CERVICAL CANCER SCREENING SERVICES UTILISATION AMONG WOMEN LIVING WITH HIV IN HAWASSA CITY ADMINISTRATION: SOUTHERN ETHIOPIA

By

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1 DECLARATION

Student Number: 61940259

I declare that the thesis on **Cervical Cancer screening services utilisation among women living with HIV in Hawassa City Administration: Southern Ethiopia** is my own work and that all sources that I have used or quoted have been indicated and acknowledged by means of complete referencing and that this work has not been submitted before for any other degree at any other institution.

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Sinafikish Ayele Date

2 DEDICATION

I want to dedicate this study to:

- **Ayele Berhanu**, my late father who always inspired me to work hard. Unfortunately, he passed on before witnessing this prestigious achievement.
- My mother, **Beharwa Adinew**, who is always available for me, caring and strong mother in my life.

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Essential affirmation goes to the Almighty God, who is my heavenly father for giving me the mental fortitude and yet invigorating me. I give you respect and

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CERVICAL CANCER SCREENING SERVICES UTILISATION AMONG WOMEN LIVING WITH HIV IN HAWASSA CITY ADMINISTRATION, SOUTHERN, ETHIOPIA

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4 ABSTRACT

Cervical cancer remains the main source of mortality among women around the world. It is a burden in developing countries and generally recognized through the complications of the advanced stages. The aim of this study was to investigate the utilisation of cervical cancer screening services among women living with HIV in Hawassa in order to develop a strategy to enhance cervical cancer screening service utilisation among this population in Ethiopia.

A quantitative approach with a cross-sectional study design was used in this study. The data were collected using a standard structured questionnaire from 309 women living with HIV attending health care facilities in Hawassa city Administration. Statistical Package for Social Sciences version 25 software was used to analyse data.

The results are presented based on the Health belief Model's construct. The result revealed a low utilisation of cervical cancer screening services. Knowledge and perception of cervical cancer and cervical cancer screening service were also low. The main reason for being not screened was feeling healthy, lack of awareness, and embarrassment. Knowledge of cervical cancer was affected by factors such as knowing someone with cervical cancer, educational status, and monthly income. The finding indicated that utilisation of screenings could be determined by

composite knowledge, perceived susceptibility to cervical cancer, duration on Highly Active Anti-Retroviral Treatment and willingness to be screened. The findings of this study, findings from the literature review and relevant legislation guided the researcher to develop a strategy to enhance cervical cancer screening service utilisation among women living with HIV Ethiopia. Relevant recommendations were put forward to promote utilisation of strategy and also for future research. The utilisation of the developed strategy may improve the uptake of screening for cervical cancer, improve early diagnosis and treatment of cervical malignant growth, and decrease mortality among women living with HIV in Hawassa city organization.

KEY TERMS: *Health Belief Model (HBM), Knowledge, Utilisation, perceived susceptibility, perceived severity, perceived benefit, perceived barriers, cues to acting.*

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9 ABBREVIATIONS

AIDS Acquired Immune Deficiency Syndrome

CC Cervical Cancer

CCS Cervical Cancer Screening

CDC Center for Disease Control and Prevention

CHV Community health volunteers

CIN Cervical intraepithelial neoplasia

DALY Disability Adjusted Life Years

DRC Democratic Republic of Congo

EBSCO Elton B. Stephens Co.

