

**ADDIS ABABA UNIVERSITY  
COLLEGE OF HEALTH SCIENCES  
SCHOOL OF PUBLIC HEALTH**



Assessment of Knowledge, Attitudes and Practices on Cervical Cancer Screening among Health Service Providers at Marie Stopes International Ethiopia Centers, 2015

By:

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Supervisor:

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A thesis submitted to the School of Graduate Studies of Addis Ababa University in partial fulfillment of the requirements for the Degree Masters of Public Health

June 2015

Addis Ababa, Ethiopia

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## **Abbreviations**

CSRH Comprehensive Sexual Reproductive Health

ETB Ethiopian Birr

FGAE Family Guidance Association of Ethiopia

FGM Female Genital Mutilation

FMOH Federal Ministry of Ethiopia

HCPs Health Care Providers

HSPs Health Service Providers

HPV Human papillomavirus

IDI In Depth Interview

KAP Knowledge, Attitude and Practices

LEEP Loop electrosurgical excision procedure

MSIE Marie Stopes International Ethiopia

Pap Papanicolaou

SPSS Statistical Package for Social Sciences

STI Sexually transmitted infections

VIA Visual inspection with acetic acid

VILI Visual inspection with Lugol's iodine

WHO World Health Organization

## **Abstract**

**Background and Objective:** Cervical Cancer is one of the major non-communicable health problems, largely preventable with effective screening programmes and human papilloma virus (HPV) vaccination to prevent, detect and reduce cervical cancer. The burden of cervical cancer is disproportionately high among the developing countries. The study was conducted to assess Knowledge, Attitude and Practices (KAP) on Cervical Cancer Screening among Health Service Providers (HSP) at Marie Stopes International Ethiopia Centers in 2015.

**Materials and Methods:** An exploratory descriptive cross-sectional study design, both quantitative and qualitative method was employed. Quantitative data was collected by means of self-administered questionnaire from 190 health service providers and qualitative by means of an in-depth interview from five area managers, both employed at Marie Stopes International Ethiopia.

**Result:** The mean age of the study participants were 34.7 years. 50% of participants considered cancer of the cervix a public health problem in Ethiopia. They most frequently mentioned multiple sexual partners 52.6%, sexually transmitted infections (STI) 49.7%, smoking 28.1% and sexual intercourse at early age 17.5% as major risk factors; and irregular vaginal bleeding 63.8%, foul smelling vaginal discharge 52.8%, post coital bleeding 39.9% and dyspareunia 38% as major symptoms of cervical cancer. Pap smear was the most popular screening test mentioned by 62.1% and visual inspection with acetic acid (VIA) or Lugol's iodine (VILI) by 31.1% of respondents. Participants mentioned recommended women age and screening interval inconsistently. About 66.3% of respondents believed all women should undergo screening for cervical cancer. However, 53.2% of female respondents didn't feel susceptible to cervical cancer, as well as 65.1% had never been screened. Of the male respondents, only 19.8% had partners/ wives who had ever been screened.

**Conclusions and Recommendations:** There is high KAP gap and misconception, towards cervical cancer screening among HSP. Health service providers need to be targeted first for cervical cancer screening because of their essential role in the implementation of any future screening programs and in their educative role with patients. Health service providers need to be trained to provide health education services and are expected to be a role model to motivate and change others attitude and practices.

**Key Words:** Knowledge, Attitude, Practice, Cervical Cancer, Ethiopia



# **1. Background**

## **1.1 Introduction**

Globally Cervical Cancer is one of the major non-communicable public health problems among female population. Cervical cancer is largely preventable following the introduction of effective cervical cancer screening programmes in conjunction with human papilloma virus (HPV) vaccination to prevent, detect and reduce cervical cancer. The burden of cervical cancer is disproportionately high among the developing countries where 85 % of the estimated 493, 000 new cases and 273, 000 deaths occur in resource-poor countries among women annually. In 2010, it was estimated that 20.9 million women were at risk of developing cervical cancer in Ethiopia with an estimated 4,648 and 3,235 annual numbers of new cases and deaths, respectively (1,2).

Low coverage of cervical cancer screening is a serious problem and a major barrier in reducing the mortality and morbidity in the developing countries. Specifically in Sub-Saharan Africa very few women are ever screened for cervical cancer. In Ethiopia data compiled by TikurAnbessa Specialized Hospital from 1996 – 2008 showed 30.3% of all cancers diagnosed in the Hospital were cervical cancer. The estimated coverage of cytology – based cervical cancer screening in Ethiopia is very poor 1.6% in urban settings and 0.4% in rural areas(3).

Mortality caused by cervical cancer in Africa is very high. The reported mortality in Eastern Africa was 35 deaths per 100,000 women. However, the mortality rates in the developed world where screening programs run successfully remained below 5 per 100,000 women during the same year. Survival rate for five years in African countries such as Uganda was only 18% whereas during the same year it was 72% in the United States of America. On an average in Sub Saharan Africa the survival rate was 21% compared to 70% in the United States and 66% in Europe (4).

However, in low-and middle-income countries (LMICs), only approximately 5% of eligible women undergo cytology-based screening in a five year period. In virtually all LMICs, cytology-based services are confined in teaching hospitals or private laboratories in urban areas. The barriers to scale-up of cervical cytology-based screening programs in Ethiopia include the lack of trained and skilled professionals, supplies, laboratory infrastructure and equipment. Furthermore, the absence of a well-organized Surveillance and recall system is a major obstacle to effective

implementation: women with abnormal findings may not receive their results, let alone treatment or follow-up. These are some of the barriers that prevent cytology-based screening programs from being effective in LMICs (5).

In a bid to implement cervical cancer prevention and control program in Ethiopia, the Federal Ministry of Health has developed cervical cancer prevention and control guideline. The main goal of this guideline is to provide healthcare providers, implementing partners and other stakeholders involved in the prevention and control of cervical cancer in Ethiopia with a standardized Cervical Cancer Prevention and control health service delivery directive (5). As one of the major actors on maternal health programs in the country, Marie Stopes International Ethiopia (MSIE) is providing cervical cancer screening and preventive treatment through its Blue Star health care network and MSIE centers as well as partnering with large scale farming sites under MSIE led fit for work project. Currently MSIE is providing screening service using Pap smear technology and has planned to initiate screening and treatment service using VIA and Cryotherapy (6).

## **1.2 Problem Statement**

Cervical cancer is the most common genital cancer and one of the leading causes of death among female population. Fortunately, this cancer is preventable by screening for premalignant lesions but this is rarely provided and hardly utilized. Early diagnosis and prompt treatment of cancer and precancerous lesions provides the best possible protection against cervical cancer (1). Well organized programs to detect and treat precancerous abnormalities at the early stages of cancer prevent up to 80% of cervical cancer in developed countries(1). However, effective cytological screening programs for detecting carcinoma of cervix have been difficult to implement in developing world like Ethiopia.

Understanding the level of knowledge, attitudes and practices with regard to cervical cancer screening among clients, health service providers and different stakeholders will help to address practical and strategic need of cervical cancer prevention program in Ethiopia. Studies in this respect seem to be limited in this country which resulted in information gap among practitioners, researchers and policy makers. Among the exiting literatures few studies were dedicated to assess the issue in concern taking only clients as study subjects (3, 8). Still very few existing literatures in the area of cervical cancer screening were conducted among service

providers and clients at a time (1, 9). Therefore as MSIE is one of the actors in providing comprehensive sexual reproductive health (CSRH) services widely across 5 regions this KAP study was conducted among the health service providers to address the information gap.

### **1.3 The Expected outcome**

An identified knowledge, attitude and practices gap among health service providers towards cervical cancer screening is expected to serve practitioners and policy makers to design evidence based programs. In addition studies in similar topics which may be conducted in a different scale and depth can make use of this study as a spring board.

## **2. Literature Review**

This chapter presents related literature on knowledge, attitudes and practices (KAP) about cervical cancer prevention and control. The section also briefly summarizes key studies

oncervical cancer prevention and control that have been undertaken in different parts of the world.

Cervical cancer is highlighted in the “Political Declaration of the High-level Meeting of the General Assembly on the Prevention and Control of Non-communicable Diseases” as well as in the “comprehensive global monitoring framework” under development which includes key indicators, and a set of global targets for the prevention and control of non-communicable diseases. (6) Implementation of cervical cancer prevention and control programs contributes to the attainment of the MDGs through universal access to sexual and reproductive health services to improve women’s health, to the 2010 UN Secretary-General’s Global Strategy for Women and Children’s Health and to the 2011 Political Declaration of the UN General Assembly High level Meeting on Non-communicable Diseases(6).

According to the 2002 World Health Organization report cervical cancer contributes around 12% of all types of cancers among the women(7).Age-adjusted incidence rate of cervical cancer in Ethiopia is 35.9 per 100,000 women with 7619 annual number of new cases and 6081 deaths every year. In Ethiopia Data compiled by TikurAnbessa Specialized Hospital from 1996 – 2008 showed 30.3% of all cancers diagnosed in the Hospital was cervical cancer (3).Though availing integrated cervical cancer screening services for women at risk will decrease deaths caused by cervical cancer (10, 11).

## **2.1 Overview of Cervical Cancer Screening**

Cervical cancer is potentially preventable, unlike other reproductive organ cancers. Effective screening programs in conjunction with human papilloma virus (HPV) vaccination can lead to a significant reduction in the morbidity and mortality associated with this cancer (3, 5). Visual Inspection with Acetic Acid (VIA) is an evidence-based and affordable alternative approach for cervical cancer screening in low-resource settings. Visual Inspection with Acetic Acid (VIA) screening is the simplest method of screening with the lowest cost and relative ease of use. The approach does not require high technology and has been demonstrated to reduce the deaths of women in developing countries (16).

Studies have reported VIA sensitivity for detecting precancerous lesions comparable to or greater than cervical cytology, while requiring fewer resources and feasible to carry out in low level health facilities (5).

