



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

**THE ASSESSMENT OF KNOWLEDGE, ATTITUDE AND
INTENTION TO USE CERVICAL CANCER SCREENING AND ITS
COLLERATES AMONG ARMY WOMEN IN ETHIOPIA**

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Addis Ababa, Ethiopia

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DECLARATION AND COPYRIGHT

I, **Belachew Kahasay**, declare that this thesis is my own original work, and that it has not been presented and will not be presented to any other University for a similar or any other degree award. All sources of materials used for the thesis work have been dully acknowledged.

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Place: Addis Ababa Ethiopia**Date:** June 2016

Signature: -----

Advisor's Approval Sheet

This is to certify that the thesis entitled “knowledge attitude, intention to use cervical cancer screening and its correlates among army women of Ethiopia” is submitted in partial fulfillment of the requirements for the degree of MPH with specialization in “Reproductive health and family health” to the Graduate Program of the School of Public Health at Addis Ababa University and has been carried out by **Belachew Kahasay** under my supervision.

The student has fulfilled the thesis requirements and hence here by can submit the thesis to Addis Ababa University, College of Health Sciences, and School of Public Health.

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ABBREVIATIONS AND ACRONYM

AFENET	African Field Epidemiology Network
AFRTH	Armed Forces Referral and Teaching Hospital
AAU	Addis Ababa University
BCC	Behavioral Change Communication
BSC	Bachelor of Science
CHS	College of Health Sciences
SHS	School of Public Health
FDRE	Federal Democratic Republic of Ethiopia
FMoH	Federal Ministry of Health
HPV	Human Papilloma Virus
HPV DNA	Human PapillomaVirus DNA test
IEC	Information Education Communication
ICO	Information Center on Human Papilloma Virus and Cancer
IRB	Institutional Review Board
LBC	Liquid Based cytology
PaP	Papanicolaou test
REC	Review Ethical Board
SPH	School of Public Health
VIA	Visual Inspection with Acetic Acid
WHO	World Health Organization

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ABSTRACT

Background: Cervical cancer is a global public health problem & it is the 4th leading cause cancer morbidity and mortality. Almost 70% of the global burden failed in developing counties. In Ethiopia cervical cancer is the 2nd leading cause of cancer mortality. Cervical cancer screening is effective prevention method can avert >80% morbidity and mortality. However, globally a billion of women missed this opportunity. Poor utilization of cervical cancer screening was the prominent problem in developing countries. In Ethiopia cervical cancer screening coverage was 0.6%. Low level of knowledge, negative attitude and low intention towards cervical cancer screening were among many obstacles that hinder the successfulness of cervical cancer screening on which this study aimed.

Objectives: This study were measure level of knowledge, determine attitude, assess intention to use cervical cancer screening and identify correlates of intention among army women of Ethiopia.

Methods: A cross sectional study design was used to assess knowledge, attitude, intention towards cervical cancer screening and its correlates among army women of Ethiopia on April, 2016. Twenty one posts were included in this study. Single population proportion formula was used to determine the sample size & a total of 423 samples were taken. Simple random sampling technique was used to select study participants. A self administered questionnaire was used to collect the data. Data was entered to EPI-info -7 & exported into STATA-12 for analysis. Bi-variate analysis was done to find out crude association between independent & outcome variable. Finally logistic regression analysis was carried out for those variables had association at <0.05 level of significance at bi-variate analysis.

Results: This study showed that 288(54.00%), 161(38.00%), and 34(8.00%) had poor, satisfactory and good knowledge about cervical cancer screening respectively. Majority, 227(53.7%) had negative attitude towards cervical cancer screening. More than half, 218(56.6%) of respondents had no intention to use cervical cancer screening. Military duty (infantry AOR=2.19(1.13, 4.23), Office work AOR=1.95(1.09, 3.51)), monthly income >1600EBirr AOR=2.84(1.51, 5.32) and army women who had positive attitude towards cervical cancer screening AOR=2.16(1.35, 3.44) had positive association with intention to use cervical cancer screening.

Conclusion and Recommendations: Army women had lack of knowledge, negative Attitude poor intention to cervical cancer screening. And military duty, monthly income and positive attitude were factors had positive association with intention to use cervical cancer screening.

Defense Health main command should educate army women about the importance of cervical cancer screening. Promote cervical cancer screening through counseling as well as institution-based interventions. Attention should be given to army women working in industries and army women with low monthly income. Farther study would be needed on the prevalence and quality of services.

1. INTRODUCTION

1.1 BACKGROUND

Cancer is the over growth of abnormal cells which invade other adjacent cells and tissues. When cancer cells invade distant tissues as we usually see it in lately screened women with cervical cancer it is referred to as metastasis. Specific cancer named after the cells in which the abnormality originated, such as Breast, prostate, or cervical tissues. There are five main types of cancers that affect women's reproductive organ that includes: cervical, ovarian, uterine, and vaginal and vulvar. As a group, they are referred to as gynecologic cancer. When cancer starts in the cervix, it is called cervical cancer. Cervical cancer is the easiest gynecologic cancer to prevent with regular screening tests and follow-up. It also highly curable when it is found early in its stage (1).

Though, the causes for many cancers are not well known, some specific cancers have been to be related to infectious disease, for example, Hepatitis B causes Liver cancer. Evidences suggested that more than 99% of cervical cancer cases are linked to Human Papilloma-Virus (HPV). In Eastern Africa, studies on HPV detection tests in cervical samples showed that, about 20.3% of women in the general population are estimated to harbor cervical HPV-16 infection. Around 68.3% invasive cervical cancer are attributed to HPVs-16 or 18. In Ethiopia, though, data are not yet available at National level; a study conducted in Attat Hospital in Gurage zone, describes the prevalence of HPV was 17.3% (95% CI 14.1 – 20.5) and common genotype identified by study was HPV-16 (2-4).

The WHO estimates that globally 30% of the burden related to all cancers can be reduced with early detection and treatment. Cervical cancer screening can also be early diagnosed using detecting service technologies such as, PaP smear test, VIA, HPV DNA and liquid based cytology LBC (5).

Cervical cancer screening is the systematic application of a test to identify cervical abnormalities in an asymptomatic women population of age 15 and older. Cervical cancer screening is recommended for every women 30-49 years of age at least once in life time, but globally, in 2012, there were nearly a billion women of these age group most of whom have never been screened even once. Cervical cancer screening is an effective method has been shown successful in high income countries. However, competing Health care priorities, insufficient financial resources, weak health system, limited number of trained providers, lack of knowledge and socio-cultural determinants are some of the challenges that make difficult to achieve the desired coverage in most developing countries (6, 7).

Evidences indicated that the prevention and control strategies are currently in use which is based on the stages of the disease progression of cervical cancer. The World Health Organization (WHO) recommends comprehensive multidisciplinary approach interventions across the life course to cervical cancer prevention and control. These interventions include; community education, social mobilization, vaccination, screening, treatment and palliative care. In Ethiopia, national current initiatives lay conducive ground to mitigate the burden of cervical cancer; the Ministry of Health of Ethiopia launched preparatory works that have been completed to prevent cervical cancer by Visual Inspection with Acetic Acid (VIA) screening and cryotherapy in 118 Hospitals across the country and has plan to expand the same services in more than 800 centers in the country (8, 9).

1.2 STATEMENT OF THE PROBLEM

Cervical cancer is a global public health problem accounting for almost 300,000 deaths annually. Eighty three of new cases and 85% of related deaths occur in resource poor countries. Cervical cancer is the 4th most common cancer that affects women worldwide, next to Breast, Colorectal, and Lung cancer. It is also the 4th most common cause of cancer death (266,000 deaths in 2012) in women worldwide. Almost 70% of the global burden falls in areas with lower level of development. Cervical cancer is the most notable Health problem of sub-saharan Africa. Annually 34.8/100,000 women new cases and 22.5 / 100,000 women deaths were occurred in this sub region (10, 11).

In East Africa, the age standardized cervical cancer incidence and mortality rate per 100,000 women was 34.5 and 25.3 respectively. In Ethiopia cervical cancer is the 2nd leading cause of cancer mortality. Every year, 7095 women are diagnosed and 4732 are dying from cervical cancer. According to ICO report and estimates; the age standardized incidence and mortality rate of cervical cancer is 26.4/100000 and 18.4/100000 respectively (12-14).

Cervical cancer screening is one of major components of health promotion activities that can avert morbidity and mortality by more than 80%. However, In Ethiopia cervical cancer screening coverage is 0.6% for all women aged 18-69, 1.6% for urban and 0.4% for rural (15, 16).

Ethiopia is a country that acknowledges cervical cancer as priority of public Health problem. Government of Ethiopia specifically the Office of First Lady FDRE Her Excellency Roman Tesfaye and Federal Ministry of Health (FMoH) declared move against cervical cancer at national level. As part of their speech in the meeting to mark the world cancer day at Addis Ababa Hilton, clearly stated that there is gap in awareness about cervical cancer and poor availability of screening services(8).

Although, there is limited evidence in this regard among armed forces members, army women receive their health care including cancer screening service in an open access system without cost. Despite, the cervical cancer screening was available, in the last 4 years from 2012-2015 in Armed Forces Referral and Teaching Hospital (AFRTH) only 88 (11.4%) army soldiers have been utilized PaP test service. This study is therefore tasked to measure the level of knowledge, attitude and the magnitude of intentions to use cervical cancer screening and its determinants among army women.

1.3 RATIONALE OF THE STUDY

Cervical cancer is a big concern in Ethiopia. Army women are at risk for cervical cancer due to their working and living arrangements. In addition army women have loose linked with local community and deployed in extremely variable environment that can influence their gynecological health behavior. In recent years cervical cancer screening test is feasible alternative modality for control of cervical cancer. And knowledge about cervical cancer screening is important to motivate women to have positive attitude and intention to use cervical cancer screening. However, little is known about army women knowledge, attitude and intention to wards cervical cancer screening and its correlates. Information obtained from this study should alter authorities so proper measures can be taken to save the lives of army women by filling the gaps in this regards. At the end education would be given to study participants on the importance of cervical cancer screening.

1.4 SIGNIFICANCE OF THE STUDY

Though, the target year of 2015 were end, “implementation of cervical cancer prevention and control programs contributes to the attainment the sustainable development goals and the post millennium agenda”. In Ethiopia prevention of cervical cancer considered as a key function to improve maternal Health and quality of life, Ministry of health indicates that some of the determinants of success to program coverage in the country are lack of awareness of the target population (4, 11).

The Ministry of defense of Ethiopia has motive to improve the health of army women who are serving their nation. In addition, as the number of army women in military service increase, reproductive health across the life span is an emerging area of interest. Army women have unique obstetric and gynecologic health need. Prolonged military deployment, particularly to locations with sever climate and environment can influence the ongoing gynecologic related evaluations. However, evidence in this regard is limited for army women. This study project will fill the gap by assessing the level of knowledge, attitude and intention to use cervical cancer screening among army women. The results will contribute to improve reproductive health services, help army women to prevent from developing advanced cervical cancer through early detection of the disease and improve.

2. LITERATURE REVIEW

2.1 CERVICAL CANCER AND SCREENING

Cervical cancer screening programs have been reduced the incidence and mortality of cervical cancer and heightened public awareness of cervical cancer prevention, focusing on screening will lead to improved survival and a better quality of life. This is supported by studies done in Japan cervical cancer screening program reduced incidence and mortality related with cervical cancer by 70%, (17).

A population based case control study with prospectively recorded data on cervical screening conducted in UK indicated that, screening is associated with 60% reduction of cervical cancer in women aged 40, increasing to 80% at age of 64 and effective in preventing advanced stage (18).

2.2 RISKS OF CERVICAL CANCER

Current studies show that, non-modifiable risks such as low socio-economic status, minority population membership, immune-suppression, in uterus exposure to diethylstilbestrol, and increased number of sexual partner predispose to cervical cancer. Yet, women with abnormal cellular changes tend to exhibit the greatest number of modifiable risk behaviors, such as decreasing lifetime number of sexual partners, increasing age of first intercourse, and having safe sexual activities. Additionally tobacco use, long term oral contraceptive use, and grand parity (> six Births) have been associated with abnormal cervical cellular changes. However, the most single most frequent risk factors for cervical cancer reflected by studies in different corners of the world is never having had cervical cancer screening exams, thus, the greatest incidence and mortality related to cervical cancer is found in developing countries with less access to cervical cancer screening(19).

A cross-sectional study conducted in Gabon was identified the risk factors for cervical cancer included abortion, sexually transmitted infection, smoking, multiple sexual partners, inserting products/fingers into the vagina, sex at an early age and lack of hygiene. though that were most frequently cited by women, abortion, lack of hygiene and the insertion of products/fingers into the vagina are incorrect risk factors for cervical cancer(20).

A cross-sectional study was conducted including all public health institutions (8 hospitals and 26 health centers) in Addis Ababa in August 2010 shows that Only 23% of the study participants mentioned HPV as the primary cause of cervical cancer(21).

2.3 KNOWLEDGE ABOUT CERVICAL CANCER SCREENING

A cross-sectional study conducted in Ouagadougou, Burkina Faso, 2012: found that 35.8% of participants of the study had never heard about cervical cancer, 69.05% did not know about cervical cancer screening. (22).

Study conducted in Niger Delta shows that, PaP smear was the most popular screening test. Forty-nine percent of staff & 9.7 % of students didn't know of any screening test and there is significant association between awareness and uptake of screening amongst staff ($X^2=29.4$, $P=0.00$) (23).

A cross-sectional descriptive study conducted in Onitshh, South-East, Nigeria shows that cervical cancer screening (PaP smear) knowledge was 35.56%. Sixty-Four percent were not aware of this test, 1.78% has done the test, and 98.22% have not done the test. Among the reasons identified by the study for not performing the test is lack of knowledge about the service accounts 51.58% (24).

Study results presented at (AFENET) conference 17-22 November 2013 Addis Ababa, Ethiopia; hospital based cross-sectional study conducted in Zimbabwe showed that, awareness of cervical cancer screening associated with the uptake of the service (AOR 42.05 95% CI 5.63-314.04). And other paper presented in the same conference from Uganda indicated poor knowledge and negative attitude towards cervical cancer screening which are important barriers to screening uptake (25, 26).

A study conducted in Tanzania, shows that 59.6% of the participants had a low level of knowledge of cervical cancer and its screening, 21.2% had a medium level, and less 19.2% had a high level of knowledge (27).

A Facility based cross-sectional study in Nigeria Shows that, 51% of women in the study were aware of cervical cancer screening. Main source of information was mass media (35.5%), and among the 'aware' group for screening services, only 13.6% had utilized the services (28).

A study conducted in Gabon shows that, though, 91.6% study participants had heard about cervical cancer, only 27.9% had heard of Pap smear test and higher income, older age, being married, participants' occupation and educational level were found to be predictors of a good knowledge level of cervical cancer and screening (20).

A community based cross-sectional survey was conducted from April 4-16, 2010 in Gondar town, Northwest Ethiopia. Among women aged 15 years and above who were interviewed using semi-structured questionnaire only 31% of them were knowledgeable about the disease Participants with secondary and

above education were also about 1.2 times more likely to be knowledgeable than women with no formal education [AOR=2.18, 95%CI (1.20-3.95) ((29).

A community-based cross-sectional study conducted in Cameroon showed after applying the aggregate numerical score, the level of knowledge on cervical cancer was “fair” (55.3%). However, a large proportion of the study population (40.7%) had “poor” knowledge. Only 11 women (3.6%) were assessed to have “good” knowledge(30).

A cross-sectional study conducted in Gabon revealed that, very low level of knowledge about cervical cancer, PaP smear testing, and older participants, those who had never been married and those with medium to high monthly incomes were more likely to have a good knowledge (31).

2.4 ATTITUDE TOWARDS CERVICAL CANCER AND SCREENING

A community based cross-sectional study conducted in Cameroon shows that, there is significant relationship between perceived susceptibility to precancerous lesion and risk of developing cancer (Fishers P-0.0005) and result in positive attitude towards PaP test in 75.2% of study participants (32).

A cross-sectional study conducted in Zimbabwean women shows that, 80% the group expressed positive beliefs about cervical cancer screening tests after an educational intervention (33).

Several socio-demographic parameters (place of residence, level of education, occupation, marital status and religion) were found to affect the women’s knowledge and attitude though, only 12% of Kinshasa women spontaneously mentioned cervical cancer as one of the diseases of the female genital organs, 82% of these study participants reported heard about the disease, concerning attitude a large majority of women (80%) said that they agreed to participate in a screening program (34).

2.5 INTENTION TO USE CERVICAL CANCER SCREENING & CORRELATES.

A quantitative cross-sectional study conducted in Malawi showed women intention to use cervical cancer screening was 57.2% it was also identified significant correlations between the respondents intentions to use cervical cancer screening services and there: marital status ($X^2=18.5$; $df=2$; $P=<0.021$), spouses occupational status $9X^2=11.49$; $df=2$; $P=<0.003$), employment status ($X^2=5.39$; $df=2$; $P=0.021$) and education levels ($X^2=20.8$; $df=3$; $P=0.001$) (35).

A community based cluster survey conducted Uganda 2013; shows the intention to go for cervical cancer screening among community women was 63.0% and at uni-variable and multivariate analysis of the study, the two demographic variables which are living with a partner and formal employment were statically associated with intention to screen for cervical cancer $9P<0.05$) (36).

A community based cluster survey study conducted in Uganda shows that, among those 63% study participants report with intent or cervical cancer screening, higher on those who said they are at risk of developing cervical cancer (APR 2.0, 95% CI 1.60-2.58) (26).

A cross-sectional study conducted in Mandalay, Myanmar showed that 78.3% of respondents had intention to take Pap smear. After controlling other factors, age was strongly positive association with intention to take Pap smear (OR:10.45, 95%CI: 3.08- 35.44)(37).

A cross-sectional study conducted in Niger Delta shows that only 2.3% of study participants heard about Pap smear all of whom had had it over a range of time between 1 month and 5 years. However, 89.9% were reported that they will avail themselves the opportunity of screening if available (38).

A cross-sectional descriptive study conducted in Malawi shows that, there is statically significant association between women's intention to be screened for cervical cancer and knowledge about cervical cancer ($X^2=8.9$; $df=1$; $P=0.003$) at 5% significance level(39).

