ADDIS ABABA UNIVERSITY
COLLEGE OF HEALTH SCIENCES
SCHOOL OF NURSING AND MIDWIFERY
DEPARTMENT OF NURSING AND MIDWIFERY
POSTGRAGUATE PROGRAM

ASSESSMENT OF PREVALENCE AND ASSOCIATED FACTORS OF PRECANCEROUS CERVICAL LESION AT PUBLIC HOSPITALS, ADDIS ABABA, ETHIOPIA, 2019

INVESTIGATOR; TESFAYE TEMESGEN
MAJOR ADVISORS; ROZA TESHOME (MSC, ASSISTANT PROFESSOR)
CO ADVISOR; BALCHABRIHANU (MSC)

A RESEARCH THESIS SUBMITTED TO ADDIS ABABA UNIVERSITY COLLEGE OF HEALTH SCIENCEs, SCHOOL OF NURSING AND MIDWIFERY, DEPARTMENT OF NURSING AND MIDWIFERY IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR DEGREE OF MASTER SCIENCE IN MATERNITY AND REPRODUCTIVE HEALTH NURSING.

JUNE, 2019
ADDIS ABABA, ETHIOPIA

ADDIS ABABA UNIVERSITY

COLLEGE OF HEALTH SCIENCES

SCHOOL OF NURSING AND MIDWIFERY

DEPARTMENT OF NURSING AND MIDWIFERY

RESEARCH PROJECT SUBMISSION FORM

Name of investigator	Tesfaye Temesgen
Name of Advisor(s)	Major advisor; Roza Teshome(MSc, Assistant professor ,) Co advisor; Balcha Brihanu(MSc)
Full title of the research project	Assessment of prevalence and associated factors of precancerous cervical lesion at Addis Ababa public hospitals, Ethiopia, 2019
Duration of study	March 1,2019- May 1 2019
Study Area	Addis Ababa
Total cost of the project	27,500 birr
Address of investigator	Phone number ,0904385288 ,Email ,tesfayeteme11@gmail.com
Address of advisors	Major advisor:phone 0911028610, Email.rozateshome2007@gmail.com

APPROVAL SHEET

ADDIS ABABA UNIVERSITY

COLLEGE OF HEALTH SCIENCES

SCHOOL OF NURSING AND MIDWIFERY

DEPARTMENT OF NURSING AND MIDWIFERY

I, the undersigned MSc student, declare that I have submitted my research work on a title _ Assessment of prevalence and associated factors of precancerous cervical lesion at Addis Ababa public hospitals, Ethiopia, 2019, for the scientific, ethical and technical conduct of the research project and for provision of the progress and for guidance by my advisors

Submitted by:

TesfayeTemesgene	_____	_____
Name of student	Signature	Date

This thesis work has been submitted for examination with my approval as an advisor and now it is examined and the given comments are corrected.

Advisors:

1.	RozaTeshome (Assistant prof.)	_____	_____
	Name of Major Advisor	Signature	Date
2.	Balcha_Brihanu(MSc)_____	_____	_____
	Name of Co-Advisor	Signature	Date

APPROVAL BY THE BOARD OF EXAMINATION

This thesis by Tesfaye Temesgen is accepted in its present form by the board of examiners as satisfying thesis requirement for the degree of masters in Maternity and reproductive health nursing.

INTERNAL EXAMINER:

LEUL DERBE_(BSC,MSC,ASSISTANT PRO _____ _____ _____

NAME RANK SIGNITURE DATE

RESEARCHADVISORS:

ROZA TESHOME(BSC,MSC,ASSISTANT PRO. _____ _____

NAME SIGNITURE DATE

BALCHA_BRIHANU(MSC)_____ _____ _____

NAME OF CO-ADVISOR SIGNATURE DATE

DEPARTMENT HEAD

BRIHANU WORDOFA (BSC,MSC,ASSISTANT PRO) _____ _____ _____

NAME RANK SIGNITURE DATE

ACKNOWLEDGMENT

I would like to thank the almighty GOD for giving me the courage and the vigor in the whole process of the study and also I would like to express my deep appreciation and sincere thanks to my advisor Roza Teshome, for whom this proposal is impossible without her support, for her great role in directing me in many of my proposal work and to Addis Ababa University College of health science for its giving this chance and financial support during the research work. I would like to extend our thanks to data librarians of Addis Ababa University Tikur Anbessa campus and its administration for helping me to obtain the desired access by making the computer labs functional. Finally I would like to thank for my co advisor Ato Balcha Brihanu for his cooperative support for my thesis.

ACRONYMS

CIN	Cervical Intraepithelial Neoplasia
DNA	Deoxy Rebonculic Acid
HAART	Highly Active Anti Retroviral Therapy
HPV	Human Papilloma Virus
OCP	Oral Contraceptive Pill
SSA	Sub-Saharan Africa
STD	Sexually Transmitted Disease
STI	Sexually Transmitted Infection
VIA	Visual inspection with Acetic Acid

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

ABSTRACT

Background: Cervical cancer is pathological disease arising from the cervix, in which the cells of the cervix become abnormal and start to grow uncontrollably, forming tumor which typically no symptoms are seen early but later on become symptomatic. The problem is top prevalent and fatal in Africa especially in east Africa including Ethiopia.

Objective: To assess the prevalence and associated factors of precancerous lesion of cervix among women who screened in governmental hospitals in Addis Ababa.

Methodology: Institutional based cross-sectional study was conducted in five government hospitals of Addis Ababa. Two hundred thirty four participants were selected by systematic sampling technique. Data was collected by interview using a structured questionnaire. The data collected was entered to Epi data version 4.4.1 and analyzed by SPSS version 24. The association of the variable was done by using binary and multiple logistic regressions and 95% confidence interval was computed to determine the level of significance.

Results: The prevalence of cervical precancerous lesion was 33(14.1%). The risk of being positive for visual inspection of acetic acid result varies among age at first sexual intercourse practice such that, those who start sex before their 15 years old have 2.4 (CI 1.189-5.025) times more likely at risk. Women who had history of sexual transmitted disease are more likely at risk of having cervical precancerous lesion by 10(2.977-33.425) times than who didn't have history of sexual transmitted disease. Women who were positive in their HIV status have AOR 8.160(2.075-32.093) times more and women with above one life time sexual partners are more risk by 4.2 (CI1.301-13.363) times for cervical precancerous lesion than those who have one life time sexual partner.

Conclusion recommendation: From the 234 participants the 33(14.1%) were positive for VIA screening. The risk factors that became significant with precancerous cervical lesion are having multiple sexual partners, being HIV positive, exposure of sexual transmitted disease, having husband with history of sexual transmitted disease, early age at initiation of sexual intercourse, and being HIV positive. So to reduce the risk measures have to be taken by stake holders and responsible bodies of the city in awareness creation as bad sexual behaviors are the major risk factors for cervical cancer.

Key words: Precancerous cervical lesion; risk factors; VIA; Addis Ababa

CHAPTER ONE

1. INTRODUCTION

1.1 Background

Cervical cancer is a cancer arising from the cervix, in which the cells of the cervix become abnormal and start to grow uncontrollably, forming tumor. Approximately 90% of intraepithelial neoplasia is attributed to human papillomavirus (HPV) infection. Only certain types of HPV cause high grade intraepithelial lesions and cancer. The most common HPV are HPV-16, -18, -31, -33, -35, -39, -45, -51, -52, -56, and -58. Type 16 is the most common form of HPV found in invasive cancer and in CIN 2 and CIN 3 and HPV-18 is more specific than HPV-16 for invasive tumors- found lower (2%) in negative finding. In most women, the infection will clear in 9 to 15 months(1).

Precancerous conditions of the cervix are changes to cervical cells that make them more likely to develop into cancer. If left untreated, it may take 10 years or more for precancerous conditions of the cervix to turn into cervical cancer. Precancerous conditions of the cervix happen in an area called the transformation zone, where columnar cells (a type of glandular cell) are constantly being changed into squamous cells. The transformation of columnar cells into squamous cells is a normal process, but it makes the cells more sensitive to the effect of the human papilloma virus. About 90% of cervical cancer cases are squamous cell carcinomas, 10% are adenocarcinoma, and a small number are other types(2).

The early stages of cervical cancer may be completely free of symptoms. Vaginal bleeding, contact bleeding (one most common form being bleeding after sexual intercourse), or (rarely) a vaginal mass may indicate the presence of malignancy. Also, moderate pain during sexual intercourse and vaginal discharge are symptoms of cervical cancer in advanced disease(3).

