was high, understanding of screening procedures and the importance of regular screening was limited (Sharma et al., 2018).

Perceptions and beliefs about cervical cancer influence women's willingness to participate in screening programs. Fear of diagnosis, embarrassment, cultural taboos, and misconceptions are common barriers. Nyongesa et al. (2017) identified fear of pain and cancer stigma as major deterrents to screening participation in Kenya (Nyongesa et al). In addition, Mutyaba et al., (2019) examined that cultural and religious beliefs often shape attitudes toward screening; some women perceive cervical cancer as a disease caused by fate or supernatural forces, which reduces motivation for preventive behaviors (Mutyaba et al., 2019)

Practices related to cervical cancer screening vary widely by region and are influenced by factors including education, socioeconomic status, and access to healthcare. Mwaka et al. (2016) highlighted that screening uptake remains low in many sub-Saharan African countries despite awareness campaigns. This gap between awareness and practice underscores the impact of structural barriers such as cost, distance to health facilities, and lack of female healthcare providers (Mwaka et al., 2016). In contrast, Bennett et al. (2018) studied from high-income countries and reported higher screening rates, often attributed to organized screening programs and greater health system capacity (Bennett et al. 2018).

Interventions aimed at increasing cervical cancer screening uptake emphasize community education, addressing cultural barriers, and improving healthcare accessibility. Fader et al. (2018) identified that peer education and involvement of community leaders have been shown to improve knowledge and attitudes, facilitating higher screening rates (Fader et al, 2018). Moreover, Verdoodt et al. (2015) reported that integrating screening with other reproductive health services and offering HPV

self-sampling are strategies that have enhanced participation, particularly among hard-to-reach populations (Verdoodt et al., 2015).

Bouapanh Lor et al. (2018) conducted a qualitative study and explored the attitudes, beliefs, and barriers related to cervical cancer screening among Burmese and Bhutanese refugee women living in the United States. The study involved focus group discussions with 40 participants from both refugee communities. The main findings indicated that awareness of cervical cancer and the purpose of Pap smear screening was generally low, with many women unfamiliar with the concept of preventive health checks; only a small proportion of participants reported ever having had a Pap smear. Cultural beliefs, language barriers, lack of knowledge about the healthcare system, and feelings of embarrassment or fear were frequently cited as barriers to screening. The women desired more culturally appropriate information and support to navigate the healthcare system. Limitations of the study included the small sample size and the qualitative nature of the research, which may not be generalizable to all Burmese and Bhutanese refugee women or to other refugee populations (Lor et al., 2018).

Chit Pyae Pyae Han and Yamarat (2012) conducted in Mandalay, Myanmar, ―aiming to identify the determinants influencing the intention to undergo Pap smear screening among married women in this urban area. The study surveyed a sample of 372 married women aged 30 to 49 years. The main findings revealed that only 29.3% of participants reported having an intention to take a Pap smear test in the next year. Key factors positively associated with screening intention were higher educational attainment, greater knowledge of cervical cancer and its prevention, perceived benefits of screening, and encouragement from healthcare providers. Major barriers included fear of cancer diagnosis, embarrassment, and misconceptions about personal risk. Limitations of the study included its focus on married women in an urban setting, which may not reflect the perspectives of unmarried or rural women, and the reliance on self-reported intentions rather than actual screening behavior, which may not always translate into action (Han CPP and Yamarat, 2012).

Chit Pyae Pyae Han (2016) examined among Married Women in Urban of Mandalay, Myanmar," aiming to determine the prevalence of Pap smear screening and identify predictive factors among married women in an urban setting. The study included a sample of 312 married women aged 30 to 60 years. The main findings showed that only 19.9% of the women had ever undergone a Pap smear screening.

Significant predictors of screening uptake included higher education, better knowledge of cervical cancer and its prevention, a positive attitude toward screening, and having received information about cervical cancer from healthcare providers. Lack of awareness (reported by 56.1% of participants) and perception that screening was unnecessary in the absence of symptoms were major barriers. The study's limitations included its restriction to married women in an urban area, potentially limiting the generalizability to unmarried or rural populations, and the use of self-reported data, which may introduce recall bias (Han et al, 2016).

Yin Yin Wint (2019) conducted a cross-sectional study to assess the level of awareness, knowledge, and preventive behaviors related to cervical cancer among women residing in Taungoo, Myanmar. The study targeted adult women attending public health facilities in the region, with a sample size of 400 participants. The main objective was to identify the determinants influencing women's understanding and practice regarding cervical cancer prevention, including screening behaviors. The findings revealed that while a moderate proportion of women had heard of cervical cancer, comprehensive knowledge of risk factors, symptoms, and preventive measures was limited. Preventive practices such as regular Pap smear screening were notably low, with lack of awareness, fear of diagnosis, and cultural beliefs cited as significant barriers. The study also identified sociodemographic factors such as education level and income as important predictors of awareness and preventive practices. Limitations of the study included its restriction to women attending public health facilities, which may not represent the broader population, and the cross-sectional design, which limits the ability to infer causality (Yin Yin Wint, 2019).

CHAPTER III

OVERVIEW OF CANCER SITUATIONS AND CERVICAL CANCER SCREENING IN MYANMAR

3.1 Cervical Cancer Prevention in Myanmar

The Ministry of Health in Myanmar has implemented a comprehensive policy aligned with WHO's 2030 cervical cancer elimination goal. It aims to increase public awareness, expand HPV vaccination for girls aged 9–14, and improve access to screening methods like Visual Inspection with Acetic Acid (VIA) and Pap smears, especially in underserved areas. As for primary prevention, human papillomavirus (HPV) vaccination was first introduced in the Expanded Programme of Immunization (EPI) as the 13th new vaccine for 9-year-old girls as a single age cohort starting in 2020. The first dose of the HPV vaccine was planned to be introduced in 2020 using both school-based and community-based strategies (MoH, 2018).

For secondary prevention, guidelines for screening and treatment of cervical precancer in public healthcare facilities were published and launched in 2018. This guideline adopts a hybrid approach based on both HPV DNA testing and VIA. The policy also strengthens referral systems for timely treatment of precancerous and cancerous lesions, enhances healthcare worker training, and prioritizes robust health information systems for monitoring program outcomes (MOH, 2018; WHO, 2020).

The Ministry of Health in Myanmar conducts school-based and community HPV vaccination campaigns and integrates cervical cancer screening into maternal health clinics, using mobile units to reach remote populations. Community education involves local leaders and healthcare providers to address cultural barriers. Continuous healthcare worker training, established referral systems, and treatment protocols ensure timely care for screen-positive women. Subsidized services and outreach reduce financial and geographic barriers. Supported by partners like WHO, this comprehensive approach aims to lower cervical cancer incidence and mortality nationwide (MOH, 2018; WHO, 2020).

3.2 Morbidity and Mortality of Cancer in Myanmar

Cancer represents a major public health challenge in Myanmar, contributing significantly to both morbidity and mortality. Globally, cancer is recognized as the first or second leading cause of premature death for individuals aged 30 to 69 in the majority of countries, and in Myanmar, non-communicable diseases (NCDs) account for 68% of all deaths, with cancers responsible for 13% of this total. According to estimates from the Global Cancer Observatory, Myanmar recorded 69,554 new cancer cases and 51,059 cancer deaths in 2018. The most common cancers in both sexes were lung, stomach, cervix uteri, breast, and liver. Among males, lung, stomach, liver, oesophagus, and colorectal cancers were predominant, while among females, the leading cancers were cervix uteri, breast, lung, stomach, and colorectum. The age-standardized incidence rates were 141.9 per 100,000 for males and 123.7 per 100,000 for females. In terms of mortality, the five leading causes of cancer death were cancers of the lung, cervix uteri, stomach, breast, and liver. These statistics highlight the substantial burden of cancer in Myanmar and emphasize the need for effective cancer control strategies, especially for the most prevalent and deadly cancer types (Ferlay et al., 2020).

Table 3.1 presents the incidence data for the top five cancers among males in Myanmar in 2022, detailing the number of patients diagnosed and the percentage each cancer represents out of all male cancers which reflects the probability of developing each specific cancer for all ages.

Table (3.1) Incidence of Top Ten Cancers among Males in Myanmar in 2022

Sr. No	Types of cancers	Number of patients (n)	Percentage of all male cancers (%)
1	Lung	4,983	13.9
2	Liver	4,003	11.2
3	Stomach	3,753	10.5
4	Oesophagus	2,959	8.3
5	Colon, Rectum and Anus	2,843	7.9
6	Others	17,281	48.2

Source: WHO (2022)

The provided table presents the distribution of male cancer cases across various cancer types, tabulated by the number of patients and the percentage each type represents out of all reported male cancers. Lung cancer emerges as the most prevalent malignancy among males, accounting for 4,983 cases or 13.9% of the total. This high frequency underscores the significant burden of lung cancer, which is often associated with established risk factors such as tobacco smoking, environmental exposures, and occupational hazards. Liver cancer follows, representing 4,003 cases (11.2%), suggesting notable contributions from hepatitis infections, alcohol consumption, or metabolic disorders commonly linked to hepatocellular carcinoma in male populations (WHO, 2022)

Stomach cancer is the third most prevalent, with 3,753 cases (10.5%), reflecting the ongoing importance of gastrointestinal malignancies possibly related to dietary habits, Helicobacter pylori infection, and genetic predisposition. Oesophageal cancer and colorectal cancers (colon, rectum, and anus) contribute 2,959 cases (8.3%) and 2,843 cases (7.9%), respectively. The significant incidence of these cancers highlights the continued need for public health interventions targeting modifiable risk factors, early detection, and screening, particularly given their association with diet, alcohol use, smoking, and, in some settings, genetic syndromes (WHO, 2022)

Importantly, the category labeled "Others" encompasses a substantial majority, totaling 17,281 cases and representing 48.2% of all male cancers. This group likely includes a variety of less common malignancies, such as prostate, kidney, bladder, hematological, and skin cancers, among others. The heterogeneity and sheer volume within this category suggest that, while certain cancer types dominate public health discourse, a wide array of other malignancies collectively contribute to nearly half of the cancer burden in males. This finding emphasizes the need for broad-based cancer control strategies that not only address the most common cancer types but also encompass rarer malignancies through comprehensive surveillance, prevention, and resource allocation efforts (WHO, 2022)

Table 3.2 presents the incidence of the top ten cancers among females in Myanmar in 2022. The table details the number of patients diagnosed with each cancer type and the percentage of each cancer out of all female cancers, which reflects the probability of developing each specific cancer for all ages.