A cross-sectional study conducted in Kisumu municipality, Kenya shows that, women who felt at risk for cervical cancer were more likely to intend to have cervical cancer screening in the future (OR= 10.59, CI=3.96, 28.30)(40).

A cross-sectional study conducted in Ghana identifies that among those barriers affects cervical cancer screening service utilization, institutional barriers were the main barriers seeking a PaP smear test, followed by personal barriers, confirmed with higher significant in Chi-square value of (28.965 $df=4$ $P=0.000$) and 26.055 $df= 5$; $P=0.000$) respectively (41).

A cross-sectional study conducted in Malawi revealed that, In the age group of 45 to 49, marital status, respondents 'employment status and women's education levels are the identified factors that had statically significant association with intention to use cervical cancer screening(42).

As it reviewed in the above, most studies regarding cervical cancer in the same age group elicited with a sample population of community women. Unfortunately, these studies are not reflective of military women who may hail from lower socioeconomic and education backgrounds. To generate a broader scope of understanding regarding health promoting behavior related to cervical cancer screening in military women, this review of the literature concentrated on the most common themes found in previous studies. The focus of this research effort will be to measure knowledge, attitudes and intention to use cervical cancer screening among army women Ethiopia.

2.7 RESEARCH QUESTIONS

Are the army women in Ethiopian defense knowledgeable about cervical cancer and screening for premalignant cervical lesions? What is the attitude of army women towards cervical cancer screening?

What is the intention of these women towards cervical cancer screening and its correlates?

What are the correlates of intention to use cervical cancer screening?

2.8 CONCEPTUAL FRAME WORK

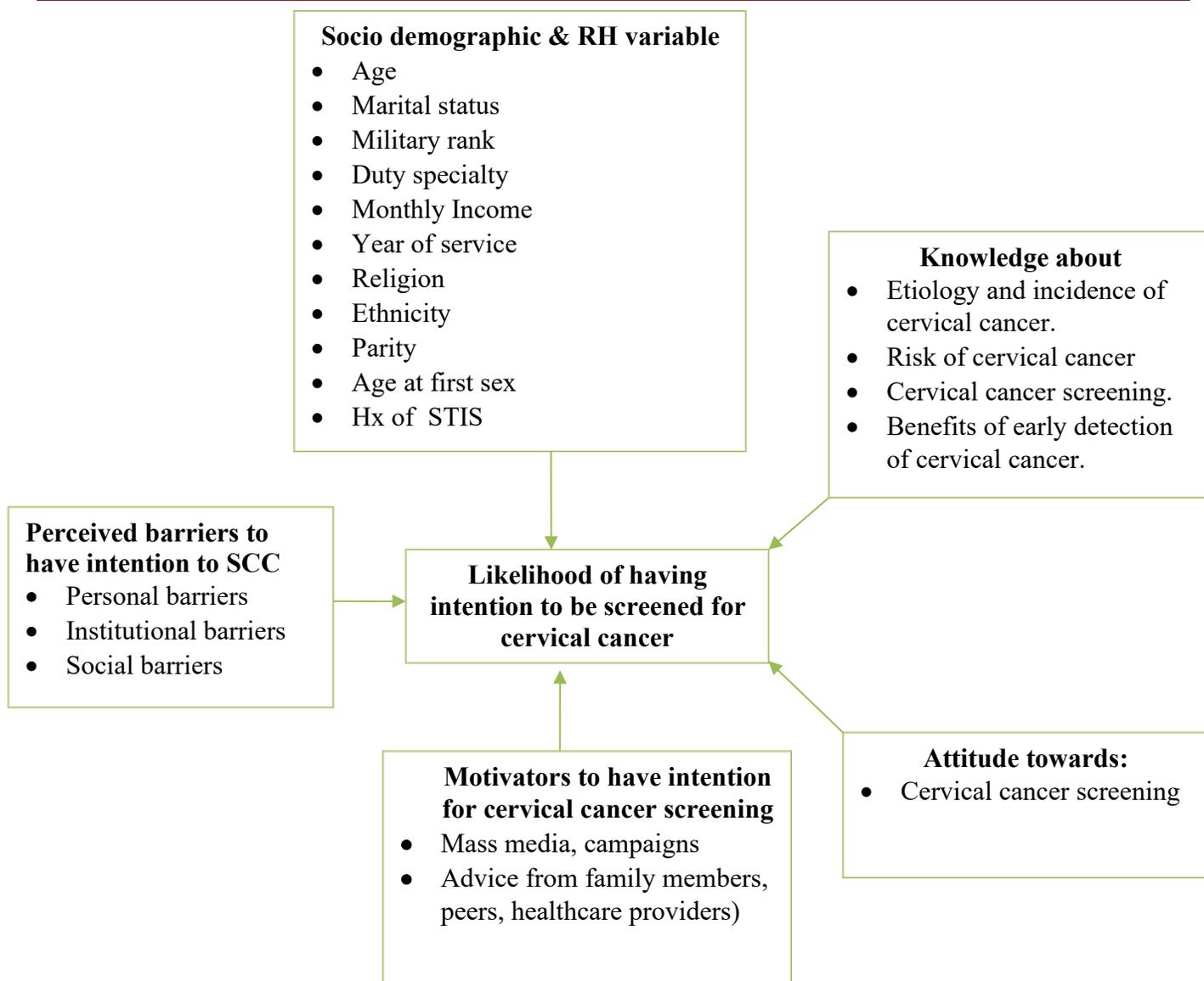


Figure 6 Conceptual frame work

3. OBJECTIVES

3.1 GENERAL OBJECTIVE

The general objective of this study is to determine the level of knowledge, attitude, intention to use cervical cancer screening and its correlates among army women in Ethiopia

3.2 SPECIFIC OBJECTIVES

1. To measure the level of knowledge towards cervical cancer and screening among army women of Ethiopia.
2. To determine the attitude towards cervical cancer screening among army women of Ethiopia.
3. To assess the magnitude of intention to use cervical cancer screening among army women of Ethiopia.
4. To identify correlates of intention to use cervical cancer screening among army women of Ethiopia.

4. METHODS AND POPULATION

4.1 STUDY DESIGN

A cross sectional quantitative study was employed to assess knowledge, attitudes and intention to use of cervical cancer screening and its correlates among army women in Ethiopian National Defense.

4.2 STUDY AREA AND PERIOD

The study was conducted from July 2015 to June, 2016 in Federal Democratic Republic of Ethiopia Ministry of Defense. Ministry of Defense is officially established under the Proclamation NO. 27/1996 based on the Fundamental Defense Forces principles stated in Art 87 of the FDRE Constitution. The National Defense Forces shall consist of the Ground Force and the Air Force. The main mission of the Defense Force is safeguarding the country's sovereignty. Moreover regardless of the gender diversity, the ministry recruits persons fit and willing for military services. The number of human resource data shows that men soldiers were more in number than the female soldiers. Nowadays women soldier's participation progressively increased estimated to 10% of the military.

Although, army women have been deployed in all organizational structure of the Ethiopian defense, more than 60% of the overall women soldiers are densely deployed in Addis Ababa and its surroundings in industries, head quarter main commands and special sectors of the defense. The health delivery system of the Ethiopian Defense is organized in line with the organizational structure of the army. And it comprises from clinic to tertiary specialized referral and teaching hospitals with well delineated referral system. The facilities are organized to deliver quality health care including reproductive health services to the women soldiers. However, cervical cancer screening was available in armed forces referral and Teaching general hospital.

4.3 POPULATION

4.3.1 SOURCE POPULATION

The target populations for this study were all army women serving the Federal Democratic Republic of Ethiopia, Ministry of defense.

4.3.2 STUDY POPULATION

The study populations were army women who were deployed at the head quarter of the ministry in Addis Ababa and its soundings. According to the WHO guidelines, the target age groups for cervical cancer screening were women aged between 25-64 years, all sexually active women from the age of 15yrs are eligible for cervical cancer screening. In this study, women between the ages of 18 and 55 years were taken as a target, because the defense regulation of the recruiting criteria and maxima services termination (Retirement) of age army personnel is fall between the ages listed above.

4.4. INCLUSION AND EXCLUSION CRITERIA

4.4.1 CRITERIA FOR INCLUSION

The following criteria for participant inclusion were established:

1. Active duty women serving in the Army (female Soldiers) for greater than 6 months.
2. Age of 18 years and Older.

4.4. 2 CRITERIA FOR EXCLUSION

The following Soldiers were excluded from inclusion in this research study:

1. Women Soldiers who had had a hysterectomy.
2. Women soldiers who were Health professionals

4.5 SAMPLING

4.5.1 Sample size determination

Single population proportion formula was used to calculate the ample size

$n = Z_{\alpha/2}^2 \times P(1-P)/d^2$ where;

n = required sample size,

Z = the standard normal score at 5% level of significance with a tabulated value of 1.96,

P = the sample proportion of intention to cervical cancer screening from a previous community based study was (48%).

d^2 = the degree of precision was assumed to be 95%. The minimum sample size was:-

$$n = \frac{(1.96)^2 \times 0.48 \times 0.52}{(0.05 \times 0.05)}$$

$$n = 384 + 10\% \text{ of non-response rate} = 423$$

4.5.2 SAMPLING PROCEDURES

In Addis Ababa and its surroundings there were a total of 4000 army women deployed in 21 Main commands, directorates, industries, colleges and head office. Among which, 370 were health professionals which were not eligible to this study. Therefore 3630 of total study population were considered. These women soldiers were distributed in the above mentioned posts. The sample size is allocated to the 21 posts using probability proportionate to size technique. Finally simple random sampling technique was employed to select participants from respective posts. The schematic presentation below in Fig.7 was elaborated more about sampling procedure.

Schematic presentation of sampling (Proportionally allocated by $(P * n/N)$)



Figure 7 schematic presentation of sampling procedures (PPS)

KEYS:

MI-TEC: Metal Industry Technological Engineering Corporation **DAFMC:** Defense Air Force Main Command **DSS:** Defense Sounding Security **DCMC:** Defense Communication Main Command **DU:** Defense University **DSC:** Defense Sport Club **DLMC:** Defense Logistics Main Command **DF:** Defense Foundation **DIMC:** Defense Infrastructure Main Command **DTMC:** Defense Training Main Command **DOMC:** Defense Operations Main Command **DWEMC:** Defense Warier Engineering Main Command **DHRAMC:** Defense Human Resource Administration Main Command **DL:** Defense Law **DFAMC:** Defense Finance, Administration Main Command **DIMC:** Defense Inelegancy Main Command **DIMC:** Defense Indoctration Main Command **DMBTC:** Defense Mulugeta Buli Technique College **DRT:** Defense Research & Transformation **DF:** Defense Finance Devt. **DEC:** Defense Engineering College

4.6 DATA COLLECTION INSTRUMENT AND PROCEDURE

A self-administered questionnaire was used to collect data from the study participants. The questionnaire was developed after reviewing pertinent literature. It had four sections including, Socio-economic characteristics, knowledge about cervical cancer and screening, attitude towards cervical cancer and screening, intention to use cervical cancer screening and barrier specific question.

The health belief model geared the measurement of knowledge, attitude and intention to use cervical cancer screening. And the questionnaire was first designed in English and translated into Amharic language and back translated to English using different person. Pre-test was carried out in 5% of the total sample on Federal Police Member women to validate the reliability and consistency of the instrument, gauging the length of an interview, familiarizing data collectors with the interview process after they got training about the instrument and data collection. All questions had coded choices and main concepts were explained in the section on operational definitions.

4.7 LIST OF VARIABLES

4.7.1 EXPLANATORY VARIABLES

Socio-Economic and demographic Variables

- ✓ Age
- ✓ Marital status
- ✓ Ethnicity
- ✓ Education
- ✓ Military rank
- ✓ Military occupation specialty
- ✓ Place of deployment
- ✓ Year of service
- ✓ Monthly income
- ✓ Knowledge about cervical cancer screening
- ✓ Attitude towards Cervical cancer screening

4.7.2 REPRODUCTIVE VARIABLES

- ✓ Age at first sex, Parity, No. of children
- ✓ History of Sexually Transmitted Infections

4.7.2 RESPONSE VARIABLES

- ✓ Intention to use cervical cancer screening

4.8 OPERATIONAL DEFINITIONS

Private (PVT): Is a soldier who is not either non-star or star officers.

None star officers (NSO): Military rank other than star officer.

Operational officer: Is a military rank includes star officer from 2nd lieutenant to Captain.

Higher officer: Is a military rank of star officer includes Major to Colonel.

General officer: Is a military rank includes Brigadier general and above.

Military Healthcare System: An organized entity comprised of healthcare providers, preventive, treatment facilities that provide medical & surgical care and a variety of support mechanisms such as Rehabilitation to members of the Ethiopian Army and families.

Knowledge: the understanding of the respondents on cervical cancer and screening was included to construct a single knowledge variable. Particularly questions on symptoms, risk factors, prevention, treatment cervical cancer, and frequency, method, and eligibility for screening were paused.

Questions were delivered to study participants in Yes or No options and they will agree or disagree based on their awareness. Each correct response had been given a score of 1 and a wrong response a score of 0. Knowledge composite scores were computed by add up the points earned and Modified Bloom's cut off points used to categorized the knowledge as good 80–100%, satisfactory 50%–79% and poor below 50%. In addition sub components of knowledge also farther classified as poor and good for describing and comparison purpose.

Attitudes:

Attitude included the belief that cervical cancer occur, as well as evaluation of the acceptability of that outcome. Attributes for attitude include the evaluation of testing for disease. In this study attitude was assessed by questions put on Likert's scale. The questions on Likert's scale had responses that ranged from strongly disagree to strongly agree. The scoring system used was: strongly disagree =1, disagree= 2, indifferent= 3, agree= 4, strongly agree =5. The responses were summed and a total score obtained. Moreover, the mean score were calculated. Those who scored the mean score and above considered as having positive attitude and scores below the mean negative attitude towards cervical cancer screening.

Intention:

Intention is the planned likelihood reported by army women for cervical cancer screening. Intention was measured by asking different questions regarding the respondent's perception on the likelihood that they will have cervical cancer screening within certain time limit. In this study intention was assessed as individuals who planned to screen within one month take as have intention to use cervical cancer screening. individuals who have no planned to screen and have planned to have cervical cancer screening and planned after one month are categorized under have no intention.

4.9 DATA QUALITY MANAGEMENT

Data quality was assured by preparing a questionnaire adopted from previous studies done in this area, translation and back translation of the questionnaire and pilot testing was carried out to see the consistency of the instrument, minimize non-response or missing data as a result of unchecked item clarity for study participants. Experienced data collectors; with BSc in Nursing and Public Health were recruited. They were also trained for two days, on principles, how to collect required information and how to build rapport with study participants. Lecturing, mock interview and practical field tests were employed. Intensive field supervision and feedback were given to data collectors on the same date. Pilot test was done on members of the Federal Police; the data collection tool was revised accordingly. Data entry software with internal consistency check was developed to minimize data entry errors.

4.10 DATA ANALYSIS PROCEDURES

The hard copies of completed questionnaires were manually edited. Data were entered into EPI INFO -7 and exported to STATA version 12 for analysis. Moreover, data cleaning was done by running frequencies and cross tabulating each independent variable with the main dependent variables. The size of missing values was assessed.

Summary measures such as proportions, means and standard variations were computed and portrayed in Tables and Figures. Descriptive statistics of intention of cervical cancer screening uptake in women in relation to knowledge, attitude and other variables were generated and summarized and presented.

Bi-variate test was used to see the overall association. The crude and adjusted ratio in Binary Logistic Regression along with their associated 95% confidence interval was used to see the association of each independent variable and knowledge and attitude with intention to use cervical cancer screening and control confounding, respectively. The threshold for level of significance was $p < 0.05$.

4.11 ETHICAL CONSIDERATION

As per the standard operational procedure of the Addis Ababa University (AAU) School of Public Health in College of Health Sciences, this study proposal was approved by the Research Ethics Committee (REC) and letter of approval was also received. The letter was submitted to Defense University and Defense College of Health Science. Later of collaboration was received from Defense College of health sciences and finally letters were submitted to the respective of each recruited posts to this study.

The respondents were briefed in detail about the research and they were let them to decide on whether to participate or not in the study and this ensured their right. The respondents who agreed to participate gave a verbal consent. The data obtained were treated privately with no name tag on it.

This study caused no physical or psychological harm on study participants and they weren't exploited in any way. The respondents were treated with respects and their rights to privacy and confidentiality were observed through anonymity. Participants were not received money compensation to complete the questionnaire. However, they were provided an informational handout on cervical cancer and its screening.

Data collection was done in accordance with the military discipline for the Protection of Human Subjects protocols, Institutional Review Board (IRB) requirements, and guidelines. Following a detailed discussion of the purposes, procedures, risks and benefits of the research, verbal consent was obtained prior to participant enrollment in the study.

4.12 DISSEMINATION OF RESULTS

Result of this study will be presented for the Addis Ababa University (AAU), College of Health Sciences (CHS), and School of Public Health (SPH), FDRE defense health command which is the upper hand stake holder to deal with this issue, Defense women's affair directorate and as part of teaching institution copies will give to defense University College of health Sciences. This will be performed based on the military regulation codes of ethics for data dissemination. Publication in peer reviewed journals and scientific conferences shall also be considered.

5. RESULT

A total of 423 women soldiers participated in this study with zero no-response rates. Majority of the study participants 56.6% had no intention to use cervical cancer screening. The mean knowledge score was $3.2 \pm$ (SD 3.0), with the minimum knowledge score of 0 and maximum score of 8. Mean score of attitude was $30.11 \pm$ (SD 5.58), the minimum score was 12 and maximum score was 40.

5.1 SOCIO – DEMOGRAPHIC & REPRODUCTIVE CHARACTERISTICS

The tables below showed that of 423 total respondents, 297(70.2%) were in the age range 20-29, the mean age was $27 \pm$ (SD 6) years, minimum and maximum age was 18 and 48years. Most of the respondents 206(48.7%) had Vocational education. Majority 237(56.0%) were Non-star officer (NSO) and 165(39.01%), 153(36.2%) were deployed in office and industries respectively.