Human papilloma virus infection (HPV) causes more than 90% of cases, most people who have had HPV infections, however, do not develop cervical cancer. Cervical cancer typically

develops from precancerous changes over 10 to 20 years. HPV vaccines protect against between two and seven high-risk strains of this family of viruses and may prevent up to 90% of cervical Cancer. Cervical cancer screening using the Pap test or acetic acid can identify precancerous changes which when treated can prevent the development to cancer(4)

The treatment of cervical cancer varies worldwide, largely due to access to surgeons skilled in radical pelvic surgery, and the emergence of fertility-sparing therapy in developed nations. Because cervical cancers are radiosensitive, radiation may be used in all stages where surgical options do not exist. Surgical intervention may have better outcomes than radiological approaches(5).

Checking the cervix by the Papanicolaous(Pap test), for cervical cancer has dramatically reduced the number of cases of and mortality from cervical cancer in developed countries. Pap test screening every three to five years with appropriate follow-up can reduce cervical cancer incidence up to 80%(6).

1.2. Statement of problem

Cervical cancer is the fourth frequent cancer in women with an estimated 570,000 new cases in 2018 representing 6.6% of all female cancers. Approximately 90% of deaths from cervical cancer occurred in low- and middle-income countries(7). About 70% of cervical cancers occur in developing countries and in low-income countries, and it is one of the most common causes of cancer deaths(8).

In sub Saharan countries HPV-associated diseases, particularly cervical cancer, are major causes of morbidity and mortality in sub Saharan Africa. Cervical cancer incidence rates in SSA are the highest in the world and the disease is the most common cause of cancer death among women in the region. It is expected that due to lack of access to appropriate prevention services and the concomitant HIV/AIDS epidemic, cervical cancer incidence and mortality rates in sub-Saharan Africa will rise over the next 20 years(9).

In sub-Saharan Africa cervical cancer accounts for 22.2% of all cancers in women and it is also the most common cause of cancer death among women(10). About 60–75% of women in sub-Saharan Africa who develop cervical cancer live in rural areas. Many of these women go untreated, mostly due to lack of access (financial and geographical) to health care. Women in

sub-Saharan Africa lose more years to cervical cancer than to any other type of cancer. Unfortunately, it affects them at a time of life when they are critical to the social and economic stability of their families. The true incidence and prevalence of cervical cancer in many African countries is unknown as there is gross under-reporting. Only very few countries have functional registries and record keeping is minimal or non-existent in many countries even the figures quoted in the literature are mostly hospital-based, which represents a small fraction of women dying from cervical cancer, as most women cannot access hospital care and die at home. A mortality rate of 35 per 100,000 is reported in Eastern Africa (11).

The reported mortality rates in developed countries with successful screening programs seldom exceed 5 per 100,000 women(12). The incidence and mortality rate of the disease in east Africa 34.5%and 25.3%,Western Africa 33.7%and 24.0%, Southern Africa 26.8%and14.8%, South – Central Asia 24.6%and 14.1%, South America 24.1%and 10.8%,Melanesia 23.7% and 16.6% ,Middle Africa 23.0% and17.0%,Central America 22.2% and 11.1%,Southern Europe 8.0% and 2.6% ,Western Europe 6.9% and 2.0% ,Northern Africa 6.6%and 4.0%,Northern America 5.7%and 1.7%,Australia/ New Zealand 5.0 %and 1.0%,Western Asia 4.5% and 2.1% respectively(13).

The problem is top prevalent and fatal in Africa especially in east Africa including Ethiopia. For example in a similar study with this title conducted in Jimma 12.9 %(14)and in Yirigalem 16.5% of screened clients had VIA positive (15). The study is needed to assess the prevalence and associated factors of the precancerous lesion of cervix in public hospitals of Addis Ababa because it is not studied recently.

1.3 Significance of the Study

The study is useful in adding the wealth of information regarding the prevalence of VIA positive result in the screening areas and the information may be helpful in designing programs for this portion of the community which should be based on the necessary information about precancerous cervical lesion and its risk factors for women in the study area. It also benefits for the regional and zonal health administration as a source of information for their action to intervene on the problem.

The main importance of the study is to improve the health of the community by identifying the risk factors for cervical cancer and disseminating the result to Addis Ababa health bereu with recommendation of giving health education to the community at health facilities or by mass media.

The study may strengthen both cancer prevention control programs and implementation strategies by addressing socio-demographic, behavioral and reproductive factors of the study become very crucial risk factor for cervical cancer. It may also address sexuality education depending to age and culture, early screening and treatment for cervical cancer and provision of condoms for those who have practice of having multiple sexual partners, STI including HIV. The study may also help for other researchers to deal on more about the issue in the study area in more detailed by filling the limitation or by using other study design at community level.

CHEPTER TWO

2. LITERATURE REVIEW

2.1 Prevalence

Cervical intraepithelial neoplasia (CIN) is a premalignant lesion that may exist at any one of three stages: CIN1, CIN2, or CIN3. If left untreated, CIN2 or CIN3 (collectively referred to as CIN2+) can progress to cervical cancer. Instead of screening and diagnosis by the standard sequence of cytology, colposcopy, biopsy, and histological confirmation of CIN, an alternative method is to use a 'screen-and-treat' approach in which the treatment decision is based on a screening test and treatment is provided soon or, ideally, immediately after a positive screening test. Available screening tests include a human papillomavirus (HPV) test, visual inspection with acetic acid (VIA), and cytology Pap test(16).

A case control study done among HIV positive and negative women in Swaziland the prevalence of VIA positive for both cases and controls was 12.9% but it is four times as many as in HIV positive women (22.9%) compared with HIV negative women (5.7%) had cervical lesions based on VIA results(17).

A study conducted in china, 2309 invasive cervical cancer patients was analyzed. The patients' ages ranged from 21 to 81 years old, with an average of 45.36 years. Of the 2309 cases, 2106 (91.21%) were squamous cell carcinomas, 86 (3.72%) were adenocarcinomas, and 68 (2.94%) were adeno squamous carcinomas. All of the cases were divided into the following five age groups: under 30 (93 cases;4.03%); 30 to 40 (598 cases;25.90%); 40 to 50 (1059 cases;45.90%); 50 to 65 (494 cases;21.40%); and over 65 (65 cases;2.82%)(18).

In another study conducted in Beijing of these participants, 366 women (50.2 per 100,000) were diagnosed as CIN I, 248 (34.0 per 100,000) as CIN II, 265 (36.4 per 100,000) as CIN III and 89 (12.2 per 100,000) as having cervical cancer. Prevalence of HSIL (CIN grades II and III) was 70.40 per 100,000 women(19).

A study conducted in Rwanda states a prevalence of pre-cancer (VIA positive) and cancer lesions by risk factor. The overall prevalence of cervical precancerous lesions was 5.9%, while the overall prevalence of cervical cancer was 1.7% (17 cases out of 1002 women screened)(20).

Similarly a study conducted in Ethiopia, Jimma, of 334 screened clients, 43 (12.9 %) were found to have VIA positive result and four (1.2 %) were found to have lesions suspicious for cancer(14).

In a hospital based cross sectional study conducted among HIV positive women in southern Ethiopia in 448 women, three hundred forty five (77%) of them were negative for precancerous cervical cancer and four (0.9%) of them were suspicious for invasive cervical cancer and sent to gynecologic clinic for appropriate biopsy for confirmation of invasive cervical cancer (21).

In a study conducted in Yrigalem hospital shows out of the total clients, 321 (16.5%) were acetowhite lesion positive and the remaining 1624 (83.5%) were negative for acetowhite lesion(15).

2.2 Associated factors

2.2.1 Socio demographic factors

Precancerous lesions (VIA positive) were most prevalent in the 30-35 year old group, in those who were married, in the group with no education, in those with low level socio-economic status, in participants with one pregnancy, in participants with one child born, in participants who had the first pregnancy before 20 years old, in participants who had first sexual intercourse before age 20, in those who self-reported HIV positivity, in participants who had had more than 5 sexual partners, and in participants who smoked(20).

In a study conducted in Beijing the risk factors that were found significant with cervical neoplasia were being in the age band of 46–55 years with adjusted odds ratio of 1.15 compared with the age band of 25–35 years(19). In a study done in Jimma specialized hospital older women aged (40-59 years) were four times more likely to develop cervical cancer than those less than 40 years.(22). And in Addis Ababa women in the age group of

40±49 years were two times more likely to have cervical precancerous lesion than those who were 30±39 years(23).

In Beijing Higher education level was found to be protective against HSIL with odds ratio of 0.79 for college and above compared with junior middle school or lower education level(19) In Yrigalem the likelihood of cervical cancer among literate women was 6.1 times higher as compared to with those illiterate women. (15).

In a study from Yirgalem hospital shows the likelihood of having cervical cancer among urban residents was 2.8 times higher as compared to those living in rural, but in jimma Forty-five (75.0%) cases and 67(67.3%) controls were rural residents, and area of residence had no association with cervical cancer(22).