Table (3.2) Incidence of Top Five Cancers among Females in Myanmar in 2022

Sr. No	Types of cancers	Number of patients (n)	Percentage of all female cancers (%)
1	Breast	7,644	17.9
2	Cervix	7,028	16.8
3	Lung	3,885	9.3
4	Stomach	2,917	7.0
5	Colon, Rectum and Anus	2,709	6.5
6	Others	17,596	42.1

Source: WHO (2022)

The table outlines the prevalence of various cancer types among female patients, presenting both the absolute number of cases and each type's proportional representation among all female cancers. Breast cancer stands out as the most common malignancy, with 7,644 cases accounting for 17.9% of the total female cancer burden. This high proportion reflects global trends, where breast cancer is consistently the leading cancer among women, likely influenced by risk factors such as genetic predisposition, hormonal influences, reproductive history, and lifestyle factors (WHO, 2022)

Cervical cancer is the second most prevalent, comprising 7,028 cases (16.8%). This significant burden underscores persistent challenges related to human papillomavirus (HPV) infection, access to screening programs, and public health interventions such as HPV vaccination. The close incidence rates of breast and cervical cancers highlight the critical importance of both mammography and Pap smear or HPV testing in cancer prevention and early detection strategies for women (WHO, 2022).

Lung cancer represents the third most frequent cancer among females, with 3,885 cases (9.3%). This finding is noteworthy, as lung cancer has traditionally been more prevalent among males, but rising rates among women may reflect increases in tobacco use, environmental exposures, and changing social behaviors. Stomach cancer (2,917 cases, 7.0%) and cancers of the colon, rectum, and anus (2,709 cases, 6.5%) also contribute substantially to the overall cancer burden in women, indicating

the ongoing relevance of gastrointestinal cancers and the potential impacts of diet, lifestyle, and genetic factors (WHO, 2022).

The ―Others‖ category, comprising 17,596 cases or 42.1% of all female cancers, includes a spectrum of less common malignancies, such as ovarian, uterine, thyroid, hematological, and skin cancers. The large proportion within this category suggests that, similar to males, while a few cancer types dominate, a wide variety of other cancers collectively account for a significant share of the disease burden. This diversity necessitates comprehensive cancer control strategies that address both common and rare cancer types, emphasizing the importance of broad-based screening, surveillance, and resource planning (WHO, 2022).

Table 3.3 presents the death rates of various cancer types in Myanmar for the year 2023, expressed as the number of deaths per 100,000 population. For each cancer type, the table also provides Myanmar's national ranking of that cancer among all cancers in the country, as well as its world rank in terms of death rate compared to other countries.

Table (3.3) Death Rate of Cancers in Myanmar in 2023

Types of Cancer	Death Rate/ 100,000 Population	Myanmar Rank	World Rank
Lung Cancers	16.58	1	74
Cervical Cancer	14.2	2	59
Stomach Cancer	11.58	3	26
Breast Cancer	11.49	4	147
Liver Cancer	10.79	5	27
Oral Cancer	8.77	6	8
Colon-Rectum Cancers	6.75	7	122
Oesophagus Cancer	6.7	8	25
Ovary Cancer	3.69	9	122
Lymphomas	3.11	10	142
Leukemia	3.05	11	119
Prostate Cancer	2.63	12	177
Skin Cancers	2.27	13	64
Pancreas Cancer	1.68	14	149

Types of Cancer	Death Rate/ 100,000 Population	Myanmar Rank	World Rank
Bladder Cancer	1.46	15	130
Uterine Cancer	0.94	16	163

Source: Kaung Myat Shwe (2022)

Lung cancer had the highest death rate in Myanmar at 16.58 per 100,000 population, making it the leading cause of cancer mortality nationally and placing Myanmar 74th worldwide for lung cancer deaths. Cervical cancer followed closely, with a death rate of 14.2 per 100,000, ranking second in Myanmar and 59th globally. Stomach cancer and breast cancer were also significant contributors to cancer mortality, with death rates of 11.58 and 11.49 per 100,000, ranking third and fourth, respectively, within the country. Other cancers with notable death rates included liver (10.79), oral (8.77), colon-rectum (6.75), oesophagus (6.7), ovary (3.69), and lymphomas (3.11) per 100,000 population (Kaung Myat Shwe et al., 2022).

The data show that, in addition to lung and cervical cancer, cancers of the stomach, breast, liver, and oral cavity are major causes of cancer-related deaths in Myanmar. Some cancers, such as oral and oesophagus cancer, hold relatively high world rankings for mortality, indicating a particular concern in the Myanmar context. Overall, these figures highlight the urgent need for targeted cancer prevention, early detection, and treatment strategies for the deadliest cancer types to reduce cancer mortality in Myanmar (Kaung Myat Shwe et al., 2022).

3.3 Burden of Cervical Cancer in Myanmar

The burden of cervical cancer in Myanmar remains a significant public health concern, with an annual incidence rate of 13.3 new cases and 6.9 deaths per 100,000 women. According to the World Health Organization's March 2023 report, cervical cancer is the most frequent cancer among women aged 15 to 44 years in Myanmar, with an incidence rate as high as 25.3 per 100,000 women in this age group. Despite being one of the most preventable and treatable forms of cancer when detected early and managed appropriately, cervical cancer continues to pose a major threat to women's health, particularly in low- and middle-income countries. Globally, cervical cancer is the fourth most common cancer among women, but it ranks as the second most common cancer in developing countries, including Myanmar. Human papillomavirus (HPV) types 16 and 18 are responsible for approximately 70% of

cervical cancer cases, and vaccination against these HPV types offers effective protection and the potential to reduce the incidence of this largely preventable disease. The high burden of cervical cancer in Myanmar highlights the urgent need for expanded prevention, early screening, and vaccination programs to address this critical health issue (Myint Myint Thinn et al., 2023).

Table 3.4 presents key indicators reflecting the burden of cervical cancer in Myanmar in 2023, detailing both incidence and mortality statistics. The table includes annual new cases and deaths, crude and age-standardized rates, cumulative risk, and cancer rankings for all women and those aged 15-44 years.

Table (3.4) Burden of Cervical Cancer in Myanmar, 2023

Indicators	Incidence	Mortality
Annual number of new cases/deaths	7129	4497
Crude rate	25.3	16.0
Age-standardized rate	22.6	14.4
Cumulative risk 0-74 years (%)	2.25	1.54
Ranking of cervical cancer (all years)	2nd	2nd
Ranking of cervical cancer (15-44 years)	1st	1st

Source: HPV Information Center, WHO (2023)

According to the table, Myanmar reported 7,129 new cases of cervical cancer and 4,497 deaths annually, indicating a substantial disease burden. The crude incidence and mortality rates are 25.3 and 16.0 per 100,000 women, respectively, while the age-standardized rates are slightly lower at 22.6 for incidence and 14.4 for mortality, which account for differences in the age structure of the population. The cumulative risk of developing cervical cancer by age 74 is 2.25%, and the risk of dying from it is 1.54%, emphasizing a significant lifetime risk for women. Cervical cancer ranks as the second most common and second most deadly cancer among all women in Myanmar, but it is particularly alarming that among women aged 15 to 44 years, it is the leading cancer in both incidence and mortality. These data highlight the urgent need for effective prevention, screening, and treatment programs to address the high burden of cervical cancer in Myanmar (HPV Information Center, 2023).

3.4 Prevention and Screening of Cervical Cancer in Myanmar

Since being designated a focus country for the United Nations Global Joint Program (UNGJP) for cervical cancer prevention and control in 2017, Myanmar has made significant strides in combating cervical cancer through comprehensive efforts targeting primary, secondary, and tertiary prevention. A major milestone was the introduction of the human papillomavirus (HPV) vaccine into the Expanded Programme of Immunization in 2020, targeting 9-year-old girls via both school-based and community-based approaches. Despite challenges from the COVID-19 pandemic, Myanmar achieved over 90% coverage for the first HPV vaccine dose and an estimated 99% coverage for both doses, demonstrating strong public health commitment and adaptability (MOH, 2018)

For secondary prevention, Myanmar launched national guidelines in 2018 endorsing a hybrid screening approach combining HPV DNA testing and visual inspection with acetic acid (VIA). This strategy accounts for workforce limitations by utilizing HPV DNA testing with self-collected samples in rural areas and VIA screening in urban and suburban settings where trained personnel are available. The primary screening target ages range from 30 to 49 years in community settings and extend up to 65 years in hospitals with cytology and HPV testing capabilities. Treatment of screen-positive women at the community level primarily involves ablative methods such as thermal coagulation, with referral pathways established for tertiary care for complex cases requiring colposcopy or excisional procedures (MOH, 2018)

The National Cervical Cancer Prevention and Control Program, launched in 2019, focuses on expanding screening services at the primary healthcare level, training healthcare workers, and raising awareness, particularly among women in remote and underserved areas. Although the COVID-19 pandemic delayed full implementation, pilot screenings using the care HPV test, a cost-effective tool suitable for mass testing, were conducted in multiple states and regions. Positive rates in symptomatic women and population-based studies illustrate the program's potential effectiveness (Myint Myint Thinn et al., 2023).

The private healthcare sector is increasingly involved, with the Myanmar Medical Association collaborating to train general practitioners in affordable screening methods, including VIA and visual inspection with Lugol's iodine, alongside cytology and HPV sampling. This expansion aims to make screening more accessible and affordable. Non-governmental organizations (NGOs) and international NGOs

(INGOs) also contribute substantially through outreach campaigns employing the see-and-treat single-visit approach and offering HPV DNA self-sampling, particularly in hard-to-reach areas. Despite these advances, challenges remain in secondary prevention, including fragmented services, variability in screening and treatment methods, workforce shortages at the community level, and the absence of robust quality assurance systems. Efforts to improve access, ensure follow-up care, and strengthen data collection and monitoring are critical to reduce cervical cancer's burden and move Myanmar closer to national and global elimination targets (MOH, 2018)

Globally, the World Health Organization's ―90-70-90‖ strategy sets ambitious targets for cervical cancer elimination by 2030: 90% of girls fully vaccinated with HPV vaccine by age 15; 70% of women screened with a high-performance test by ages 35 and 45; and 90% of women with cervical disease receiving appropriate treatment. Myanmar has made significant progress toward the first target with its successful HPV vaccination program, achieving remarkable coverage even amid the pandemic. Progress toward the second target—screening 70% of women with a high- performance test—has been slower. The hybrid screening strategy reflects adaptation to local contexts, but national coverage remains below target due to pandemic-related disruptions, limited resources, and logistical challenges, particularly in remote areas. Pilot projects and integration of self-sampling methods are promising steps toward expanding screening reach. The third target involves ensuring that 90% of women diagnosed with cervical disease receive timely and appropriate treatment (MOH, 2018)

Myanmar has expanded community-level ablative treatments and established referral pathways to tertiary centers; however, challenges persist in ensuring patient follow-up, comprehensive data collection, and equitable access to care, especially for rural populations. Continued investment to strengthen health systems, healthcare worker training, data management, and access barriers is essential to sustain progress and achieve elimination goals (Myint Myint Thinn et al., 2023).