ERIC Education Research and Information Center

FIGO Federation of Gynecology and Obstetrics

FMOH Federal Ministry of Health

HAART Highly Active Anti-Retroviral treatment

HIV Human Immunodeficiency Virus

HPV Human Papilloma Virus

IEC Information, Education and Communication

LEEP Loop Electrosurgical Excision Procedure

LMIC Low and Middle-Income Country

MTs Master Training

OCPs Oral contraceptive pills

SNNPRs Southern Nations Nationalities People Regional State of Ethiopia

SOP Standard operating procedure

SSA Sub Saharan Africa

STI Sexually-transmitted infection

TB Tuberculosis

TOR Term of Reference

UNAIDS United Nations Programme on HIV/AIDS

UNFPA United Nations Population Fund

UNISA University of South Africa

USA United States of America

VIA Visual inspection with Acetic acid

VILI Visual Inspection with Lugol's Iodine

WHO World Health Organization

YLD Years Lived with Disability

YLL Years of Life Lost

10 CHAPTER ONE

11 ORIENTATION TO STUDY

11.1 INTRODUCTION

The purpose of this study was to investigate the utilisation of cervical cancer screening among women living with HIV in Hawassa in order to develop a strategy for enhancing cervical cancer screening service utilisation among this population in Ethiopia. Cervical cancer is the fourth most common cancer among women worldwide (Ferlay, Soerjomataram, Dikshit, Eser, Mathers, Rebelo, Parkin, David, Formanand & Bray 2015:381). About 528,000 new patients are diagnosed with cervical cancer annually, of which over 266,000 will die worldwide (Ferlay et al 2015:381). It is a major cause of ill-health and death among women in resource-poor settings like sub-Saharan Africa (Denny & Anorlu 2012:1434). This cancer has contributed to more than 85.5% of the global burden of cervical cancer, where 95% of women have never been screened for cervical cancer (Bukirwa, Mutyoba, Mukasa, Karamagi, Odiit, Kawuma & Wanyenze 2015:82). An estimated 45% of cervical cancer was prevented over 50 years by the introduction of cervical cytology-based screening in developed countries (Vaccarella, Franceschi, Engholm, Lo-nnberg, Khan & Bray 2014:966).

This chapter presents the study overview, including the background of the problem, statement of the problem, aim and objectives of the study, research questions, definitions of key concepts, theoretical framework, research methodology, ethical considerations, and scope of the study and the structure of the dissertation.

11.2 BACKGROUND OF THE STUDY

This chapter provides background to the research problem. Since the onset of the Human Immuno-deficiency Virus (HIV) epidemic in the late 1970s, the United States of America Center for Disease Control and Prevention (CDC) has labeled cervical cancer as an acquired immune deficiency syndrome (AIDS)-defining disease (Viviano, DeBeaudrap, Tebeu, Fouogue, Vassilakos & Petignat 2017:69). Infection with HIV increases the risk of progression of cervical premalignant lesions to cancer as HIV impairs the natural cell-mediated immune response, thus increasing the risk of developing certain cancers (Viviano et al. 2017:70). Cervical cancer is classified as an AIDS-defining condition since 1993 (Denny & Anorlu 2012:1435). Women infected with HIV have a higher risk of being infected with a high-risk type of Human Papilloma Virus (Liu, Sharma, Tan & Barnabas 2018:795). One of the reasons in developing countries for the high disease burden of cervical cancer is delayed detection and management of pre-cancerous lesions to arrest disease progression (Ethiopian Federal Ministry of Health [FMoH] 2015:2).

Cancer of the cervix is considered the number two common cancer in women globally (Johnson, Armstrong, Joyce, Teitelman & Buttenheim 2018:28). Almost all instances of cervical cancer are caused by HPV (WHO 2014:3). The HPV causes gradual changes in the cervical cells called cervical intraepithelial neoplasia (CIN). Cervical intraepithelial neoplasia occurs in the following three stages: CIN1, CIN2 and CIN3. Thereafter it progresses to cancer (Skinner, Wheeler, Romanowski, Castellsague, Lazcano-Ponce, Rosario-Raymundo, Vallejos, Minkina, Da Silva, McNeil, Prilepskaya, Gogotadze, Money, Garland, Romanenko, Harper, Levin, Chatterjee, Geeraerts, Struyf, Dubin, Bozonnat, Rosillon & Baril 2016:2430). The slow progression from pre-cancer stages to cancer allows women to be screened in order to detect it early and initiate treatment (Nwobodo & Ba-Break 2015: 484). Developed countries, for example, the United States of America (USA), have significantly reduced the burden of cervical cancer since due to screening using Papanicolaou (Pap) smear discovered in the 1960s (Chan, Aimagambetova, Ukybassova, Kongrtay & Azizan 2019:7). In Low and Middle-Income Countries

(LMICs), because of many obstacles such as inadequate resources, sub-Saharan Africa countries are struggling to lessen the disease burden (Johnson et al. 2018:28).

The global burden of cervical cancer is mostly (85%) experiences in underdeveloped countries such as those in sub-Saharan Africa where there is a high incidence of cervical cancer and subsequent death (FMoH 2015:10; Johnson et al. 2018:28). The burden of cervical cancer is highest in sub-Saharan Africa (Belete, Tsige & Mellie 2015:2). According to (Liu et al. 2018:798), cervical cancer is about double among women infected with HIV. The number of new cases in sub-Saharan Africa is estimated at 34.8 per 100,000 annually. About 22.5 per 100,000 of these women die (Bukirwa et al. 2015:82). These authors also state that the high number of cases and death happens in about 60% of women living with HIV.