A research done in Rwanda shows the characteristics that were risk factors for invasive cervical cancer, unmarried was a three times more risk factor associated with cervical cancer but the risk of developing any cervical cancerous lesion decreased with increasing parity(20). the likelihood of getting cervical cancer among women who reported as marital status single was five times higher risk than married In yrgalem and Most cases 52(86.7%) and controls 114(95.0%) were married in jimma (22).

In yrgalem employed women were 3.586 times more likely to have cervical cancer as compared to unemployed women(15).

2.2.2 Reproductive health related factors

In a case control study in developing countries early age at first sexual intercourse and early pregnancy are risk factors for cervical cancer. In developing countries women with age of first sexual intercourse less than 16 years old had 2.3-2.5 fold risk of invasive cervical cancer and 1.8-2.0 for age groups of 17-20 years old(24).

In Swaziland substantial portion of the women (40.6%) had their first sexual intercourse at or below age 17 years (48.6% of women with cervical lesions and 39.4% of women without) (17). in Morocco age at first sexual intercourse <18 years exposes the chance of having VIA positive result by 2.4 times(25). In Rwanda The risk increased by two times if age of the first sexual intercourse was less than 20 years old (20). In a study conducted in Jimma clients who

started intercourse at less than 16 years were 2.2 times more likely to have VIA positive as compared to those who started intercourse at the age of 16 or more years(14). In Yirgalem age at first sexual intercourse women's age less than 18 was 3.756 times risk than those age > 18 years old(15) and in Adama it was found that initiation of sexual intercourse before the age of 15 years has 5.6 risks to develop precancerous cervical lesion(26).

In Swaziland the age at first child was at or below 17 years for 35.8% of the women(17).. in morocco Age at first pregnancy between 19 and 22 years (vs. ≤18 years) increased the risk of cervical cancer(25). In Rwanda The risk was increased two times with age of the first pregnancy less than 20 years old.(20).

A multicentre case-control study done in Morocco shows that women menarche between 13 and 14 years are 3.6 times at higher risk and greater than 15 years at menarche had 2.4 times higher risk than those who had an age at menarche(25).

In Morocco Women with 4 and more pregnancies had 1.5 times higher risk than those who had ≤3 pregnancies(25). In Rwanda the total number of pregnancies was not associated with cervical cancer(20). In Adama It was found that there was no significant association between increasing number of children and developing precancerous cervical lesion after even adjusting other confounding factors(26).

In Morocco Women reaching menopause at <45 years and between 45 and 49 years, compared to ≥50 years, was associated with an OR of 3.3 and 3.2 respectively(25).

Use of oral contraceptives ≥6 years was associated with increase cervical cancer risk by 1.8 times increased chance in Morocco(25) two times more in Yirgalem(15) and Adama(26) for developing of precancerous cervical lesion than who were not OCP users as compared to never users of oral contraceptives.

2.2.3 Sexual behavior and life style factors

In a case control study done among HIV positive and negative women in Swaziland the risk of cervical lesions among HIV positive women was 5 times greater in the age-adjusted model and 4 times greater in the full model than among HIV negative women(17). A hospital based study done among HIV positive women of southern Ethiopia, found that participants who

were currently on HAART were 48% less likely to have precancerous cervical cancer lesion than those who were not on HAART(21). In Yirgalem being positive with HIV were 8.5 times increased risk of developing cervical cancer than those women who have no HIV positive(15). but in Jimma HIV-status and HAART status were not found to be predictive of VIA positive in this study(14)

In Swaziland Women who had two or more lifetime sexual partners were 3 times more likely to have cervical lesions compared to women with one lifetime partner(17). In Morocco having had ≥2 lifetime sexual partners by 2.1 times risk factors for cervical cancer(25). in southern Ethiopia HIV infected women who had one lifetime sexual partner were 67% less likely to develop precancerous cervical cancer lesion than those having more than one life time sexual partners(21). In Yirgalem Women those who reported to have more than one sexual partner in the past had 33 times increased odds of having cervical cancer as compared to women those who had a single casual partner(15). In Addis Ababa women who had two or more lifetime sexual partners were significantly associated with cervical precancerous lesions two times more(23).

Women who had been diagnosed with STI were 2 times more likely in Swaziland (17), four times increase risk In Morocco (25) , about 2.3 times more likely in Jimma (21). 10.588 times more likely In Yirgalem (15), two times at risk In Adama (26)and three times more likely in Addis Ababa to have cervical precancerous lesion than those who hadn't history of STD(23).

Having a husband with two or more other lifetime sexual partners was also significantly associated with cervical precancerous lesions women whose husbands had two sexual partners and more had three times an increased risk for cervical cancer in Morocco(25) and Addis Ababa (23) than having husband who had less than two sexual partner.

In morocco Women who had sexual intercourse during menstruation had a four times increased risk for cervical cancer and women who washed their genital area always after sexual intercourse, had a seventeen times increased risk for cervical cancer women who never or sometimes washed the genital area after intercourse. Women who had never used a condom had three times increased risk for cervical cancer (25).

If a woman had cervical cancer, the chance of developing the disease is higher for her daughter than if no one in the family had it. This familial tendency are caused by an inherited condition that makes some women less able to fight off HPV infection than others (12).In a research conducted in Yirgalem smokers were 2.473 times having risk for developing cervical cancer than those who have no cigarette smoking exposure (15).

Alcoholics are also at two times more risk for developing cervical cancer than those who are non-alcoholics (17). Alcohol drinkers had an increased risk of CIN1 (OR=2.18, 95% CI 1.22–3.89) compared with non-drinkers after adjusting for potential confounders. Subjects with more frequent alcohol consumption had a higher risk of CIN1. Higher ethanol consumption was associated with an increased risk of CIN1, but there were no associations between alcohol drinking and CIN2/3 or cervical cancer (27).

Conceptual frame work: This is a conceptual frame work developed from different literatures after reviewing them in detail (15, 23, 26).The occurrence of precancerous cervical lesion is affected by the socio demographic, reproductive, sexual behavior, genetic factors and life style of the women and the below diagram shows how each variable affects the development of the lesion.

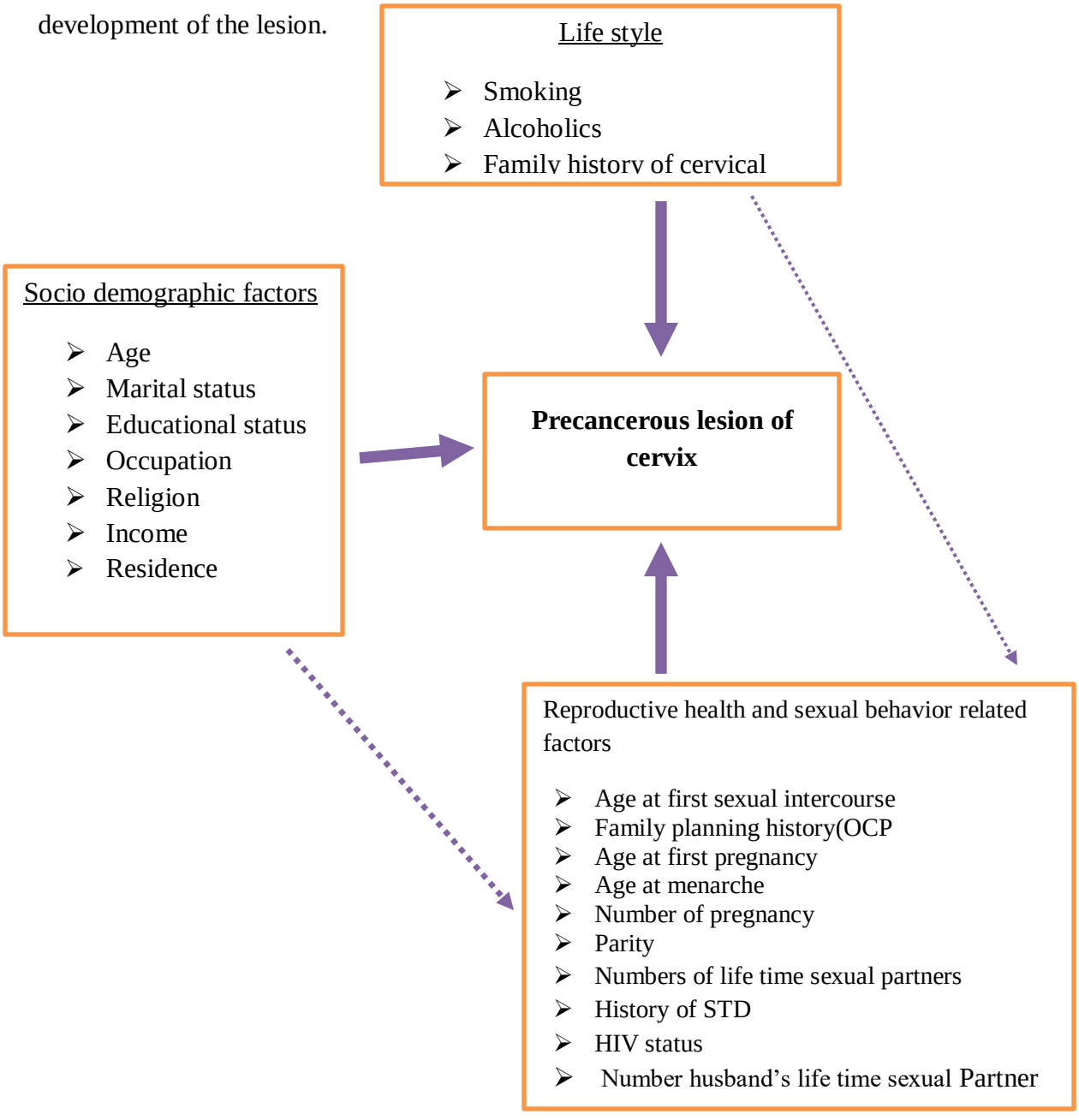

Figure 1.Conceptual frame work for precancerous lesion of the cervix and its associated factors Addis Ababa, Ethiopia, 2019