Single-visit approach (SVA) using VIA shows promising results in terms of clinical benefits and cost-effectiveness's in reducing morbidity and mortality even in resource-poor settings (1).

Given the difficulty of sustaining a high-quality cervical cytology-based screening program, and the proven effectiveness of the VIA approach, Ethiopia has looked to VIA combined with cryotherapy for cervical cancer prevention (5).

Screening programs that involve one to two visits to health centers linked with the treatment appear to be effective, safe and feasible (12). The screening tests for cervical cancer are based on three assumptions: 1) Primary prevention 2) secondary Prevention and 3) tertiary care. Primary Prevention includes prevention of infection with Human Papilloma Virus (HPV) either through behavior change mechanisms, such as abstinence or condom use, or through biological mechanisms, such as the HPV vaccine. Secondary prevention, which is the main focus of the guideline, includes screening and treating precancerous lesions with effective outpatient methods. Tertiary care includes management of invasive cervical cancer (i.e. surgery, radiation therapy and chemotherapy), as well as palliative care. The first is that prevention is better than cure and the second is that early detection may allow early treatment as the primary pathologic process is still reversible. Screening tests are relatively simple procedures that separate healthy persons from those with a high probability of having the disease (13).

Well-organized programs to detect and treat precancerous abnormalities at the early stages of cancer prevent up to 80% of cervical cancers deaths in developed countries. However, effective screening programs have been difficult to implement in low resource settings. This is one reason why cervical cancer mortality rates are much higher in the developing world(14). So reduction of the cervical cancer mortality in the developing world is only one of the many priorities competing for scarce resources (15).

## **2.2 Knowledge of cervical cancer screening**

Studies conducted among health service providers KAP towards cervical cancer screening are minimal especially in resource poor countries like Ethiopia. However study conducted among Cameroonian healthcare workers revealed that Knowledge of cervical cancer and prevention by screening showed several gaps and important misconceptions regarding screening methods (17).

Another study conducted in Tanzania regional Hospital identified less than half of the Nurses had adequate knowledge regarding cervical cancer, causes and transmission of HPV and age of

to be screened; however there is a variation among professionals. Assuming all health professionals have equal level of awareness with regard to cervical cancer screening is very misleading. Though this study concluded that need for continuing medical education, creation of cervical cancer prevention policies and strategies at all levels of the health sector (18).

Similarly a study conducted at Chennai Corporation in India revealed that 85% of female health care providers (HCPs) were aware of major risk factors and symptoms of Cervical Cancer. 95.3% of HCPs were aware of Pap smear and VIA/ VILI, however only 62.1% and 78.4% knew the exact purpose of Pap smear and VIA/ VILI respectively (19).

Another study conducted in Niger Delta University shows awareness in cervical cancer screening was higher amongst female students than female staff in a tertiary institution, but uptake was generally low 13% staffs and 11.6% students. There was an association between awareness and practice of cervical cancer screening amongst respondents. Overall, a greater proportion of the staff respondents had little or no knowledge about cervical cancer screening (20).

Similar study conducted in Haitian health care workers With regards to their knowledge about cervical cancer and prevention, 69.2% stated they did not feel they had adequate knowledge. 100% of participants correctly stated that cervical cancer is one of the leading causes of death in women worldwide. Also, 52.2% correctly stated that cervical cancer is preventable. When asked whether cervical cancer was curable, 45.5% of the study sample correctly answered that question. When asked if it is possible to detect pre-cancerous cervical cancer cells, 81.5% correctly stated that was true. 74.1% of participants also recognized that cervical cancer is not most common among women in their 20 s. When asked whether cervical cancer can usually be found at an early stage because of the obvious symptoms such as bleeding and pain, 18.5% correctly stated that was false. Two-thirds correctly recognized that if cervical cancer is left untreated it is fatal. When participants were asked whether cervical cancer is caused by a virus that is spread sexually, 77.8% correctly stated that was true. When asked whether there is a vaccine that can prevent cervical cancer, one-third stated that was true. Almost all of participants correctly recognized the purpose for screening is to detect pre-cancerous changes. When asked whether screening for cervical cancer should begin when a woman is in her twenties, 51.9% stated this was false. The risk factors for cervical cancer most often chosen by participants were:

HIV infection (38.5%), smoking (53.9%), multiple partners (57.7%), and HPV infection (73.1%) (21).

In some cases clients are in a better position to exercise their health seeking behavior, for instance most recently conducted study at the selected MSIE Centers and Blue Star Clinics identified that knowledge on the risk factors, symptoms and prevention methods of cervical cancer was found to be very limited among clients. However, majority of these clients are aware of cervical cancer can be treated if diagnosed early. Moreover there was a high level of willingness among women to get screened for cervical cancer and to pay for screening test and treatment services (6).

### **2.3 Attitude of cervical cancer screening**

A study conducted in Uganda health workers (physicians, nurses and others) showed that 65% of female health workers who are eligible for screening did not think they were susceptible to cervical cancer (22).

Similar study by Chennai Corporation in India female HCPs have better attitude towards cervical cancer screening than knowledge in all the professions except for health sector Nurses. About 81.3% of HCPs believed that cervical cancer can be detected even before the symptoms appear. Only 42.1% of female HCPs perceived as not at risk of developing cervical cancer, however 85% of the respondents felt that they should undergo screening for cervical cancer. The most common reasons for perceiving not at risk include: no symptoms(19%), confidence that they will not get the disease (19%), no risk factors (14.3%), fear of being diagnosed with the disease (14.3%), hysterectomy done (23%), and shyness to undergo the procedure (4.8%). Again about 4.8% of the female HCPs who believe that they were at risk did not want to undergo cervical cancer screening and the reason for this is fear of being diagnosed to have the disease. On the other hand, 60% of the respondents wanted to undergo screening in spite of their belief that they are not at risk (19).

Similar study conducted at Surat India Teaching Hospital witnessed that 87% of Nurses who did not recommend Pap smear to other women, 38.9% gave no response while 35% believed that women less than 20 years are safe. Some, 11.4% women thought it is a painful procedure and 6.9% believed it is risky (9).

As publicized in different studies, another study conducted in Botswana witnessed that negative attitude of health service providers and limited access to the doctors were among the major barriers to cervical cancer screening services (24).

#### **2.4 Practices of cervical cancer screening**

Study conducted at Chennai Corporation in India observed that only 18.7% of female HCPs have ever undergone cervical cancer screening. On the other hand the current health system stresses regular screening for all women above 30 years irrespective of symptoms, but nearly 19.6% of the female HCPs have not recommended cervical cancer screening to women who did not show symptoms (19).

Similarly study conducted in Uganda female health workers (physicians, nurses and others) found that approx.81% had never been screened (22).

Again a study conducted in Nigeria at Usmanu Danfodiyo University Teaching Hospital Sokoto, with doctors, nurses, pharmacists, laboratory scientists and medical social workers. It was assumed that the knowledge of these workers about cervical cancer would be high and they would have taken the screening tests for themselves. However, the results of the study revealed that only 4.4% of the respondents had ever undergone the screening tests themselves (23).

Another study conducted at Surat Teaching Hospital concludes that 70% of Nurses never experienced Pap smear;the most common reasons being mentioned are not thought about it (28.6%) and no time for it (17.8%) respectively. Even though there is satisfactory knowledge among nurses about cervical cancer and screening the uptake for screening is minimal(9).

To improve and strengthen cervical cancer screening services WHO has recommended its member countries to develop and integrate cervical cancer screening into their health systems depending on the local social, cultural and economic contexts. This will ensure a defined referral system for diagnosis, treatment and follow up (25).

On the supply side the MSIE based study showed majority of centers didn't provide Pap smear and other cervical cancer screening and preventive treatment services yet. However, there are shortcomings in terms of access to information, reference materials and guidelines on cervicalcancer screening and treatment. Referral systems and linkages are not established. The record review revealed poor practice in recording (6).

### **3.Objective**

#### **3.1 General Objective**

Assess Knowledge, Attitudes and Practices on Cervical Cancer Screening among Health Service Providers at Marie Stopes International Ethiopia Center, 2015.

#### **3.2 Specific objective**

To describe

- Understanding of health service providers towards cervical cancer risk factors, symptom, screening procedure, recommended women age and screening interval
- Opinion of health service providers towards cervical cancer screening
- Actions and behavior of health service providers towards cervical cancer screening

## **4. Methodology**

### **a. Quantitative method**

#### **4.1 Study design**

An exploratory, descriptive cross-sectional study design, with both quantitative and qualitative method was employed. Quantitative data was collected by means of self-administered questionnaire from 190 health service providers and qualitative by an in-depth interview from five area managers, employed at Marie Stopes International Ethiopia.

## 4.2 Study area

The study was conducted in MSIE centers, across four regions and two city administrations (Tigray, Amhara, Oromia, SNNPR, Addis Ababa and Dire Dawa) Central area from February 10<sup>th</sup> to April 30<sup>th</sup>, 2015. MSIE is a fundamental provider of Comprehensive Sexual Reproductive Health services in Ethiopia since its inception in 1990. The organization now operates in 23 static Centers, one National Call Center, 10 mobile units, more than 600 Blue Star Clinics and although community health workers deployed to reach inaccessible and remote rural areas through voucher program and link them with service delivery outlets. All MSIE centers provide CSRH services including: short acting, long acting and permanent FP methods, VCT service, ANC, STI screening and treatment, safe abortion, delivery, postnatal care, PMTCT, immunization, different laboratory services and likes. The centers are selected as a study sites because of their potential and eligible client flow and, high number of health service providers.

## 4.3 Data source and study population

Marie Stopes International Ethiopia has a total of 547 employees which are composed of 357 non health service providers and 190 health service providers. The researcher compiled a list of employees with the help of MSIE human resource unit. Thus this study was conducted among all 190 health service providers of MSIE.