The median monthly income of the respondents was 1600ETH Birr ranged from 1000 to 3778birr. Out the total 423 respondents 186(43.97%) were <1600ETH Birr, 237(56.03%) of them earn greater than or equals to1600ETH Birr. Majority, 313(74.0%) of the respondents were followers of the Ethiopian Orthodox Church while more than half 227(53.66) were not currently married. Most of them 355(83.9%) were ever had sexual intercourse and majority of these 203(57.8%) had their first sex at the age of 15-19years. regarding parity, 261(61.7%) was Nuli-Parus.

Table 1 socio-demographic and reproductive characteristics of army women 2016 n=423

Characteristic	(n)	%	Characteristic	(n)	%
Age (years)			Ever had sex		
<20	17	4.02	Yes	352	83.22
20 –29	297	70.21	No	71	16.78
30 – 39	76	17.97	Total	423	100.00
40 – 49	33	7.80	Age at first sex		
Total	423	100.00	15-19	204	57.95
Level of education			20-24	135	38.35
Secondary education	113	26.71	>25	13	3.69
vocational	206	48.70	Total	352	100.00
College education	104	24.59	Ever give birth		
Total	423	100.00	Yes	162	46.02
Marital status			No	190	53.98
Currently not married	227	53.66	Total	352	100.00
Currently Married	196	46.34	No. of children		
Total	423	100.00	0	190	53.98
Religion			1 - 2 children	146	41.48
Ortodox	313	74.00	3and more children	16	4.54
Muslim	21	4.96	Total	423	100.00
Protestant	74	17.49	History of casual sex		
Others	15	3.55	Yes	39	11.08
Rank			No	313	88.92
Private (PVT)	116	27.42	Total	352	100.00
None star officer (NSO)	237	56.03	History of OCP use		
Officer	70	16.55	Yes	154	43.8
Total	423	100.00	No	198	46.2
Income			Total	352	100.00
<1600	186	43.97	History of condom use		
>/=1600	237	56.03	Yes	198	56.25
Total	423	100.00	No	154	43.75
Military duty			Total	352	100.00
Office work	169	39.95	History of STIs		
Infantry/ Security	53	12.53	Yes	12	3.41
Industry	153	36.17	No	340	96.59
Other	48	11.35	Total	352	100.00
Total	423	100.00			

5.2 SOURCE OF INFORMATION FOR CERVICAL CANCER AND CERVICAL CANCER SCREENING

Figure 3 below showed that, 103(45.37%) and 75(33.48%) of respondents have more than one source of information for cervical cancer and cervical cancer screening respectively. Information from news media TV/Radio for both for cervical cancer and cervical cancer screening accounted for 53.7% and 66.8% respectively of the total responses hospital workers 39.2% and 41.7% respectively of the total responses who ever heard while 53.6% and 47.3% of the responses were those of respondents who never heard of cervical carcinoma and cervical cancer screening respectively.

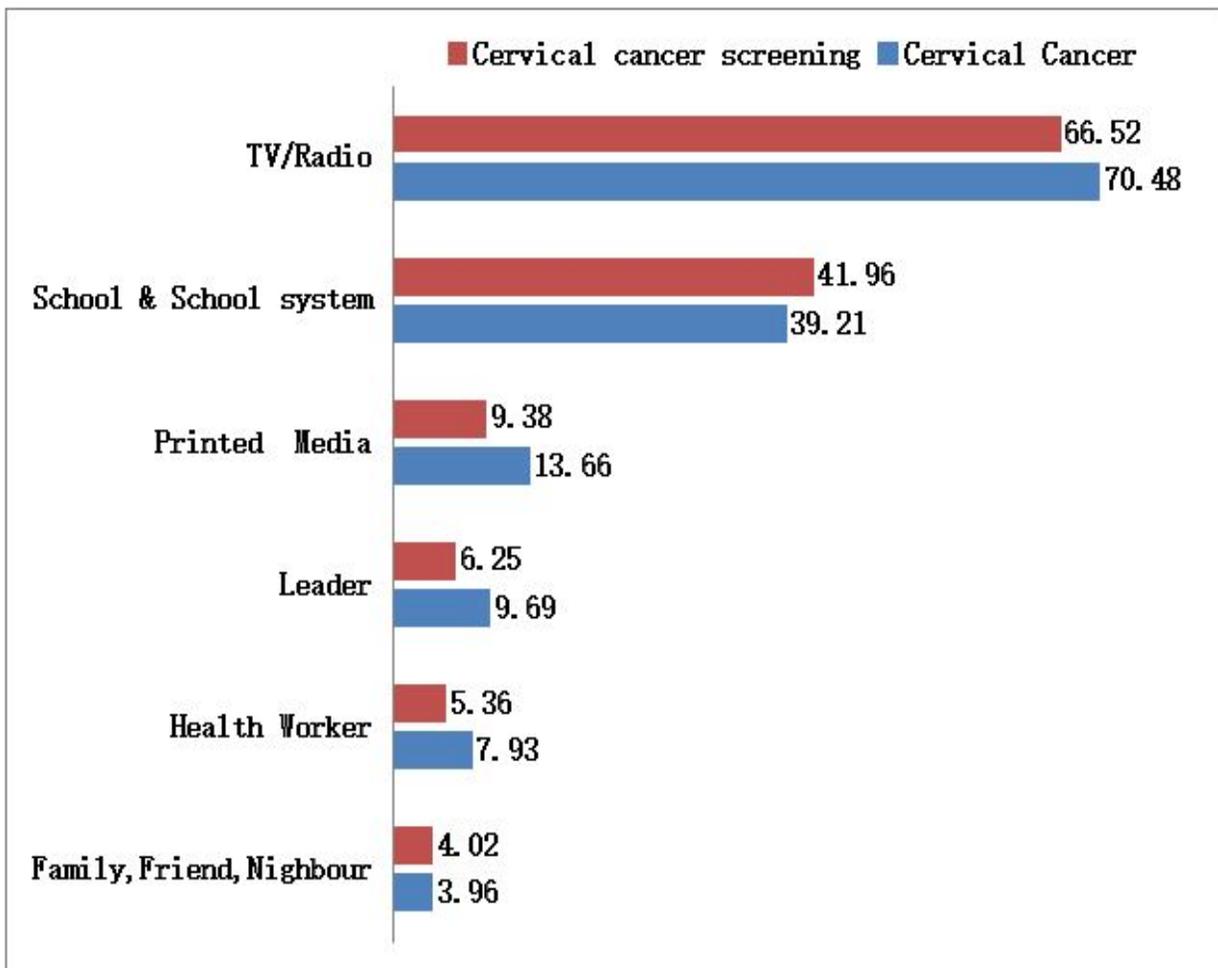


Figure 8 Source of information for cervical cancer and screening among army women of Ethiopia 2016.

Remark: Percentages totals may exceed 100% because of multiple responses n=227 and 224 for the disease and screening practice, respectively.

5.3 KNOWLEDGE OF CERVICAL CANCER AND ITS SCREENING

The table below showed that with regards to symptom related knowledge of respondents, 293(69.27%) of them had poor knowledge with, the most known symptom of respondents being foul smelled vaginal discharge 95(41.85). Known risk factors that predispose for cervical cancer were also asked to the respondents, majority of them 236(55.79%) had poor knowledge, the most known risk factors for cervical cancer were multiple sexual partners 153 (67.4) and sexual act before 15years of age 116 (51.1).

Majority 238(56.26%) of the respondents had poor knowledge on the prevention and treatment of cervical cancer. The most known preventive measures mentioned by respondents being Avoiding multiple sexual partners 154(67.8), Avoiding sex before the age of 15years 113(49.8) and the commonly known treatment protocol was chemotherapy which were mentioned by 146(70.2) of respondents.

Knowledge related to cervical cancer screening were assessed, 223(52.72%) had poor knowledge about availability, 379(89.60%) had poor knowledge about procedures, 206(48.70%) had poor knowledge about eligibility and 217(51.30%) of them had poor knowledge related to interval of getting screening respectively. Many women soldiers 224(52.9) knew that there is screening for cervical premalignant lesions. 172(76.8) knew the age at which one can screen and only 37(16.5%) knew about at least one method of screening.

Table 2 distribution of responses on composite and sub categories knowledge score towards cervical cancer and screening among army women of ethiopia 2016 n=423

Knowledge of cervical cancer	Response n (%) n=227	
	Yes	No
Knowledge related to Symptoms of CC	Poor=293(69.27)	Good=130(30.73)
Vaginal bleeding	85(37.44)	142(62.56)
Foul vaginal discharge	95(41.85)	132(58.15)
Pain during Sex	65(28.63)	162(71.37)
Don't know	98(43.17)	129(56.83)
Knowledge related to Risk factors	Poor=236(55.79)	Good(187(44.21)
Multiple sexual partners	153(67.4)	74(32.6)
Early 15yrs age sexual intercourse	116(51.1)	111(48.9)
Early 15yrs age pregnancy	90(39.6)	137(60.4)
HPV infection	60(26.4)	167(73.6)
Cigarette smoking	89(39.2)	138(60.8)
Multi parity	25(11.0)	202(89.0)
Prolog use of OCP	28(12.3)	199(87.7)
Lack of hygiene	86(37.9)	141(62.1)
Hereditary	20(8.8)	207(91.2)
Don't know	40(17.6)	187(82.4)
Knowledge related to Prevention	Poor=238(56.26)	Good=185(43.74)
Avoid multiple sexual partners	154(67.8)	73(32.2)
Avoiding early age 15yrs sexual intercourse	113(49.8)	114(50.2)
Avoiding early age 15yrs pregnancy	92(40.5)	135(59.5)
Vaccination for HPV	69(30.4)	158(69.6)
Avoid/quit cigarette smoking	90(39.6)	137(60.4)
I don't know	42(18.5)	185(81.5)
Knowledge related to Treatment	Poor=255(60.28)	Good=168(39.72)
Surgery	4(1.9)	166(98.1)
Chemotherapy	146(70.2)	62(29.8)
Radiotherapy	43(20.7)	165(79.3)
I don't know	38(18.3)	170(82.7)

Knowledge of cervical cancer screening		Response n (%) n=224	
Availability of the service		Yes	No
Is there screening for CC Poor=200(47.28) Good=223(52.72)		224(52.9)	199(47.1)
Knowledge related to Interval is screening done?		poor=217(51.30) good=206(48.70)	
Every year		185(82.6)	39(17.4)
Every 3 years		14(6.3)	210(93.7)
Every 5 years		7(3.1)	217(96.9)
Knowledge related to Who should be screened?		Poor=206(48.70) Good=217(51.30)	
Any woman Women soldiers of 25 years and above		172(76.8)	52(23.2)
Prostitute		28(12.5)	196(87.5)
Elderly women		7(3.1)	217(96.9)
Other		17(7.6)	207(92.4)
Knowledge related to CCS procedures		Poor=379(89.6) Good=44(10.40)	
VIA		7(3.1)	217(96.9)
Pap smear		37(16.5)	187(83.5)
Don't know		180(80.4)	44(19.6)

The composite score showed on the pie-chart indicated that 54% (48%, 58%) of the study participants had poor knowledge about cervical cancer and cervical cancer screening.

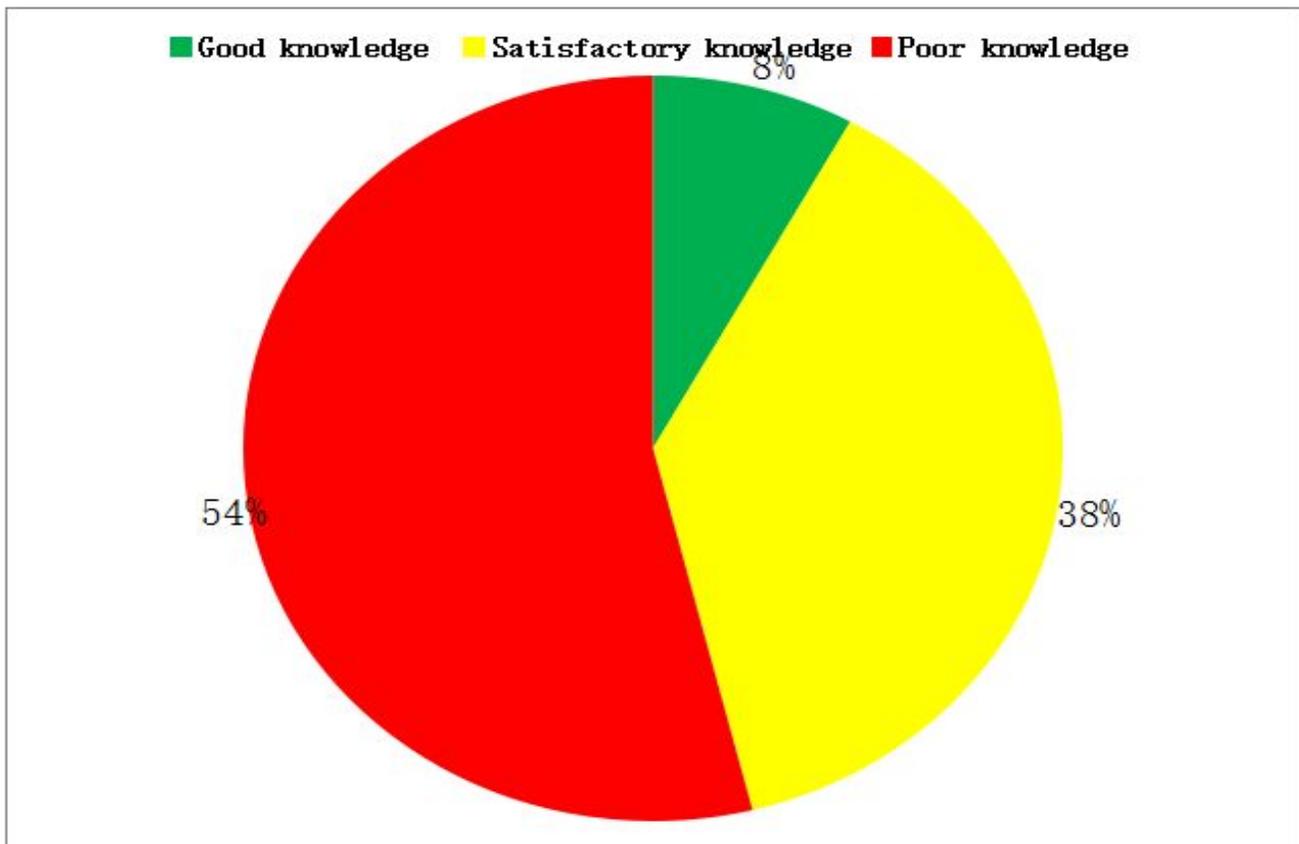


Figure 9 Composite knowledge level towards cervical cancer and its screening among army women of Ethiopia 2016 n=423

5.4 ATTITUDE TOWARDS CERVICAL CANCER AND SCREENING

With regard to the attitude of army women on cervical cancer screening about 227(53.7%) CI (48%, 58%) had negative attitude. Only 85(20.094%) of participants perceive carcinoma of the cervix to be a problem in Ethiopia. Susceptibility perception was low as 112(26.477%) of them agreed that they can acquire cervical carcinoma. However, Majority 144(34.042) agreed that screening is important and 193(45.626%) were ready to screen.

Table 3 distribution on composite and item attitude score towards cervical cancer and its screening among army women 2016 n=423

Attitude question.	Response				
	n (%) n=423				
	SD	DA	ID	A	SA
Cancer of the cervix is highly prevalent	26(6.146)	44(10.401)	120(28.368)	148(34.988)	85(20.094)
Cervical cancer is leading cause of death	14(3.309)	59(11.820)	132(31.205)	146(34.515)	72(17.021)
Any woman can acquire cervical cancer	22(5.200)	41(9.692)	66(15.602)	182(43.026)	112(26.477)
Cervical Cancer cannot be transmitted	26(6.146)	47(11.111)	119(28.132)	140(33.096)	91(21.513)
Screening helps prevention of cervical cancer	14(3.309)	10(2.364)	59(11.820)	196(46.335)	144(34.042)
Screening causes no harm to the client	18(4.255)	21(4.964)	60(14.184)	173(40.898)	151(35.697)
Cervical cancer Screening is not expensive	17(4.018)	36(8.510)	141(33.333)	137(32.387)	92(21.749)
If screening is free and causes no harm, will you screen	17(4.018)	13(3.073)	38(8.983)	162(38.297)	193(45.626)

KEY: SD (Strongly Agree) DA (Disagree) ID (Indifferent) A (Agree) SA (Strongly Agree)

5.5 INTENTION TO USE CERVICAL CANCER SCREENING

As it indicated in table 4 Only 167(43.4) CI (38&, 48%) and 38(9.0%) CI (6%, 11%) had intended to use cervical cancer screening and had ever been screened respectively. Lack of knowledge towards cervical cancer screening was the important reason for not having intention to use cervical cancer screening. The reason for not intend to use cervical cancer screening was more elaborated in fig. 5 below.

Table 4 distribution of cervical cancer screening; composite and sub categories scores of intention to use cervical cancer screening among army women of Ethiopia 2016 n=18 for screened n=385 for intention to use screening

Ever screened for cervical cancer	Frequency	%(CI)
Yes	38	9.0 (6,11)
No	385	91.0 (88,93)
Total	423	100.00
Are you intend to have cervical cancer screening		
Yes	345	89.61(86,92)
No	40	10.39 (7,13)
Total	385	100.00
When you plan to have cervical cancer screening		
Within one month	167	48.41(43,53)
Within six months	18	5.22 (2,7)
Within a year	151	43.77 (38,49)
Within two years and after	9	2.61 (0.9,4)
Total	345	100.00
Composite score of Intention to use cervical cancer screening		
Has intention	167	43.4 CI (38,48)
No intention	218	56.6(51-61)
Total	385	100.00

5.6 REASON FOR NOT HAVING INTENTION TO USE CERVICAL CANCER SCREENING

As it is shown in table-4 above, the majority of respondents never had cervical cancer screening. On other hand, Fig.5 revealed that the main reason for not intending to have cervical screening was lack of information about the disease and screening tests. Although, participants may have more than two reasons, from the total responses; Mostly 202(52.47%) CI (42, 52) women gave reason about absence of health education programs in this area, 176(45.71%) CI (40, 50) limited information about the cervical cancer screening test and 168(43.64%) poor knowledge about the test procedures were the major reasons for not having cervical screening.