CHAPTER THREE

3. OBJECTIVE OF THE STUDY

3.1. General Objective

- Assessment of prevalence and associated factors of precancerous cervical lesion among women who screened in public hospitals in Addis Ababa during the study period.

3.2. Specific Objective

- To assess prevalence of precancerous cervical lesion among women who screened in public hospitals.
- To assess factors associated with precancerous cervical lesion among women who screened in public hospitals.

CHAPTER FOUR

4. METHOD

4.1. Study Area

Addis Ababa is the capital city of Ethiopia. It is also the largest city in the country by population, with a total population of 3,384,569 according to the 2007 census. The city has through recent years seen a strong annual growth rate, and population counts as of 2017 are growing closer to 4 million. This capital city holds 527 square kilometers of area in Ethiopia. The population density is estimated to be near 5,165 individuals per square kilometer available. Per the population recorded at the last census, the city of Addis Ababa has a higher population of female residents than male residents. Adult literacy in the capital city is the highest among all of the country's cities, at over 93% for males and almost 80% for females. There are six public hospitals in Addis Ababa city which give precancerous cervical lesion screening service and all the five hospitals are taken as study sites except St. Paul Specialized Referral Hospital,. These are Zewditu Memorial Hospital, St. Peter Tb Specialized Hospital,Tirunesh Beijing Hospital, yekatit 12 hospitals and Gandi hospital.

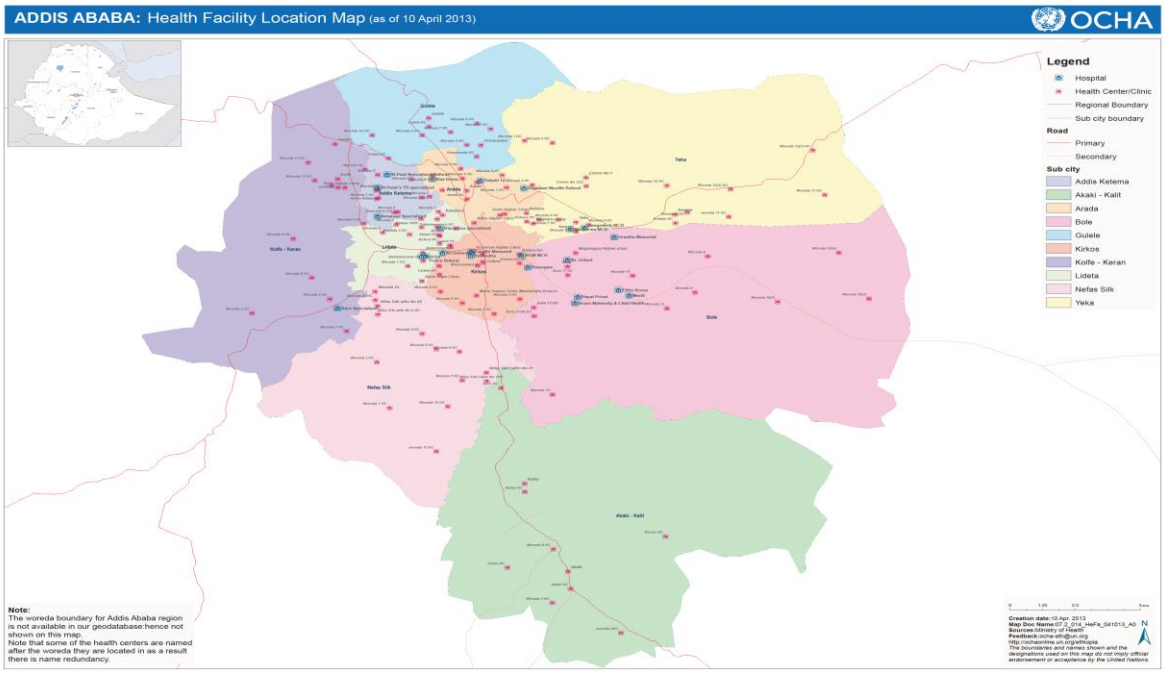

Figure 2: Map of Addis Ababa, Addis Ababa, Ethiopia, May, 2019

4.2 Study Period

The study was conducted from March 1, 2019 to May 01, 2019.

4.3. Study Design

Institutional based cross-sectional study was conducted in Addis Ababa public hospitals.

4.4. Source population

All women of Addis Ababa city who visited hospitals for cervical cancer screening service

4.5. Study population

All selected women who came for screening to the public hospitals of Addis Ababa during the study period.

4.6. Eligibility Criteria

4.6.1 Inclusion criteria

- All women who come to the screening centers of public hospitals of Addis Ababa during the study period will be included in the study

4.6.2 Exclusion criteria

- Women who are not willing to participate

4.7. Research Variable

4.7.1. Dependent Variables

- Precancerous lesion of the cervix

4.7.2. Independent Variable

- Socio demographic factors (Age ,Residency ,Level of education ,Employment, marital status, income and parity)
- Number of sexual partner
- History of family planning use(OCP)
- HIV status
- Parity
- Age at first sexual intercourse
- History of sexual transmitted diseases
- Number of husband's life time sexual partner

- Age at first pregnancy
- Number of pregnancy
- Age at first marriage
- Age at menarche
- Inter pregnancy interval
- History of husbands' STD

4.8. Sample size determination

The sample size was determined by using single proportion for finite population with 95% confidence interval, marginal error (d) of 5% and the prevalence of precancerous cervical lesion in yrigalem hospital (p) 16.5% (15).The sample size n required to estimate a population proportion with a given level of precision d becomes as below:

$$\mathbf{n} = \frac{\mathbf{Z\alpha/2}\ \boldsymbol{P}(\mathbf{1}-\boldsymbol{P})}{\boldsymbol{d}\mathbf{2}}$$

- Z=1.96 reflects the confidence level
- N=total population size
- P = prevalence of cervical precancerous lesion in yrigalem hospital (16.5%)
- d = degree of accuracy expressed as proportion (0.05)

By using the above formula the sample size became 212 but by adding the non response rate of 10% the final sample size becomes 234(two hundred thirty four) women.

4.9. Sampling procedure

All the 5 governmental hospitals found in Addis Ababa with cervical cancer screening centers was taken as study sites and they are listed on the table below. The participants were selected by systematic random sampling technique from each hospital. The K value was calculated by dividing the total population (women screened before the data collection period in two month) for the sample size (498/234 =2.12) and is approximately equal to 2(two). The first study unit for each site was selected by lottery method then every other participant was taken.

Table 1 Number of participants for each hospital and their percentage Addis Ababa, 2019

Hospital	Women participated in the stud in the five governmental hospitals in the data collection period based on the proportional allocation	Percent
St. Peter hospital	54	23
Gandi hospital	28	12
Zewditu memorial hospital	82	35
Yekatit 12 hospital	26	11
Tirunesh Beijing hospital	44	19
Total	234	100

4.10. Data Collection Instruments and procedure

The questionnaire was adopted(23) and modified by principal investigator after in depth review of different literatures. The questionnaire has three sections. The first section of the questionnaire has questions of socio-demographic information of the respondents; the second section of the questionnaire contains questions on reproductive health related items and the third life style and sexual behavior related issues. Data was collected by interview directly from the women using a questionnaire. The five data collectors took training on how to collect the data.

4.11. Data quality control

In order to maintain quality of the data, data collectors were trained in data collection procedures. The questionnaire was designed carefully and prepared in English language first and then was translated in to Amharic by language experts and again the Amharic version was translated back to English by other persons to make it consistent. Finally, Amharic version was used to collect data. The questionnaire (tool) was pretested before actual data collection time in 10% of the sample size in St Paul specialized hospital. The data was cleaned daily and supervised by the three supervisors and principal investigator.