**Table 1. Summary of MSIE Regions, Centers and Health Service Providers**

Region / City administration	Town	No of facilities	No of KAP respondents
Tigray	Mekele	1	4
Amhara	D/Birhan, Dessie, B/Dar and D/Markos	4	32

Oromia	Bishotu, Adama, Ambo, Nekemte, Jimma, and Asella	6	44
SNNRP	Hawasa, Hossana, Arbaminch, Wolayta and Shashemene	5	23
Addis Ababa	Arada, Gulele, Kirkos, Choice, T/Haymanot and Obstetrics	6	83
Dire Dawa	Dire Dawa	1	4
Total		23	190

#### **4.4 Data Collection Instrument**

Self-administered questionnaire was adapted from earlier studies related to cervical cancer and screening knowledge, attitude, and practices among female health care providers of Chennai Corporation, 2013. The questions sought to explore respondent's knowledge, attitude and

practices towards cervical cancer screening. The questionnaire was translated into Amharic using professional linguists and pre-tested to ensure that it maintained its original meaning.

The questionnaire was divided into 4 major areas that included:-

- Background characteristics
- Knowledge towards cervical cancer which assesses:
  - burden of the disease
  - risk factors
  - symptoms
  - screening procedure
  - recommended age of women
  - recommended screening interval
- Attitude towards cervical cancer screening
- Practice towards cervical cancer screening

#### **4.5 Data Collection Process**

After receiving clearance from Public Health Review and Ethical Clearance committee (REC), the study was conducted using a paper questionnaire. The researcher trained and oriented 3 data collectors about the purpose of the study, survey questionnaire and how to handle respondents while in the field. The research tools were pre-tested at family guidance association of Ethiopia (FGAE). Data collection occurred from February 10<sup>th</sup> to April 30<sup>th</sup>, 2015 using 190 questionnaires. The researcher designed data entry screens using SPSS version 20 software application that were used to translate the paper questionnaire into electronic data for analysis. The researcher checked the questionnaire simultaneously for completeness and reviewed accuracy of each questionnaire at least once and corrected any resulting data errors before analysis.

#### **4.6 Operational definition**

Operational definitions that help to guide this research includes:-

**Knowledge:** We considered knowledge about risk of cervical cancer good if a respondent mentioned at least 3 of the known risk factors (multiple sexual partners, sexually transmitted infections/STI and smoking).

We considered knowledge about symptoms of cervical cancer good if a respondent mentioned at least 3 of the known symptoms (irregular bleeding, foul smelling vaginal discharge and post coital bleeding).

We considered knowledge about screening technique of cervical cancer good if a respondent mentioned at least 2 of the known technique ( pap smear and VIA/VILI).

We considered knowledge about recommended age of screening for cervical cancer good if a respondent mentioned at least > 30 years.

We considered knowledge about recommended interval of screening for cervical cancer good if a respondent mentioned at least every 5 years.

**Attitude:** Attitude was evaluated as perceived susceptibility to cervical cancer and willing to undergo for screening themselves.

**Practice:** Practice was evaluated as screening patients for cervical cancer and in case of female respondents, having ever been screened them and in case of male respondents wives/partners have ever been screened.

### **Variables**

- Background characteristics: (sex, age, marital status, age at marriage, profession, in-service year and training)
- Knowledge
- Attitude and

- Practices

#### **4.7 Data entry and analysis procedures**

The collected quantitative data was entered and analyzed using SPSS version 20 software program for total score to calculate frequency, mean and percentage. Similarly, results from qualitative data summarized by open code application under different themes identified. Data analyzed using the technique of triangulation in terms of comparing evidences coming from different data sources.

#### **4.8 Data quality management**

To assure the quality of quantitative data, standardized data collection instrument was developed and pretested at Family Guidance Association of Ethiopia (FGAE) to ensure for simplicity and appropriateness. The entered data was checked for completeness at the beginning and middle stage of the work. Data cleaning was conducted at the end of the data entry.

### **b. Qualitative Method**

#### **4.1 Study design**

Case ethnographic study design was used among area managers employed at MSIE across 5 areas to complement and triangulate the quantitative findings, and data was collected through an in-depth interview.

#### **4.2 Study population**

The study participants were area managers of MSIE who are in charge of leading health related program across each region.

#### **4.3 Data source and study population**

The study was designed to involve all five area managers employed at Marie Stopes International Ethiopia across five regions.

#### **4.4 Data collection**

In-depth interview was conducted among 5 area managers' on May 15 and 16, 2015. In-depth interview was conducted with each participant for 15 to 20 minutes and the developed interview guide was used. Interview questions include provision of cervical cancer screening at service delivery points, capacity of providers, and challenges during intervention. The principal

investigator was the one to conduct an in-depth interview. Upon the consent of the participant in an in-depth interview, the researcher made recordings through audio-tapes for ease of transcribing the qualitative information to be obtained.

#### **4.5 Data analysis**

The recorded data with the audio tape were transcribed in Amharic and translated to English. Analysis was undertaken manually using predetermined themes.

#### **4.9 Ethical Consideration**

Prior to data collection, Ethical clearance and approval of study was obtained from review and ethical clearance (REC) committee of Addis Ababa University, School of Public Health. Further, MSIE and respective area managers were informed about purpose and deliverables of research undertaking. The participants were informed their participation in this study will help for the success of the study and better improvement of the program. Informed consent was obtained from each study subjects and participants. Respondents were assured about confidentiality of responses that would be maintained during and after data collection.

#### **4.10 Dissemination of Results**

The findings from this study will be disseminated to Addis Ababa University School of Public Health, MSIE and other organizations who are interested in this issue. Publication and presentation of the findings at local and international forums will be considered.

## **5. RESULTS**

### **5.1 Background Characteristics of Health Service Providers**

A total of 190 Health Service Providers were study participants. The mean age of participants is 34.7 years  $\pm$  8.9 SD, ranging from 21 to 58 years. They were Obstetrician/Gynecologist (6), General

practitioners(8), Laboratory technicians (17), Midwives (25)and Nurses(79).Among the study participants 57.4% and 63.7% were female and marriedrespectively;their mean age at marriage is 26.8 years  $\pm$  4.5 SD ranging from 18 to 42 years. About 39.5% participants have been serving as a health service provider ranging from1 to 38 years with a mean of 11.3 years  $\pm$  7.1 SD.Among all participants only 7.9% (95% CI: 4.2-12.1%)of providers attended training regarding cervical cancer.(Table 2)

**Table 2: Background Characteristics of Health Service Providers**

<b>Variable</b>	<b>Number(N=190)</b>	<b>Percentage</b>
<b>Sex</b> Female	109	57.4

<b>Variable</b>	<b>Number(N=190)</b>	<b>Percentage</b>
Male	81	42.6
<b>Age ( in year)</b>		
21 – 30	80	42.1
31 - 40	70	36.8
41 - 50	26	13.7
≥ 51	14	7.4
Mean 34.7 years ± 8.9SD		
<b>Marital status</b>		
Single	61	32.1
Married	121	63.7
Widowed	8	4.2
<b>Age at marriage( in year)</b>	<b>(N=139)</b>	
15-19	1	0.7
20-24	46	33.1
25-29	58	41.7
>=30	34	24.5
Mean 26.8years ± 4.5SD		
<b>Profession</b>		
Obstetrician/ Gynecologist	6	3.2
General Practitioner	8	4.2
Laboratory Technician	17	8.9
Midwife	25	13.2
Health Officer	55	28.9
Nurse	79	41.6
<b>In service year</b>		
≤4	16	8.4
5 - 9	75	39.5
10 - 14	45	23.7
≥15	54	28.4
Mean 11.3 years ± 7.1SD		
<b>Attended training about cervical cancer</b>		
Yes	15	7.9
No	175	92.1

## 5.2 Knowledge towards Burden of Cervical Cancer

About 77.4% and 50% of respondents considered cervical cancer is at high extent and a public health problem in Ethiopia respectively. (Table3)

**Table3: Knowledge towards Burden of Cervical Cancer**

<b>Variable</b>	<b>Number</b>	<b>Percentage (N=190)</b>
<b>Extent is high in Ethiopia</b>		
Yes	147	77.4
No	31	16.3
I don't know	12	6.3
<b>Public Health Problem in Ethiopia</b>		
Yes	95	50
No	69	36.3
Difficult to describe	16	8.4
I don't know	10	5.3