In developing countries, there is less concern for cervical cancer screening, though screening has a vital role in preventing the scourge of cervical cancer (Shiferaw, Davila, Kassahun, Brooks, Weldegebreal, Tilahun, Zerihun, Nigatu, Lulu, Ahmed, Blumenthal & Asnakea 2016:87). This is due to the unavailability and inaccessibility of cervical cancer screening services, coupled with a poor level of knowledge and also competing needs for managing communicable diseases (Shiferaw et al. 2016:87). The World Health Organization reported that there is a scarcity of studies done that focused on the utilisation of cervical cancer screening services (Ferlay et al. 2015:381). This creates a research gap that should be addressed to improve cervical cancer screening.

Countries in East and Southern Africa have the highest reported age-standardized cervical incidence rates per 100,000 women (Kileo, Michael, Neke & Moshiro 2015:553). These findings bring into focus the need to implement the tools already available for cervical cancer, well-organized national programs for screening and treatment (Kileo 2015:554). Eastern Africa has one of the highest levels of mortality rate among cases of cervical cancer in the world. Women in the region have a 2.7% cumulative probability of death from cervical cancer (Bukirwa et al. 2015:82). The majority of women dying are those living with HIV. Thus, the recommendation

for annual cervical screening for women living with HIV to detect abnormal cervical changes early (Schlichte & Guidry 2015:924). However, the uptake of cervical cancer screening remains extremely low.

In Ethiopia, cervical cancer is the commonest disease influencing regenerative organs and the main source of death from malignant growth among women (Teka, Kote, Kejela & Getachew 2019:2). Over 80% of cervical cancer in Sub Saharan Africa is identified at a late stage because of an absence of data about cervical disease and a lack of prevention service (Nakisige, Schwartz & Ndira 2017:37). The delayed seeking of help leads to the diagnosis of cancer during the advanced stage of the disease which is associated with low survival rates after surgery or radiotherapy (Dunyo, Effah & Udofia 2018:1156). Moreover, treatment modalities might be deficient or excessively costly and difficult to reach for some women in low-resourced countries, like Ethiopia (FMoH 2015: 38).

11.3 RESEARCH PROBLEM

In Ethiopia, about 27.19 million people are at risk of developing cancer of the cervix (Mitiku & Tefera 2016: e0163136). While only 0.6% of women between the ages of 18 and 69 were screened every three years and almost a quarter (22.1%) of women diagnosed with HIV in southern Ethiopia were positive for precancerous cervical cancer (Belete et al. 2015:2). Effective screening programs can lead to a significant reduction in the morbidity and mortality associated with cervical cancer (FMoH 2015:9). In lower and middle-income countries, the utilisation of cervical cancer screening is very low (Gebru, Gerbaba & Dirar 2016:401). As reported by Bruni, Albero, Serrano, Mena, Gomez, Munoz, Bosch and de Sanjose (2019:13-15), in Ethiopia, the age-adjusted incidence rate of cervical cancer is 35.9 per 100,000 patients, with 7619 annual number of new cases and 6081 deaths annually. Despite this annual increase in cervical cancer cases, very few women access screening services in Ethiopia (Getahun, Mazengia, Abuhay & Birhanu 2013:1; Bayu, Berhe, Mulat & Alemu 2016: e0149908). Regardless of the high risk for acquiring cervical cancer among HIV patients in the southern region of Ethiopia,

acceptance of the screening is very low (Belete et al. 2015:1). If cervical cancer screening remains so low, the death from cervical cancer will remain high.

11.4 AIM OF THE STUDY

The aim of this study was to investigate the utilisation of cervical cancer screening services among women living with HIV in Hawassa in order to develop a strategy to enhance cervical cancer screening service utilisation among this population in Ethiopia.

11.5 RESEARCH OBJECTIVES

The objectives of the study were:

- To determine the utilisation of cervical cancer screening services among women living with HIV in Hawassa City Administration.
- To identify the determinants for cervical cancer screening service utilisation by women living with HIV at Hawassa City Administration.
- To develop a strategy to enhance cervical cancer screening services utilisation by women living with HIV in Ethiopia.

11.6 RESEARCH QUESTIONS

The research questions of the study were

- What is the level of utilisation of cervical cancer screening services among women living with HIV at Hawassa City Administration?
- What are the determinants for cervical cancer screening services utilisation among women living with HIV at Hawassa City Administration?
- What strategy can be utilised to enhance cervical cancer screening utilisation by women living with HIV in Ethiopia?