Table 3.5 presents the current status of cervical cancer screening among women aged 30 to 49 years in Myanmar in 2021, compared to the WHO elimination strategy target. The World Health Organization recommends that 70% of women in this age group should be screened for cervical cancer with a high-performance test at least once every five years. However, the table shows that only 3% of women aged

30–49 years in Myanmar have been screened in the last five years, and just 4% have ever been screened.

Table (3.5) Screening for Cervical Cancer in Myanmar, 2021

Screening for Cervical Cancer	Targeted % of Screening	% of women aged 30-49 years
Screened in the Last Five Years	70%	3%
Ever Screened	70%	4%

Source: World Health Organization (2021)

These figures highlight a substantial gap between Myanmar's current screening coverage and the WHO target. Despite the establishment of national guidelines and pilot initiatives to expand screening services, coverage remains critically low. This shortfall can be attributed to several factors, including limited access to screening facilities, workforce shortages, logistical challenges in reaching remote areas, and the disruptions caused by the COVID-19 pandemic. The low screening rates underscore the urgent need for intensified efforts to scale up screening programs, community outreach, and education initiatives, as well as the expansion of accessible and affordable screening methods such as HPV self-sampling and VIA, to move closer to the WHO elimination target and reduce the burden of cervical cancer in Myanmar (WHO, 2021).

3.5 Screening and Pre-cancer Treatment in Myanmar

Myanmar's National Programme for Secondary Prevention of Cervical Cancer has been designed to expand systematically over five years (2020–2024) under the leadership of the Maternal and Reproductive Health (MRH) Division. The program targets HIV-negative women aged 30 to 49 years, as well as all HIV-positive women, reflecting the higher risk in the latter group. A hybrid screening approach is being implemented: HPV DNA testing is prioritized for rural populations, with samples collected at rural health facilities and sent to district laboratories, while VIA (visual inspection with acetic acid) is offered to women in urban areas with greater access to township or district health facilities. This strategy leverages available resources and infrastructure to eventually scale up HPV DNA testing nationwide as resources allow (WHO, 2024).

Screen-positive women are managed according to the nature and severity of their lesions. Ablative treatments, such as cryotherapy or thermal ablation, are provided by trained doctors at the primary care level, while more complex cases requiring excisional procedures, such as loop electrosurgical excision procedure (LEEP), are referred to trained gynecologists at district or specialist hospitals. The screening schedule is tailored to risk: HIV-negative women are screened every five years, and HIV-positive women every three years. Women treated for pre-cancerous lesions are re-screened one year after treatment to ensure early detection of any recurrence (WHO, 2024).

Table 3.6 presents the national financial expenditure on screening and treatment of cancers in Myanmar from 2020 to 2024. It details annual and total costs for three key intervention areas: service delivery costs for screening, service delivery costs for pre-cancer treatment, and programme support activities costs related to secondary prevention.

Table (3.6) National Financial Expenditure on Screening and Treatment of Cancers (2020 - 2024)

Areas of Intervention	2020	2021	2022	2023	2024	Total
Service Delivery Costs of Screening (million US$)	0.54	1.00	1.52	2.05	2.60	7.71
Service Delivery Costs of Pre-cancer Treatment (million US$)	0.09	0.16	0.24	0.32	0.41	1.22
Program Support Activities Costs of Secondary Prevention (million US$)	0.11	0.11	0.11	0.11	0.11	0.55

Source: World Health Organization (2024)

To build capacity and reach national targets, Myanmar is increasing the number of VIA screening facilities to 175 across 26 districts and expanding HPV DNA laboratory services at district and specialist hospitals. By 2024, the program aims to achieve a national screening coverage rate of 16%, with an estimated 1,505,415 screening services provided to eligible women. The financial planning for this scale-up is thorough: the average cost is US$ 6.00 per HPV DNA test, US$ 2.89 per VIA screening, and US$52.09 for follow-up diagnostics and referral for suspected cancer. Pre-cancer treatment capacity is also being expanded, with an estimated

109,133 treatments for pre-cancerous lesions projected over the five years, at an average cost of US$3.27 per thermal ablation and US$41.55 per LEEP (WHO, 2024).

While these plans represent significant progress, several challenges remain. Achieving even the planned 16% coverage by 2024 falls short of the WHO target of 70% and highlights the need for sustained investment and further scale-up of services. Additional efforts will be required to address barriers such as limited human resources, logistical difficulties in rural sample transport, and ensuring consistent follow-up for screen-positive women. Robust quality assurance, strong referral systems, and community engagement are essential to maximize the impact of the programme. Continued financial and technical support, training, and monitoring will be vital for Myanmar to move closer to comprehensive, nationwide cervical cancer screening and effective pre-cancer treatment (WHO, 2024).

In Magway Region, Myanmar, the Ministry of Health has successfully implemented school-based and community outreach HPV vaccination campaigns targeting eligible girls, achieving immunization coverage exceeding 90% in 2024. These efforts are part of the Expanded Programme of Immunization (EPI), which introduced the HPV vaccine in 2020 for 9-year-old girls using both school and community strategies to maximize reach. However, data on cervical cancer screening coverage in Magway Region is currently not available (DHIS-2, 2024).

Screening services nationwide are integrated into maternal and child health clinics, with mobile units deployed to extend access to remote populations. The Ministry follows a hybrid screening approach combining HPV DNA testing and visual inspection with acetic acid (VIA), as outlined in the 2018 national guidelines. Given that approximately 70% of the population lives in rural areas with limited healthcare personnel, HPV DNA testing with self-collected samples is planned for these settings, while VIA testing is primarily used in urban and suburban areas where sufficient trained staff are available. Screening targets women aged 30 to 49 years in community settings, and up to 65 years in hospital settings, with cytology and HPV tests utilized when resources allow (Myint Myint Thinn et al., 2023).

In 2015, a study was conducted in the Northern District of Magway, Myanmar, to examine the factors influencing cervical cancer screening uptake among female migrants in this urban area. The cross-sectional study surveyed 330 migrant women aged 18 to 60 years. The main findings revealed that only 12.1% of the participants had ever undergone a Pap smear, highlighting a very low screening rate

among the migrant population. Higher educational attainment, greater knowledge about cervical cancer, perceived susceptibility to the disease, and having received advice from healthcare providers were significantly associated with increased screening uptake. Conversely, lack of awareness (reported by 58.2% of women), limited access to health services, financial constraints, and language barriers were prominent obstacles. The study's limitations included its restriction to a specific migrant population in one district, which may affect the generalizability of the results, and potential recall bias due to reliance on self-reported data (Nandar et al., 2015).

To support these prevention and early detection efforts, community education programs actively engage local leaders, women's groups, and healthcare providers to address cultural barriers and encourage participation. Healthcare workers receive continuous training to maintain skills in cervical cancer prevention, screening, and management. Established referral pathways and treatment protocols facilitate timely care for women with positive screening results, including access to ablative and surgical treatments. Additionally, the Ministry emphasizes reducing financial and geographic obstacles through subsidized services and outreach activities. Backed by partnerships with international organizations such as WHO, these strategic interventions aim to progressively decrease cervical cancer incidence and mortality across Myanmar, including Magway Region.

CHAPTER IV
STUDY ANALYSIS

4.1 Survey Profile

The survey was conducted to address the persistent challenges of awareness and barriers to cervical cancer screening among women, which continue to contribute to low participation in prevention and early detection efforts. The objectives of the study were to assess women's awareness about cervical cancer and screening, and practices related to prevention, and to identify perceived barriers that hinder screening uptake. For the survey, five clinics were selected within Magway. These clinics are well-established in their communities and provide healthcare services to a wide range of patients with various diseases. The clinics were chosen strategically to represent both urban and peri-urban populations, capturing a diverse cross-section of women in Magway. The target population for this study was women between the ages of 18 and 55 who attended these clinics for any health reason during the survey period. To ensure fairness and avoid selection bias, a computerized random sampling procedure was used to select participants from among eligible women visiting the clinics. This approach helped maintain the representativeness and reliability of the findings.

The survey was carried out over eight months, from October 2024 to May 2025. During this time, trained data collectors approached eligible women, provided information about the study, and obtained informed consent before administering the survey questionnaire. The questionnaire covered a comprehensive set of topics, including sociodemographic information, awareness and knowledge of cervical cancer, beliefs and practices related to prevention, and perceived barriers to screening. By focusing on women who use community-based health services, the survey provides valuable insights into real-world awareness levels, beliefs, and obstacles faced by women when it comes to cervical cancer screening.

4.2 Survey Design

This study utilized a quantitative descriptive design to systematically assess awareness, practices and barriers to cervical cancer screening among women in Magway. The research was conducted at five selected clinics, each chosen to reflect the area's diverse population and significant healthcare needs. Women aged 18 years and above who visited these clinics for any type of medical consultation during the survey period were considered eligible for participation. A total sample of 267 women was systematically recruited, ensuring that the study had adequate representation and statistical reliability.

Data collection was accomplished through a structured questionnaire that addressed several key domains: sociodemographic characteristics, awareness of cervical cancer and its screening methods, practices regarding cervical cancer prevention, and perceived barriers that might hinder women from seeking screening. The awareness assessment consisted of 12 questions covering causes and risk factors, signs and symptoms, prevention methods, cervical cancer screening methods, screening eligibility, and understanding of screening results and follow-up. The total possible score was 28 marks, with scores of 14 or below indicating poor awareness, and scores of 15 or above indicating good knowledge. Practices related to cervical cancer prevention were evaluated through eight binary (Yes/No) questions. Scores of 4 or below were classified as poor practice, while scores of 5 or above were classified as good practice. Perceived barriers to cervical cancer screening were also assessed using a five-point Likert scale, with scoring identical to that used for beliefs: Strongly Disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, and Strongly Agree = 5 for positive statements, and reverse scoring for negative statements. To enhance the accuracy and relevance of the data, the questionnaire was pretested for both clarity and cultural appropriateness before its administration.