### 5.3 Knowledge towards Cervical Cancer Risk Factors

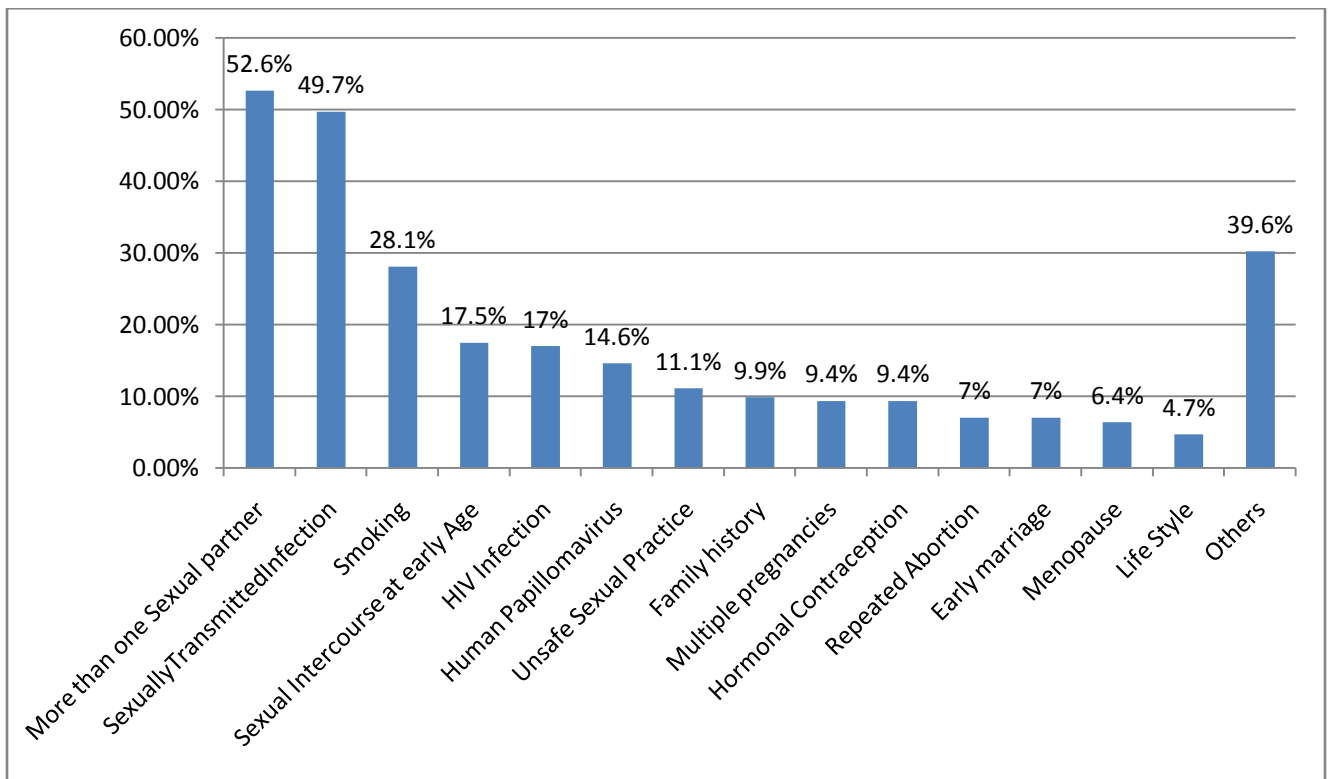
The most frequently mentioned risk factor for cervical cancer is multiple sexual partner 52.6%, Sexually Transmitted Infection (STI) 49.7%, smoking 28.1%, early sexual intercourse 17.5%, HIV infection 10%, HPV 14.6% and others 39.6% of cervical cancer. (Fig 1)

Findings of the in depth interviews (IDIs) indicated most of health services providers don't have adequate knowledge about cervical cancer. All respondents believed and agreed lack of trained human resources is one of the hindering factors in cervical cancer screening services.

As most of participants mentioned multiple sexual partners and Sexually Transmitted Infection (STI) are main risk factors to develop cervical cancer.

One of the area managers said that:

*“.....amazing to hear this because we assume ourselves as best sexual reproductive health provider in the country but on the contrary with this huge number of health service providers and different professions.....”*



**Figure1: Knowledge towards Cervical Cancer Risk Factors**

#### 5.4 Knowledge towards Cervical Cancer Symptoms

The most frequently mentioned vaginal bleeding 63.8%, foul smelling vaginal discharge 52.8%, post coital bleeding 39.9%, Dyspanurea 38%, abdominal pain 16%, pelvic pain 16.6% and others 12.7% of cervical cancer. (Fig 2)

Findings of the in depth interviews (IDIs) indicated that most of health services providers don't have adequate knowledge about cervical cancer. All respondents believed and agreed lack of trained human resources is one of the hindering factors in cervical cancer screening services. As Vaginal bleeding, foul smelling, vaginal discharge are the most frequently mentioned symptoms of cervical cancer mentioned by study participants.

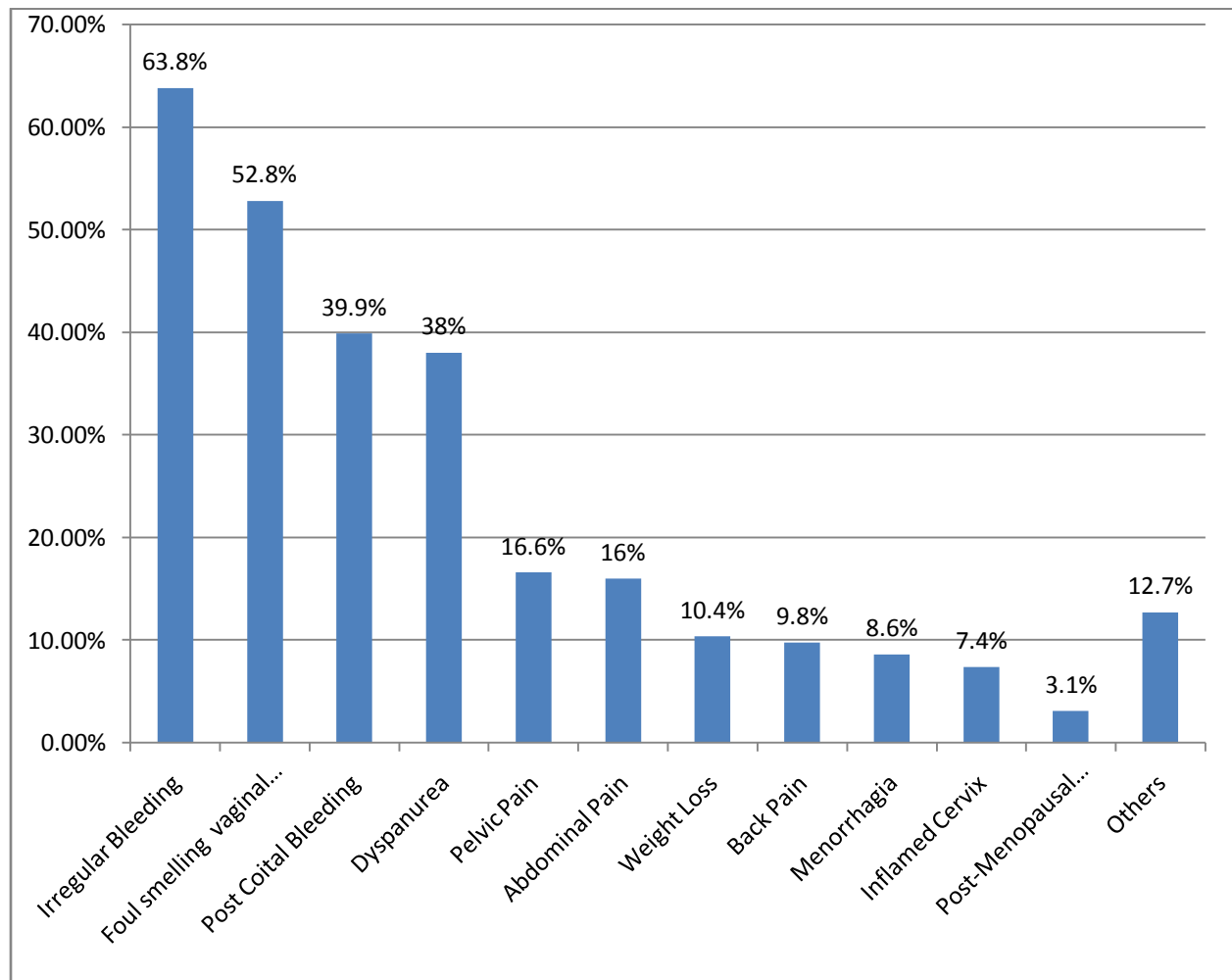


Figure2: Knowledge towards Cervical Cancer Symptoms

### 5.5 Knowledge towards Cervical Cancer screening procedure

Almost 86.8% of respondents believed that screening can detect cervical cancer before symptoms appear. 62.1%, 31.1% and 4.7% of participants mentioned Pap smear, VIA/VILI and colposcopy respectively. However few numbers of respondents wrongly mentioned punch biopsy 6.8% and Loop electrosurgical excision procedure (LEEP) 2.6% as a cervical cancer screening techniques.

Findings of the in depth interview perceived that Pap smear and VIA/VILI mentioned by most of health services providers as screening procedure to detect cervical cancer was the most commonly used cervical cancer screening technique in MSIE centers. ( Fig 3)