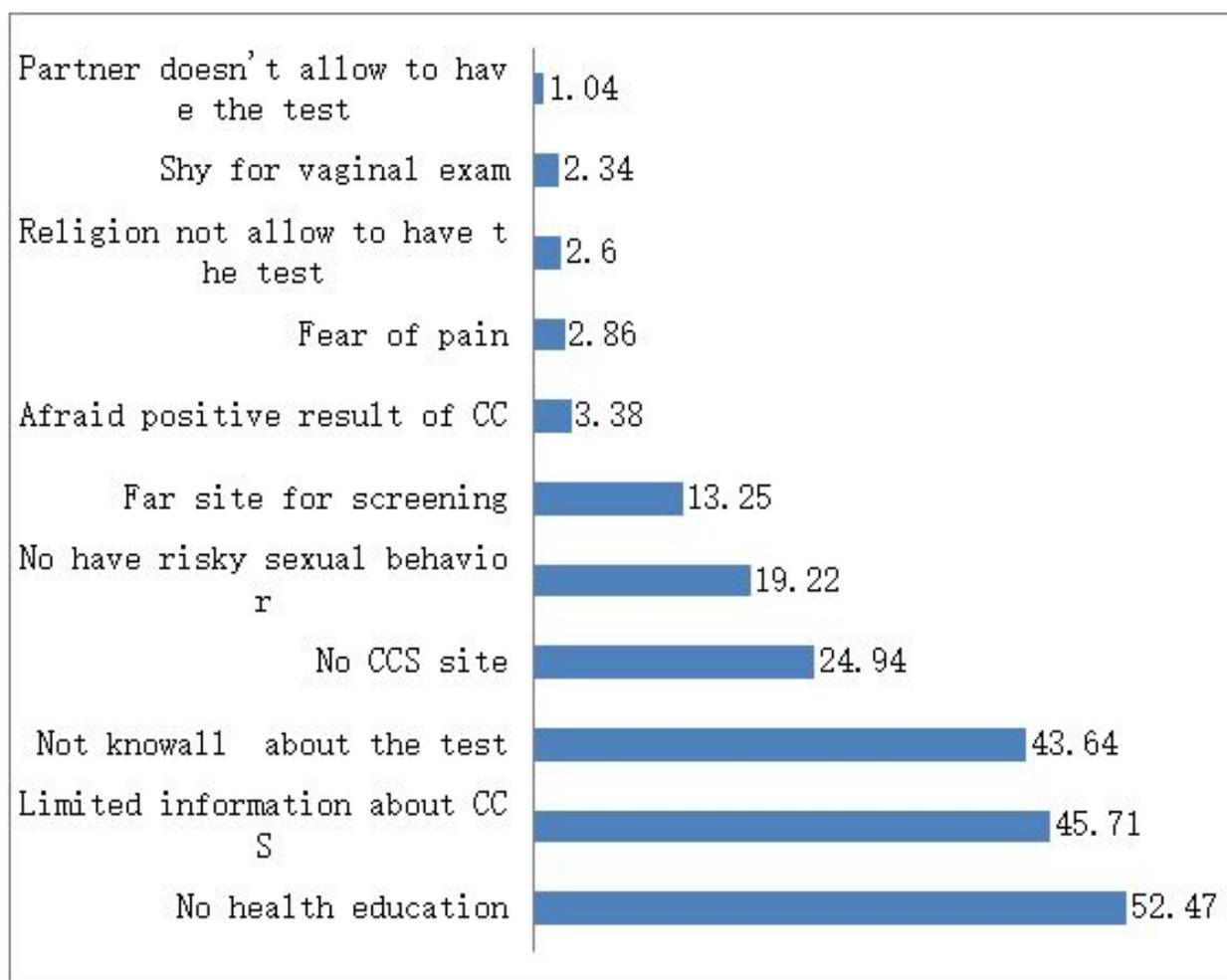


Figure 11 Reason for not having intention to use cervical cancer screening among army women of Ethiopia 2016 n=385

Remark: Percents totally exceed 100% because of multiple responses but n=385 for all

Key: CC-Cervical Cancer CCS-Cervical Cancer Screening

5.7 LOGISTIC REGRESSION ANALYSIS OF INTENTION TO USE CERVICAL CANCER SCREENING

The association of age with intention to use cervical cancer screening among army women revealed that, the likelihood of intention to use cervical cancer screening was $COR=3.52$ 95% $CI(1.99, 12.52)$ times higher among army women age 20-34 years compared to teenage women. It was also $COR=3.98$ 95% $CI(1.04,15.22)$ times higher among army women age 35-39 years compared to teenage women and it was $COR=7.99$ 95% $CI(1.68,37.5)$ times higher among army women age 40-49 years compared to teenage women, Implying that the likelihood is increasing with age. However, when we control for some socio-demographic variables and the statistical significance in the association between age and intention to use cervical cancer screening has vanished.

On the other hand, the probability of intention to use cervical cancer screening was $COR=0.51$ 95% $CI(0.28, 0.96)$ less among private (PVT) army women compared to officers, and also $COR=0.56$ 95% $CI(0.28, 1.09)$ less among army women with rank of none star officer (NSO) compared to officer implying an increased association level of intention to use cervical cancer screening with described rank of army women, however, when we control the statistical significance of some variables were vanished.

Besides, the likelihood of intention to use cervical cancer screening was $COR=1.93$ 95% $CI(1.15, 3.26)$ times higher among infantry army women compared to army women working in industries. It was also $COR=2.29$ 95% $CI(1.41, 3.72)$ times higher among army women working in office compared to army women working in industries, implying that the likelihood is higher among infantry and office workers than army women working in industries. When we controlled some socio-demographic variables the statistical significance remained the same in logistic regression analysis.

Though the statistical significance vanished, when some socio-demographic variables were controlled, the likelihood of intention to use cervical cancer screening was $COR=1.99$ 95% $CI(1.14, 1.674)$ times among army women who served the military 11-19 years compared to army women who served for less than 10years. It was also $COR=2.77$ 95% $CI(1.151,6.696)$ times higher among army women who served for 20 and more years compared to army women served for less than 10 years, implying that the likelihood is increasing with service year.

Income was also one of the variables which has significant association with intention to use cervical cancer screening which showed higher likelihood of cervical cancer screening $COR=1.97$ 95% $CI(1.30,2.97)$ among army women with monthly income of 1600 Birr and above compared to army women who had less than 1600Birr monthly income. When we are controlling for other socio-demographic

variables of respondents the statistical significance remains strong with AOR=2.84 95% CI (1.51, 5.32). The likelihood of intention to use cervical cancer screening was COR=1.76 95% CI (1.025, 3.046) times higher among army women who ever had sex compared to army women who never had sex. However, when we control some socio-demographic variables and attitude the statistical significance vanished.

The likelihood of intention to use cervical cancer screening was COR=2.04 95% CI (1.35, 3.08) times higher among army women who had positive attitude towards cervical cancer screening compared to army women who had negative attitude. And when we control for some socio-demographic variables the statistical significance association with attitude remained strong with AOR= 2.16 95% CI (1.35, 3.44).

Table 5 multivariate analysis of intention to use cervical cancer screening among army women of Ethiopia 2016

Characteristics	Intention to use cervical cancer screening n (%)			
	No intention 218(56.62)	Has intention 167(43.38)	COR(95%CI)	AOR(95%CI)
Age				
<20	14(6.42)	3(1.80)	1	
20-34	163(74.77)	123(73.65)	3.52(1.99,12.52)	3.2(.84,12.63)
35-39	34(15.60)	29(17.37)	3.98(1.04,15.22) *	3.0(.67, 14.28)
40-49	7(3.21)	12(7.19)	7.99(1.68,37.95) ***	1.4(.12,16.24)
Military rank				
PVT	66(30.28)	49(29.34)	0.51(0.28,0.96) **	2.1(.69, 6.37)
NSO	130(59.63)	89(53.29)	0.56(0.28,1.09)	.98(.39, 2.43)
Officer	22(10.09)	29(17.37)	1	
Military duty				
Infantry	55(25.23)	50(29.94)	1.93(1.15,3.26) **	2.68(1.44,4.98) **
Office	67(30.73)	72(43.11)	2.29(1.41,3.72) ***	1.96(1.12,3.44) **
Industry	96(44.04)	45(26.95)	1	
Service year				
<=10yrs	168(77.06)	121(72.46)	1	
11-19yrs	42(19.27)	30(17.96)	1.99(1.14, 1.674)	.83(.44, 1.56)
>=20yrs	8(3.67)	16(9.58)	2.77(1.151,6.696)	2.96(.46,18.90)
Income				
<1600	120(55.05)	64(38.32)	1	
>=1600	98(44.95)	103(61.68)	1.97(1.30,2.97) ***	2.84(1.51,5.32) ***
Ever had sex				
No	48(22.02)	23(13.77)	1	
Yes	170(77.98)	144(86.23)	1.76(1.025, 3.046) **	1.61(.81 3.21)
Attitude				
Negative	140(64.22)	79(47.31)	1	
Positive	78(35.78)	88(52.69)	2.04(1.35,3.08) ***	2.16(1.35,3.44) ***

* <0.05>0.01 has association, ** 0.01 strong, *** 0.001 very strong association

6. DISCUSSION

The current study is the first to explore the level of knowledge, attitude, and intention to use cervical cancer screening in Ethiopian army women. The study found that, the knowledge of army women towards cervical screening was poor 54% CI (48%,58%). This finding was consistent with studies conducted in Burkina Faso in 2012, Tanzania in 2015Niger Delta in 2013). But when we compare it with the findings of studies conducted in Gondar town in 2010, Cameroon in 2015, and Nigeria in 2012, the magnitude of poor knowledge among army women of Ethiopia was very high (22-24). The possible reason for such differences would be; the living arrangements of army women were different from the women living in the community. In addition awareness creation interventions such as health education on cervical cancer screening in the army was very low compare to the community.

Among all respondents of this study, more than half had never heard of cervical cancer. This finding in this study is consistent with study conducted in Nigeria, but very high as compared to studies done in Gondar town North West Ethiopia in 2010, a study conducted in Ouagadougou, Burkina Faso in 2012, a study conducted in Gabon and another study conducted in Cameroon in 2015 (20, 19, 27, 28).This may due to the living arrangements of army women and military occupation has been contributed to limited access information through social process other than the media.

Almost half of the respondents didn't know the symptom for cervical cancer. Foul smelled vaginal discharge was the commonly mentioned symptom among the study participants; this finding is higher than the finding in a study done in Gondar town North West of Ethiopia in 2010, which was 35% of participants mentioned that vaginal discharge as symptom of cervical cancer (27).

About 44.21% of respondents had good knowledge about risk factors for cervical cancer, which was higher than the finding from the study done in Ghana by Nancy in 2014. The most common risk factor mentioned by the participants was multiple sexual partners. This finding is different from the findings of a study done in Gabon by Samira in 2014, the most frequently cited causes of cervical cancer were abortion and sexually transmitted infection respectively in 29.8% (28/94) and 28.7% (27/94) (19).

The knowledge on risk factors is an important element in the prevention of cervical cancer. Knowing the risk factor can make someone avoid them and hence prevent from acquiring the disease. In this study knowledge on risk factors was poor and hence education on this issue for army women is important.

Though, it is relatively higher than the finding of a cross-sectional survey conducted among college women in the university of Ghana that showed that 7.9% of study participants are aware of the link of

HPV with cervical cancer, respondents of this study were also poor in understanding about HPV infection and its link to cervical cancer; of all the respondents in this study only 14.18% mentioned HPV as an important factor in causation of cervical cancer. This can affect prevention as it difficult for these women to go for screening if they don't know the link between HPV and cervical cancer (37).

Army women's knowledge on the age of women who are eligible for cervical cancer screening indicated that 51.30% of respondents in this study knew exactly the age at which one has to undergo screening. More than half of the respondents, who were aware of cervical cancer, knew that cervical cancer can be screened but only 19.6% mention at least one screening method, majority mentioned VIA (3.13%) and 16.52% PaP smear, PaP smear was mentioned by many army women because it was familiar method of screening in the study area. This is consistent with the study done in Niger Delta (23, 24).

Although, the main outcome of the study was intention to use cervical cancer screening, the attitude of respondents towards cervical cancer screening was looked as part of its factor, overall only 46.34% CI (41%, 51%) of the respondents had positive attitude towards cervical cancer screening. This was lower than the studies conducted in Cameroon in 2015 and Tanzania in 2015(27, 30).

Eighty percent of respondents agreed that screening is an important in the prevention of cervical cancer. This finding was rather similar to the finding in a study in Ghana were 87% of the respondents agreed that screening is important. Susceptibility perception was also a problem because the perception of one's susceptibility to cervical cancer can affect screening behavior. A significant number of women soldiers expressed not having personal susceptibility. More than three quarter of respondents in this study agreed that they could avail themselves to screening if they had knowledge; screening is free of charge an. This means that if some barriers are eliminated many women soldiers could go for screening (39).

The intention was also determined since service utilization rate is very low. In this study only 8.98% CI (6%, 11%) of the respondents had undergone screening. This is also consistent with study done in Ethiopia showed that only 6.5% of all the respondents ever had a Pap smear screening test. However, it is lower than the findings in a study done in Kenya, 22% of respondents were screened. (28).

Thus this study showed that 43.38 % CI (38%, 48%) of respondents intended to have cervical screening. This is lower than the findings from a study done in Uganda 63.0% of the respondents, Myanmar 78.3% and Malawi 57.2% of respondents had intention to go for cervical cancer screening (33, 43).

The possible reason for this variation was that army women had limited information about cervical cancer screening as compared to women in community which was confirmed as the main reason not to had imitation to use the service in this study.

In bivrate analysis attitude, military rank, income, military duty, age, year of service, and ever had sex, were associated with intention to use cervical cancer screening, however, when it was adjusted by controlling all the variables that having association in the crude analysis, attitude, monthly income and military duty were associated. These findings of this study showed that except military duty and rank which are unique characteristics of army women, the associations of other factors were consistent with findings of cross-sectional study conducted in Malawi and Myanmar (42, 43).

Reasons hindering cervical cancer screening intentions have been shown to exist in many countries. The greatest reason in this study was the inadequate knowledge about the disease and screening tests which was mentioned by about 86.53% of respondents. The other reasons were shyness, personal and social issues. In other studies barriers toward intention to screening were embarrassment, pain, or the procedure being bothersome. Others were psychological fear and physiological pain (21). The findings of this study suggest that it is important to provide information about the value of cervical cancer screening. It is therefore obvious that intentions to screenings test for cervical cancer screening would be increased. This was supported by a study conducted in Zimbabwean women shows that, 80% the group expressed positive beliefs about cervical cancer screening tests after an educational intervention (32).

Apart from the reasons mentioned in the above, army women are lacking awareness of susceptibility to cervical cancer screening. And also they did not perceive cervical cancer to be a big problem; this also contributed to had low intention for using cervical cancer screening.

Though, it doesn't present, knowledge of cervical screening is associated with positive attitude towards cervical cancer screening. Those respondents with good knowledge had more positive attitude towards cervical cancer screening. Attitude also has strong association with intention as it revealed in the multivariate analysis. Therefore, knowledge has impact on intention to use cervical cancer screening.

Generally Ethiopian army women had lower intention to use cervical screening this is associated with lower attitude to the disease and screening as a result of lower level of knowledge to cervical cancer and its screening in addition to socio demographic characteristics those had statistically significant association with intention to use cervical cancer screening. And knowledge about cervical cancer and screening also predictor of the positive attitude imply that improving knowledge of army women on cervical cancer and screening is a tool to build positive attitude intern increase intention to use cervical cancer screening.

7. STRENGTHS AND LIMITATIONS OF THIS STUDY

7.1 STRENGTHS

The study is conducted on army women who are risk group for cervical cancer. The methodology utilized was appropriate to the study. This is the first study of army women's knowledge, attitude and intention to use cervical cancer screening and it reveals the need to inform army women about cervical cancer and its screening in the military. Information obtained from this study serves as base line information for researchers and program managers in Ethiopian national defense.

7.2 LIMITATIONS

This study doesn't address the questions how and why the army women have low level of knowledge, negative attitude and low intention to use cervical cancer screening. Due to limited resources and deployment related issues the study was done in Addis Ababa and its soundings. However, our findings may have implication for others in the same settings since they are similar to those from other parts of the army and 60% of the target population was found in this study area. In addition biases related to cross-sectional study design were unresolved.

8. CONCLUSION

This study revealed that army women have poor level knowledge about cervical cancer and its screening and negative attitude towards cervical cancer screening. The intention of army women to use cervical cancer screening is very low. Factors such as military duty, income and positive attitude towards cervical cancer screen had positive association with intention to use cervical cancer screening.

9. RECOMENDATIONS

In order to increase intention to use cervical cancer screening, level of knowledge and positive attitude towards the cervical cancer screening should be improved. Ministry of defense specifically Health main command should focus on reaching out to all army women starting from recruiting through: Disseminate information that focuses on educating the army women about cervical cancer risks, cervical cancer screening. Promote cervical cancer screening among army women to encouraging using regular screening through IEC and BCC specific to cervical cancer screening. And establish an institutional awareness for provision of counseling as well as institution-based interventions of cervical cancer screening to army women. Attention should pay to army women who were deployed in industries and lower monthly income.

Though, this study has been contributed to the institution serving as base line information, Far there study would be needed on the prevalence and quality of services on cervical cancer screening as well.

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11. ANNEXES

Verbal Invitation and Consent Script guide for data collectors

Good morning/afternoon! My name is.....and I am going to conduct an interview with you on behalf of **Ato Belachew Kahasay** a post graduate Student at Addis Ababa University, school of public health. He is now conducting a study to better understand what Army women believe about cervical cancer screening in their military healthcare system.

I am looking and inviting military women to fill out a questionnaire about their Knowledge, attitudes and intention regarding cervical cancer screening. This questionnaire is completely voluntary and would take about 20-35 minutes of your time today. If you are interested,

I have an information sheet that explains a little more about the study (PI provides Invitational an information sheet).