The data gathered were analyzed using descriptive statistical techniques, such as calculating frequencies, percentages, means, and standard deviations. These methods enabled the researchers to summarize the responses effectively and to identify key trends and patterns in the data. The quantitative approach provided an objective and comprehensive measurement of awareness levels and barriers, giving a clear and reliable overview of the current situation regarding cervical cancer screening among women in the selected communities of Magway.

4.3 Survey Results

4.3.1 Socio-demographic Information of the Respondents

The socio-demographic characteristics of the study respondents were studied with the variables of age, marital status, education level, occupation, and monthly family income. Table 4.1 provides a detailed breakdown of the background variables among 267 women aged 18 to 55 years who participated in the survey.

Table 4.1 Socio-demographic Information among 18-55 Aged Women (n=267)

No.	Socio-demographic Information	Responses	Number of Respondents	Percentage (%)
1	Age Group	18-40 years	202	75.7
		41-55 years	65	24.3
2	Marital Status	Single	140	52.4
		Married	101	37.8
		Divorced	12	4.5
		Widowed	14	5.2
3	Highest Education Level	No formal education	0	0.0
		Primary School passed	2	0.7
		Middle School passed	6	2.2
		High School passed	13	4.9
		University/Collage Students	26	9.7
		Graduated and above	220	82.4
4	Occupation	Housewife	24	9.0
		Government employee	55	20.6
		Private employee	109	40.8
		Self-employee	63	23.6
		No Current occupation	6	2.2
5	Monthly Family Income (MMK)	Less than 300,000 MMK	42	15.7
		300,000 – 500,000 MMK	60	22.5
		500,001 – 1,000,000 MMK	67	25.1
		More than 1,000,000 MMK	98	36.7

Source: Survey Data (2025)

The majority of respondents (75.7% of the respondents) were in the 18 to 40 years age group, while 24.3% of the respondents were between 41 and 55 years old. In terms of marital status, just over half of the participants were single (52.4% of the respondents), followed by married women (37.8% of the respondents), with smaller proportions being divorced (4.5% of the respondents) or widowed (5.2% of the respondents). Educational attainment among the respondents was notably high, with 82.4% of the respondents having graduated from university or higher, and another 9.7% of the respondents identified as current university or college students. Only a small proportion had completed high school (4.9% of the respondents), middle school (2.2% of the respondents), or primary school (0.7% of the respondents), and none reported no formal education.

Regarding occupation, the largest group consisted of private employees (40.8% of the respondents), followed by self-employed women (23.6% of the respondents) and government employees (20.6% of the respondents). Housewives represented 9.0% of the respondents, and a small number (2.2% of the respondents) reported having no current occupation. When examining monthly family income, 36.7% of the respondents earned more than 1,000,000 MMK, while 25.1% of the respondents fell within the 500,001 to 1,000,000 MMK range. Additionally, 22.5% of the respondents reported family incomes between 300,000 and 500,000 MMK, and 15.7% of the respondents had incomes below 300,000 MMK.

4.3.2 Awareness of Cervical Cancer Screening

Table 4.2 presents the awareness of cervical cancer and screening among women aged 18 to 55 years, detailing their exposure to information, understanding of causes and risk factors, recognition of symptoms, knowledge of prevention methods, familiarity with screening tests, and related health information behaviors. Awareness was measured using variables such as ever hearing about cervical cancer, sources of information, knowledge of causes and risk factors, understanding of symptoms, awareness of prevention methods, familiarity with screening tests, understanding the purpose and frequency of screening, knowledge of eligibility and recommended age for screening, actions following abnormal results, belief in the benefits of early detection, access to health information, comprehension of health materials, confidence in interacting with health workers, and overall knowledge condition. These variables

together provide a comprehensive measure of the respondents' awareness regarding cervical cancer and its screening.

Table 4.2 Awareness of Cervical Cancer Screening among Respondents (n=267)

No.	Awareness	Responses	Number of Respondents	Percentage (%)
I	**Awareness and Exposure to Cervical Cancer**			
1	Ever heard about cervical cancer	Yes	257	96.3
		No	10	3.7
2	Source of first hearing about cervical cancer	Healthcare persons	25	9.4
		Social media/Internet	25	9.4
		TV/Radio	122	45.7
		Family/Friends/ Colleagues	44	16.5
		Community events	13	4.9
		School/University	18	6.7
		Working Environment	10	3.7
II	**Causes and Risk Factors**			
1	Known causes of cervical cancer*	HPV infection	206	77.2
		Multiple sexual partners	159	59.6
		Early sexual activity	89.0	33.3
		Smoking	33	12.4
		Poor hygiene	82	30.7
		I don't know	14	5.2
2	Cervical cancer can be transmitted like HIV/AIDS	Yes	45	16.9
		No	190	71.2
		Not sure	22	8.2
3	Factors that increase the risk of cervical cancer*	Early sexual activity	163	61.0
		Smoking	41	15.4
		Use of oral contraceptives for many years	107	40.1
		Multiple childbirths	21	7.9
		I don't know	52	19.4

Table 4.2 Continued

4	Symptoms of cervical cancer*	Abnormal vaginal bleeding	217	81.3
		Foul-smelling vaginal discharge	199	74.5
		Pelvic pain	46	17.2
		Pain during intercourse	145	54.3
		Itching around the vagina	90	33.7
		I don't know	24	9.0
III	**Prevention Methods**			
1	Factors that can help prevent cervical cancer*	HPV vaccination	254	95.1
		Regular cervical screening	161	60.3
		Practicing safe sex (e.g., condom use)	146	54.7
		Avoiding multiple sexual partners	133	49.8
		Avoiding smoking	34	12.7
		I don't know	6	2.2
IV	**Cervical Cancer Screening Methods**			
1	Screening tests ever heard*	Pap smear	191	71.5
		VIA	98	36.7
		HPV testing	197	73.8
		I don't know	4	1.5
2	Purposes of cervical cancer screening*	To detect early changes in the cervix	198	74.2
		To cure cervical cancer	179	67.0
		To treat infections	101	37.8
		I don't know	1	0.4
3	Frequency of women should undergo cervical cancer screening	Every year	97	36.3
		Every 3 years	83	31.1
		Every 5 years	10	3.7
		Only when symptoms appear	22	8.2
		I don't know	45	16.8

Table 4.2 Continued

V	**Screening Eligibility**			
1	Age at which women should start cervical cancer screening	Before 20 years	87	32.6
		21–30 years	51	19.1
		31–40 years	84	31.5
		Above 40 years	25	9.4
		I don't know	10	3.7
2	Women should continue cervical cancer screening after menopause	Yes	218	81.6
		No	12	4.5
		Not sure	27	10.1
VI	**Understanding of Screening Results and Follow-up**			
1	Early detection can improves treatment outcomes	Yes	244	91.4
		No	6	2.2
		Not sure	7	2.6
VII	**Access to Health Information**			
1	Source of getting information about cervical cancer*	Healthcare providers	120	44.9
		Social media/Internet	121	45.3
		TV/Radio	245	91.8
		Family/Friends/Colleagues	130	48.7
		Printed materials (leaflets/posters)	126	47.2
		Community health talks	82	30.7
		Schools/Universities	37	13.9
2	It is easy for you to find health information about cervical cancer	Yes	255	95.5
		No	2	0.7
III	**Comprehension of Health Information about Cervical Cancer**			
1	Well understanding posters, leaflets	Easily	180	67.4
		With some difficulty	77	28.8
		Cannot understand	0	0.0

Table 4.2 Continued

2	Confident asking health workers questions when you don't understand something	Yes	255	95.5
		No	2	0.7

Source: Survey Data (2025)

Nearly all respondents (96.3% of the respondents) had heard about cervical cancer, with TV or radio being the most common source of initial information (45.7% of the respondents), followed by family, friends, or colleagues (16.5% of the respondents), healthcare personnel (9.4% of the respondents), and social media or the internet (9.4% of the respondents). Knowledge of causes and risk factors was varied: while 77.2% of the respondents identified HPV infection as a cause, and 59.6% recognized multiple sexual partners as a risk, only 33.3% of the respondents associated early sexual activity, and just 12.4% associated smoking with cervical cancer. A notable proportion (5.2% of the respondents) admitted not knowing the causes.

When asked about risk factors, 61.0% of the respondents mentioned early sexual activity, and 40.1% cited long-term use of oral contraceptives, while 19.4% of the respondents did not know any risk factors. Regarding symptoms, the most commonly recognized were abnormal vaginal bleeding (81.3% of the respondents), foul-smelling vaginal discharge (74.5% of the respondents), and pain during intercourse (54.3% of the respondents). However, only 33.7% of the respondents identified vaginal itching, and 9.0% indicated they did not know any symptoms. In terms of prevention, 95.1% of the respondents believed HPV vaccination could help, and 60.3% cited regular screening, while 54.7% recognized practicing safe sex, and 49.8% mentioned avoiding multiple sexual partners.

Awareness of screening methods was fairly high, with 77.5% of the respondents having heard of HPV testing, 71.5% knowing about Pap smears, and 36.7% familiar with VIA. The primary purpose of screening was understood by 74.2% of the respondents as detecting early changes in the cervix, while 67.0% believed it was to cure cervical cancer. Regarding recommended screening frequency, 36.3% of the respondents believed it should be done annually, 31.1% every three

years, and 8.2% only when symptoms appear, with 20.6% unsure. When asked about the appropriate age to start screening, responses varied, with 36.3% of the respondents suggesting before age 20, 19.1% between 21 and 30, and 31.5% between 31 and 40 years. A strong majority (81.6% of the respondents) agreed that women should continue screening after menopause. Nearly all respondents (95.1% of the respondents) believed early detection improves treatment outcomes.