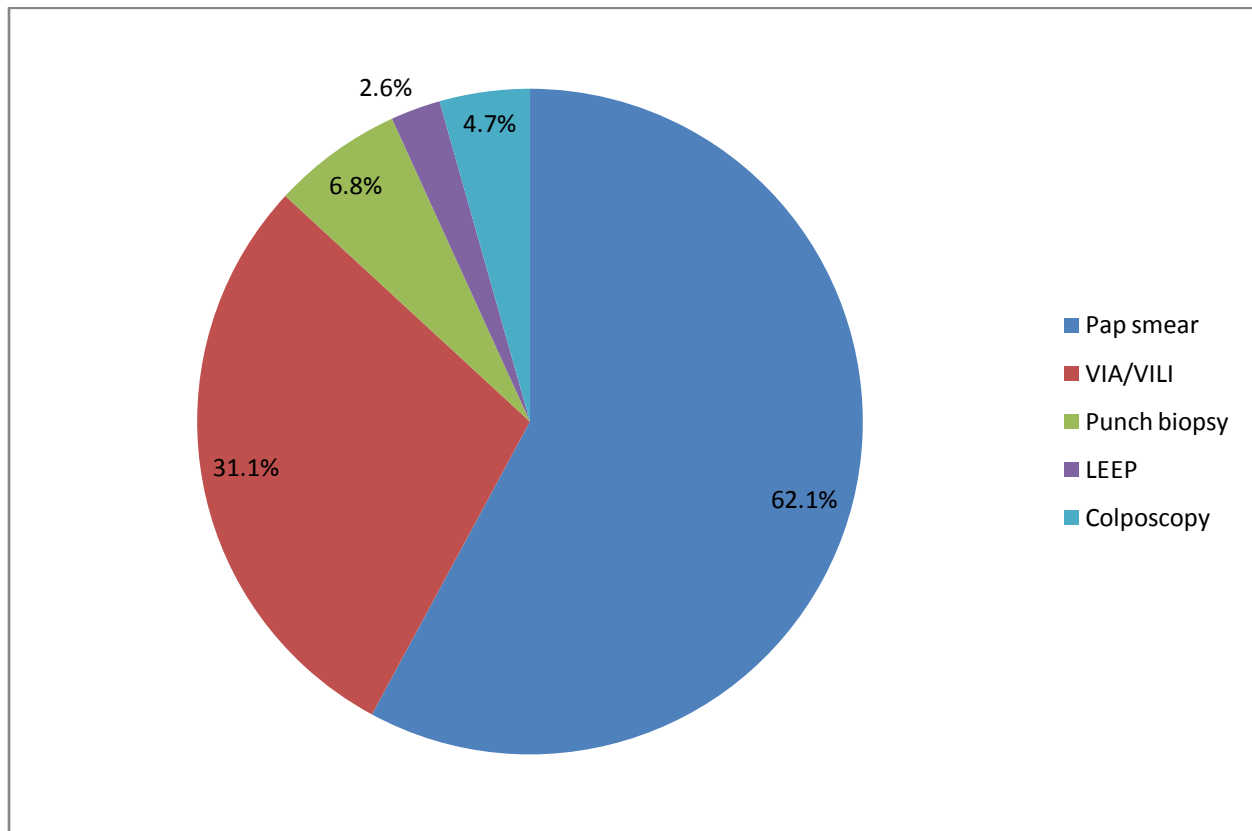


Figure3: Knowledge towards Cervical Cancer Screening Procedure

### 5.6 Knowledge towards Cervical Cancer Screening Recommended Age of Women

Around 30% of study participants attempted to identify recommended age of women for cervical cancer screening. Those were > 30 years 6.8%, 15 to 49 years 8.4%, 25 to 45 years 8.4%, all women >18 years 6.8%. Remarkably 70% of respondents didn't know recommended age of women to be screened (Fig 4). Findings of the in depth interview observed that HSP did not fully address recommended age of women to be screened.

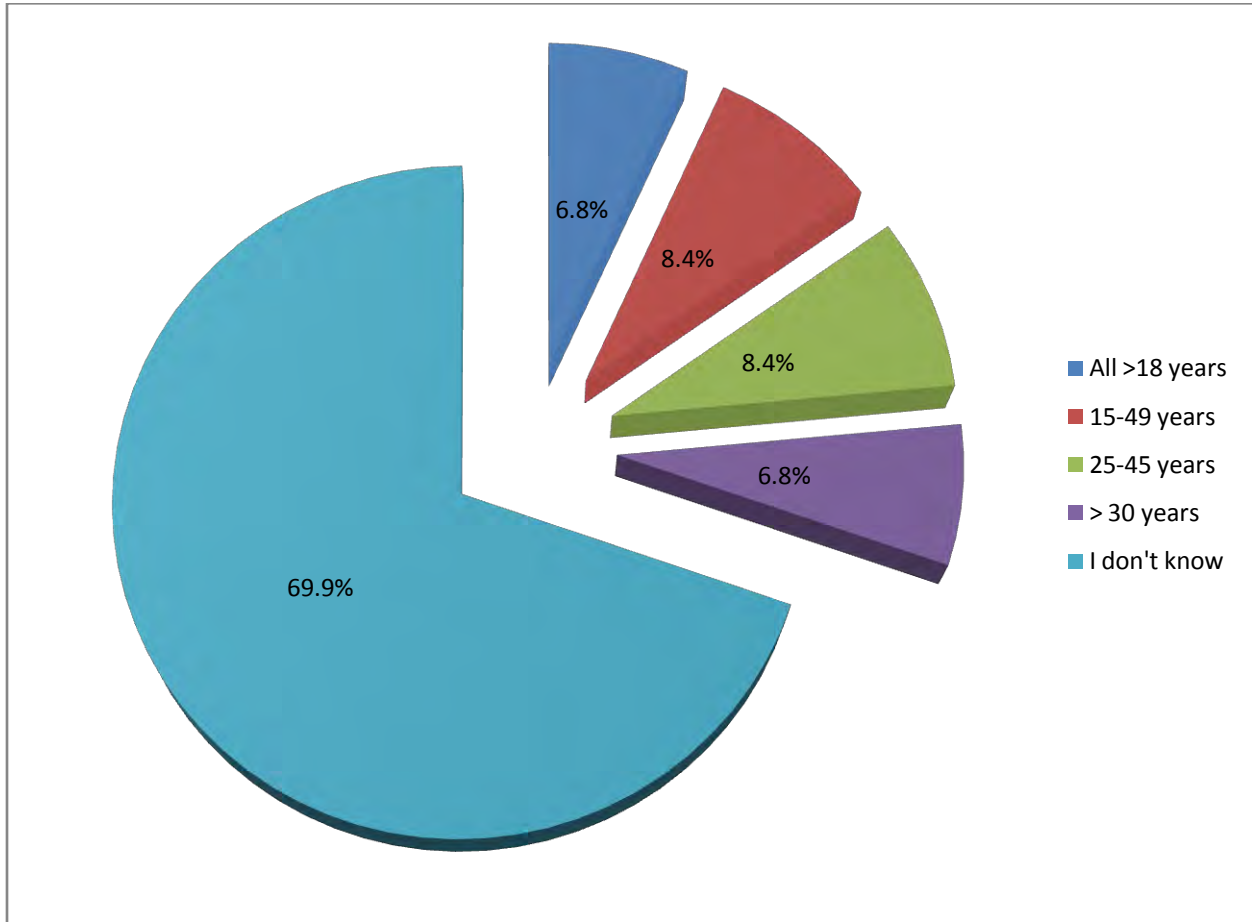


Figure4: Knowledge towards Cervical Cancer Screening Age of Women

### **5.7 Knowledge towards Cervical Cancer Screening Recommended Interval**

The most frequently mentioned time interval for early detection and intervention was every one year 28.4%, every six month 14.2%, every five year 12.1%, every six month to one year 7.4%, every two year 5.8%, every three year 2.1%, every three to five year 1.6%, every three month 1.6%, one to two months after first screening 1.1% .Remarkably 25.7% of participants didn't know cervical cancer screening interval (Fig 5). Findings of the in depth interview revealed that HSP did not fully addressed recommended screening interval for cervical cancer.

### **5.8 Attitude of Health Service Providers towards Cervical Cancer Screening**

53.2% of female participants didn't think they were susceptible to cervical cancer and were not willing to undergo screening, however 66.3% of respondents believe all women should undergo screening for cervical cancer. About 7.8% of participants will recommend screening for women who developed symptoms, 52.2% of respondents recommend screening for women who weren't sexually active and 61.7% of respondents believed all clients who visited MSIE centers are eligible for cervical cancer screening. Approximately 71.7% and 82.2% believed that manual pelvic and speculum exam is important for cervical cancer screening respectively. However 46.8% of female participants were susceptible to cervical cancer and will undergo for screening themselves.

All IDI's respondents explained that all women should undergo screening for cervical cancer at its early stage for early detection and prevention. Eventually, all respondents mentioned that cervical cancer can be treated hundred percent if the detection is done at its early stage. However lack of national cervical cancer prevention and control guideline and focus of msie and donors were towards core businesses like safe abortion, family planning and safe motherhood which might affect focus towards cervical cancer.

Some professionals may not be aware of that women are at risk of getting cervical cancer and they should undergo for regular screening. One of the area managers said that:

*“.....I think providers not provide necessary information to clients about cervical cancer screening availability in our center or other health facility might be due to lack of training, knowledge and confidence ....”*

## **5.9 Practice of Health Service Providers towards Cervical Cancer Screening**

Among all female respondents only 34.9% and 19.8% wives/partners of male respondents have ever screened for cervical cancer. Only 28.9%, 37.4% and 28.4% of respondents ever done pelvic and speculum examination and cervical cancer screening respectively.

Participants mentioned, not having symptom, not feeling at risk, not giving attention, not sexually active, not having awareness about cervical cancer, not eligible, lack of access, fear of procedure, self-protection from risk factors, not comfortable with speculum and pelvic area procedure, had Hysterectomy as a reason of not screened for cervical cancer.

All IDIs respondents witnessed that cervical cancer screening uptake is very low, it may not be nil. The common factors that all IDIs explained for low practices for cervical cancer are giving no attention, lack of access to the services and lack of trained human resources.

One of the area managers said that:

*“..... may be due to high work/ client load at MCH and some busy center, providers not give attention about cervical cancer seriousness and screening services to themselves and eligible clients....”*

## **6. DISCUSSION**

In general, our study identified high Knowledge, Attitude and Practices gap and misconception, towards cervical cancer screening among Health Service Providers of Marie Stopes International Ethiopia, Centers.

Unavailability of systematic screening program the expected practice is to opportunistically screen eligible women when they come to centers for other sexual reproductive health services or referred from health facilities. In the opportunistic screening system, the onus is on the health worker who handles the eligible women to offer screening or refer her to a facility where screening could be done. The majority of respondents in our study were nurses, who form the bulk of medical workers in most health facilities.

Though Ethiopia as country has already recognized cervical cancer as one of major public health problem and shows some promising start up to address the problem like development of guideline for cervical cancer prevention and control January 2015.

The study has tried to assess participant's knowledge pertaining to risk factors for cervical cancer. 52.6% of respondents mentioned multiple sexual partners as one of the risk factor for cervical cancer. Similarly around 49.7% of the respondents had mentioned Sexually Transmitted Infection (STI) as one of the risk factor for cervical cancer, another 28.1%, 10% and 14.6% were mentioned smoking, HIV infection and HPV as risk factor for cervical cancer respectively.

Only small number of participants was aware that HPV infection can lead to cervical cancer.