Thank you for letting me talk to you about my study.” if you would like to talk to me or have any questions about this study, please stop by to see me here at the Front Desk.

After reading the information sheet do you have any questions?

Some keep points:

- This is a research study about Army women’s knowledge, attitudes about cervical cancer and what they report as their behavior intention towards screening.
- It is completely voluntary questionnaire and study. I will not share your answers with your supervisor or chain of command.
- Please do not place your name, unit, or phone number on the questionnaire.
- Some questionnaire may make you feel uncomfortable and you may leave questions blank.
- Participants will not receive money to complete the questionnaire; however for completing the study I will give you an informational handout (Brochure) on cervical cancer, as well as pen.

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

QUESTIONNAIRE

**This questionnaire is designed to assess Knowledge, Attitude and intention towards
cervical cancer screening among women soldiers of Ethiopian Army**

Code _____ Date of filling / ___ / ___ / _____ DD/MM/YY

Instruction one:

- ▶ Read the information sheet about the study presented in the first page of this document, that may help you to understand the overall purpose of the study and to decide autonomously to participate or not in the study.
- ▶ Read the informed consent sheet in the second page of this document and fill the blanks on the alternatives based on your desired decision.

Instruction Two:

- ▶ Read each questions listed from page 3-9 and choose your response from the options listed in front of each item.
- ▶ For those questions which has alternatives encircle the answer of your choice such as **1. Yes** or **0. No**
- ▶ For questions which required to be filled, write your response in the space provided.

Information sheet for participants

Dear participant

You are invited to participate in a cervical cancer study that is currently carried out for the Ethiopian Defense women soldiers. Please read this information sheet carefully before you decide whether or not to participate. If you do decide to participate we thank you. If you decide not to take part there will be no disadvantage to you of any kind and we thank you for considering our request.

What is the aim of the study?

This survey has been designed to investigate what army women know about cervical cancer and Pap smear screening. It also would like to determine army women's attitude and intention to use cervical cancer screening.

The survey will summarize your thoughts on the issues raised and the intention is use the data to come up with a better plan of how to provide this service for army women. Your answer will be confidential (i.e. not shown with identification). Honesty is needed to make this information useful in identifying strength/weakness of the current system and addressing them.

Who are eligible to this study?

Participants should be none health professional army women who are serving in the Ethiopian defense, who are age of 18 years and beyond at the time of this study.

What is expected of you as participant?

A Nurse or health officer will administer a questionnaire to you which discusses the issue of cervical cancer and **Pap** smear screening. The interview may take between 35-40 minutes complete you are requested to answer the question as honestly as you can. There will be no tests done to you and you may withdraw at any points should you change your mind with no disadvantage to you.

If you have any questions about this study feel free and contact at any time to:

Ato. Belachew kahasay

MSC public health student at Addis Ababa University

Mobile +251946410995

Part one: back ground Characteristic of respondents

No	Question	Response/categories	Skipping rule
101	What is your Age in completed years?	<input type="text"/>	
102	What is your current marital status?	<ol style="list-style-type: none"> 1. Single / Never married 2. Married 3. Separated 4. Divorced 5. Widowed 	
103	To what ethnic group you belong to?	<ol style="list-style-type: none"> 1. Oromo 2. Amhara 3. Tigray 4. Welita 5. Sidama 6. Gurage 7. Gambela 8. Others specify <input type="text"/> 	
104	What is your religion?	<ol style="list-style-type: none"> 1. Orthodox 2. Muslim 3. Protestant 4. Catholic 5. Others 	
105	What is the highest level of education that you have completed or currently receiving in completed grade? record the attended grade.	<input type="text"/>	
106	What is your current military Rank?	<ol style="list-style-type: none"> 1. Private (PVT) 2. None star officer (NSO) 3. Operational officer 4. Higher officer 5. General officer 	
107	What is your current military duty?	<ol style="list-style-type: none"> 1. Office work 2. Trainer/ teacher 3. Infantry/Security gourd 4. Factory worker 5. Logistics 6. Air force professional 7. Communication professional/Operator 8. Journalist 8. Others <input type="text"/> 	
108	What is your current monthly income?	<input type="text"/>	

109	How long do you serve in the Army? in years/month.	<input type="text"/>	
110	Have you ever had sex?	1. Yes 0. No	If No go to 201
111	If your answer to question No. 111 is yes; what is your age at first sex?	<input type="text"/>	
112	Have you ever given birth to a child?	1. Yes 0. No	If No go to 115
113	If your answer to question No. 113 is yes; how many children you ever had?	No. of Male <input type="text"/> Female <input type="text"/> Total <input type="text"/>	
114	Have you ever had casual sex?	1. Yes 0. No	If No go to 117
115	If your answer to the question No. 115 is yes; how frequently did you have casual sex? record in number.	<input type="text"/>	
116	Have you ever use condom?	1. Yes 0. No	If No go to 119
117	If your answer to question No. 117 is yes, when you are you using condom?	1. Having sex with regular partner 1. Yes 0. No <hr/> 2. Having sex with casual partner 1. Yes 0. No <hr/> 3. Always 1. Yes 0. No	
118	Have you ever had sexually transmitted infections?	1. Yes 0. No	If No go to 125
119	If your answer to question No. 119 is yes how many times did you have sexually transmitted infections?	<input type="text"/>	
120	What type of sexually transmitted infection you suffer from?	1. Vaginal discharge 1. Yes 0. No <hr/> 2. Inguinal Swelling 1. Yes 0. No <hr/> 3. Genital Sore 1. Yes 0. No <hr/> 4. Genital wart 1. Yes 0. No	
121	If yes were you treated for the STIs you suffer from?	1. Yes 0. No	
122	Where did you gate the treatment?	1. Health facility 1. Yes 0. No <hr/> 2. Traditional healers 1. Yes 0. No <hr/> 3. Others specify 1. Yes 0. No	
123	Did you inform your sexual partner about the STIs you suffered from?	1. Yes 0. No	
124	Have you ever used contraceptive pills?	1. Yes 0. No	
125	How long did you use the pills? Specify the duration in years or months.	<input type="text"/>	

Part Two: Knowledge on cervical cancer and cervical cancer screening

No	Question	Response/categories	Skipping rule
201	Have you ever heard about cervical cancer?	1. Yes 0. No	(if No go to 210)
202	Where did you first learn about cervical cancer?	1. From Radio/TV 1. Yes 0. No 2. From Printed materials(Brochures, posters) 1.Yes 0. No 3. From Health workers 1. Yes 0. No 4. From Family, friends, and neighbors 1. Yes 0.No 5. From Leaders 1. Yes 0. No 6. From Teachers/school systems 1. Yes 0. No 7. Other specify: ----- 1. Yes 0. No	
203	What are the symptoms of cervical cancer?	1. Vaginal bleeding 1. Yes 0. No 2. Vaginal foul smelling discharges 1. Yes 0. No 3. Post-coital bleeding 1. Yes 0. No 4. Pain during sex. 1. Yes 0. No 5. Other specify ----- 1. Yes 0. No	
204	What are the risk factors for cancer of the cervix?	1. Having multiple sexual partners 1. Yes 0. No 2. Sex at an early age <15yrs 1. Yes 0. No 3. Acquiring HPV virus 1. Yes 0. No 4. Cigarette smoking 1. Yes 0. No 5. Using birth control pills for a long time 1. Yes 0. No 6. Early pregnancy (15yrs age and below) 1. Yes 0. No 7. Sexually transmitted infection 1. Yes 0. No 8. Repeated Abortion 1. Yes 0. No 9. Multiparty 1. Yes 0. No 10. Excessive sex 1. Yes 0. No 11. Lack of hygiene 1. Yes 0. No 12. Heredity/ Family History 1. Yes 0. No 13. Other specify --- 1. Yes 0. No	
205	How can a person prevent getting cancer of the cervix?	1. Avoid multiple sexual partners 1. Yes 0.No 2. Avoid Sex at an early age <15yrs 1. Yes 0. No 3. No smoking / Quit smoking 1. Yes 0. No 4. Through vaccination of HPV vaccine 1.Yes 0. No 5. Avoid Early pregnancy (at age of 15yrs and below) 1. Yes 0. No	

		6. Prevent STIs by safe sex	1. Yes	0. No	
		7. Other specify -----	1. Yes	0. No	
206	Can cancer of the cervix be cured in its earliest stages?	1. Yes	0. No		If No go to 209
207	How can someone with cancer of the cervix be treated?	1. By using Herbal remedies	1. Yes	0. No	
		2. Surgery	1. Yes	0. No	
		3. Specific drugs given by hospital	1. Yes	0. No	
		4. Radiotherapy	1. Yes	0. No	
		5. Other specify -----	1. Yes	0. No	
208	How expensive do you think cancer of the cervix treatment is in this country?	1. It is affordable charge 2. 3. It is somewhat/moderately expensive 4. It is very expensive			
209	Are you aware that, there is screening procedures to detect premalignant cervical lesion?	1. Yes	0. No		If No go to 301
210	Where did you first hear about cervical cancer screening?	1. From Radio/TV	1. Yes	0. No	
		2. Printed materials(Brochures, posters)	1. Yes	0. No	
		3. From Health workers	1. Yes	0. No	
		4. From Family, friends, and neighbors	1. Yes	0. No	
		5. From Leaders	1. Yes	0. No	
		6. From Teachers/school systems	1. Yes	0. No	
		7. Other specify: -----	1. Yes	0. No	
211	For those eligible women How frequent is the recommended screening for premalignant cervical lesion done?	1. Once every year			
		2. Once every three years			
		3. Once every 5 years			
		4. Other specify -----			
212	Who should be screened?	1. All Women of 25years and above			
		2. Prostitutes			
		3. Elderly women only			
		4. Others specify			
213	Can you mention any of the procedures used in screening for premalignant cervical lesions in Ethiopia?	1. Visual inspection of Acetic Acid (VIA)	1. Yes	0. No	
		2. Pap Smear	1. Yes	0. No	
		3. Other specify	1. Yes	0. No	

Part Three: ATTITUDE on cervical cancer and cervical cancer screening

No	Statement	Response				
		Strongly disagree	Disagree	Indifferent	Agree	Strongly agree
301	Cervical cancer is highly prevalent in Ethiopia.					
302	Cervical cancer is leading cause of deaths amongst all malignancies.					
303	Any adult woman including you can acquire cervical cancer					
304	Cancer of the cervix cannot be transmitted from one person to another					
305	Screening helps in prevention of cancer of the cervix					
306	Screening causes no harm to the client					
307	Screening for premalignant cervical lesions is not expensive					
308	If screening is free and causes no harm, I will decide to go for screen.					

Part-IV Intention to use cervical cancer screening and barriers

No	Question	Response/ categories	Skipping rule
401	Have you ever screened for cervical cancer?	1. Yes 0. No	(if No go to 402)
402	What were the barriers to have cervical cancer screening?	<p>1. There are no screening sites in the Army Hospitals 1. Yes 0. No</p> <p>2. There is limited information on cervical cancer in the Military 1. Yes 0. No</p> <p>3. The screening sites are too far from where I live 1. Yes 0. No</p> <p>4. There are no health education programs to promote screening 1. Yes 0. No</p> <p>5. I do not know what the test is all about 1. Yes 0. No</p> <p>6. I have not engaged in risky sexual behaviors in the past 1. Yes 0. No</p> <p>7. It is against my religious beliefs and cultural values to go for screening 1. Yes 0. No</p> <p>8. My partner would not allow me to go for screening 1. Yes 0. No</p> <p>9. I perceive that, the screening procedure may be painful. 1. Yes 0. No</p> <p>10. I feel shy 1. Yes 0. No</p> <p>11. I am afraid a screening test would reveal cervical cancer 1. Yes 0. No</p> <p>12. I do not know of any screening sites 1. Yes 0. No</p> <p>13. Other specify 1. Yes 0. No</p>	
403	Do you have plan to have cervical cancer screening?	1. Yes 0. No	If No End
404	When would you like to have cervical cancer screening? write in months	<input type="text"/>	

አዲስ አበባ ዩንቨርሲቲ ጤና ሳይንስ ኮሌጅ የህብረተሰብ ጤና ት/ት ቤት

መጥይቅ

በኢትዮጵያ መከላከያ ሰራዊት ውስጥ የሚገኙ ሴት ወታደሮች በማህፀን ጫፍ ካንሰርና የቅድመ ካንሰር ምርመራ ላይ ያላቸው እውቀት፣ አመለካከት እና አገልግሎቱ ለመጠቀም ያላቸው የተነሳሽነት ደረጃ ለማጥናት የተዘጋጀ መጠይቅ፡

የሚሰጠር ቁጥር ----- መጠይቁ የተሞላበት ቀን / ----- ወር/----/ ዓ/ም /-----/

መመርያ አንድ፡-

- ▶ በዚህ ጥናት ለማሳተፍ ወይም አለመሳተፍ ለመወሰን ይረዳ ዘንድ በዚህ የጥያቄ ሰነድ የመጀመርያ ገፅ ስለ ጥናቱ በተመለከተ የቀረበውን መረጃ በሚገባ ያንቡቡት፡፡
- ▶ ቀጥለው በሁለተኛ ገፅ የሰፈረውን የስምምነት ሰነድ በማንበብ በቀረበው የምርጫ ክፍት ቦታ ስምምነትዎ ይግለፁ፡፡

መመርያ ሁለት፡-

- ▶ ከገፅ 1-12 የሰፈሩት እያንዳንዳቸው ጥያቄ በሚገባ በማንበብና በመረዳት ከፊት ለፊታቸው ከቀረቡትን አማራጮች ውስጥ ትክክል ነው ያሉትን አማራጭ እንደሚከተለው ይምረጡ፡፡
- ▶ በያንዳንዱ ጥያቄ ፊት ለፊት ያሉ አማራጮች 1. አዎ 0. የለም በሚል የቀረቡትን እንደሚከተው

(1. አዎ)	ላይ በ	(0. የለም)	ዘንብ
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- ▶ በፅሁፍ ወይም በቁጥር ምላሽ ለሚፈልጉ ጥያቄዎችን ከፊት ለፊት በተዘጋጀውን ክፍት ቦታ መልስዎን ይጻፉ፡፡



ለጥናት ተሳታፊዎች ስለ ጥናቱ የቀረበ መረጃ

ክብርት የዚህ ጥናት ተሳታፊ

በዚህ በመከላከያሰራዊት ውስጥ የሚገኙ ወታደር ሴቶች ላይ በየግህፁን ጫፍ ካንሰርና የግህፁን ጫፍ ካንሰር/ነቀርሳ ቅድመምመራ አስመልክቶ በሚካሄደው ጥናት ላይ ተሳታፊ እንዲሆኑ ተጋብዟል፡፡ በዚህ ጥናት ለመሳተፍ ከመወሰንዎ በፊት ጥናቱን አስመልክቶ የተዘጋጀውን ይህንን መረጃ በደንብ ያንብቡት፡፡ መረጃውን

አንብቦው ለመሳተፍ በመወሰንዎ በጣም ናመሰግናታለን ነገርግን ደግሞ አልሳተፍም ብሎ ለወሰኑም ቢሆን ጥርያችን አክብሮ በመጣትዎ እጅግ አድርገን ናመሰግናለን ብቻም ሳይሆን አልሳተፍም በማለትዎ አንዳች ተፅእኖ የማያስከትል መሆኑን ለመግለጽ ንወዳለን፡፡

የጥናቱ ዋና ዓላማ

ይህንን ጥናት የሚካሄድበት ዋነኛ አላማ በኢትዮጵያ መከላከያ ሰራዊት ውስጥ የሚገኙ ወታደር ሴቶችን በግህፁን ጫፍ ካንሰርና የቅድመምመራ ህክምና ዙርያ ያላቸው የእውቀት ደረጃና አመለካከት ሳይንሳዊ ግምገማ በማድረግ ለግህፁን ጫፍ ቅድመምመራ አገልግሎት ለመጠቀም ያላቸው ፍለጎትና እቅድ መለካት ነው፡፡

እላይ የተጠቀሱ አላማዎችን በመፈተሽ የተገኙ መረጃዎች ትንታኔ መሰረት በማድረግ አገልግሎቱ በጥራት ለመጠቀም የሚያስችል ሁኔታ ለመፍጠር በሚደረገው ጥናት ላይ የእርስዎ ታማኝነት ያለበት ትክክለኛ የሆነ መረጃ መስጠት በተቋሙ ውስጥ በዚህ ረገድ የሚሰጠው ያለ አገልግሎት ስርአት ያለው ጠንካራና ደካማ ጎኖቹ ለመሌት እጅግ አስፈላጊ ነው፡፡

በጥናቱ ላይ እንዲሳተፉ የሚፈለጉ እነማን ናቸው

በዚህ ጥናት ውስጥ ከጤና ሙያ ተኛ ውጭ ያሉ ሁሉ ወታደር ሴቶች እድሜያቸው 18ና ከዛ በላይ የሆኑ የሰራዊት አባላት ተሳታፊ ይሆናሉ፡፡

በዚህ ጥናት ውስጥ ከእርስዎ የሚጠበቅ ምንድን ነው

በጥናቱ ላይ ለመሳተፍ ፍቃደኛ ከሆኑ ዘንድ በመጠየቁ ወስጥ የቀረቡ ጥያቄዎች በሚገባ በማንበብና በመረዳት አስፈላጊ ከሆነ ደግሞ ለመረጃ ሰብሳቢው በመጠየቅ መብራርያ በማግኘት ተገቢው ጊዜ በመውሰድ ምላሽ ይሰጡ ዘንድ በአክብሮት ስንጠይቅዎ የሚሰጡን መረጃ ታማኝነት ያለው እንደሆነ በመተማመንና ለወደፊቱ በዚህ ረገድ ለሚደረገው ስራ ትልቅ ግብአት መሆኑን ለመግለፅ ንወዳለን፡፡

አቶባላቸው ከሕሳይ

በአዲስአበባ ዩንቨርሲቲ የጤና ሣይንስ ኮሌጅ የህብረተሰብ ጤና ትምህርት ቤት የማስተርስ ዲግሪ ተማሪ፡፡

ስልክ ቁጥር 0946410995



ለታሳታፊዎች የቀረበው የስምምነት ሰነድ

ቀን.....ሰዓት.....የቃለ መጠይቅ መለያ ቁጥር.....