Regarding access to health information about cervical cancer, TV/radio (91.8% of the respondents), family/friends/colleagues (48.7% of the respondents), and social media/internet (45.3% of the respondents) were the most cited sources, and almost all respondents (99.3% of the respondents) found it easy to access information about cervical cancer. Most also found written health materials easy to understand (71.2% of the respondents), and 95.5% of the respondents felt confident asking health workers questions when clarification was needed.

Despite high levels of general awareness and exposure to information, the overall knowledge condition was found to be poor among all respondents, with 100% categorized as having poor knowledge and none demonstrating good knowledge. This suggests that while information is widely available and most women are exposed to cervical cancer messaging, significant gaps remain in comprehensive understanding and accurate knowledge, which may impact effective prevention and screening behaviors.

4.3.3 Practices Related to Cervical Cancer Prevention

The practices related to cervical cancer prevention among women aged 18 to 55 years were assessed using variables such as decision-making confidence regarding screening, history and frequency of cervical cancer screening, timing and place of last screening, intention to be screened in the next 12 months, HPV vaccination status and willingness, discussions with healthcare workers, participation in health education programs, encouragement of others to get screened, routine seeking of health information, regular health facility visits for check-ups, refusal of screening when offered, and overall practice condition. Table 4.3 provides a comprehensive assessment of preventive behaviors in the study population.

Table 4.3 Practices Related to Cervical Cancer Prevention among 18-55 Aged Women (n=267)

No.	Practices Related to Cervical Cancer Prevention	Responses	Number of Respondents	Percentage (%)
1	Have you ever been screened for cervical cancer?	Yes	49	18.4
		No	218	81.6
2	If yes, how many times have you been screened? (n=49)	Once	35	71.4
		2–3 times	7	14.3
		> 3 times	7	14.3
3	When was your last cervical cancer screening? (n=49)	Within 1 year	14	28.6
		1–3 years ago	7	14.3
		> 3 years ago	28	57.1
		Never	0	0.0
4	Where did you receive your last screening service? (n=49)	Public hospital	11	22.4
		Private hospital	26	53.1
		Private clinic	0	0.0
		Health center	12	24.5
		Mobile screening	0	0.0

Source: Survey Data (2025)

Most respondents (97.8% of the respondents) reported feeling confident in making decisions related to cervical cancer screening. Despite this, only 18.4% of the respondents had ever been screened for cervical cancer, while a large majority (81.6% of the respondents) had never undergone screening. Among those who had been screened, 71.4% of the respondents had only been screened once, and only 28.6% of the respondents had their last screening within the past year, with more than half (57.1% of the respondents) last screened over three years ago.

When it comes to the location of screening, the most common place was private hospitals (53.1% of the screened respondents), followed by health centers (24.5%) and public hospitals (22.4%). Looking ahead, only 25.1% of the respondents planned to get screened in the next 12 months, while 23.2% did not plan to, and 51.7% were unsure about their intentions.

Table 4.4 Plan Practices Related to Cervical Cancer Prevention among 18-55 Aged Women (n=267)

No.	Practices Related to Cervical Cancer Prevention	Responses	Number of Respondents	Percentage (%)
1	Do you plan to get screened for cervical cancer in the next 12 months?	Yes	67	25.1
		No	62	23.2
		Not sure	138	51.7
2	Have you ever received the HPV vaccine?	Yes	66	24.7
		No	201	75.3
		Not sure	0	0.0
3	If no, are you willing to receive the HPV vaccine if available? (n=201)	Yes	169	84.1
		No	22	10.9
		Not sure	10	5.0
4	Have you ever discussed cervical cancer prevention with a healthcare worker?	Yes	81	30.3
		No	186	69.7
5	Have you attended any health education or awareness program on cervical cancer?	Yes	35	13.1
		No	232	86.9
6	Have you ever encouraged a friend, sister, or relative for cervical cancer screening?	Yes	68	25.5
		No	199	74.5
7	Do you routinely seek information about women's health or cancer prevention?	Yes	98	36.7
		No	169	63.3
8	Do you regularly visit a health facility for check-ups even when you are not sick?	Yes	46	17.2
		No	221	82.8
9	Have you ever refused a cervical cancer screening when offered?	Yes	9	3.4
		No	258	96.6

Regarding HPV vaccination, only 24.7% of the respondents had received the HPV vaccine, but among those who had not, a high proportion (84.1% of the respondents) expressed willingness to get vaccinated if it became available. Engagement with healthcare workers and health education was limited, with just 30.3% of the respondents ever having discussed cervical cancer prevention with a healthcare worker and only 13.1% having attended any health education or awareness program on the topic. Encouraging others to get screened was also relatively uncommon, with only 25.5% of the respondents reporting they had done so (Table 4.4).

In terms of proactive health behaviors, 36.7% of the respondents routinely sought information about women's health or cancer prevention, but only 17.2% regularly visited health facilities for check-ups when not sick. Refusal of screening when offered was rare, reported by just 3.4% of the respondents. Despite some positive indicators, the overall practice condition was categorized as poor for all respondents, indicating a significant gap between awareness and actual engagement in preventive practices for cervical cancer. This highlights the need for more targeted interventions to translate knowledge and confidence into regular screening, vaccination, and proactive health behaviors.

4.3.4 Barriers to Cervical Cancer Screening

(i) Family and Economic Barriers to Cervical Cancer Screening

Family and economic barriers to cervical cancer screening were measured in this study using a five-point Likert scale, where 1 means "strongly disagree," 2 means "disagree," 3 means "neutral," 4 means "agree," and 5 means "strongly agree." A mean score above 3 indicates that most women agree the item is a barrier for them, while a score of 3 or lower suggests it is less of a barrier. The results show that several family and economic barriers are major challenges for women in this study.

Table 4.5 Family and Economic Barriers to Cervical Cancer Screening among 18-55 Aged Women (n=267)

Family and Economic Barriers	Mean Score	Standard Deviation
My family discourages me from going to the screening.	2.7	0.93
I do not have someone to go with me.	2.7	0.88
No one in my community talks about screening.	3.3	1.22
I feel alone in making the decision.	4.0	0.54
I lack encouragement or support from others.	4.0	0.43
I don't have time to go to the clinic.	3.3	1.33
I forget about the screening appointments.	2.7	1.89
I prioritize my children's or family's health over mine.	4.0	0.49
I don't think screening is urgent or important.	4.0	0.38
I cannot afford to pay for the screening.	3.3	1.12
I would lose income or miss work to attend.	4.0	0.43
I have to prioritize other household expenses.	4.0	0.21
There are hidden or informal costs involved.	4.0	0.22
Overall Mean	**3.5**	

Source: Survey Data (2025)

Many women agreed that they feel alone in making the decision to get screened (mean score: 4.0), and that they lack encouragement or support from others (mean score: 4.0). A large number of women also agreed that being too busy with work or household duties (mean score: 4.0) and prioritizing the health of their children or family over their own health (mean score: 4.0) make it difficult to go for screening. Not seeing screening as urgent or important (mean score: 4.0) was also a common barrier.

Economic barriers were also significant. Many women agreed that they would lose income or miss work if they attended screening (mean score: 4.0), that they often have to prioritize other household expenses (mean score: 4.0), and that hidden or informal costs are a concern (mean score: 4.0). The cost of screening itself (mean score: 3.3) and not having enough time to go to the clinic (mean score: 3.3) were also seen as obstacles by many women.

Some barriers were less strongly agreed upon, such as family discouraging screening (mean score: 2.7), not having someone to go with (mean score: 2.7), and forgetting about appointments (mean score: 2.7). There was a moderate agreement that no one in the community talks about screening (mean score: 3.3), which may contribute to a lack of motivation.

Overall, the average score for family and economic barriers was 3.5, indicating that these barriers are a significant problem for most women in this study. These findings suggest that both family support and economic challenges must be addressed to improve cervical cancer screening uptake.

(ii) Awareness-Related Barriers to Cervical Cancer Screening

Awareness-related barriers to cervical cancer screening were measured using a five-point Likert scale, where 1 means "strongly disagree," 2 means "disagree," 3 means "neutral," 4 means "agree," and 5 means "strongly agree." A mean score above 3 indicates that most women agree the item is a significant barrier, while a score of 3 or lower suggests it is less of a barrier. The calculated results of each variable are shown in Table 4.6.

Table 4.6 Awareness-related Barriers to Cervical Cancer Screening among 18-55 Aged Women (n=267)

Awareness-Related Barriers to Cervical Cancer Screening	Mean Score	Standard Deviation
I don’t know where screening services are available.	3.3	1.8
I don’t know at what age or how often screening should be done.	4.0	0.5
I don’t understand health messages in my local language.	2.7	1.9
I cannot read the health information materials.	2.7	1.8
The instructions are too complicated.	4.0	0.2
There are no interpreters in health centers.	2.7	1.7
The health talks are not clear or well explained.	2.0	0.9
Overall Mean	**3.0**	

Source: Survey Data (2025)

According to the results, some awareness-related barriers are quite prominent. Many women agreed that not knowing at what age or how often screening should be

done is a barrier (mean score: 4.0). Similarly, finding instructions too complicated was a significant problem (mean score: 4.0). Uncertainty about where screening services are available had mean scores of 3.3, showing that a considerable number of women are unsure about these basic aspects of screening.

Other barriers were less significant. Few women agreed that they had never heard about cervical cancer screening (mean score: 2.0), that health talks are not clear or well explained (mean score: 2.0), or that they cannot understand health messages in their local language, cannot read health information materials, or have no interpreters in health centers (all with mean scores of 2.7). These lower scores indicate that while some women do face these challenges, they are not major barriers for most respondents.

The overall mean score for awareness-related barriers was 3.0, suggesting that, on average, awareness issues are a moderate barrier to cervical cancer screening among women in this study. This highlights the need for clearer, simpler health information and more accessible education about cervical cancer and screening procedures to reduce these barriers and improve participation in screening programs.

(iii) Emotional and Psychological Barriers to Cervical Cancer Screening

Emotional and psychological barriers to cervical cancer screening were assessed using a five-point Likert scale: 1 for "strongly disagree," 2 for "disagree," 3 for "neutral," 4 for "agree," and 5 for "strongly agree." A mean score above 3 indicates that most women agree the statement is a barrier for them, while a score of 3 or lower suggests it is less of a barrier. Table 4.7 summarizes the mean scores and SD of each variable.