These results show inadequate knowledge of HPV infection being the cause of cervical cancer in health professionals in our center. The finding is not consistent with study conducted on knowledge and awareness about cc and its prevention amongst interns and nursing staff in tertiary care hospitals in karachi, Pakistanshowed 98% of cervical cancer in our part of the world is due to HPV infection (30).

The study finding is not consistent with study conducted among nursing staff in Surat Gujarat Indiateaching hospital, on knowledge, attitudes and practices about cervical cancer and screening at which majority of the respondents have mentioned multiple sexual partners (61.5%) as one of risk factor for cervical cancer. Similarly according to this study, more than a third of the respondents mentioned that Human Papilloma Virus infection (38.6%) as one of risk factor for cervical cancer followed by and heredity (31%) (9).

On the other hand study conducted in Haitian health care workers, revealed, that majority of the respondent have mentioned HPV infection (73.1%) as one of the risk factor for cervical screening followed multiple partners (57.7%) and smoking (53.9%) respectively (21).

Similar study conducted on cervical cancer knowledge and screening behaviors among female university graduates of year 2012 attending national graduate orientation program, Bhutan found that 53% of the respondents agreed that multiple sexual partners increased the risk of getting cervical cancer and in contrary 53% of the respondents knew sex at an early age as risk factor for cervical cancer. About 26% of the respondents were aware of the history of cervical cancer among close family relatives as a risk factor(28).

Another study conducted on Cervical Cancer Screening amongst Nurses in Lagos University Teaching Hospital, Lagos, Nigeria and found similar result that 54% of the respondents associated cervical cancer with having multiple sexual partners, however in the contrary 47.5% linked cervical cancer with having sex at early age, while 52% of the respondents understood human papillomavirus to be a causative agent in cervical cancer. Again, 18.5% and 19.5% of the respondents felt that excess alcohol and smoking could cause cervical cancer, respectively. Almost 85.5% and 95% respondents were aware of the preventability and detectability of cervical cancer respectively (29). In the contrary study conducted on Knowledge and Awareness about Cervical Cancer and its Prevention amongst Interns and Nursing Staff in Tertiary Care Hospitals in Karachi, Pakistan found 61% of the respondents knew that Human Papilloma Virus (HPV) as the risk factor for cervical cancer (30).

Similarly the study has also tried to assess the study participants' knowledge towards the sign and symptom of cervical cancer. Accordingly the most frequently mentioned sign and symptom was vaginal bleeding 63.8%, foul smelling vaginal discharge 52.8%, post coital bleeding 39.9%, Dyspareunia 38%. This result is similar with the qualitative findings of the IDIs. The knowledge level of the study participant on this specific parameter is totally different from a study conducted on, Knowledge, attitude & practices about cervical cancer and screening among nursing staff in a teaching hospital, Surat, Gujarat, India, at which majority of the respondents mentioned foul smelling discharge (73.5%) as one of sign for cervical cancer, followed by post coital bleeding (45%) and post-menopausal bleeding (44.5%) as signs and symptom of cervical cancer (9).

In the contrary study conducted on knowledge and awareness about cervical cancer and its Prevention amongst interns and nursing staff in tertiary care hospitals in karachi, pakistan found the most common presenting complain reported was lower abdominal pain 42% and per vaginal bleeding 40%, while few thought discharge 20%, fever 15% and menstrual irregularity could also be the initial symptoms patients with cervical cancer can present with(30).

Only 7.9% of health service providers had ever attended training towards cervical cancer screening, similar with the qualitative findings of the IDIs. For countries suffering with high burden of the disease like Ethiopia, the figure seems very low and showed how the centers are less equipped to deal with the problem. For instance according to cross-section study conducted on knowledge, attitude and practice on cervical cancer and screening among female health workers in India by Chennai corporation, of the total 107 interviewed health workers, about 40% of the participants have ever attained the training (19 ).

50% of study participants believed that cervical cancer a major public health problem in Ethiopia. But descriptive study on knowledge, attitude and practice on cervical screening among medical workers of Mulago, Uganda revealed 93% of the respondents know that cancer of the cervix was a public health concern (21). Similarly the awareness level of the disease burden for this study participant was found to be low compared to a study conducted on awareness of HPV transmission and cervical cancer prevention among Cameroonian healthcare worker which is 86%(17). Another study conducted in Haitian health care workers found their level of knowledge about cervical cancer and prevention is 69.2%, but stated they didn't feel they had adequate knowledge. 100% of participants correctly stated that cervical cancer is one of the leading causes of death in women worldwide (21).

Although, the study hastried to assess participant's knowledge about cervical cancer screening. Accordingly around 86.8% of participants believed that screening can detect cervical cancer even before the symptoms appear. And this finding is almost similar with cross-section study conducted on knowledge, attitude and practice on cervical cancer and screening among female health workers in India by Chennai Corporation where 81.7% of the respondents believed that screening can detect cervical cancer even before the symptoms appear (19). Similarly, a study conducted in Haitian health care workers, revealed that, when asked if it is possible to detect pre-cancerous cervical cancer cells, 81.5% correctly stated that was true (21).

Similar study conducted on Cervical Cancer Screening Amongst Nurses in Lagos University Teaching Hospital, Lagos, Nigeria also found 85.5% were aware of the preventability and detectability 95% of cervical cancer (29).

Regarding to study participant's knowledge on different screening methods, 62.1%, 31.1% and 4.7% of them mentioned Pap smear, VIA/ VILI and colposcopy respectively. However few numbers of respondents wrongly mentioned punch biopsy 6.8% and Loop electrosurgical excision procedure (LEEP) 2.6% as a cervical cancer screening techniques. The level of knowledge of respondents seems low compared to study conducted on cross-sectional study conducted on knowledge, attitude and practice on cervical cancer and screening among female health workers in Indi by Chennai Corporation which is 95.3 %(19).

The level of knowledge among female university graduates of year 2012 seems higher compared to screening behaviors attending national graduate orientation program, Bhutan which is 53% (28).

In the contrary study conducted on knowledge and awareness about cervical cancer and its prevention amongst interns and nursing staff in tertiary care hospitals in Karachi, Pakistan 75% of both interns and nurses mentioned Pap smear as a screening test for cervical cancer. However, Biopsy 8%, ultrasound 3%, HVS (2%) and Radiological scans 10% were few of the incorrect responses observed (30).

The most mentioned recommended age of women for cervical cancer screening was 15 to 49 and 25 to 45 years old which actually comprises same figure which was 8.4 %. On the other hand, 6.8 % of the respondents mentioned > 30 years and another 6.8 % of the respondents mentioned that all women >18 years are eligible for screening. Remarkably 69.6% didn't know age group of women to be screened, which is complemented by result from IDIs;

one of the area managers said that:

*"..... amazing to hear this because we assume ourselves as best sexual reproductive health provider in the country but on the contrary with this huge number of health service providers and different professions....."*

Unlike this study finding, more than 63.2% of the respondents suggested that screening should start for women > 30 years of age according to cross-section study conducted on knowledge, attitude and practice on cervical cancer and screening among female health workers in Indi by Chennai Corporation (19).

Another study conducted on acceptability and correlates of primary and secondary prevention of cervical cancer among medical students in southwest china implications for cancer education 32% stated that women should start to undergo screening from the age of 25 (31).

Time interval for cervical screening was also assessed, according to the study finding majority of the participants most frequently mentioned interval for early detection and treatment was every one year 28.4% and every five year 12.1% respectively. However every six month 14.2%, every six month to one year 7.4%, every two year 5.8%, every three year 2.1%, every three to five year 1.6%, every three month 1.6% and one to two months after first screening 1.1% were mentioned by the participants. Remarkably 25.7% of participants didn't know cervical cancer screening interval. They believed that Pap smear should be done once in one, two, three years or lifetime by 67.5%, 8.5%, 14% and 7.5% respectively. Sixty three percent nurses felt the need of doing Pap in women above 18 years (9).

Another study conducted on acceptability and correlates of primary and secondary prevention of cervical cancer among medical students in southwest china implications for cancer education 49.2% felt women should receive screening every year(31).

Generally 66.3% of participants believed that all women should undergo cervical cancer screening. Again 58.4% participants believed all clients who visited MSIE are eligible for screening. Although 7.4% and 49.5% believed that cervical cancer screening is recommended for a women after she developed a symptom and for sexually inactive women respectively. Similarly 67.9% and 77.9% believed pelvic exam and speculum exam is important for cervical cancer screening respectively.

As a result of high misconception about cervical cancer and screening, only 46.8% consider themselves at risk of cervical cancer, similarly 46.8% of respondents consider they will undergo screening for cervical cancer, however 65.1% of female participants have never undergone cervical cancer screening, which is complemented by result from IDIs;

one of the area managers said that:

*“.....I think providers not provide necessary information to clients about cervical cancer screening availability in our center or other health facility might be due to lack of training, knowledge and confidence ....”*

Again another area manager said that:

*“..... due to high work load at MCH center, there mightnot give attention about cervical cancer seriousness and screening services to themselves and eligible clients....”*

Similarly study conducted among nursing staff in Surat Gujarat India teaching hospital, on knowledge, attitudes and practices about cervical cancer and screening revealed 70% nurses never underwent Pap smear; most common reasons being not thought about it (28.6%) or no time for it (17.8%). Similar findings of surprisingly low uptake of cervical screening are shared by authors who have conducted studies on utilization of cervical screening services by health workers (9).

Similar study conducted in Uganda health workers (physicians, nurses and others), revealed that 65% of female health workers who are eligible for screening did not think they were susceptible to Cervical Cancer, and 81% had never been screened (22). This low uptake rate is very similar to other studies conducted among health care workers (25, 26).

Another study conducted in Nigeria at Usmanu Danfodiyo University Teaching Hospital Sokoto, with doctors, nurses, pharmacists, laboratory scientists and medical social workers supports the above mentioned issues. Assuming the knowledge of these workers about cervical cancer would be high and they would have taken the screening tests for themselves. However, the results of the study revealed that only 4.4% of the respondents had ever undergone the screening tests themselves (23).