እንደምን አደሩ/ዋሉ?

አላይ በቃል በንባብም ሆነ በጽሁፍ ጥናቱ አስመልክቶ በቂ መረጃ የቀረበልኝና በቀረበው መረጃ ላይ ጥያቄዎች እንዲጠይቅ እድል ተሰጥቶኝ ለጠየቁት ጥያቄዎች ተገቢ ምላሽ አግኝቼአለሁ። በተጨማሪም በዚህ ጥናት ውስጥ ለመሳተፍ በሙሉ ፈቃደኝነት ተመስረተኝ፤ ሚሥጢራዊነቱ የተጠበቀና በማናቸውም ጊዜ ከጥናቱ መውጣት ቢፈልግም መውጣት እንደሚችል ተገቢልኝልኝ። ስለዚህ የጥናቱ አላማ በሚገባ የተረዳሁ ስለሆነ በዚህ ጥናት ለመሳተፍ በሙሉ ፈቃደኝነት መወሰኔ በፌርማዬ አረጋግጣለሁ።

በጥናቱ ውስጥ ለመሳተፍ ፍቃደኛ ነዎት?

አዎ ወደ ሚቀጥለው ገፅ ይለፉ

አይደለሁም አመሰግናለሁ

የስምምነት ፍቃዱን የወሰደው (የተቀበለው) ጠያቂ ስም ----- ፊርማ-----

የቃለ ምልልሱ ውጤት

1. የተሟላ----- 2. በከፊልየተሟላ----- 3. ፍቃደኛያልሆነ ----- 4. ሌላ -----

የመረጃ ሰብሳቢዉ ስም ----- ፊርማ -----

የተቆጣጣሪዉ ስም ----- ፊርማ -----



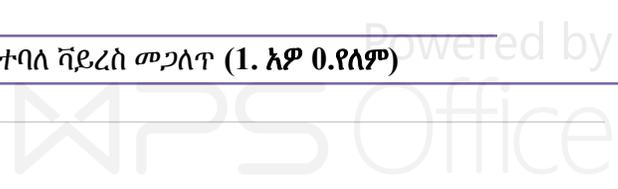
ክፍል አንድ፡ የማህበራዊ፣ ኢኮኖሚያዊ፣ ስነ-ተዋልዶና ስነ-ህዝብ መረጃ

ተ/ቁ	መጥየቅ	መልስ	የአሞላል መመርያ
101	ዕድሜዎ በሙሉ ዓመት ስንት ነው?	<input type="text"/>	
102	በአሁኑ ሰዓት የጋብቻ ሁኔታዎ ምንድን ነው?	<ol style="list-style-type: none"> 1. ብቸኛ/ያላገባ 2. ያገባ 3. የተለያየ 4. የተፋታ 5. የሞተባት 	
103	ከየትኛው ብሔር / ብሄረሰብ ነው የተገኙት?	<ol style="list-style-type: none"> 1. ኦሮሞ 2. አማራ 3. ትግራዊያይ 4. ወላይታ 5. ሲዳማ 6. ጉራጌ 7. ጋምቤላ 8. ሌላ ካለ ይግለጹ--- 	
104	ሃይማኖትዎ ምንድን ነው?	<ol style="list-style-type: none"> 1. ኦርቶዶክስ 2. ሙስሊም 3. ፕሮቴስታንት 4. ካቶሊክ 5. ሌላ ይገለጹ 	
105	ያጠናቀቁት ክፍተኛ የትምህርት ደረጃዎ ምንድን ነው? የተከታተሉት የት/ት ደረጃ ይጻፉ።	<input type="text"/>	
106	በአሁኑ ሰዓት ያለው ወታደራዊ ማዕረግዎ ምንድን ነው?	<ol style="list-style-type: none"> 1. ተራ ወታደር 2. ባለሌላ መደብ 3. መስመራዊ መኮንን 4. ክፍተኛ መኮንን 5. ጀኔራል መኮንን 	
107	በወቅቱ እያገለገሉ ያሉበት የውትድርና የስራ መደብዎ ምንድን ነው?	<ol style="list-style-type: none"> 1. በቢሮ ስራ። 2. አስልጣኝ ወይም አስተማሪ 3. ተዋጊ/ጥበቃ 4. በፋብሪካ ስራተኛ 	

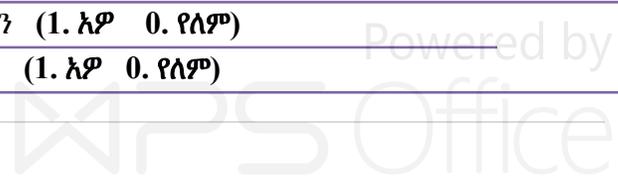


		5. ሎጀስቲክስ/አቅርቦት 6. የአየር ሃይል ሙያተኛ 7. የመረጃና ግንኙነት ሙያተኛ 8. በጋዜጠኝነት ሙያ 8. ሌላ ካለ ይገለፅ	
108	በአሁኑ ሰዓት የስራ ምድብ ቦታዎ የት ነው?	1. አዲስ አበባ 2. ደብረዘይት 3. አዳማ 4. ሆሊታ ገነት 5. አምቦ	
109	በአሁኑ ሰዓት ወርሃዊ ገቢዎ በብር ስንት ነው?	<input type="text"/>	
110	በውትድርና ውስጥ የሰጡት የአገልግሎት ዘመን በዓመት/በወር ስንት ነው?	<input type="text"/>	
111	ግብረ-ሰጋ ግንኙነት አድርገው ያውቃሉ?	1. አዎ 0. የለም	መልስዎ የለም ከሆነ ወደ ጥያቄ ቁጥር201 ይለፉ
112	ለጥያቄቁጥር-111 የሰጡት ምላሽ አዎ ከሆነ፣ ለመጀመርያ ጊዜ ግብረ-ሰጋ ግንኙነት የፈጸሙት በስንት አመት ዕድሜዎ ነበር?	<input type="text"/>	መልስዎ የለም ከሆነ ወደ ጥያቄ ቁጥር115 ይለፉ
113	ልጅ ወልደው ያውቃሉ?	1. አዎ 0. የለም	
114	ለጥያቄ ቁጥር 113 የሰጡት ምላሽ አዎ ከሆነ ምን ያህል ልጆች ወልደዋል?	ወንድ <input type="text"/> ሴት <input type="text"/> ጠቅላላ <input type="text"/>	
115	ከመደበኛ የኑሮ አጋርዎ ውጭ ግብረ-ሰጋ ግንኙነት አድርገው ያውቃሉ?	1. አዎ 0. የለም	መልስዎ የለም ከሆነ ወደ ጥያቄ ቁጥር117 ይለፉ
116	ለጥያቄ ቁጥር 115 የሰጡት ምላሽ አዎ ከሆነ ምን ያህል ጊዜ? በቁጥር ይግለፁ	<input type="text"/>	
117	ኮንደም ተጠቅመው ያውቃሉ?	1. አዎ 0. የለም	መልስዎ የለም ከሆነ ወደ ጥያቄ ቁጥር119 ይለፉ
118	ለጥያቄ ቁጥር 117 የሰጡት ምላሽ አዎ ከሆነ ኮንደም የሚጠቀሙት ምን ጊዜ ነው?	1.ከመደበኛ የኑሮ አጋር ጋር 2.በድንገተኛ የወሲብ አጋጣሚ ወቅት 3.ሁሌ የግብረ-ሰጋ ግንኙነት በሚፈጸምበት ጊዜ	
119	የአባላዘር በሽታ ይዞዎት ያውቃልን?	1. አዎ 0. የለም	መልስዎ የለም ከሆነ ወደ ጥያቄ ቁጥር125ለ ይለፉ
120	ለጥያቄ ቁጥር 119 የሰጡት ምላሽ አዎ ከሆነ ለምን ያህል	<input type="text"/>	

ጊዜ የአባላዘር በሽታ አጋጥሞዎት ያውቃል?			
121	የአባላዘር በሽታ ባጋጠመዎት ጊዜ የታዩት ዋና ዋና ምልክቶች ምንድን ናቸው?	1. የብልት ፈሳሽ የነበረው 1.አዎ 0.የለም 2. የብሽሽት-አብጠት 1.አዎ 0.የለም 3. የብልት-ቁስለት 1.አዎ 0.የለም 4. የብልት-ኪንታሮት 1.አዎ 0.የለም	
122	የአባላዘር በሽታ በአጋጠመዎት ጊዜ ህክምና ወስደዋልን?	1. አዎ 0. የለም	
123	ታክሙው ከነበር የህክምና አገልግሎቱን ያገኙት የት ነው?	1. በጤና ተቋም 1. አዎ 0. የለም 2. የባህላዊ ህክምና 1. አዎ 0. የለም 3. ሌላ ይገለፅ 1. አዎ 0. የለም	
124	ስለ አጋጠመዎት የአባላዘር በሽታ ለባለቤትዎ/ ጓደኛዎ ነግረዋል?	1. አዎ 0. የለም	
125	የእርግዝና መከላከያ እንክብል ተጠቅሞ ያወቃሉ?	1. አዎ 0. የለም	
126	የእርግዝና መከላከያ እንክብል ተጠቅሞ ከሆነ ለምን ያህል ጊዜ ተጠቀሙ? በዓመታት/ ወራት ይግለፁ	<input type="text"/>	
ክፍል 2 ስለ የማህፀን ጫፍ ካንሰርና የማህፀን ጫፍ ካንሰር ቅድመ ምርመራ በተመለከተ			
ተ/ቁ	መጥየቅ	መልስ	አቅጣጫ ጠቃሚ
201	ስለ ማህፀን ጫፍ ካንሰር/ነቀርሳ ሰምተው ያውቃሉ?	1. አዎ 0. የለም	መልስዎ የለም ከሆነ ወደ ጥያቄ 210 ይለፉ
202	ስለ ማህፀን ጫፍ ካንሰር/ነቀርሳ በሽታ ለመጀመርያ ጊዜ የሰሙት ከየት ነው::	1. ከፊደሉ/ ቴሌቪዥን (1. አዎ 0. የለም) 2. ህትመት ውጤቶች (1. አዎ 0. የለም) 3. ከጤና ባለሙያ (1. አዎ 0. የለም) 4. ከቤተሰብ፣ ጎረቤት (1. አዎ 0. የለም) 5. ከመሪዎች (1. አዎ 0. የለም) 6. ከመምህራን/ት/ት አገልግሎት (1. አዎ 0. የለም) 7. ሌላ ካለ ይገለፅ ----- (1. አዎ 0. የለም)	
203	የማህፀን ጫፍ ካንሰር/ነቀርሳ በሽታ ምልክት/ቶች ምን ምን ናቸው?	1. በማህፀን በኩል ደም መፍሰስ (1. አዎ 0. የለም) 2. መጥፎ ጠረን ያለው የብልት ፈሳሽ (1. አዎ 0. የለም) 3. ከግብረ-ሰጋ ግንኙነት በጃላ ደም መፍሰስ (1. አዎ 0. የለም) 4. በግብረ-ሰጋ ግንኙነት ወቅት ህመም መሰማት (1. አዎ 0. የለም) 5. ሌላ ይገለፅ (1. አዎ 0. የለም)	
204	ለማህፀን ጫፍ ካንሰር/ነቀርሳ አጋላጭ ሁኔታዎች የትኞቹ ናቸው?	1. ከአንድ በላይ የወሲብ አጋር መኖር (1. አዎ 0. የለም) 2. ከ15ዓመት እድሜ በፊት ቀደም ብሎ የመጀመር ወሲባዊ ግንኙነት (1. አዎ 0. የለም) 3. ለሂርን ፓፒሎማ የተባለ ቫይረስ መጋለጥ (1. አዎ 0. የለም)	



		<p>4. ሲጋራ ማጨስ (1. አዎ 0. የለም)</p> <p>5. ለረጅም ጊዜ የእርግዝና መቆጣጠርያ እንክብል መውሰድ (1. አዎ 0. የለም)</p> <p>6. ከ15ዓመት እድሜና በታች ማርገዝ(1. አዎ 0. የለም)</p> <p>7. በአባላዘር በሽታ መያዝ (1. አዎ 0. የለም)</p> <p>8. ተደጋጋሚ የፅንሰ ውርጃ (1. አዎ 0. የለም)</p> <p>9. ብዙ ልጅ መውለድ (1. አዎ 0. የለም)</p> <p>10. ከመጠን በላይ የግብረ-ሰጋ ግኑኝመት ማድረግ (1. አዎ 0. የለም)</p> <p>11. የንፅህና ጉድለት (1. አዎ 0. የለም)</p> <p>12. በዘረ መል/ከቤተሰብ ማህፀን ጫፍ ካንሰር የተያዘ ሰው ካለ (1. አዎ 0. የለም)</p> <p>13. ሌላ ካለ ይግለፁ --- (1. አዎ 0. የለም)</p>	
205	የማህጸን ጫፍ ካንሰር/ነቀርሳ እንዴት መከላከል ይቻላል?	<p>1. በአንድ የትዳር ጓደኛ በመወሰን(1. አዎ 0. የለም)</p> <p>2. ከ15ዓመት እድሜ በፊት ቀደም ብሎ ወሲባዊ ግንኙነት አለመጀመር (1. አዎ 0. የለም)</p> <p>3. ሲጋራ አለማጨስ/ማቆም (1. አዎ 0. የለም)</p> <p>4. ለሂናን ፓርሎማ ቫይረስ ከትባት ማግኘት(1.አዎ 0. የለም)</p> <p>5. ከ15ዓመት እድሜና በታች አለማርገዝ (1. አዎ 0. የለም)</p> <p>6. ጥንቃቄ የጎደለው ወሲብ በማስወገድ ከአባላዘር በሽታ መከላከል (1. አዎ 0. የለም)</p> <p>7. ሌላ ካለ ይግለፁ ---- (1. አዎ 0. የለም)</p>	
206	የማህፀን ጫፍ ካንሰር/ነቀርሳ ሳይሰራጭ በጊዜ ከታወቀ በህክምና ሊድን ይችላልን?	1. አዎ 0. የለም	መልስዎ የለም ከሆነ ወደ 209ኛ ጥያቄ ይለፉ
207	አንድ የማህጸን ጫፍ ካንሰር/ነቀርሳ ያለባት ሴት እንዴት ነው የምትታከመው?	<p>1. የባህል መድሃኒቶች በመውሰድ(1. አዎ 0. የለም)</p> <p>2. በቀድዶ ህክምና (1. አዎ 0. የለም)</p> <p>3. በሆስፒታል በሚሰጡ የተለያዩ መድሃኒቶች (1. አዎ 0. የለም)</p> <p>4. በጨረራ ህክምና (1. አዎ 0. የለም)</p> <p>5. ሌላ ካለ ይግለፅ (1. አዎ 0. የለም)</p>	
208	ሀገራችን ውስጥ የማህፀን ጫፍ ካንሰር/ነቀርሳ ህክምና ምን ያህል ውድ ነው ብለው ያስባሉ?	<p>1. ማንም ሊከፍለው የሚችል ዋጋ ነው ያለው</p> <p>2. በተመጣጣኝ ዋጋ ይሰጣል</p> <p>3. በጣም ውድ በሆነ ዋጋ ይሰጣል</p>	
209	የማህፀን ጫፍ ካንሰር/ነቀርሳ ቅድመ ምርመራ መኖሩን ያወቃሉ?	1. አዎ 0. የለም	መልስዎ የለም ከሆነ ወደ 301ኛ ጥያቄ ይለፉ
210	ስለ ማህፀን ጫፍ ካንሰር/ነቀርሳ ቅድመ ምርመራ ለመጀመርያ ጊዜ የሰሙት	<p>1. ከሬድዮ/ ቴሌቫዥን (1. አዎ 0. የለም)</p> <p>2. ህትመት ውጤቶች (1. አዎ 0. የለም)</p>	



ከየት ነው?	3. ከጤና ባለሙያ (1. አዎ 0. የለም) 4. ከቤተሰብ፣ ጅደኛ፣ ጎረቤት (1. አዎ 0. የለም) 5. ከመሪዎች (1. አዎ 0. የለም) 6. ከመምህራን/ት/ት አገልግሎት (1. አዎ 0. የለም) 7. ሌላ ካለ ይገለጹ ----- (1. አዎ 0. የለም)
211 የማህፀን ጫፍ ካንሰር/ነቀርሳ ቅድመ ምርመራን አንድ ለአቅመ ሔዋን የደረሰች ሴት በየሰንት ጊዜ ማድረግ ይኖርባታል?	1. በአመት አንድ ጊዜ 2. በሰዎስት አመት አንድ ጊዜ 3. በአምስት አመት አንድ ጊዜ 4. ሌላ ካለ ይገለጹ
212 የማህፀን ጫፍ ካንሰር ቅድመ ምርመራ አገልግሎት ማግኘት ያለባቸው እነማን ናቸው?	1. ዕድሜያቸው 25 ዓመትና ከዚያ በላይ የሆናቸው ሴቶች በሙሉ 2. ሴተኛ አዳሪዎች 3. በአድሜ የገፉ ሴቶች ብቻ 4. ሌላ ካለ ይገለጹ...
213 በአገራችን የማህፀን ጫፍ ካንሰር ቅድመ ምርመራ የሚደረገው በየትኞቹ ዘዴዎች ነው?	1. የአሴቲክ አሲድ እየታና ምልክታ (1. አዎ 0. የለም) 2. ፓፕ ስሚር ቴስት (1. አዎ 0. የለም) 3. 4. ሌላ ካለ ይገለጹ (1. አዎ 0. የለም)