Table 4.7 Emotional and Psychological Barriers to Cervical Cancer Screening among 18-55 Aged Women (n=267)

Emotional and Psychological Barriers to Cervical Cancer Screening	Mean Score	Standard Deviation
I am afraid of being diagnosed with cancer.	4.0	0.3
I feel embarrassed about the screening process.	4.0	0.4
I worry about pain or discomfort during screening.	4.0	0.2
I feel anxious or stressed when thinking about the procedure.	4.0	0.1

Table 4.7 Continued

I have no symptoms, so I think screening is not needed.	4.0	0.7
I believe I am too young/too old to get cervical cancer.	4.0	0.4
I feel healthy and don't think I need a check-up.	4.0	0.3
I had one screening and think that's enough.	3.3	1.1
Overall Mean	**4**	

Source: Survey Data (2025)

The results show that many women are held back from screening by strong emotional and psychological barriers. Most women agreed that they are afraid of being diagnosed with cancer (mean score: 4.0). Many also feel embarrassed about the screening process itself (mean score: 4.0) and worry about pain or discomfort during the procedure (mean score: 4.0). Anxiety or stress when thinking about screening is also a common reason for avoiding it (mean score: 4.0).

Several beliefs add to these barriers. Many women believe they think that if they feel healthy or have no symptoms (mean score: 4.0), they do not need to get screened (both mean scores: 4.0). Some believe they are either too young or too old to get cervical cancer (mean score: 4.0). Some thought that having one screening is enough (mean score: 3.3).

Overall, the average score for emotional and psychological barriers was 4. This means that, for most women in this study, fear, embarrassment, misconceptions about risk, and the absence of symptoms are strong reasons for not participating in cervical cancer screening. Addressing these emotional concerns and correcting these beliefs is essential to encourage more women to get screened.

(iv) Cultural and Religious Barriers to Cervical Cancer Screening

Cultural and religious barriers to cervical cancer screening were assessed using a five-point Likert scale, where 1 means "strongly disagree," 2 means "disagree," 3 means "neutral," 4 means "agree," and 5 means "strongly agree." A mean score above 3 suggests that most women agree that the issue is a barrier for them. Table 4.8 shows the mean score and SD of the variables measuring cultural and religious barriers to cervical cancer screening.

Table 4.8 Cultural and Religious Barriers to Cervical Cancer Screening among 18-55 Aged Women (n=267)

Cultural and Religious Barriers to Cervical Cancer Screening	Mean Score	Standard Deviation
I believe women should only be screened if they have symptoms	4.0	0.3
I believe screening will affect my reputation or image	4.0	0.6
I fear being judged by others	2.7	1.8
My religion does not support women exposing their private parts	2.7	1.9
I believe illness is determined by fate or God's will	2.7	1.8
I believe that preventive health checks are unnecessary	4.0	0.3
I prefer to rely on traditional medicine	4.0	0.2
I feel that discussing sexual health is immoral	3.3	1.4
Overall Mean	**3.4**	

Source: Survey Data (2025)

The results indicate that several cultural and religious beliefs present significant obstacles to screening. Many women agreed that their culture or community discourages cervical cancer screening (mean score: 3.3), and that lack of support from husbands, partners, or family members is also a barrier (mean score: 3.3). A strong barrier is the belief that women should only be screened if they have symptoms (mean score: 4.0), which shows a misunderstanding of the importance of early detection. Concerns about reputation and the fear that screening will affect their image are common, with a mean score of 4.0. Some women also feel discussing sexual health is immoral (mean score: 3.3), making it harder to seek information or talk openly about screening. Fear of being judged by others, religious discomfort with exposing private parts, and belief in fate or God's will as determinants of illness had lower mean scores (2.7), indicating these are barriers for some, but not for most. A significant number of women agreed that preventive health checks are unnecessary (mean score: 4.0) and that they prefer to rely on traditional medicine instead of modern screening (mean score: 4.0).

The overall mean score for cultural and religious barriers was 3.4. This finding shows that cultural expectations, family influence, misconceptions about the need for

screening, and preference for traditional practices are important barriers that may prevent women from participating in cervical cancer screening. Addressing these issues through culturally sensitive education and community engagement is essential for improving screening rates.

(v) Health System Barriers to Cervical Cancer Screening

The health system barriers to cervical cancer screening were measured using a five-point Likert scale, as shown in Table 4.9. On this scale, a score of 1 means "strongly disagree," 2 means "disagree," 3 means "neutral," 4 means "agree," and 5 means "strongly agree." If the mean score for a barrier is above 3, it means that most women consider it a significant problem. If the mean score is 3 or below, it is less of a concern for most women.

Table 4.9 Health System Barriers to Cervical Cancer Screening among 18-55 Aged Women (n=267)

Health System Barriers to Cervical Cancer Screening	Mean Score	Standard Deviation
Clinic hours are not convenient	4.0	0.2
Health centers are overcrowded or have long wait times	4.0	0.1
I don’t know when or where the service is offered	3.3	1.7
I had a bad experience with a healthcare worker	2.7	1.8
I feel uncomfortable being screened by a male provider	3.3	1.3
The staff do not respect my privacy	3.3	1.1
Health workers do not explain the process clearly	2.7	1.7
I was treated badly during a previous visit	3.3	1.1
I felt my privacy was not respected	2.7	1.9
The facility was unclean or disorganized	2.7	1.8
The procedure was painful or uncomfortable	4.0	0.6
I didn’t receive proper follow-up or results	2.7	1.5
Overall Mean	**4.8**	

Source: Survey Data (2025)

The results show that many women face difficulties due to the way health services are organized and delivered. A large number of women agreed that health

centers are often overcrowded or have long wait times (mean score: 4.0). Many also found the screening procedure itself to be painful or uncomfortable (mean score: 4.0).

Other important barriers include the distance to screening services (mean score: 3.3), not knowing when or where screening is available (mean score: 3.3), and feeling uncomfortable being screened by a male provider (mean score: 3.3). Concerns about staff not respecting privacy, having been treated badly in the past each had a mean score of 3.3, indicating that these issues affect many women.

Some barriers were less commonly agreed upon but still present. These included having negative experiences with healthcare workers (mean score: 2.7), unclear explanations from health workers (mean score: 2.7), unclean or disorganized facilities (mean score: 2.7), lack of proper follow-up or results (mean score: 2.7), and feeling their privacy was not respected (mean score: 2.7).

The overall mean score for health system barriers was 4.8, which is very high. This clearly shows that health system issues, such as inconvenient hours, long waits, painful procedures, and privacy concerns, are major problems that prevent many women from getting screened for cervical cancer. Improving these aspects of healthcare delivery would likely help more women access and benefit from cervical cancer screening.

(vi) ***Overall Mean for All Barriers to Cervical Cancer Screening***

Table 4.10 Overall Mean for All Barriers to Cervical Cancer Screening among 18-55 Aged Women (n=267)

Barriers	**Mean Score**
Family and Economic Barriers	3.5
Awareness-Related Barriers	3.0
Emotional and Psychological Barriers	4.0
Cultural and Religious Barriers	3.4
Health System Barriers	4.8
Overall Mean for All Barriers	**3.74**

The table (4.10) presents the mean scores for five identified barriers to cervical cancer screening, as assessed using a five-point Likert scale. In this context, a

mean score above 3 indicates that most women perceive the barrier as a significant impediment, while scores of 3 or below suggest it is less concerning. Among the barriers assessed, health system barriers yielded the highest mean score of 4.8, highlighting that issues such as accessibility, quality of services, and healthcare infrastructure are perceived as the most significant obstacles to screening participation. Emotional and psychological barriers also scored highly (mean = 4.0), suggesting that feelings such as fear, anxiety, or embarrassment are commonly experienced and represent notable deterrents to screening uptake.

Family and economic barriers received a mean score of 3.5, indicating that financial constraints and family-related responsibilities moderately impede participation in cervical cancer screening. Cultural and religious barriers, with a mean score of 3.4, underscore the influence of societal norms and beliefs in shaping women's health behaviors, though to a slightly lesser extent than financial concerns. In contrast, awareness-related barriers had a mean score of 3.0, suggesting that, on average, women do not view lack of knowledge or information as a major problem, or that educational interventions may have been somewhat effective in this population.

The overall mean for all barriers is 3.74, indicating that, collectively, women perceive barriers to cervical cancer screening as a significant issue, with particular emphasis on systemic and psychological factors. These findings underscore the need for multifaceted interventions that address not only informational gaps but also emotional, cultural, economic, and especially health system-related challenges to improve screening rates among women.

CHAPTER V
CONCLUSION

5.1 Findings

The comprehensive findings on cervical cancer awareness, beliefs, practices, and barriers reveal a multifaceted picture of women's engagement with cervical cancer prevention and screening, highlighting critical gaps and areas for improvement in public health strategies. Almost all women surveyed had heard of cervical cancer and were exposed to related information primarily through mass media and interpersonal communication. While many could accurately identify key causes and risk factors—most notably human papillomavirus (HPV) infection and recognize prominent symptoms such as abnormal vaginal bleeding, awareness of other important risk factors and symptoms was limited. Knowledge about prevention was generally high, with most women acknowledging the protective benefits of HPV vaccination and regular screening. However, understanding of specific screening methods, the appropriate age to begin screening, and screening frequency varied widely. Despite widespread access to health information and confidence in engaging with healthcare workers, all respondents were ultimately classified as having poor overall knowledge. This indicates a significant disconnect between exposure to information and comprehensive understanding, suggesting that current awareness campaigns are insufficient for fostering effective preventive behaviors.

Despite high confidence in decision-making regarding cervical cancer screening, a large gap existed between intention and practice. Only 18.4% of women had ever undergone screening, mostly on a single occasion, and the majority had not been screened within the past year. Private hospitals were the most common screening venues, followed by health centers and public hospitals. Future screening intentions were modest, with only about one-quarter planning to be screened in the next year and over half uncertain. HPV vaccination coverage was low at 24.7%, although willingness among the unvaccinated was relatively high. Interaction with healthcare professionals about cervical cancer prevention was limited, with fewer than one-third

having such discussions. Participation in education or awareness programs was even less common. Additionally, women rarely encouraged others to screen or proactively sought information on women's health, and routine health check-ups absent of illness were uncommon. However, outright refusal of offered screening was rare.

Family and Economic Barriers: Many women reported lacking support or encouragement from family, often making screening decisions alone. Competing responsibilities, such as work and household duties, and prioritizing family members' health over their own were common impediments. Economic concerns, including potential income loss, prioritization of household expenses, hidden costs of screening, and clinic fees, were significant. Time constraints and transportation costs also hindered access. Although less frequent, discouragement by family members and lack of accompaniment to clinics contributed to difficulties.