4.12. Data Analysis

The data collected through the questionnaires was entered to Epi data 4.4.2.1 and analyzed using the SPSS version 24.The data was cleaned then frequencies and percentages was calculated to all variables which are related to the objectives of the study. The association of

the independent variable and the dependent variable was done by using binary and multiple logistic regressions to calculate the Odds ratio with 95% confidence interval was computed. Variables which have p- value of below 0.25 on binary regression were transferred to multiple logistic regressions. Finally the variables with p- value <0.05 in multivariate analysis were taken as a significantly associated variables.

4.13. Operational Definition

- Multiple sexual partners: is when the woman has two and above life time sexual partner.
- Early sexual intercourse: is practicing of sexual intercourse before 18 years old.
- Multipara: Women who had two and above deliveries are considered as multipara mother.
- Grand multi para: A woman is considered as grand multipara if the woman had five and above deliveries.
- A precancerous cervical lesion: This is also called intraepithelial lesion, is an abnormal in the cells of a cervix which can grow to cancer. After the application of acetic acid to the cervical os by trained professionals white lesions become visible.
- Cervical cancer: if the abnormal cells spread deeper in to the cervix and other organs and the disease then becomes invasive and metastatic cancer.
- Early marriage: in Ethiopia the definition of early marriage is a marriage before 18 years old legally.
- Visual inspection of acetic acid: is a visual examination of the uterine cervix by applying 3-5% of acetic acid.

4.14 .Ethical consideration

An official letter on ethical clearance for the proposed research was obtained from nursing department research board of Addis Ababa University. The participant of the study was informed the purpose of the study that it contributes necessary information for the researcher and other concerned bodies to look after the health needs of women in the study area . The participants were also informed that all information obtained to be kept confidential and it mean only for the purpose of the study. The participants' personal information was not known and exposed to any one and to prevent this coding will be used. After the participant becomes

willing to participate on the study, they put their signature on the provided place on the cover page of the questionnaire.

4.15. Dissemination plan

After the research is done the result will be presented to Addis Ababa University School of nursing and midwifery and later on it will be disseminated to all organizations that can be beneficial from the result like to Addis Ababa health Office, federal minster of health and for the public hospitals. It will be also disseminated to Addis Ababa University, college of health science and school of nursing.

CHAPTER FIVE

5. RESULTS

5.1 Socio demographic characteristics of participants

The total number of participants was 234 women with non-response rate of zero percent. The age of participants was classified in to four categories and the 88 (37%) were in the age group of 30-35 years old. Most of the participants were orthodox in religion and government employed in their occupation status. The educational background of participants was 102(43.6%) educated up to higher education and 63(26.9%) were educated up to secondary school. From the residency urban residents were majority of the participants. The mean and standard deviation for the age was 37.80 and 5.514 respectively.

Table 2: Socio demographic characteristics of the participants, Addis Ababa, 2019

Variable	Frequency	Percent
Age of participants		
30-35	88	37
36-40	71	30
41-45	47	20
46-50	30	13
Marital status		
Single	2	.9
Married	189	80.8
Widowed	24	10.3
Divorced	19	8.1
Religion		
Orthodox	152	65.0
Muslim	43	18.4
Protestant	34	14.5
Catholic	5	2.1
Educational status of the woman		
unable to read and write	22	9.4
able to read and write	23	9.8
primary school	24	10.3
secondary school	63	26.9
higher education	102	43.6
Occupation of the woman		
house wife	44	18.8
Marchant	32	13.7
daily labouror	4	1.7
govt..employed	125	53.4
NGO	29	12.4
Monthly income		
less than 1650	11	4.7
1651-3200	23	9.8
3201-5250	45	19.2
5251-7800	39	16.7
7801-10900	52	22.2
above 10900	64	27.4
Residency		
Rural	6	2.6
Urban	228	97.4

5.2 Reproductive health and sexual behavior related variables

Out of the total 234 women who screened on the five public hospitals of Addis Ababa the 33(14.1%) with the 95% CI of (9.4-18.8) were positive for VIA test. Of the total screened women 122(52.1%) were family planning users from which most of them used the implant (21.4%), injectable 23(9.8%), Orall pill 8(3.4%) and IUCD 41(17%). The age of menarche between 13-14years old was about 47% and the 49 % was 15 years old and above. The 166(70.9%) women were multipara and the remaining 29.1% were nullipara. About 198(84.8%) women have given birth at their age of 18 and above and the rest 36 women have given birth before their 18 years old. Only 12(5.1%) women have family history of cervical cancer. About 47(20.1%) women had experience abortion at least once in their life time. From the total participants, 23(9.8%) women were screened by VIA before this test. 23 (9.8%) women were married for the first time at age below 18 years old.

Table 3: Reproductive health and life style items Addis Ababa, Ethiopia, 2019

Variables	Frequency	Percent
Which contraceptive method did she use?		
oral pill	8	3.4
Injectable	23	9.8
Implant	50	21.4
IUCD	41	17.5
Age at menarche		
less than 12	9	3.8
13-14	110	47.0
15 and above	115	49.1
Age at first birth		
below 18	10	4.3
18 and above	198	84.6
Family history of cx cancer		
Yes	12	5.1
No	222	94.9
Age at first sexual intercourse		
Below 18 years old	73	30.8
18 and above years old	161	69.2
Age at the first marriage		
Below 18 years old	23	9.8
18 and above years old	219	89.7
Condom use		
Always	3	1.3
Sometimes	36	15.4
Never	195	83.3
History of sexual transmitted disease		
YES	61	26.1
NO	173	73.9
Husband sexual transmitted disease		
Yes	45	19.2
No	189	80.8
HIV status		
Positive	28	12
Negative	206	88
Life time sexual partner		
only one	89	38
Two and above	145	62
Other husband's life time sexual Partner		
No	140	59.8
only one	48	20.5
2 and above	46	19.7

5.3 Factors associated with precancerous cervical lesion

On binary logistic regression age, age at first sexual intercourse, age at first marriage, HIV status, history of STD, husbands' history of STD, life time sexual partner and husbands' other life time sexual partner were significantly associated factors. The risk of being positive for VIA result varies among age at first sexual intercourse practice. Those who start sex before their 15 years old have 2.4 times risk of having VIA positive result (AOR 2.4 (CI 1.189-5.025) .Women who practice sex for the first time in their age of 16 and 17 years have 0.56 more chance susceptibility for precancerous lesion than those who start sexual intercourse 18 years and above old. The precancerous lesion also varies among women who have history of STD or not. Women who had history of STD are more likely at risk for having cervical precancerous lesion by 10 times more than who didn't have history of STI (AOR 10 (CI 2.977-33.425).

Women who have husbands with history of STD also have AOR 4.071(1.351-12.268) times more risk of having the lesion than those who have husband with no history of STD. Women who are positive in their HIV status have AOR 8.160(2.075-32.093) times more chance of having the precancerous lesion than those who are negative HIV status. Women with above one life time sexual partners are 4 times more risk for cervical precancerous lesion than those who have one life time sexual partner (AOR 4.170(CI 1.301-13.363).

Table 4 Factors associated with precancerous cervical lesion Addis Ababa, 2019

Variables	VIA +ve	VIA -ve	COR (95% C.I)	AOR (95 CI)
Age of the participants				
30-35yrs old	5	81	1	1
36-40yrs old	6	65	.669(.195-2.290)	.667(.377-1.181)*
41-45yrs old	10	37	.228(.073-.715)	.221(0.121-1.02)*
46-50yrs old	12	18	.093(.029-.296)	0.087(0.023-1.04)*
Age at first sexual intercourse				
Below 18 years old	17	56	2.75(1.3-5.8)	2.34(1.13-5.7)**
18 or above years old	16	145	1	1
Age at first marriage				
Below 18	10	13	6.28(2.47-15.95)	2.092(.377-11.60)*
18 and above	23	188	1	1
History of Sexual transmitted Disease				
Yes	24	37	11.82(5.07-27.51)	9.97(2.977-33.42)**
No	9	164	1	1
History of Husband STD				
Yes	21	24	12.9(5.64-29.52)	4.07(1.35-12.27)**
No	12	177	1	1
HIV status				
Positive	15	13	12(4.834-29.468)	8.16(2.075-32.09)**
Negative	18	188	1	1
Life time sexual partner				
Only one	20	69	1	1
Two or above	13	132	2.94(1.340-6.017)	4.17(1.30-13.36)**
Other Husband's life time sexual partner				
No	9	131	1	1
Only one	8	40	.344(.124-.949)	.553(.271-1.132)*
Two and above	16	30	.129(.052-.319)	0.11(0.61-1.01)*

*=p value <0.05, **=p value >0.05

CHAPTER SIX

6. DISCUSSION

This study reports prevalence of precancerous lesion as 14.1% (CI 9.4, 18.8) which is almost similar with the study done in Yirgalem hospital 16.5 % (15). This similarity could be to the geographical, sexual behavior and life style similarities of the two areas. Age at first sexual intercourse, number of life time sexual partner, HIV status, history of STD and husband's history of STD have significant association by bivariate and multivariate logistic regression.