ክፍል ሰዎስት፣ ለየማህፀን ጫፍ ካንሰርና ለቅድመ ምርመራው ያለው አመለካከት የሚጠይቅ መጥይቅ					
ተ/ቁ	የመስማምያ ሃሳብ	መልስ			
		በጣም አልሰማማም	አልሰማማም	ድምጽ አልሰጥም	እስማማለሁ በጣም እስማማለሁ
301	በሃገራችን ኢትዮጵያ፣ የማህፀን ጫፍ ካንሰር ስርጭት ከፍተኛ ነው።				
302	በሃገራችን ኢትዮጵያ፣ የማህፀን ጫፍ ካንሰር ሞት መጠን ከሁሉም የካንሰር አይነቶች ሞቶች መጠን የበለጠ ነው።				
303	ማንኛውም ሴት እርስዎ ጨምሮ በማህፀን ጫፍ ካንሰር ልትጠቃ ትችላለች።				
304	የማህፀን ጫፍ ካንሰር ከሰው ወደ ሰው አይተላለፍም።				
305	የማህፀን ጫፍ ካንሰር ቅድመ ምርመራ የማህፀን ጫፍ ካንሰርን በሽታን ለመከላከል ያግዛል።				
306	የማህፀን ጫፍ ቅድመ ምርመራ ማድረግ ጉዳት የለውም።				
307	የማህፀን ጫፍ ካንሰር ቅድመ ምርመራ ውድ አይደለም።				
308	የማህፀን ጫፍ ካንሰር ቅድመ ምርመራ ነፃና ጉዳት የማያስከትል ከሆነ ለመመርመር እወስናለሁ።				

ክፍል አራት፡ የማህፀን ጫፍ ካንሰር ቅድመ ምርመራ ለማድረግ ያለው ተነሳሽነትና ችግሮቹ።

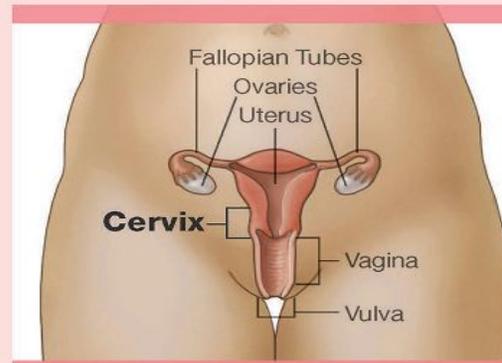
ተ/ቁ	መጥየቅ	መልስ	የአሞላል መመርያ
401	የማህፀን ጫፍ ካንሰር ቅድመ ምርመራ አድርገው ያውቃሉ?	(1. አዎ 0. የለም)	መልስዎ የለም ከሆነ ወደ 402
402	የማህፀን ጫፍ ካንሰር ቅድመ ምርመራ ማድረግ ያልቻሉበት ምክንያቶች ምን ምን ናቸው?	<p>1. አገልግሎቱ በመከላከያ ሆስፒታሎች የማይሰጥ በመሆኑ (1. አዎ 0. የለም)</p> <p>2. በሰራዊቱ መካከል የማህፀን ጫፍ ካንሰር በተመለከተ የመረጃ ውስንነት በመኖሩ (1. አዎ 0. የለም)</p> <p>3. አገልግሎቱ የሚሰጥባቸው ቦታዎች ከመኖርያ አካባቢ የራቀ በመሆናቸው (1. አዎ 0. የለም)</p> <p>4. የማህፀን ጫፍ ካንሰር ቅድመ ምርመራ ለማድረግ የሚያስችሉና የሚያበረታቱ የጤና ት/ት ፕሮግራሞች አለመኖር (1. አዎ 0. የለም)</p> <p>5. ምርመራው ምን እንደሆነ ስለማላውቅ (1. አዎ 0. የለም)</p> <p>6. ቀደም ሲል አደገኛ ወሲባዊ ባህርያት ያልነበሩኝ በመሆኑ (1. አዎ 0. የለም)</p> <p>7. ሀይማኖቴና ባህሌ ምርመራውን የማይደግፍ በመሆኑ (1. አዎ 0. የለም)</p> <p>8. ባለቤቴ ምርመራውን እንደደርግ የማይፈቅድ በመሆኑ (1. አዎ 0. የለም)</p> <p>9. ምርመራው ያሳምማል ብዬ ስለ ምገምት (1. አዎ 0. የለም)</p> <p>10. ስለ ማፍር (1. አዎ 0. የለም)</p> <p>11. ካንሰር አለብኝ የሚል የምርመራ ውጤት መስማት ስለምፈራ (1. አዎ 0. የለም)</p> <p>12. አገልግሎቱ የሚሰጥባቸው ቦታዎችን አለማወቅ (1. አዎ 0. የለም)</p> <p>13. ሌላ ካለ ይገለፅ፡ ----- (1. አዎ 0. የለም)</p>	
403	የማህፀን ጫፍ ካንሰር ቅድመ ምርመራ ለማድረግ እቅድ አለዎት?	1. አዎ 0. የለም	
404	የማህፀን ጫፍ ካንሰር ቅድመ ምርመራ መች ማድረግ ይፈልጋሉ? በወራት ይግለፁ	<input style="width: 100%; height: 20px; border: 1px solid black;" type="text"/>	

Cervical Cancer

What is cervical cancer?

When cancer starts in the *cervix*, it is called cervical cancer. The cervix is the lower, narrow end of the *uterus* (or womb). The cervix connects the upper part of the uterus to the *vagina* (the birth canal).

Cervical cancer is the only *gynecologic cancer* that can be prevented, by having screening tests routinely and *following up*, as necessary. It also is highly curable when found and treated early.



Who gets cervical cancer?

All women who have a cervix are at risk for cervical cancer. Women who have had a total hysterectomy, which includes the removal of the cervix, are not at risk for cervical cancer. Cervical cancer occurs most often in women over the age of 30.

Each year, approximately 7095 women in Ethiopia Diagnosed with cervical cancer, cervical cancer is among the leading causes of death worldwide, and used to be the leading cause of cancer death for women in Ethiopia.

In developed world, in the past 40 years, there has been a major decrease in the number of deaths from cervical cancer. This decline largely is due to many women getting regular Pap tests, which can find precancerous changes that can be treated before they turn into cancer.

What are the symptoms of cervical cancer?

Early on, cervical cancer may not cause signs and symptoms. In later stages, cervical cancer may

cause bleeding, especially after sex, or discharge from the vagina that is not normal for you.

If you have unusual bleeding or discharge, see a doctor. The symptoms may be caused by something other than cervical cancer, but the only way to know is to see a doctor.

What raises a woman's chance of getting cervical cancer?

Certain types of human papillomavirus (HPV) may lead to cervical cancer. Almost all cervical cancers are linked to HPV. However, there are other things that can increase your risk, including: Smoking, Having, HIV or another condition that, makes it hard for your body to fight off, health problems, Using birth, control pills for a long time, Having given birth to three or more children, Exposure before birth (while in the womb) to Diethylstilbestrol (DES), which is a man-made form of estrogen prescribed until 1971 to help women with pregnancy complications.

How can I help lower my chance of getting cervical cancer?

There are several things you can do that may reduce your chance of getting cervical cancer.

- 1) Protect yourself from HPV by: Use condoms during sex, Limit your number of sexual partners.
- 2) See a doctor regularly for a Pap test that looks for cervical pre-cancers and cancer. Be sure to follow up with the doctor if your test results are not normal.
- 3) Don't smoke. Smoking harms all of your body's cells, including your cervical cells. If you smoke and have HPV, you have a higher chance of getting cervical cancer. If you smoke, ask a doctor for help quitting.

Are there ways to prevent cervical cancer or find it early?

Yes, the Pap test, help to prevent cervical cancer.

- 1) The Pap test is one of the most reliable and effective screening tests available.

Getting a Pap test regularly is important because it can find precancerous changes on the cervix that can be simply and effectively treated to prevent cervical cancer.

A Pap test also can find cervical cancer early, when treatment is most effective. The only cancer the Pap test screens for is cervical cancer. It does not screen for any other type of cancer.

Most cervical cancers occur among women who have never had a Pap test or have not had one in the last five years.

- 2) The HPV test looks for HPV, the virus that can cause cell changes on the cervix.

For women aged 30 years and older, the HPV test can be used along with the Pap test (called co-testing) to screen for cervical cancer. It also is used to provide more information when Pap test results for women aged 21 and older are unclear.

- 3) Two HPV vaccines are available to protect females against the types of HPV that cause most cervical cancers, and vaginal and vulvar cancers. Both vaccines are recommended for 11- and 12-year-old girls, and for females 13 through 26 years of age who did not get any or all of the shots when they were younger.

These vaccines also can be given to girls as young as 9 years of age. It is recommended that females get the same vaccine brand for all three doses, whenever possible. It is important to note that even women who are vaccinated against HPV need to have regular Pap tests to screen for cervical cancer. (The HPV vaccine is also recommended for boys and young men.

To learn more, visit www.cdc.gov/hpv/vaccine.htm.

When and how often should I get a Pap test?

All women should start getting regular Pap tests at age 21. How often you get a Pap test depends on many factors:

- ▶ If your Pap test results are normal, your doctor may tell you that you will not need another Pap test for three years.
- ▶ If you are 30 or older, you may choose to have an HPV test along with the Pap test. Both tests can be performed by your doctor at the same time.

If the results are normal, your chance of getting cervical cancer in the next few years is very low. Your doctor may then tell you that you can wait up to five years for your next screening.

For women aged 21-65, it is important to continue getting a Pap test as directed by your doctor, even if you think you are too old to have a child or are not having sex anymore. However, your doctor may tell you that you do not need to have a Pap test if either of these is true for you:

- ▶ You are older than 65 and have had normal Pap test results for several years.
- ▶ You have had your cervix removed as part of a total hysterectomy for noncancerous conditions, like fibroids.

What does my Pap test result mean?

Your Pap test result will come back as “normal,” “unclear,” or “abnormal.”

Normal: A normal (or “negative”) result means that no cell changes were found on your cervix. However, it is still important to get Pap tests regularly because new cell changes can develop.

Unclear: The doctor may use other words to describe this result, including equivocal, inconclusive, or ASC-US. These all mean the same thing: that your cervical cells look like they could be abnormal. It is not clear if this is related to HPV or to other life changes, like pregnancy, menopause, or some other infection. The HPV test can help find out if your cell changes are related to HPV.

Abnormal: An abnormal result means that cell changes were found on your cervix. But don’t be alarmed, this does not necessarily mean you have cervical cancer.

Most of the time, minor changes go back to normal on their own. But more serious changes, pre-cancers, can turn into cancer if they are not treated. If your test is abnormal, it is very important to follow up with your doctor because you likely will need more tests or treatment.

Where can I find free or low-cost cervical cancer screening tests?

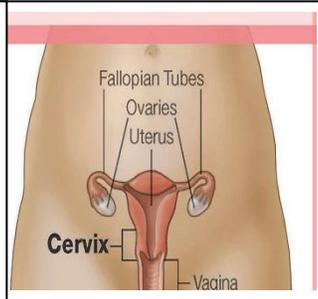
You may be able to get free or low-cost cervical cancer screening tests if you:

- ▶ Have health insurance. Contact your insurance provider to find out if cervical cancer screening is covered.
- ▶ Are eligible for Medicaid. To learn more, visit www.medicaid.gov.
- ▶ Are aged 65 years or older. Medicare pays for the Pap test every two years, or every year for some women.

To learn more, visit www.medicare.gov

ስለ የማህፀን ጫፍ ካንሰርና መከላከያ ዘዴዎች የሚያስረዳ አጭር መረጃ አዘል በራሪ ወረቀት።

የማህፀን ጫፍ ካንሰር
 የማህፀን ጫፍ ካንሰር ምንድን ነው?
 ካንሰር የጀመረው በማህፀን ጫፍ ከሆነ የማህፀን ጫፍ ካንሰር ይባላል። የማህፀን ጫፍ ማለት በታችኛው በኩል የሚገኝ ጠባቡን የማህፀን ክፍል ነው። የማህፀን ጫፍ የላይኛው የማህፀን ክፍልና ብልትን የሚያገናኝ ክፍል ነው። የማህፀን ጫፍ ካንሰር ከስነ ተዋልዶ አካለት ካንሰሮች ውስጥ በቅድመ ምርመራና ህክምና ክትትል በቀላሉ መከላከልም ሆነ ማከም የሚቻል ብቸኛ የካንሰር ዓይነት ነው።



የማህፀን ጫፍ ካንሰር ማንን ያጠቃል?

በቀድሞና ህክምና ማህፀናቸው ከወጣላቸው በስተቀር፤ ሁሉ ሴቶች ለማህፀን ጫፍ ካንሰር ተጋላጭ ናቸው። የማህፀን ጫፍ ካንሰር ብዙን ጊዜ እድሜያቸው 30ና ከዛ በላይ ሆኑት የሚከሰት ቢሆንም ማናቸውም የግብረ ስጋ ግንኙነት የሚያደርጉ ሴቶች በበሽታው ልያዙ ይችላሉ። በሃገራችን ኢትዮጵያ በየዓመቱ 7095 የሚሆኑ ሴቶች የምርመራ ውጤታቸው የማህፀን ጫፍ ካንሰር መኖሩን ያረጋግጣል ተብሎ ይገመታል። በአለማችን ሆነ በሃገራችን የማህፀን ጫፍ ካንሰር ሞት ከሚያስከትሉ ካንሰሮች ሁሉ ቀዳሚ ስፍራ ይዛል።

በሰለጠኑ ሃገራት ላለፉት 40 ዓመታት በማህፀን ጫፍ ካንሰር ምክንያት ሲከሰት የነበረው ሞት የቀነሰ መምጣቱ ጥናቶች ያመለክታሉ። ለዚህ ለውጥ ትልቁ ድርሻ የሚዘው ብዙ ሴቶች ፓፕ ስሚር የሚባል የማህፀን ጫፍ ካንሰር የቅድ መምርመራ አገልግሎት ተጠቃሚ በመሆናቸውና ምልክቱ ያለባቸው ደግሞ በእንጭጩ ህክምና በመስጠት ማዳን ስለተቻለ ነው።

የማህፀን ጫፍ ካንሰር ስሜትና ምልክቶች መንምን ናቸው?

በዕንጭጩ ሳለ የማህፀን ጫፍ ካንሰር ስሜትና ምልክት ላያሳይ ይችላል። ደረጃው ከፍ እያለ ሲመጣ ግን በተለይ ደግሞ ከግብረ ስጋ ግንኙነት በኋላ ደም መፍሰስ ወይም ከተለመደው ውጭ የሆነ ከብልት የሚወጣው ፈሳሽ ዋና ምልክቶች ናቸው። እነዚህ ምልክቶች በሌላ በሽታም ሊከሰቱ ስለሚችሉ ብቸኛው መፍትሄ መልክቶቹ ሲታዩ በፍጥነት ወደ ህክምና በመሄድ መታየት ይኖሩበታል።

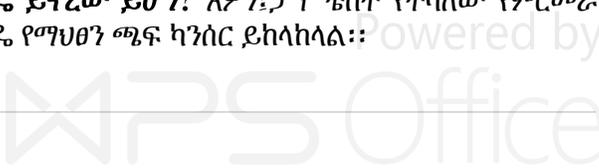
አብዛኛው የማህፀን ጫፍ ካንሰር ሒውማን ፓፒሎማ ቫይረስ (human papillomavirus) (HPV) በተባለው በግብረ ስጋ ግንኙነት የሚመጣው የቫይረስ አይነት የሚከሰት ሲሆን፤ ሌሎች ሲጋራ ማጨስ፣ በ HIV መያዝ፣ የወሊድ መከላከያ መቆጣጠርያ እንክብል ለተራዘመ ጊዜ መውሰድ፣ ከሰዎስት በላይ ልጅ መውለድና ሌሎች የማህፀን ጫፍ ካንሰር እንዲከሰት በማድረግ ላይ ትልቅ ድርሻ አላቸው።

ለማህፀን ጫፍ ካንሰር ተጋላጭ ላለመሆን ምን ማድረግ አለብን?