Awareness-Related Barriers: Knowledge deficits undermined screening uptake. Many women lacked basic information on recommended screening age, frequency, and procedures. Confusion about screening tests (Pap smear, Visual Inspection with Acetic acid [VIA]) and the nature of cervical cancer itself impeded action. While some women faced language barriers or limited access to clear health materials, these issues were less prevalent.

Emotional and Psychological Barriers: Fear of cancer diagnosis, embarrassment related to the screening process, anxiety about pain or discomfort, and stress were dominant deterrents. Misconceptions about personal risk, ―believing screening unnecessary in the absence of symptoms or at certain ages‖ further reduced participation. A minority preferred ignorance of cancer status or assumed that one screening sufficed.

Cultural and Religious Barriers: These factors exerted a substantial influence. Many women perceived their culture or community as unsupportive of screening, with lack of approval from husbands or families obstructing participation. A widespread misconception that screening should only occur when symptomatic hindered early detection efforts. Concerns about personal reputation and the morality of discussing sexual health limited openness and information-seeking. While fewer women feared social judgment or religious prohibitions related to exposure or fatalism, these issues nonetheless existed. Preference for traditional medicine over modern screening was also noted. Collectively, cultural and religious barriers were

significant, underscoring the need for culturally sensitive education and community engagement.

Health System Barriers: Organizational and systemic challenges were prominent. Inconvenient clinic hours, overcrowded facilities, and long wait times discouraged attendance. The screening procedure was often perceived as painful or uncomfortable. Geographic distance, uncertainty about service availability, and discomfort with male providers further inhibited access. Privacy concerns, distrust in the healthcare system, and negative past experiences with healthcare workers were common. Additional, though less frequent, issues included lack of accompaniment, unclear health worker communication, unclean facilities, inadequate follow-up or results delivery, and privacy violations during screening.

5.2 Suggestions

The key finding that nearly all women had heard of cervical cancer but still demonstrated poor overall knowledge indicates that merely providing information is insufficient to foster true understanding or behavioral change. To address this gap, educational interventions should go beyond mass media campaigns and incorporate targeted, interactive learning opportunities. Approaches such as community-based workshops, peer group discussions, and practical demonstrations can help translate exposure to information into meaningful comprehension of risk factors, symptoms, and screening methods. Collaborating with local community leaders and trusted figures can enhance the relevance and credibility of educational content.

Despite widespread recognition of cervical cancer's seriousness and high trust in healthcare workers, persistent cultural, emotional, and practical barriers continue to prevent many women from engaging in preventive actions. For women experiencing embarrassment or fear related to screening, healthcare settings should provide a more private and supportive environment. This can be achieved by training female healthcare providers, ensuring confidentiality, and employing sensitive communication strategies to alleviate anxiety. Health promotion campaigns should specifically address common fears and misconceptions, utilizing real-life stories and testimonials to encourage participation.

Family and community opinions strongly influence women's decisions regarding screening. Interventions designed to improve screening uptake should therefore actively involve families and communities. Including husbands, parents, and

community elders in educational activities can foster a supportive culture for women's health. Engaging religious leaders and cultural influencers is also vital to challenge misconceptions and promote positive attitudes toward preventive healthcare.

Practical barriers such as time constraints, financial concerns, and inconvenient clinic hours emerged as significant obstacles. Flexible clinic schedules, mobile screening units, and community-based screening events can help women integrate screening into their busy lives. Providing subsidized or free screening, transportation assistance, and transparent information about costs can reduce financial burdens. Encouraging employers to allow women time off for screening without penalty may further support access.

Emotional and psychological barriers, particularly fear of cancer diagnosis and anxiety about the screening procedure, are widespread. Health education should directly address these concerns by reassuring women about the process, emphasizing the benefits of early detection, and offering counseling or support groups for anxious individuals. Normalizing discussions about screening through community champions and survivor advocates can reduce stigma and fear associated with the procedure.

Cultural and religious misconceptions, such as the belief that screening is only necessary when symptoms appear or that preventive checks are unnecessary, continue to discourage screening. Health messages must be tailored to local beliefs and delivered in culturally sensitive ways that respect traditional values while gently challenging harmful myths.

Health system barriers including overcrowded clinics, long wait times, lack of privacy, and distrust of healthcare workers—require systemic solutions. Health facilities should improve patient experience by streamlining services, ensuring respectful and confidential care, and providing staff training on communication and cultural competence. Soliciting regular feedback from women about their experiences can help identify and address service shortcomings.

In summary, addressing these findings calls for a multifaceted strategy that includes interactive, community-based education; the reduction of emotional and cultural barriers; the active engagement of families and community influencers; the enhanced accessibility and affordability of screening; and the improvements in the healthcare environment. Recognizing and addressing the diverse challenges women

face will be crucial to increasing cervical cancer screening rates and ultimately reducing the disease burden.

REFERENCES

Agustiansyah, P., Sanif, R., & Nurmaini, S. (2021). Epidemiology and risk factors for cervical cancer. *Bioscientia Medicina: Journal of Biomedicine and Translational Research*, *5*(7), 624-631.

Arbyn, M., Weiderpass, E., Bruni, L., de Sanjosé, S., Saraiya, M., Ferlay, J., & Bray, F. (2020). Estimates of incidence and mortality of cervical cancer in 2018: a worldwide analysis. The Lancet Global Health, 8(2), e191–e203. https://doi.org/10.1016/S2214-109X(19)30482-6

Chua, B., Ma, V., Asjes, C., Lim, A., Mohseni, M., & Wee, H. L. (2021). Barriers to and facilitators of cervical cancer screening among women in Southeast Asia: a systematic review. *International journal of environmental research and public health*, *18*(9), 4586.

Cohen, P. A., Jhingran, A., Oaknin, A., & Denny, L. (2019). Cervical cancer. *The Lancet*, *393*(10167), 169-182.

Denny, L. (2005). The prevention of cervical cancer in developing countries. *BJOG: An International Journal of Obstetrics & Gynaecology*, *112*(9), 1204-1212.

Denny, L. (2008). Prevention of cervical cancer. *Reproductive Health Matters*, *16*(32), 18-31.

District Health Information System-2 (DHIS-2), Myanmar. (2024).

Eun, T. J., & Perkins, R. B. (2020). Screening for cervical cancer. *The Medical clinics of North America*, *104*(6), 1063.

Ferlay J, Colombet M, Soerjomataram I, et al. (2020). Estimating the global cancer incidence and mortality in 2018: GLOBOCAN sources and methods. *Int J Cancer*. *2019*;144:1941–53. doi: 10.1002/ijc.31937.

Han CPP, & Yamarat, K. (2012). Factors affecting intention to take pap smear screening among married women in Mandalay, Myanmar. *J Health Res*, *26*(6).

Han CPP., Soe, H. H. K., Than, N. N., Lwin, H., & Moe, S. (2016). Prevalence and Predictors of Pap-Smear Screening for Cervical Cancer among Married Women in Urban of Mandalay, Myanmar. *British Journal of Medicine & Medical Research*, *17*(8), 1-10.

Herzog, T. J., & Wright, J. D. (2007). The impact of cervical cancer on quality of life—the components and means for management. *Gynecologic oncology*, *107*(3), 572-577.

HPV Information Center, WHO (2023) *Human Papillomavirus and Related Cancers, Fact Sheet, 2023.* https://hpvcentre.net/statistics/reports/MMR_FS.pdf.

Kashyap, N., Krishnan, N., Kaur, S., & Ghai, S. (2019). Risk factors of cervical cancer: a case-control study. *Asia-Pacific journal of oncology nursing*, *6*(3), 308-314.

Kaung Myat Shwe, Soe Myat Win, Aye Nyein Thant, Aung Myo Sat Htay, Hlawn Moe Han, & Naw Hsah Ka Paw. (2022). Cancer incidence and mortality in Central Myanmar: report of Nay Pyi Taw population-based cancer registry. *Asian Pacific Journal of Cancer Prevention: APJCP*, *23*(1), 311.

Lor, B., Ornelas, I. J., Magarati, M., Do, H. H., Zhang, Y., Jackson, J. C., & Taylor, V. M. (2018). We should know ourselves: Burmese and Bhutanese refugee women's perspectives on cervical cancer screening. *Journal of health care for the poor and underserved*, *29*(3), 881-897.

Ministry of Health, Myanmar. (2018). National Strategic Plan for Cervical Cancer Prevention and Control 2018–2022. Naypyidaw, Myanmar: Ministry of Health and Sports.

Ministry of Health. (2018). Strategy to End Preventable Maternal Mortality in Myanmar (2017-2021)

Momenimovahed, Z., & Salehiniya, H. (2017). Incidence, mortality and risk factors of cervical cancer in the world. *Biomedical Research and Therapy*, *4*(12), 1795-1811.

Myint Myint Thinn, Soe Aung, Aye Aung, New Mar Tun. (2023). Current Status of Cervical Cancer Prevention and Screening in Myanmar. South Asian J Cancer. 2023 Feb 25;12(1):47-48. doi: 10.1055/s-0043-1764212. PMID: 36851926; PMCID: PMC9966159.

Nandar, C. S., Chompikul, J., & Laosee, O. (2015). Determinants of cervical cancer screening among migrants in the Northern district of Magway, Myanmar. *J. Public Health Dev*, *13*(2), 17-31.

Petry, K. U., Woermann, B., & Schneider, A. (2014). Benefits and risks of cervical cancer screening. *Oncology research and treatment*, *37*(Suppl. 3), 48-57.

Saslow, D., Solomon, D., Lawson, H. W., Killackey, M., Kulasingam, S. L., Cain, J., ... & Myers, E. R. (2012). American Cancer Society, American Society for Colposcopy and Cervical Pathology, and American Society for Clinical Pathology screening guidelines for the prevention and early detection of cervical cancer. CA: A Cancer Journal for Clinicians, 62(3), 147–172. https://doi.org/10.3322/caac.21139

Tsikouras, P., Zervoudis, S., Manav, B., Tomara, E., Iatrakis, G., Romanidis, C., ... & Galazios, G. (2016). Cervical cancer: screening, diagnosis and staging. *J buon*, *21*(2), 320-325.