In this study age at first sexual intercourse has association with cervical precancerous lesion by an AOR of 2.4 times more risk in which, this is almost similar with a study conducted in Morocco Age at first sexual intercourse <18 years exposes by 2.4 times (25). In Rwanda the risk increased by two times if age of the first sexual intercourse was less than 20 years old (20). In a study conducted in Jimma clients who started intercourse at less than 16 years were 2.2 times more likely to have VIA positive as compared to those who started intercourse at the age of 16 or more years (14) which is almost similar with this study. In Yirgalem Age at first sexual intercourse women's age less than 18 was 3.756 times risk than those age > 18 years old (15) and in Adama it was found that initiation of sexual intercourse before the age of 15 years has 5.6 risks to develop precancerous cervical lesion (26).This association may due to the fact that at early age the reproductive organs including cervix are not well mature, so become more susceptible for the causative agent HPV (16). Starting sex at early age also increases the likely hood of life time sexual partners and sexual activity which create chance of being exposed for more number of causative agents.

History of sexually transmitted diseases was found to have significant association by 10 times more with the lesion as it goes consistent with researches done in Yirgalem 10.588 times more likely at risk (15). But it was 2 times more likely in Beijing (17), four times increase risk In Morocco (25), about 2.3 times more likely in Jimma (21), two times at risk In Adama (26) and three times more likely in Addis Ababa to have cervical precancerous lesion than those who hadn't history of STD (23). This association of STD and precancerous cervical lesion could be due to their common cause HPV (20).

Having a husband with history of STI was also found significantly associated with cervical precancerous lesions. Women whose husbands had history of STI were at increased risk by 4 times than those who reported their husband had no history of STI. This may be due to direct transmission of the causative agent (HPV) and other STI causing agents that aggravate chance of having precancerous cervical lesion from the husband to the woman. There is no any article which justifies the relationship of husband STI and precancerous cervical lesion.

In this finding the association also varies among HIV positive and negative women by AOR of 8 times which is much higher than in Swaziland 4 times greater than HIV negative women (17).This variation may be due to the higher prevalence of HIV and low awareness and adherence to ART in sub Saharan country including Ethiopia. In Yirgalem being positive with HIV were 8.5 times increased risk of developing cervical cancer than those women who have no HIV positive (15) and this is almost similar finding with this study but in Jimma HIV-status was not found to be predictive of VIA positive (14). This could be because of the pathological effect of HIV AIDS on immune suppression which aggravates the chance of acquiring and transmission of HPV and other STIs.

Women who had two or more lifetime sexual partners were found to have 4 times more likely to have cervical lesions compared to women with one lifetime sexual partner in this study which is similar with Beijing 3 times (17), In Morocco 2.1 times risk (25), In Addis Ababa two times more (23) risk of having cervical cancer as compared to women those who had a single casual partner. This similarity may be due to increment of the contact with the different causative agent subtypes and increased sexual activity. But this finding became highly different with a study done in Yirgalem in which it was associated by an OR of 33 times increased risk than those who had one life time sexual partner (15) which could be because methodological differences.

Limitation of the study

- The participants forgot some long life time questions which led to recall bias and this was affect the result of the thesis
- Some reproductive and sexual questions were detail private which may lead to being ashamed of to respond correctly, this could bring social desirability bias.

CHAPTER SEVEN

7. CONCLUSION AND RECOMMENDATION

The prevalence of cervical precancerous lesion was 14.1%. The risk factors that became significant with precancerous cervical lesions are having multiple sexual partners, being HIV positive, history of STI, having husband with history of STI, early age at initiation of sexual intercourse, and being HIV positive.

RECOMMENDATIONS:

For government:

- Giving sexuality education tailored to age and culture, early screening for those who have practice of having multiple sexual partners, STI and HIV.
- Responsibility should be taken by government, nongovernmental organizations, and other collaborative stakeholders to prevent the predictors of the disease; these are having multiple sexual partners, being HIV positive, exposure of STI and early age at initiation of sexual intercourse.

For community:

- Advocate delaying of age at initiation of sexual intercourse too early to mitigate the preventive and controllable cause of cervical cancer.

For mass media:

- Prepare consistent mass campaign for cervical cancer screening and diagnosis as it is vital to track the cases early.

For researchers:

- Comprehensive and qualitative study became recommended as this study was limited to assess the prevalence and associated risk factors of precancerous lesion in Addis Ababa government hospitals only.

CHAPTER EIGHT

8. REFERENCES

1. Milner DA. Diagnostic Pathology: Infectious Diseases. Elsevier Health Sciences. 2015(ISBN 9780323400374): p. 40.
2. Korde N KS, Landgren O . . Monoclonal gammopathy of undetermined significance (MGUS) and smoldering multiple myeloma (SMM): novel biological insights and development of early treatment strategies". Blood. doi:101182/blood-2011-01-270140 PMC 3316455 PMID 21441462. May 2011;117 (21):5573-81.
3. Kumar V AA, Fausto N, Mitchell RN. Robbins Basic Pathology (8th ed.). Saunders Elsevier. pp. 2007.
4. https://www.emedicinehealth.com/cervical_cancer/article_em.htm. Cervical Cancer Symptoms, Signs, Causes & Survival Rates. 2018.
5. Baalbergen AV, Yerney; Stalpers, Lukas; Baalbergen, Astrid. "Primary surgery versus primary radiotherapy with or without chemotherapy for early adenocarcinoma of the uterine cervix". Reviews 2013.
6. Arbyn M AA, Jordan J, Ronco G, Schenck U, Segnan N, Wiener H, Herbert A, von Karsa L . "European Guidelines for Quality Assurance in Cervical Cancer Screening. Second Edition—Summary Document". Annals of Oncology. 2010.
7. WHO. WHO|Cervical cancer. 2018.
8. Organization WH. "Fact sheet No. 297: Cancer". Archived from the original on 2014-02-13. February 2014.
9. De Vuyst H, Alemany L, Lacey C, Chibwesha CJ, Sahasrabuddhe V, Banura C, et al. The burden of human papillomavirus infections and related diseases in sub-saharan Africa. Vaccine. 2013;31 Suppl 5(0 5):F32-F46.
10. . CIaMW. IARC Cancer Base GLOBOCAN. http://globocaniarcfr. 2012;1.0.(Available online:).
11. Jemal A BF, Forman D, O'Brien M, Ferlay J, Center M, Parkin DM. . Cancer burden in Africa and opportunities for prevention. Cancer. PubMed. 2012;118(18):4372-84.
12. La Vecchia C, Boccia S. Oral contraceptives, human papillomavirus and cervical cancer. Eur J Cancer Prev. 2014;23.

13. Ntekim A. Cervical Cancer in Sub Sahara Africa. 2012.
14. Deksissa ZM, Tesfamichael FA, Ferede HA. Prevalence and factors associated with VIA positive result among clients screened at Family Guidance Association of Ethiopia, south west area office, Jimma model clinic, Jimma, Ethiopia 2013: a cross-sectional study. BMC research notes. 2015;8:618-.
15. Tesfahun Hailemariam1* BY, Hiwot Aschenaki3, Engidawork Mamaye4, Goye Orkaido5 and Mihret Seta6. Prevalence of Cervical Cancer and Associated Risk Factors among Women Attending Cervical Cancer Screening and Diagnosis Center at Yirgalem General Hospital, Southern Ethiopia. Journal of Cancer Science & Therapy. 2017.
16. Bradshaw KD SJ, Schaffer J, Halvorson LM, Hoffman BG . . Section 4 Gynecologic Oncology > Chapter 29. Preinvasive Lesions of the Lower Genital Tract > Cervical Intraepithelial Neoplasia in. McGraw-Hill Professional. 2008;Williams' Gynecology 24th edition(SBN 0-07-):I147257-6.
17. Jolly PE, Mthethwa-Hleta S, Padilla LA, Pettis J, Winston S, Akinyemiju TF, et al. Screening, prevalence, and risk factors for cervical lesions among HIV positive and HIV negative women in Swaziland. BMC public health. 2017;17(1):218-.
18. Li K, Yin R, Wang D, Li Q. Human papillomavirus subtypes distribution among 2309 cervical cancer patients in West China. Oncotarget. 2017;8(17):28502-9.
19. Bekkers RL, Massuger LF, Bulten J, Melchers WJ. Epidemiological and clinical aspects of human papillomavirus detection in the prevention of cervical cancer. Rev Med Virol. 2004;14.
20. Makuza JD, Nsanzimana S, Muhimpundu MA, Pace LE, Ntaganira J, Riedel DJ. Prevalence and risk factors for cervical cancer and pre-cancerous lesions in Rwanda. The Pan African medical journal. 2015;22:26-.
21. Gedefaw A, Astatkie A, Tessema GA. The prevalence of precancerous cervical cancer lesion among HIV-infected women in southern Ethiopia: a cross-sectional study. PloS one. 2013;8(12):e84519-e.
22. Bezabih M, Tessema F, Sengi H, Deribew A. Risk Factors Associated with Invasive Cervical Carcinoma among Women Attending Jimma University Specialized Hospital, Southwest Ethiopia: A Case Control Study. Ethiopian journal of health sciences. 2015;25(4):345-52.