Among the female respondents, the reason for not having screening includes: not having symptom, not feeling at risk, not giving attention, not sexually active, lack of awareness about cervical cancer, not eligible, lack of access, fear of procedure, self-protection from risk factors, not comfortable with speculum and pelvic area procedure, Hysterectomy done. And majority of the reasons mentioned in this study are similar to study conducted on knowledge, attitudes and practices on cervical cancer screening among the medical workers of Mulago Hospital, Uganda (22), and in India at Chennai Corporation among female health workers (19).

## **6. STRENGTH AND LIMITATION OF STUDY**

### **6.1 Strength**

- Health professionals focused study in order to motivate role modeling provision
- Practicality and feasibility of self-administered approach
- Volunteering and participation of all MSIE health service providers in the study
- Triangulation of both quantitative and qualitative study methods

### **6.2 Limitation of the study**

- The KAP survey was conducted among health service providers of MSIE centers. Hence, the findings do not reflect the level of Knowledge, Attitudes and Practices of health service providers working in other health institutions
- Semi structured questionnaire was difficult to measure KAP of respondents
- Shortage of literatures in similar topics especially for resource poor countries
- As best explanatory method qualitative study with health service providers would identify important factors
- Misreporting by respondents cannot be ruled out

## **7. CONCLUSION AND RECOMMENDATIONS**

The overall findings of this study came up with high KAP gap and misconception towards cervical cancer screening.

The information reported here also presents valuable guidance on the improvement of cervical cancer screening implantation in the healthcare delivery systems of MSIE.

## **7.1 Conclusions**

### **Knowledge towards Cervical Cancer**

- The knowledge of providers about cervical cancer with regard to its public health concern in Ethiopia is not good
- Even if cervical cancer is well-known as one of the health issue in Ethiopia, the readiness for the available trained human resources is minimal
- The most well-known and leading risk factors for cervical cancer are multiple sexual partners, Sexually Transmitted Infection (STI), smoking, HIV infection and HPV
- The well-known symptoms of cervical cancer are irregular vaginal bleeding, foul smelling vaginal discharge, post coital bleeding, and dyspnea
- The most well-known cervical cancer screening techniques was Pap smear and VIA/VILI
- Significant number of providers doesn't know recommended age of women to be screened and recommended cervical cancer screening interval

### **Attitudes towards cervical cancer screening**

- There is a strong belief that all women should undergo screening for cervical cancer.
- They believed that manual pelvic exam and speculum exam is important for cervical cancer screening.
- On the contrary, more than half of female respondents believed that they are not at risk of getting cervical cancer and won't undergo for screening.

### **Practices regarding cervical cancer screening**

- Only one third of participants had ever screened for themselves, less number of participants ever done manual pelvic exam, speculum examination and cervical cancer screening.

The common factors for low practices for cervical cancer are not having symptom, feeling not at risk, not giving attention, lack of access, not sexually active, fear of speculum and pelvic area procedure and Hysterectomy.

## 7.2 Recommendations

In this study it is evident that there have been activities to be retained, improved and included in the process of implementation of cervical cancer screening. Based on the findings of this study results the following points are recommended.

- Health care practitioners need to be targeted first for cervical cancer screening because of their essential role in the implementation of any future screening programs and in their educative role with patients
- HSP need to be trained to provide health education services and will become a role model to motivate and change others attitudes and practices
- Dissemination of health information on risk factors for cervical cancer like multiple sexual partners, Sexually Transmitted Infection (STI), smoking, HIV infection and HPV is very important
- Improve clinical skill of providers in the determination of age group of women to be screened and cervical cancer screening interval through basic and refreshment training
- Conduct awareness raising campaign on cervical cancer in collaboration with partners.
- All partners should also focus on service expansion to maximize access to the service, so as to minimize missed opportunities
- Further studies should be done, to understand and identify the cause of HSP, KAP gap and misconceptions towards cervical cancer screening to find possible interpretation to change them

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## **APPENDICES**

### **Annexes 1- Survey questionnaire (English)**

#### **Part I- Consent form**

Hello, my name is \_\_\_\_\_ and I am a student at Addis Ababa University School of Public Health, currently conducting a research to assess Knowledge, Attitude and Practice on Cervical Cancer screening among health service providers of MSIE Centers. Thus, I am requesting your cooperation to fill out the survey question which will take about 15 minutes to complete. Participation in this survey will be voluntary, and if you don't want to participate or if there is any question you don't want to answer you can skip to the next, or if you choose not to participate you could withdraw at any time. I assure all information that you provide will remain strictly private, and confidentiality of responses would be maintained during and after data collection. Only numbers will be assigned to each copy and no name will be required on the questionnaire. The numbers would facilitate data entry and analysis, so no one can link your identity with the registration numbers. Your individual answers will not be discussed with the staff members. Findings from this research are believed to serve practitioners to design evidencebased programs. Moreover studies in similar topics which may be conducted in a different scale and depth can make use this study as a spring board.

I hope you will participate in the survey as your feedbacks are important. Thank you for your willingness to be my study participant and taking time to fill study questionnaire.

If you need further clarification about the survey, please contact me any time via +251911417858 or email: [bogalechf@yahoo.com](mailto:bogalechf@yahoo.com)

## Section 1: Background characteristics of health service providers

S.No	Questions	Response	Skip
1	What is your gender?	1.Female 2.Male	
2	How old are you?	-----	
3	What is your marital status?	1.Single 2.Married / in union 3.Divorced 4.Widowed	If you are not married go to question number 5
4	At what age you were married?	-----	
5	What is your profession?	1.Gynecologist / Obstetrician 2.General practitioner 3.Health officer 4.Nurse 5.Midwife 6.Laboratory technician	
6	What is your total in service year duration both at MSIE and other health facilities?	-----	
7	Have you ever attended training related to cervical cancer? If yes by whom and when?	1.Yes ----- When -----  2.No	

**Section 2: Knowledge of health service providers towards cervical cancer**

S.No	Question	Response	Skip
1	Do you believe Cervical cancer is a public health problem in Ethiopia context?	1. Yes 2. No 3. I don't know	
2	Do you believe level of cervical cancer is high in Ethiopia?	1. Yes 2. No 3. Difficult to describe due to few studies 4. I don't know	
3	List predisposing and risk factors to acquire cervical cancer?	<hr/> <hr/> <hr/> <hr/>	
4	List symptoms of cervical cancer?	<hr/> <hr/> <hr/> <hr/>	

**Section 3: Knowledge of health service providers towards cervical cancer screening procedures, recommended age and screening intervals**

S.No	Question	Response	Skip
1	Do you believe cervical cancer screening can detect cervical cancer even before symptoms appear?	1.Yes 2.No 3.I don't know	
2	List types of cervical cancer screening techniques	-----	
3	In which groups of women do you recommend cervical cancer screening?	-----	
4	How frequently would you recommend cervical cancer screening? And why?	----- -----	

#### Section 4: Attitude of health service providers towards cervical cancer screening

S.No	Question	Response	Skip
1	Do you perceivesusceptibility of getting cervical cancer?	1.Yes 2. No 3.I don't know	If you are male go to question no.3
2	Will you undergo screening for cervical cancer? If your answer is no write your reason on space provides.	1.Yes 2. No ----- 3.I don't know	
3	Do you think all women should undergo screening for cervical cancer? Why?	1.Yes----- 2. No----- 3.I don't know	
4	Do you recommend cervical cancer screening only when a woman developed a symptom?	1.Yes 2. No 3.I don't know	
5	Do you recommend cervical cancer screening for a woman who is not sexually active?	1.Yes 2. No 3.I don't know	
6	Do you perceiveall women clients who visited MSIE centers are susceptible for Cervical Cancer screening? Why?	1.Yes ----- 2. No ----- 3.I don't know	
7	Do you perceivehaving a pelvic exam is important for Cervical Cancer screening?	1.Yes 2. No 3.I don't know	
8	Do you perceive having a speculum examination is important for Cervical Cancer screening?	1.Yes 2. No 3.I don't know	

### Section 5: Practice of health service providers towards cervical cancer screening

S.No	Question	Response	Skip
1	Have you ever had a Cervical Cancer screening? If no why?	1. Yes 2.No-----	If you are male go to question no.2, 3, 4 and 5
2	Have your wife or partner ever had Cervical Cancer screening?	1.Yes 2. No 3.I don't know	If you are female go to question no.3, 4 and 5
3	Have you ever done pelvic exam for Cervical Cancer screening? If no why?	1.Yes 2. No-----	If you are laboratory technician go to question no. 5
4	Have you ever done speculum exam for Cervical Cancer screening? If no why?	1.Yes 2. No-----	
5	Have you ever done Cervical Cancer screening? If no why?	1.Yes 2. No-----	

**Annexes 2. Guide for in- depth Interview with area managers- Qualitative part of study**  
**Qualitative part**

Greetings,.....I am currently doing a research to assess Knowledge, Attitude and Practices on cervical cancer screening among health service providers of MSIE Centers to fulfill my thesis. I am here to interview you some issues which enable us to triangulate the quantitative findings of KAP study from MSIE health service providers. Your response to this interview will remain confidential and anonymous.

Area of Interviewee: -----

Position/designation of Interviewee: -----

Sex of Interviewee: Male  Female

Age (completed years): ----- Years

No. of years of service in the organization: ----- Years

Highest level of Educational qualification: -----

Date of interview:    /    /2015

Name of interviewer: -----

Thank you for your participation in the interview.

1. Would you tell us about your position and experience?
2. How would you describe the service provision towards cervical cancer screening at MSIEservice delivery points?
3. How do you describe capacity of health service providers at MSIE centers?
4. What are the challenges during service provision?