World Cancer Research Fund (2025). *Cervical Cancer Statistics.* *https://www.wcrf.org/preventing-cancer/cancer-statistics/cervical-cancer-statistics/*.

World Health Organization (2021). *Cervical Cancer Profile in Myanmar.* *https://cdn.who.int/media/docs/default-source/country-profiles/cervical-cancer/cervical-cancer-mmr-2021-country-profile-en.pdf?sfvrsn=27b74210_13&download=true*.

World Health Organization (2022). Global Cancer Observatory (Myanmar) https://gco.iarc.who.int/media/globocan/factsheets/populations/104-myanmar-fact-sheet.pdf

World Health Organization (2024) *Costing the National Programme for Secondary Prevention of Cervical Cancer: Myanmar, 2020—2024.* *https://www.who.int/docs/default-source/cervical-cancer/myanmar-cxca-costing-report-20201109-2.pdf?sfvrsn=6cbe8fdb_6*.

World Health Organization (2025). *Cervical Cancer*. *https://www.who.int/news-room/fact-sheets/detail/cervical-cancer*.

World Health Organization. (2020). Global strategy to accelerate the elimination of cervical cancer as a public health problem. Geneva: WHO. https://www.who.int/publications/i/item/9789240014107

World Life Expectancy (2025) *Myanmar Health Profile (2023)*. *https://www.worldlifeexpectancy.com/country-health-profile/myanmar*.

Wu, J., Jin, Q., Zhang, Y., Ji, Y., Li, J., Liu, X., ... & Huang, Y. (2025). Global burden of cervical cancer: current estimates, temporal trend and future projections based on the GLOBOCAN 2022. *Journal of the National Cancer Center*.

Yin Yin Wint (2019). *DETERMINANTS OF CERVICAL CANCER AWARENESS, KNOWLEDGE AND PREVENTIVE PRACTICE AMONG WOMEN IN TAUNGOO (Yin Yin Wint, 2019)* (Doctoral dissertation, MERAL Portal).

APPENDIX

AWARENESS, PRACTICES, AND PERCEIVED BARRIERS TO CERVICAL CANCER SCREENING AMONG WOMEN IN MAGWAY REGION

Research Questionnaire

Section-A

Awareness on Cervical Cancer and Screening

Sr. no.	Awareness on Cervical Cancer and Screening
Socio-demographic Information	
1	Completed age in years (----------)
2	Marital Status (1) Single (2) Married (3) Divorced (4) Widowed
3	Highest Education Level (1) No formal education (2) Primary School passed (3) Middle School passed (4) High School passed (5) University/Collage Students (6) Graduated and above
4	Occupation (1) Housewife (2) Government employee (3) Private employee (4) Self-employee (5) No Current occupation (6) Others (Please Specify)…….
5	Monthly Family Income (MMK) (1) Less than 300,000 MMK (2) 300,000 – 500,000 MMK (3) 500,001 – 1,000,000 MMK (4) More than 1,000,000 MMK
Awareness and Exposure to Cervical Cancer	
6	Have you ever heard about cervical cancer? (1) Yes (2) No
7	Where did you first hear about cervical cancer? (1) TV/Radio

Sr. no.	Awareness on Cervical Cancer and Screening
	(2) Healthcare persons (3) Social media/Internet (4) Family/Friends/Colleagues (5) Community events (6) School/University (7) Others (Please Specify)…….
Causes and Risk Factors	
8	What are the known causes of cervical cancer? (Select all that apply) (1) Human papillomavirus (HPV) infection (2) Multiple sexual partners (3) Early sexual activity (4) Smoking (5) Poor hygiene (6) I don't know
9	Do you think cervical cancer can be transmitted like HIV/AIDS? (1) Yes (2) No (3) Not sure
10	Which of the following increases the risk of cervical cancer? (Select all that apply) (1) Early sexual activity (2) Smoking (3) Use of oral contraceptives for many years (4) Multiple childbirths (5) I don't know
Signs and Symptoms	
11	Which of the following are symptoms of cervical cancer? (Select all that apply) (1) Abnormal vaginal bleeding (2) Foul-smelling vaginal discharge (3) Pelvic pain (4) Pain during intercourse (5) Itching around the vagina (6) I don't know
Prevention Methods	
12	Which of the following can help prevent cervical cancer? (Select all that apply) (1) HPV vaccination (2) Regular cervical screening (e.g., Pap smear, VIA) (3) Practicing safe sex (e.g., condom use) (4) Avoiding multiple sexual partners (5) Avoiding smoking (6) I don't know
Cervical Cancer Screening Methods	
13	Have you heard of the following screening tests? (Select all that apply) (1) Pap smear

Sr. no.	Awareness on Cervical Cancer and Screening
	(2) VIA (Visual Inspection with Acetic Acid) (3) HPV testing (4) I don't know
14	What is (are) the purpose of cervical cancer screening? (Select all that apply) (1) To detect early changes in the cervix (2) To cure cervical cancer (3) To treat infections (4) I don't know
15	How often should women undergo cervical cancer screening? (1) Every year (2) Every 3 years (3) Every 5 years (4) Only when symptoms appear (5) I don't know
Screening Eligibility	
16	At what age should women start cervical cancer screening? (1) Before 20 years (2) 21–30 years (3) 31–40 years (4) Above 40 years (5) I don't know
17	Should women continue cervical cancer screening after menopause? (1) Yes (2) No (3) Not sure
Understanding of Screening Results and Follow-up	
18	If a cervical cancer screening test result is abnormal, what should be done? (1) Repeat the test (2) Do nothing (3) Visit a health facility for further management (4) I don't know
19	Do you think early detection improves treatment outcomes? (1) Yes (2) No (3) Not sure
Access to Health Information	
20	Where do you usually get information about health issues? (Select all that apply) (1) Healthcare providers (2) Social media/Internet (3) TV/Radio (4) Family/Friends/Colleagues (5) Printed materials (leaflets/posters) (6) Community health talks (7) Schools/Universities

Sr. no.	Awareness on Cervical Cancer and Screening
	(8) Others (Please Specify)…….
21	Is it easy for you to find health information about cervical cancer? (1) Yes (2) No
Comprehension of Health Information	
22	How well can you understand written health materials (e.g., posters, leaflets)? (1) Easily (2) With some difficulty (3) Cannot understand
23	Do you feel confident asking health workers questions when you don't understand something? (1) Yes (2) No

Section-B

Practices Related to Cervical Cancer Prevention

Sr. no.	Practice Related to Cervical Cancer Prevention
24	Are you confident making decisions related to cervical cancer screening? (1) Yes (2) No
25	Have you ever been screened for cervical cancer? (1) Yes (2) No
26	If yes, how many times have you been screened? (1) Once (2) 2–3 times (3) More than 3 times
27	When was your last cervical cancer screening? (1) Within the past 1 year (2) 1–3 years ago (3) More than 3 years ago (4) Never
28	Where did you receive your last screening service? (1) Public hospital (2) Private hospital (3) Private clinic (4) Health center (5) Mobile screening (6) Others (Please Specify)…….
29	Do you plan to get screened for cervical cancer in the next 12 months?

Sr. no.	Practice Related to Cervical Cancer Prevention
	(1) Yes (2) No (3) Not sure
30	Have you ever received the HPV vaccine? (1) Yes (2) No (3) Not sure
31	If no, are you willing to receive the HPV vaccine if available? (1) Yes (2) No (3) Not sure
32	Have you ever discussed cervical cancer prevention with a healthcare worker? (1) Yes (2) No
33	Have you attended any health education or awareness program on cervical cancer? (1) Yes (2) No
34	Have you ever encouraged a friend, sister, or relative to get screened for cervical cancer? (1) Yes (2) No
35	Do you routinely seek information about women's health or cancer prevention? (1) Yes (2) No
36	Do you regularly visit a health facility for check-ups even when you are not sick? (1) Yes (2) No
37	Have you ever refused a cervical cancer screening when offered? (1) Yes (2) No

Section-C

Perceived Barriers to Cervical Cancer Screening

Please circle your perception related to perceived barriers to cervical cancer screening

(1) Strongly Disagree (SD)
(2) Disagree (D)
(3) Neutral/Not Sure (N)
(4) Agree (A)
(5) Strongly Agree (SA)

Family and Economic Barriers to Cervical Cancer Screening	SD	D	N	A	SA
My family discourages me from going to screening					
I do not have someone to go with me					
No one in my community talks about screening					
I feel alone in making the decision					
I lack encouragement or support from others					
I don’t have time to go to the clinic					
I forget about the screening appointments					
I prioritize my children’s or family’s health over mine					
I don’t think screening is urgent or important					
I cannot afford to pay for the screening					
I would lose income or miss work to attend					
I have to prioritize other household expenses					
There are hidden or informal costs involved					

Awareness-related Barriers to Cervical Cancer Screening	SD	D	N	A	SA
I don’t know where screening services are available					
I don’t know at what age or how often screening should be done					
I don’t understand health messages in my local language					
I cannot read the health information materials					
The instructions are too complicated					
There are no interpreters in health centers					
The health talks are not clear or well explained					

Emotional and Psychological Barriers to Cervical Cancer Screening	SD	D	N	A	SA
I am afraid of being diagnosed with cancer					
I feel embarrassed about the screening process					
I worry about pain or discomfort during screening					
I feel anxious or stressed when thinking about the procedure					
I have no symptoms, so I think screening is not needed					
I believe I am too young/too old to get cervical cancer					
I feel healthy and don't think I need a check-up					
I had one screening and think that's enough					

Cultural and Religious Barriers to Cervical Cancer Screening	SD	D	N	A	SA
I believe women should only be screened if they have symptoms					
I believe screening will affect my reputation or image					
I fear being judged by others					
My religion does not support women exposing their private parts					
I believe illness is determined by fate or God's will					
I believe that preventive health checks are unnecessary					
I prefer to rely on traditional medicine					
I feel that discussing sexual health is immoral					

Health System Barriers to Cervical Cancer Screening	SD	D	N	A	SA
Clinic hours are not convenient					
Health centers are overcrowded or have long wait times					
I don't know when or where the service is offered					
I had a bad experience with a healthcare worker					
I feel uncomfortable being screened by a male provider					
The staff do not respect my privacy					

Health workers do not explain the process clearly					
I was treated badly during a previous visit					
I felt my privacy was not respected					
The facility was unclean or disorganized					
The procedure was painful or uncomfortable					
I didn’t receive proper follow-up or results					