23. Teame H, Addissie A, Ayele W, Hirpa S, Gebremariam A, Gebreheat G, et al. Factors associated with cervical precancerous lesions among women screened for cervical cancer in Addis Ababa, Ethiopia: A case control study. PloS one. 2018;13(1):e0191506-e.
24. Louie KS, de Sanjose S, Diaz M, Castellsagué X, Herrero R, Meijer CJ, et al. Early age at first sexual intercourse and early pregnancy are risk factors for cervical cancer in developing countries. British Journal Of Cancer. 2009;100:1191.
25. Berraho M, Amarti-Riffi A, El-Mzibri M, Bezad R, Benjaafar N, Benideer A, et al. HPV and cofactors for invasive cervical cancer in Morocco: a multicentre case-control study. BMC cancer. 2017;17(1):435-.
26. Kassa RT. Risk factors associated with precancerous cervical lesion among women screened at Marie Stops Ethiopia, Adama town, Ethiopia 2017: a case control study. BMC research notes. 2018;11(1):145-.

CHAPTER 9

9. ANNEXES

Annex I. Information sheet

My name is Tesfaye Temesgen. I am a student of Addis Ababa University College of health science masters student in maternity and reproductive health nursing and I am here to do my thesis on prevalence and associated factors of precancerous cervical lesion in Addis Ababa public hospitals. You are selected randomly to be participant of this study; if you are voluntary. The information you give is very important to me and to the study. I would like to assure you that the information is confidential, it will not be given to anyone else, and your name will not be used to any of the questions. The right answer is very important to achieve the objectives of my research. If there is any discomfort during the process please contact me by phone number 0904385288.

Annex II consent form

- If you agree to participate in this study let us continue with questions stated below and put your signature here_____
- If you don't agree …..Thank you

  Data collectors' name and signature._____

To be filled by data collector

- Hospital _____
- Code_____
- VIA result _____

Annex II; questionnaire

Part 1; Socio demographic factors		
Questions	Response	Skip pattern
1.1 How old are you?	_____	
1.1.What is your marital status?	A. Single B. married C. widowed D. divorced	
1.2.What is your Religion?	A. Orthodox B. Muslim C. Protestant D. Others___	
1.3.What is your level of education?	A. No formal education B. Primary school C. Secondary school D. Higher education	
1.4.What is your employment condition?	A. House wife B. Merchant C. Daily laborer D. Government employee E. E. Private/NGO	
1.5.What is your monthly income?(birr)	A. _____	
1.6.Residency	A. Urban B. Rural	

Part 2;Reproductive health related factors		
2.1.Do you ever use contraceptive?	A. yes B. no	→ 2.4
2.2.If answer for Q 2.4 yes, which type of contraceptive do you use? (you can choose more than one choice)	A. Pill B. Inject able (Depo) C. Implant D. Others_____	
2.3.For how long have you been using contraception?	_____(month)	
.4.Which type of contraceptive are you using currently	A. Pill B. Inject able (Depo) C. Implant D. IUCD	
2.5.How old were you when you menarche?	_____	
2.6.How was your menstrual history?	A. Regular B. Sometimes irregular C. Always irregular D. No menses,	
2.7.Have you ever-experienced post coital bleeding?	A. Yes B. No	
2.8.Have you ever give birth?	A. Yes B. No →	2.9
9.If answer for Q 2.7 is yes, how many times?	_____	
2.10. How old were you when you first birth?	_____	
2.11. What is the average birth interval between your births? (if she has two or more births)	_____	
12. Have you ever-experienced abortion?	A. Yes	

	B. ~~No~~ →	2.13
.13. If answer for Q 2.17 yes, how many times?	_____	
.4. Do you have family (mother or sister) history of cervical cancer?	A. Yes B. No	
.15. If Q number 2.13 is yes, by whom side is your relationship	A. Maternal side B. Paternal side C. Both side	

Part 3: Questions related to sexual behavior factors and life style		
.1.Have you ever been screened for cervical cancer before?	A. Yes B. ~~No~~ →	3.4
.2.If answer for Q 3.1 yes, when were you screened for the last time?	_____	
3.3.What was the result of that screening test?	A. Positive B. Negative	
3.4.Have you ever smoked cigar at?	A. Yes B. ~~No~~ →	3.6
3.5.If yes, how long you have been smoked?	_____	
3.6.How old were you when you first had sex?	_____	
3.7.How old were you in your first marriage?	_____	
3.Do you use condom whenever you are having sex?	A. Always B. Sometimes C. Never	
9.Have you had a sexual intercourse when you are in menses?	A. Yes B. No → C. I don't remember	3.13
.10. If yes for Q 3.11 is yes, how many times you had?	A. I don't remember B. Less than five time C. More than five times	

11. Have you ever been told you that you had a pelvic infection or treated by health professionals?	A. Yes B. No	
3.12. Have you had a sexually transmitted infection in your lifetime?	A. Yes B. No	
3.13. Does your partner ever have history of STIs?	A. Yes B. No	
.14. Do you ever have history of genital ulcer or swelling?	A. Yes B. No	
3.15. Does your partner ever have history of genital ulcer or swelling?	A. Yes B. No	
3.16. Have you been tested for HIV before?	A. Yes B. No → 3.21	
17. If answer for Q 3.17 is yes, what was the result?	A. Positive B. Negative C. Unknown	
3.18. If answer for Q 3.18 is positive, did you start antiretroviral therapy?	A. Yes B. No	
19. How many sexual partners have you had in your lifetime?	_____	
3.20. Does your partner have other sexual partners?	A. Yes B. No → 3.24	
3.21. If answer for Q 3.22 is yes, how many?	_____	
3.22. Do you drink alcohol?	A. Yes B. No	
23. If for Q 3.23 is yes, put the type, frequency and amount of the alcohol.	Type_____ Frequency_____ Amount_____	

Thank you for your response

ክፍልአንድ: መረጃመስጫ ወረቀት

ስሜ ተስፋዬ ተመስገን ይባላል።እኔ በአዲስ አበባ ዩኒቨርሲቲ የጤና አጠባበቅ ትምህርት ቤት የማስተርስ ድግሪ የምያጠና ተማሪ ከአዲስ አበባ ዩኒቨርሲቲ መምህራን ጋ በመታገዝ በአዲስ አበባ የማህፀን በር ቅድመ ካንሰር መጠን እና ተያያዥ ምክንያቶች ለማጥናት መመረቅያ ጥናት ለመስራት ወደ ኣድስ ኣበባ የመንግስት ሆስፒታል ለቅድመ ካንሰር ምርምራ በመጡ ሴቶች በመጠየቅ የሚከናወን ነው።እርሶም በጥናቱ አማካኝነት ጥናቱ ላይ ተሳታፊ እንዲሆኑ ተመርጠዋል። እርሶ የሚሰጡትን መረጃ ከሌሎች ምንጮች ጋር ተዳምሮ የማህፀን በር ቅድመ ካንሰር መጠን እናተያያዥ ምክንያቶች ለይቶ ለማወቅ ወይም የሚሻሻልበት ሁኔታ ለመፍጠር ታልሞ የተዘጋጀ ጥናት ነው። ።በቃለ መጠይቁ ወቅት የሚሰጡት መረጃዎች ለጥናቱ ዓላማ ብቻ የሚውሉና ሚስጢራዊነቱ ሙሉ በሙሉ የተጠበቀ ነው። በዚህ መጠይቅ ውስጥ ስሞትን ናእርሶን ለመለየት የሚያገለግል ነገር አይጻፍም። ማንኛውም ጥያቄ ካሎት የጥናቱ መሪ የሆኑትን ተስፋዬ ተመስገንን በስልክ ቁጥር +251904385288 ማግኘት ይችላሉ። ስለተባበሩን እናመሰግናለን።

ክፍል ሁለት: የስምምነት ቅጽ

ተመራማሪው የጥናቱን አላማ በሚገባ ግልጽ በሆነ ቋንቋ አስረድተውኛል።በዚህም መሰረት የጥናቱን አላማ ስለተረዳሁ ለመሳተፍ ውሳኔዬን በሚከተለው መንገድ አረጋግጣለሁ።