ለማህፀን ጫፍ ካንሰር ተጋላጭ ላለመሆን ማድረግ ካለበዎ በርካታ ነገሮች ውስጥ ጥቂቶቹ የሚከተሉ ናቸው።

- 1) ከአንድ በላይ የጾታ ተዕዳኝ ግንኙነት በመቀነስና በግብረ ስጋ ግንኙነት ጊዜ ኮንዶም በመጠቀም የማህፀን ጫፍ ካንሰር በማምጣት ዋነኛ ጠንቅ ከሆነው HPV ከተባለው ቫይረስ ራስህን መከላከል።
- 2) የማህፀን ጫፍ ካንሰር ቅድመ ምርመራ በማድረግና የምርመራ ውጤት ምልክት ካለው ደግሞ የሚያደርጉት ክትትል አለማቋረጥ።
- 3) ሲጋራ ማጨስ አጠቃላይ የሰውነታችንን ሴሎች የማህፀን ጫፍ ጨምሮ ስለሚጎዳ ሲጋራ ማጨስ በተጨማሪ HPV የተባለ ቫይረስ ካለበዎት በድምር በየማህፀን ጫፍ ካንሰር የመጠቃት እድል ከፍተኛ ስለሆነ ሲጋራ የሚያጨሱ ከሆነ ማቆም ይኖሩበታል።

የማህፀን ጫፍ ካንሰር መከላከያ መንገድና በጊዜ የሚታወቅበት ዘዴ ይኖረው ይሆን? አዎን፤ ፓፕ ቴስት የተባለው የምርመራ ዘዴ የማህፀን ጫፍ ካንሰር ይከላከላል።



1) ፓፕ ቴስት አሁን ካሉ የምርመራ አይነቶች ውጤታማና አስተማማኝ ነው። በመሆኑም በታቀደና ጊዜው ጠብቀው መመርመር ካንሰሩ ሳይሰራጩና ሳይባባስ በማግኘትና በእንጭጩ እንዲታከም በማድረግ የማህፀን ጫፍ ካንሰር መከላከያ ፍቱን ዘዴ ነው። የማህፀን ጫፍ ካንሰር ብዙን ጊዜ የፓፕ ቴስት ምርመራ አድርጎ በማያውቁና ላለፉት 5 ዓመታት አንዴም ባልተመረመሩ ሴቶች ይከሰታል።

2) የHPV ቴስት የተባለው የምርመራ ዘዴ ግም ሰዎች ለደብዳቤ ከ30 ዓመት በላይ በሆኑ ሴቶች ላይ ከፓፕ ቴስት በተሻሻለ የሚደረግ አጋዥ የማህፀን ጫፍ ካንሰር ቅድመ ምርመራ ዘዴ ሲሆን፤ እድሜያቸው 21 ዓመትና ከዛ ባላይ በሆኑ ሴቶች ደግሞ የፓፕ ቴስት ውጤታቸው ግልፅ ሳይሆን ሲቀር የሚደረግ የምርመራ ዓይነት ነው።

3) ፀረ HPV የተባለ ቫይረስ ክትባት እድሜያቸው ከ9-13 ዓመት ለሆኑ ሴት ልጆችና በዚህ ዕድሜ ክልል ክትባት ያልተሰጣቸው የ26 ዓመት ዕድሜ ልጃገረዶች የሚሰጥ ነው። ይህንን ክትባት በተመሳሳይ ዕድሜ ላሉ ወንድ ህፃናትም የሚሰጥ መሆኑን ይገለጻል። ለበለጠ መረጃ ቀጥሎ ባለው የድህረ-ገጽ አድራሻ በመግባት ዝርዝር መረጃ ማግኘት ይቻላል። (www.cdc.gov/hpv/vaccine.htm)

መቼና ስንት ጊዜ የፓፕ ቴስት ምርመራ ማድረግ ይቻላል?
ማንኛውም ሴት ዕድሜያቸው 21 ከዛ በላይ የሆኑትን ሁሉ ፓፕ ቴስት ምርመራ ማድረግ ያለባቸው ሲሆን፤ በየስንት ጊዜ መደረግ አለበት የሚለው ግን በሚከተሉት ሁኔታዎችን ይወስናል፡-

- ▶ የመጀመሪያ የምርመራ ውጤትዎ ኖርማል ከሆነ ለሰዎስት አመታት የፓፕ ቴስት ምርመራ ማድረግ አያስፈልግዎትም።
- ▶ ጠዕድሜዎ 30 ዓመትና ከዛ በላይ ከሆነ የፓፕ ቴስት ከ HPV ቴስት በጋራ በማድረግ፤ ውጤትዎ ኖርማል ከሆነ

ለሚቀጥሉ አምስት አመታት ምርመራ አያስፈልግዎትም። ዕድሜያቸው ከ21-65 የሆኑት ሴቶች ከሃኪም በሚያገኙት ምክር መሰረት የፓፕ ቴስት ምርመራ ማድረግ ይኖርባቸዋል። ነገር ግን የሚከተሉት ሁኔታዎች ሲሆኑ የፓፕ ቴስት ምርመራ ላያስፈልግዎ ይችላል፡-

- ▶ ዕድሜዎ ከ65 ዓመት በላይ ከሆነና ላለፉት ተከታታይ የፓፕ ቴስት ምርመራዎች ውጤት ኖርማል ከሆነ።
- ▶ በተለያዩ ምክንያት በቀድሞ ህክምና የማህፀን ጫፍ ጨምሮ ማህፀናቸው የወጣ ሴቶች።

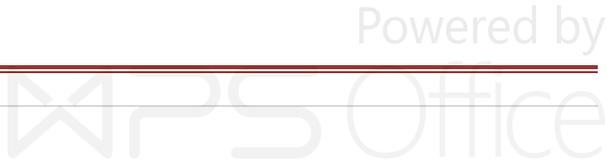
የፓፕ ቴስት ምርመራ ውጤት ምንሊሆን ይችላል? የፓፕ ቴስት ምርመራ ውጤት፣ ግልፅ አይደለም “unclear,” ወይም አብኖርማል “abnormal.” ሊል ይችላል።

ኖርማል “Normal”: ኖርማል ማለት በማህፀንዎ ጫፍ ላይ የሚታይ የካንሰር ህዋስ የለም ማለት ቢሆኑም መቼ እንደሚከሰት ስለማይታወቅ በታቀደና በሃኪም ምክር መሰረት የፓፕ ቴስት ምርመራ ማድረግ መቀጠል ይኖርበታል።

Unclear ግልፅ አይደለም: ግልፅ አይደለም ማለት በማህፀንዎ ላይ የካንሰር የሚመስል ምልክት አለና በተለያዩ ምክንያት ሊመጣም ስለሚችል በተጨማሪ የHPV ቴስት ምርመራ ያስፈልጋታል ማለት ነው።

አብኖርማል Abnormal: አብኖርማል ማለት በማህፀን ጫፍ ላይ የሴል ለውጥ ይታያል፤ ነገር ግን የማህፀን ጫፍ ካንሰር አለባቸው ማለት ግን አይደለም። ብዙውን ጊዜ ትንንሽ ለውጦች በራሳቸው ጊዜ ወደነበሩበት ሊመለሱ ስለሚችሉ ነው። ነገር ግን ከበድ ያሉ የሴል ለውጦች ካሉና በጊዜ ህክምና ካላገኙ ወደ ካንሰር ሊያድጉ ይችላሉ። በመሆኑም ጥብቅ የሆነ የህክምና ክትትል ማድረግ ያስፈልጋታል ማለት ነው።

የማህፀን ጫፍ ካንሰር ቅድመ ምርመራ የት ማግኘት ይቻላል?
በሲቭልም ሆነ በወታደራዊ ሪፈራል ሆስፒታሎች በነፃና በግል የላባለቶሪ ምርመራ ማእከላት በክፍያ የማህጸን ጫፍ ካንሰር ቅድመ ምርመራ ማግኘት ይቻላል። ለበለጠ ትምህርታዊ መረጃ ቀጣዩን የድህረ-ገፅ አድራሻ በመግባት የተለያዩ መረጃ ማግኘት ይቻላል። (www.cdc.gov/hpv/vaccine.htm)



CURRICULUM VITAE OF THE INVISTIGATOR

PERSONAL DETAILS

Name: Belachew Kahasay Berehe

Date of Birth: June 16, 1973 G.C

Place of Birth: Shire (Tigray-Ethiopia)

Gender: Male

Nationality: Ethiopian

Marital Status: Married

Address: Town: Addis Ababa-Ethiopia Sub-City: Yeka House.No: 03/02

Email:momtabi2006@yahoo.com

Telephone Number: (+2511)-924-25-50-87/946-41-09-95

Summary of Work Experience

I trained in and worked for Ethiopian Ministry of Defense for 25 years in the capacities of Batalion, Birgade, Division Health Command, triage team leader and Vice Director of Health center of Eastern Command. And I have been working in Defense College of Health Sciences from Jun 21, 2005 to date in many areas of operations; Head of the nursing demonstration facilities, technical committee in curriculum revision, central clinical skill development laboratory coordinator, Vice Dean for technical academic staff and participated in various training programs. Moreover, I own good interpersonal skills with excellent communication ability.

I. WORK EXPERIENCES

2.1 Defense College of Health Sciences(DCHS)

DCHS is one of the colleges in Ethiopian ministry of Defense that renders peace and stability of the nation through producing qualified competent health professionals who provide the health promotion, disease prevention, and treatment and rehabilitation services to the army and strengthen the readiness of the army by creating healthier army members.

A. OCTOBER, 2014 – CURRENT: DCHS ACADEMIC AND TECHNICAL STAFF

- ❖ Last year MPH student at Addis Ababa University, College of Health Sciences, School of Public Health

B. OCTOBER, 2012 – SEPT 2014: DCHS ACADEMIC AND TECHNICAL STAFF

- ❖ Leading and organizing the ICT service
- ❖ Leading and organizing the skill development laboratory
- ❖ Leading and organizing the library and resource center
- ❖ Leading and organizing the printing and audiovisual services of the college

C. OCTOBER, 2011 – CURRENT: DCHS CDC Project and Clinical Skill Development Laboratory

Responsibilities:

- ❖ DCHS CDC Project and Central Clinical Skill Development Laboratory Coordinator
- ❖ Conduct overall instructing of students
- ❖ Completes standard for skill acquisition, prepares check lists, learning guides and updates them regularly
- ❖ Curriculum designing and revision committee

Achievements: Performing all duties and responsibilities successfully as per the details in my job description.

D. Jun21, 2005 – OCTOBER, 2011: Instructor and Nursing demonstration

Responsibilities:

- ❖ Conducting overall teaching activities
- ❖ Prepares manuals standards for skill acquisition In the demonstration center
- ❖ Arrange the necessary materials and standards for students to develop their clinical skills.
- ❖ Compiles reports on status of students' competencies in the given course.

E. May, 1998-2004: Triage team leader and Division mobile hospital OPD

Responsibilities:

- ❖ Provide all life saving surgical intervention for wounded soldiers at more than 6 combat fields during the Ethio- Eretria war,
- ❖ Leading and coordinating the screening team of the hospital during the combat, and
- ❖ Coordinating the OPD and manage medical and surgical patients during relatively stable time (combat free time).

Achievements:

- ❖ Effective accomplishment of missions and for these achievements I have received awards of two consecutive ranks from SGT to Officer rank Lt.

F. AUGUST. 1992 TO May. 1998: Head of Division Health Command Vice director of the

Responsibilities:

- ❖ Coordinating and directing the Brigade health commands,
- ❖ Analyzing the overall health related activities of the army and consulting to the command,
- ❖ Monitoring and follow-up of health programs, schedules and activities, and
- ❖ Provide quality health services to the army at division Hospital.

Achievements:

- ❖ I have successfully accomplished all my responsibilities and this was approved by the army commanders at different occasions.

II. INTENTIONAL WORK EXPERIENCE

- ❖ I have participated in United Nation Mission in Liberia for 6 months in the position of Ethiopian Liaison officer for the mission

III. EDUCATIONAL BACKGROUND:

1. 20014/15-2016 Addis Ababa University , Addis Ababa-Ethiopia currently

Final year student of MPH in RH track with current progressive GPA of 3.77

2. 2007-2010 Addis Ababa University , Addis Ababa-Ethiopia

BSC Degree majoring in Nursing graduated with very great distinction (Cumulative GPA 3.96)

3. 2002-2003 Defense University College, College Of Health Sciences-Ethiopia

Diploma majoring in nursing graduated with very great distinction (Cumulative GPA 4.00)

OTHER SKILLS:

- ❖ Language skills: Fluent in spoken and written languages of Tigrigna, Amharic and English
- ❖ Computer literate and Knowledge of Computer software i.e. Ms-Word, Ms- Excel & Ms- Access
- ❖ Know how to Use Fax, Internet and printer & Good Editing skills

IV. I have participated in United Nation Mission in Liberia in the position of Ethiopian Liaison officer

V. TRAININGS RECEIVED

- ❖ April 26,2001 and July 20, 2003 on STIS syndromic case management
- ❖ Jun 12-13, 2008 on tactical combat casualty care instructor
- ❖ Feb 18-22,2008 on palliative care pilot training
- ❖ April 14-18,2008 on palliative care training of trainers
- ❖ March 22-26,2010 on Mid Level Management of EPI
- ❖ July 2010 on comprehensive ART training
- ❖ July 26-Augst 3 2010 on Effective Teaching Methodology, ENA (Essential nutritional action)
- ❖ Oct 31-Nov 4,2011 on mainstreaming of HIV/AIDS and Leadership Role
- ❖ May 2-6, 2011 Skill development center management

VI. INTERESTS

- ❖ Conducting researches, Reading and Gardening.

VII. CAREER DEVELOPMENT OBJECTIVES:

- ❖ To expose myself to more challenging duties,
- ❖ To get involved in events and decisions those require group discussion and brain storming
- ❖ To continue my education and become competent in my conventional jobs

VIII. REFERENCES

- ❖ Col, Dr. Hadgay Ayalew Commandant of defense college of health sciences +251911153538
- ❖ Ato Seyoum Kassa Dean of Defense college of health sciences +251-911652640
- ❖ Col. Hagos Kassa Defense Health Main Command Finance &Administration+251911156890

I hereby certify to the best of my knowledge this bio-data correctly describes my background, work experience and myself. _____

CURRICULUM VITAE OF THE ADVISOR

CV Wubegzier Mekonnen Ayele, SPH/AAU, Feb, 2015

WUBEGZIER MEKONNEN AYELE

School of Public Health, College of Health Sciences, Addis Ababa University

Tele: +251911668606; Box: 9086

E-mail: wubegzierm@gmail.com or wubegzier.mekonnen@aau.edu.et

Educational Background

- PhD in Public Health from Addis Ababa University (AAU), 2012; M.A.in Population Studies, University of Ghana, 1999; and B.Sc. in Statistics, AAU, 1991.

Main Short term trainings

- Longitudinal Data Analysis, Department of Psychiatry, AAU, May 1-4, 2013
- DHS Data Analysis and Presentations by ICF International, Measure DHS Project. Sheraton Hotel, Calverton, MD, USA. November 7-18, 2011 and Safari Park Hotel, Nairobi, Kenya. July 11-22, 2011.
- Longitudinal Data Analysis by INDEPTH-Network. Accra, Ghana. April 17-21 2011
- Advanced Epidemiology and Economics of Zoonoses control in developing countries, Armour Hansen Research Institute and Swiss Tropical Public Health Institute, Addis Ababa, 3 – 5 September 2010.
- Qualitative Research Methods, University of Bergen, Norway, 5-16 January 2009.
- Summer Course on Epidemiology and Field Research Methods, Department of Public Health and Clinical Medicine, Umea University, Sweden. May to June 2005.

Work Experiences

- Assistant Professor, School of Public Health, AAU. July 5, 2012 to Date
- Lecturer, School of Public Health, AAU. November 9, 2006 to June 4, 2012.
- Research Assistant, Butajira DSS, AAU. April 2003 to November 8, 2006
- HIV/AIDS data manager, WHO Ethiopia. December 13, 2000 to May 31, 2002
- Senior Researcher, Population Analysis and Studies Center (PASC), Central Statistical Agency (CSA), Ethiopia. November 1999 to December 12, 2000
- Statistician, PASC, CSA, Ethiopia. Feb 1992 to November 1999

Main Teaching and Research Activities

- Advised over 15 MPH students and co-supervising two PhD students
- Coordinate the Butajira DHSS and add-on studies and engaged in the sample Vital Registration System in four regions of Ethiopia, Ethiopia Demographic and Health Survey, 2000 and the 1994 Ethiopian Census Cartographic Map work, Population and Housing Census, agriculture sample surveys, retail and producers survey, distributive trade survey and Post Enumeration Survey, HIV sentinel surveys and others.

Publications

1. Mulatu M, Converse P, Kaba M, Haile Mariam D, Mekonnen W, Kloos H. Bibliography on HIV/AIDS in Ethiopia and Ethiopians in the Diaspora: The 2013 update. *Ethiop J Health Dev* 2014;28(1):44-72.
2. Gobena M., Negate T., Yimam B., Taisa A., Wagaw D., Birmechu F., Keba D., Ali A, Mekonnen W., Addisse A., Hagos S. Utilization of Mother to Child Transmission (PMCTC) services and factors that affect knowledge and service uptake among pregnant women attending antenatal care in East Hararge Zone Oromia regional state. *Ethiop. J. Health Dev.* 2014;28(2).
3. Meskele, M. and Mekonnen, W. Factors affecting women's intention to use long acting and permanent contraceptive methods in Wolaita Zone, Southern Ethiopia: A cross-sectional study. *BMC Women's Health* 2014, 14:109 doi:10.1186/1472-6874-14-109
4. Gizaw, M., Molla, M., Mekonnen, W. Trends and risk factors for neonatal mortality in Butajira District, South Central Ethiopia, (1987-2008): a prospective cohort study. *BMC Pregnancy and Childbirth* 2014, 14:64. doi:10.1186/1471-2393-14-64
5. Converse PJ, Haile Mariam D., Mulatu M., Mekonnen W., Kloos H. Bibliography on HIV/AIDS in Ethiopia and Ethiopians in Diaspora: The 2012 Update. *Ethiop J Health Dev.* 2013; 27(2): 156-186.
6. Tadele, H., Mekonnen, W., Tefera E. Rheumatic mitral stenosis in Children: more accelerated course in sub-Saharan Patients. *BMC Cardiovascular Disorders* 2013, 13:95 doi:10.1186/1471-2261-13-95
7. Mekonnen, W. Differentials of first pregnancy before the age of 17 years in Ethiopia in 2000 and 2005. DHS working paper series No. 90, 2013

8. Mekonnen W, Haile Mariam D, Kloos H, Converse PJ, Mulatu MS, Mitike G. Bibliography on HIV/AIDS in Ethiopia and Ethiopians in the Diaspora: The 2011 Update. *Ethiop J Health Dev.* 2012; 26(2): 119-149.
9. Mekonnen W, Worku, A. Determinants of fertility in rural Ethiopia: The case of Butajira Demographic Surveillance System (DSS). *BMC Public Health* 2011 11:782. doi:10.1186/1471-2458-11-782
10. Mekonnen, W., Worku, A. Determinants of low family planning use and high unmet need in Butajira District, South Central Ethiopia. *Reproductive Health* 2011 8:37 doi:10.1186/1742-4755-8-37
11. Mekonnen, W., Worku, A. Levels and Proximate Determinants of Fertility in Butajira District, South Central Ethiopia. *Ethiop. J Health Dev* 2011 25(3) pp.184-191
12. Berhane Y. Wall S. Fantahun M. Emmelin A. Mekonnen, W. Hogberg U. Worku A. Tesfaye F. Molla M. Deyessa N. Kumie A. Hailemariam D. Enqueselassie F. Byass P. A rural Ethiopian population undergoing epidemiological transition over a generation: Butajira from 1987 to 2004. *Scandinavian Journal of Public Health*, 2008; 36: 436 – 441.
13. Byass P, Fantahun M, Mekonnen, W. Emmelin A, Berhane Y. From birth to adulthood in rural Ethiopia: the Butajira Birth Cohort of 1987. *Paediatric and Perinatal Epidemiology* 2008. Doi:10.1111/j.1365-3016.2008.00974.x
14. Rahlenbeck S.I and Mekonnen W. Growing rejection of female genital cutting among women of reproductive age in Amhara, Ethiopia. *Culture, Health & Sexuality* 2009. DOI:10.1080/13691050802711293
15. Rahlenbeck S.I. Mekonnen W. Melkamu Y. Female genital cutting starts to decline among women in Oromia, Ethiopia. *Reproductive BioMedicine Online*. 2010. 20, 867-872.