### Annexes: 3 Amharic questionnaires

ለማሪስቶፕስኢንተርናሽናልኢትዮጵያየጤናማዕከልአገልግሎትሰጭባለሙያዎችስለቅድመየማህፀንነቀርሳምርመራያላቸውንእውቀት፣ግንዛቤናየአጠቃቀምሁኔታለመገምገምየተዘጋጀመጠይቅ

#### ክፍል 1: የስምምነት ማረጋገጫ ቅጽ

ጤናይስጥልኝ፣ እኔ \_\_\_\_\_ በአዲስአበባዲቪዥንሲቲዩህብረተሰብጤናአጠባበቅተማሪነኝ። ይህጥናትናምርምር በማሪስቶፕስኢንተርናሽናልኢትዮጵያ የጤናማዕከል አገልግሎት ሰጭ ባለሙያዎች ስለቅድመ የማህፀን ነቀርሳምር መራያላቸውን እውቀት፣ ግንዛቤና የአጠቃቀም ሁኔታ ለመገምገም የተዘጋጀ መጠይቅ ነው። ከዚህ ጥናት ምንም ዓይነት ልብ ልብም የሚገኘው ወይም ጥላቻ የሚጠይቀው የሚሆን ለማስረጃ ተደገፈ እቅድ ለማቀድና በዚህ ዙሪያ ተመሳሳይ ጥናት ለማክናወን ለሚፈልጉ አጥኚዎች እንደ መንደር ደራሪ ያነት ያገለግላል ተብሎ ይታሰባል።

ይህንን በፍቃድ እና በሰፊ ጥያቄዎች ላይ የተመሰረተ መጠይቅ ለመሙላት 15  
ደቂቃ የሚፈጅብዎት ሲሆን ለመሳተፍ ካልፈለጉ አይገደዱም፤ እንዲሁም መሳተፍ ከጀመሩ በኋላ በማንኛውም ጊዜ አቋርጠው መውጣት ይችላሉ።

ለጥያቄዎቹ የሚሰጥዎቸው መልሶች በሙሉ ሚስጥራዊነታቸው የተጠበቀ ይሆናል። ስለዚህ ህስለማንነት ምልክት ስለሚሰጥዎቸው መልሶች በምስጥር መጠበቅ ምንም አይነት ስጋት አይግባዎትም። የእርስዎ በዚህ ጥናት ውስጥ ተሳታፊ መሆን ለጥናቱ በተሳካ ሁኔታ መጠናቀቅ ብቻ ሳይሆን ለማህፀን በርነቀርሳ ቅድመ ምርመራ ዘዴ አገልግሎት መሻሻል ከፍተኛ አስተዋፅኦ ስለሚኖረው በዚህ ጥናት ውስጥ እንዲሳተፉ በእክብሮት እጠይቃለሁ።

ለተጨማሪ መረጃ በስልክ ቁጥር 0911417858 ወይም ኢሜይል bogalechf@yahoo.com ሊያገኙኝ ይችላሉ። በጥናቱ ለማሳተፍ ፈቃደኛ ነኝ?

እሳተፋለሁ \_\_\_\_\_

አልሳተፍም \_\_\_\_\_

ለመሳተፍ ፍቃደኛ ከሆኑ ወደ ቀጣዮቹ ጥያቄዎች ይለፉ። ለመሳተፍ ፈቃደኛ ካልሆኑ ደግሞ አመስግነው ጥያቄውን ያቋርጡ።

**ክፍል 1: የተጠያቂው አጠቃላይ የማህበራዊ መረጃ የተመለከተ መጠይቅ**

ተራቁ.	ጥያቄዎች	መልስ	እለፍ
1	ጾታዎቻቸውን ያውቁ?	1. ሴት 2. ወንድ	
2	እድሜዎስንትነው?	_____	
3	የጋብቻዎ ሁኔታዎቻቸውን ያውቁ?	1. ያላገባ 2. ያገባ 3. የተፋታ 4. በሞት የተለየ	ካላገቡ ናዎን ድካም ነው 5ኛው ጥያቄ ይለፉ::
4	በስንት አመት ሽኩቻ ያገባሽው?	_____	
5	የሙያዎ አይነት ምንድነው?	1. የፅንሰናማህ ፀንጠላ ስልጠና ለስት 2. ጠቅላላ ሀኪም 3. የጤና መኮንን 4. ነርስ 5. አዋጅ ነርስ 6. የላቦራቶሪ ቴክኒሻን	
6	በሙያዎት በጠቅላላው ለምን ይህ ልዩ ልዩ ገልግለዋል?	_____	
7	የማህፀን በርነቀርሳ (Cervical cancer) ስልጠና ላይ ተካፈለው ያውቃሉ?	1. አዎ መቼ? _____ በማን? _____ — 2. አይ	

**ክፍል 2: የማህፀን በርነቀርሳየአውቀትደረጃንየሚዳስስመጠይቅ**

ተራ ቁ.	ጥያቄዎች	መልስ	እለፍ
1	በኢትዮጵያ የማህፀን በርነቀርሳ (Cervical cancer) የሕብረተሰብ ጠናቸግር መሆኑን ያውቃለሁ? ካወቁስ የበሽታውን ጉዳት በየትኛው ደረጃ ይመድቡታል?	..... .....	
2	ለማህፀን በርነቀርሳ የማያጋልጡ ምክንያቶች ገዢዎች		
3	የማህፀን በርነቀርሳ በሽታ ምልክቶች ገዢዎች		

**ክፍል 3: የማህፀን በርቅድ መካከለኛ ምርመራ አይነቶችን የሚዳስስ መጠይቅ**

ተራ ቁ.	ጥያቄዎች	መልስ	እለፍ
1	የCervical cancer ምርመራ ማድረግ የበሽታው ምልክቶች ከመታየታቸው በፊት ማወቅ ያስችላል?	_____ _____	
2	የማህፀን በርነቀርሳ መመርመሪያ ዘዴዎች ገዢዎች	_____ _____	
3	በምን አይነት ሁኔታ ላይ ላሉ ሴቶች የcervical cancer ምርመራ ይመክራሉ?		
4	የcervical cancer ምርመራን የሰንጠረዥ ደረጃ ጥናት ያደራጁ? ለምን?		

**ክፍል 4: የማህፀን በርቅድ መካከለኛ ምርመራ ፍላጎትን እና እምነትን የሚዳስስ መጠይቅ**

ተራቁ.	ጥያቄዎች	መልስ	እለፍ
1	ለማህፀንበርካንሰርተጋላጭነኝብለውያስባሉ?	1. አዎ 2. አይ 3. አላውቅም	ወንድከሆንክወደጥያቁቁጥር 3 እለፍ
2	የማህፀንበርካንሰርምርመራማድረግአለብኝብለውያስባሉ? መልሶአይከሆነምክንያቶንባዶቦታውላይይፋ።	1. አዎ 2. አይ..... ..... 3. አላውቅም	
3	ሁሉምሴቶችየcervical cancer ምርመራማድረግአለባቸውብለውይመክራሉ? ለምን?	1. አዎ..... ..... 2. አይ..... ..... 3. አላውቅም	
4	የcervical cancer ምርመራመደረግያለበትየበሽታውምልክትከታየበኃላብቻነውብለውያስባሉ?	1. አዎ 2. አይ 3. አላውቅም	
5	ወሲብየማትፈፅምሴትየcervical cancer ምርመራማድረግአለባትብለውይመክራሉ?	1. አዎ 2. አይ 3. አላውቅም	
6	በMSIEክሊኒኮችህክምናያገኙሴቶችበሙሉለcervical cancer ምርመራአጩናቸውብለውያስባሉ? ለምን?	1. አዎ..... ..... 2. አይ..... ..... 3. አላውቅም	
7	የማህፀንምርመራ (Pelvic exam)ለcervical cancer ምርመራአስፈላጊነውብለውያስባሉ?	1. አዎ 2. አይ 3. አላውቅም	
8	የማህፀንበርማያመሳሪያ (Speculum examination) ለcervical cancer ምርመራአስፈላጊነውብለውያስባሉ?	1. አዎ 2. አይ 3. አላውቅም	

**ክፍል 5: የማህፀን በርቅድመካንሰርምርመራማድረግንየሚዳስስመጠይቅ**

ተራቁ.	ጥያቄዎች	መልስ	እለፍ
1	የcervical cancer ምርመራአድርገውያሉ? ለምን?	1. አዎ 2. አይ.....	ወንድከሆንክወደጥያቁቁጥር 2፣ 3፣ 4 እና 5 እለፍ

2	ባለቤት-ዎ/ንደኛዎ የcervical cancer ምርመራ-አድርገው-ያው-ቃሉ?	1. አዎ 2. አይ 3. አላውቅም	ሴት-ከሆንሽወደጥያቁጥር 3፣ 4፣ 5 እለፊ
3	ለcervical cancer ምርመራ-ለመጣችሁት-የማህፀንም ርመራ (Pelvic exam) ሰርተው-ያው-ቃሉ? መልስዎአይከሆነልምን?	1. አዎ 2. አይ..... .....	የላቦራቶሪባለሙያከሆኑ-ወደ ጥያቁጥር 5 ይለፉ
4	ለcervical cancer ምርመራ-ለመጣችሁት-የማህፀንበ ርማያመሳሪያ (Speculum examination) ሰርተው-ያው-ቃሉ? መልስዎአይከሆነልምን?	1. አዎ 2. አይ..... .....	
5	የcervical cancer ምርመራ-አገልግሎት-ሰጥተው-ያው-ቃሉ? መልስዎአይከሆነልምን?	1. አዎ 2. አይ..... ..	

**DECLARATION**

I, the undersigned, declare that this is my original work has never been presented in this or any other university and that all source material used for the thesis has been duly acknowledged.

Name: Bogalech Fufa

Signature.....

Place: Addis Ababa

Date of submission: June 12, 2015

This thesis has been submitted for examination with my approval as a University Advisor:

Name: Dr.MulugetaBetre

Signature.....

Date: June 12, 2015