- በቃለ መጠይቁ ተስማምቻለሁ(ፍርማ)_____ ወደ መጠይቁ ይለፉ
- በቃለ መጠይቁ አልተስማማሁም _____ አመስግነው በዚህ ያብቁ

የመረጃ ሰብሳቢ ስም እና ፊርማ _____

በመረጃ ሰብሳብው የምሞሉ

1. ሆስፒታል_____
2. ኮድ_____
3. የምርመራው ውጤት_____

ክፍልI. የማህበራዊ: ኢኮኖሚያዊና ዲሞግራፊያዊ ሁኔታዎች

ቁጥር	ጥያቄ	ምላሽ	ዝለል
1.1	ዕድሜ	_____	
1.2	የጋብቻ ሁኔታዎ	ሀ. ያላገባች ለ. ያገባች ሐ. ባሏየሞተባት መ. የተፋታች	
1.3	ሐይማኖትዎ?	ሀ. ኦርቶዶክስ ለ. ሙስሊም ሐ. ፕሮቴስታንት መ. ካቶሊክ ረ.ሌላ_____	
1.4	የትምህርት ደረጃዎ	ሀ.መፃፍናማንበብየማትችል ለ.መፃፍናማንበብብቻየምትችል ሐ. የመጀመረያደረጃ መ. ሁለተኛደረጃ ሠ. ከፍተኛየትምርትተቃም	
1.5	ስራዎ ምንድን ነው?	ሀ. የቤትእመቤት ለ. ነጋዴ ሐ. ቀን ሰራተኛ መ. የመንግስትሰራተኛ ረ. መንግስታዊ ያልሆነ	
1.6	ጠቅላላ የቤተሰብዎ ወርሀዊ ገቢ ስንት ነው?	የብሩንመጠን _____	
1.7	የት ነው ምትኖርው?	ሀ. ገጠር ለ. ከተማ	

ክፍል II: ስለተዋልዶ ጤና ጥያቄዎች

2.1	**የወሊድ መከላከያ ተጠቀመው ያውቃሉ?**	**ሀ. አዎ ለ. አልጠቀምም→**	**2.4**

2.2	የወሊድ መከላከያ እየተጠቀሙ ከነበረ የትኛውን ዓይነት ነው የሚጠቀሙት? (ከአንድ በላይ መምረጥ ይቻላል)	ሀ. የሚዋጥ ፒል ለ. በመርፌ የሚሰጥ ሐ. በክንድ የሚቀበረውን መ. ሌላ_____	
2.3	የወሊድ መከላከያ እየተጠቀሙ ከሆነ የትኛውን ዓይነት ነው የሚጠቀሙት? (ከአንድ በላይ መምረጥ ይቻላል)	ሀ. የሚዋጥ ፒል ለ. በመርፌ የሚሰጥ ሐ.በክንድ የሚቀበረውን መ. ሌላ_____	
2.4	ለምን ያህል ግዜ ተጠቀሙ? (ከአንድ በላይ እየተጠቀሙከ ነበሩ ለሁሉም ይፃፉ)	_____ _	
2.5	በስንት ዓመትዎ ነው የመጀመሪያውን የወር አበባያዩት?	_____	
2.6	የወር አበባዎ ዑደት እንዴት ነው?	ሀ. በየወሩ በትክክል ይመጣል ለ. አንዳንዴ ይዛባል ሐ. ብዙ ግዜ ይዛባል መ.የወር አበባ አላይም	
2.7	ከግብረ ስጋ ግንኙነት በኋላ ደም የማየትነ ገር አሎት?	ሀ. አዎ ለ. የለኝም	
2.8	ልጅ ወልደዋል?	ሀ. አዎ ለ. አልወለድኩም ⟶	2.11
2.9	አዎ ካሉ ምን ያህል ልጅ ወልደዋል?	_____	
2.10	በስንት አመትዎ ነው የመጀመሪያውን ልጅ የወለዱት?	_____	
2.11	በአማካይ በልጆችዎ መካከል ያለ የእድሜ ልዩነት ስንት ነው?(ሁለት እና ከዛ በላይ ልጅ ከወለዱ)	_____	
2.12	ውርጃ ኖሮት ያውቃል ?	ሀ. አዎ ለ. አያውቅም ⟶	2.13
2.13	አዎ ካሉ ስንት ግዜ?	_____	
2.14	በቤተሰብ የማህፀን ካንሰር ያለበት ሰው አለ?	ሀ. አዎ ለ. የለም ⟶	3.1
2.15	አዎ ካሉ ዝምድናዎ በማን በኩል ነው?	ሀ. በእናት በኩል ለ. በአባት በኩል ሐ. በሁለቱም በኩል	
ክፍል III: ስለግልባህርያትየሆኑትጥያቄዎች			
3.1	ከዚህ በፊት የማህፀን ጫፍ ካንሰር ተመርምረው ያውቃሉ?	ሀ. አዎ ለ. አላውቅም ⟶	3.4
3.2	ለመጨረሻ ግዜ የተመረመሩት መቼ ነው?	_____	

3.3	የምርመራው ውጤቱ ምን ነበር?	ሀ. ፖዘቲቭ ለ. ነጋቲቭ	
3.4	ሲጋራ ኣጭሰው ያውቃሉ?	ሀ. አዎ ለ. አላጨስም ⟶	3.6
3.5	አዎ ካሉ ለምን ያህል ግዜ አጨሱ?	_____	
3.6	ግብረ ስጋ ግንኙነት ለመጀመሪያ ግዜማ ድረግ ሲጀመሩ እድሜዎት ስንት ነበር?	_____	
3.7	የመጀመሪያ ጋብቻ ሲፈጽሙ እድሜዎት ስንት ነበር?(ያገቡ ከሆነ)	_____	
3.8	ግብረ ስጋ ግንኙነት በሚያደርጉበት ግዜ ኮንዶም ይጠቀማሉ?	ሀ. ሁሌ ለ. አልፎአልፎ ሐ. አልጠቀምም	
3.9	የወር ኣበባሽ መጥቶ እያለ ግብረ ስጋ ግንኝነት ኣርገሽ ታውቅያለሽ?	ሀ. ኣዎ ለ. ኣርጌ ኣላቅም ⟶ ሐ. ኣላስታውስም ⟶	3.12 3.12
3.10	ለቁጥር 3.10 ኣዎ ካልሽ፣ስንቴ ኣርገሻል?	ሀ. ኣላስታውስም ለ. ከኣምስት በታች ሐ. ከኣምስት በላይ	
3.11	የማህፀን ኢንፌክሽን አለቦዎት ተብለው ወይም ታክመው ያውቃሉ?	ሀ. አዎ ለ. አላውቅም	
3.12	የአባላ ዘር በሽታ አለብዎት ተብለው ወይም ታክመው ያውቃሉ?	ሀ. አዎ ለ. አላውቅም	
3.13	ባለቤትዎ ወይም የፍቅር ጓደኛዎ የአባለ ዘር በሽታ አለበዎት ተብለው ያውቃሉ?	ሀ. አዎ ለ. አያውቅም	
3.15	በራስዎ ብልት አካባቢ ላይ የሚያሳክክ ጠባሳ ወይም ዕብጠት ወጥቶቦት ያውቃል?	ሀ. አዎ ለ. አያውቅም	
3.16	ባለቤትዎ (የፍቅርጓደኛዎ) ብልት አካባቢ ላይ የሚያሳክክ ጠባሳ ወይም ዕብጠት ወጥቶበት ያውቃል?	ሀ. አዎ ለ. አያውቅም	
3.17	የኤች አይቪ ምርመራ አድርገው ያውቃሉ?	ሀ. አዎ ለ. አላውቅም ⟶	3.20
3.18	ከተመረመሩ ውጤቱ ምን ነበር?	ሀ. ፖዘቲቭ ለ. ነጋቲቭ ሐ. አይታወቅም	
3.19	ካለዎት የኤች አይቪ መድሃኒት ጀመሩ?	ሀ. አዎ	

		ለ. አልጀመርኩም	
3.20	እስከ አሁን ድረስ ከስንት ወንዶች ጋር ግብረ ስጋ ግንኙነት አድርገው ያውቃሉ?	_____	
3.21	ባለቤትዎ(የፍቅርጓደኛዎ) ከሌላ ግብረ ስጋግንኙነት አለው?	ሀ. አለው ለ. የለውም	
3.22	አለው ካሉ ከምን ያህል ሰው?	_____	
3.23	አልኮል ትጠጭያለሽ?	ሀ. አዎ ለ.አልጠጣም	
3.24	ለቁጥር 3.23 አዎከ ሆነመልስሽ፣	አይነቱ_____ መጠኑ_____ ድግግሞሹ_____	

ስለሰጡኝምላሽበጣምአመሰግናለሁ!