11.7 SIGNIFICANCE OF THE STUDY

It was of paramount importance to conduct this study as there is a scarcity of research available that explains the level of utilisation of cervical cancer screening services among women living with HIV in Hawassa city. Similarly, no other study that reviews and develops a strategy for improving cervical cancer screening utilisation among women living with HIV in the study area. This study is conducted at the right time when the country is strategizing to improve cervical cancer prevention and treatment services. The developed strategy could be very useful in the enhancement of cervical cancer screening service utilisation in Ethiopia. The developed strategy could also serve as a source of information to develop an action plan for others who are working in areas of HIV and women health-related programs.

Moreover, the findings of this study could contribute in improving the level of cervical cancer screening among women living with HIV by providing the finding to policymakers; it would also provide useful information to formulate useful interventions, which could help to prevent the alarming morbidity and mortality rates of cervical cancer in Ethiopia. The recommendations based on study findings and strategy developed could be utilised as the basis for further research.

11.8 DEFINITION OF KEY CONCEPTS AND OPERATIONAL DEFINITIONS

This section focuses on key concepts and operational definitions that are used and applied in the study.

11.8.1 Key concepts

In this study, the key concepts used were cervical cancer screening, knowledge, perceived barriers, perception, and willingness.

- **Cervical cancer screening:** This applies to precancer and cancer testing for women who do not have symptoms and may feel perfectly healthy (Ferlay et al. 2015: 359).

- **Knowledge-** is information and skills gained through experience or learning (Limaye, Sullivan, Dalessandro & Jenkins 2017:763).
- **Perceived Barrier:** refer to an individuals' view of obstacles that may hinder their attempt or take required actions to avert the disease or condition (Magaji, Dangani, Haruna, Ovosi, Abdullahi & Bello 2016:5).
- **Perception:** is a uniquely individualized experience; one can only draw from what is known to oneself (Mcdonald 2012:5).
- **Utilisation:** is the quantification or explanation of people's use of services to prevent and cure health problems, encouraging health and well-being preservation, or obtaining information on their health status and prognosis (Carrasquillo 2013:1).
- **Willingness-** desire to do something, which in this case is the desire to be screened for cervical cancer (Belete et al. 2015:3)

11.8.2 Operational Definitions

Coming up next is a framework of the operational meanings of the key ideas that were utilized in the investigation:

- **Utilisation:** refers to the use of cervical cancer screening services among women living with HIV in the study area.
- **Knowledge-** refers to the facts, information, and skills acquired on cervical cancer screening through experience and education, for this study knowledge was measured by 12 items of knowledge questions, based on an instrument adapted from Shiferaw et al. (2016:89).
- **Perception:** refers to individual experience among women living with HIV on cervical cancer screening services in the study area.
- **Barrier:** a thing/situation that restricts the use of cervical cancer screening services by making it more difficult for some HIV positive women to access, use, or benefit from the services in the study area.
- **Willingness:** refers to a willingness to use cervical cancer screening services but not decided to use shortly by HIV positive women in the study area.

11.9 THEORETICAL FOUNDATION OF THE STUDY: CONCEPTUAL FRAMEWORK

According to Adom, Hussein and Agyem (2018:439), a conceptual framework is a structure that the researcher believes can best explain the natural progression of the phenomenon to be studied. Grant and Osanloo (2014:16) described the conceptual framework as a logical structure that designates the relationship between the main concepts of a study to provide a picture or visual display of how ideas in a study relate to one another. A conceptual model is important for building a body of knowledge related to the phenomenon it explains (Gray, Grove & Suzerland 2017:340). The Health Belief Model (HBF) was used to contextualise this study.

11.9.1 Health Belief Model

The Health Belief Model is one of the oldest social cognition models developed by Hochbaum, Rosenstock and Kegels in the 1950s while working in the USA public health services to comprehend the dissatisfaction presented by the individuals who were expected to receive disease prevention intervention or screening tests for the early detection of sickness (LaMorte 2019:1). This model has been changed and adjusted to investigate diverse practices in relation to health, including the sexual practices which increase the risk of HIV transmission LaMorte (2019:1).

According to Glanz, Rimer and Viswanath (2015:100), the overall premise of the HBM is that people are likely to engage in a health behavior (cervical cancer screening service utilisation) if they believe that: they are susceptible to a condition (at risk for cervical cancer), the condition could have potentially serious consequences, a course of action (cervical cancer screening service) available to them could be of benefit in reducing either their susceptibility to or the severity of the condition, there are benefits to taking action, and their perceived barriers (or costs) are outweighed by the benefits and are not strong enough to prevent action.

The model attempted to associate the decision to seek preventative measures against a specific health condition to how the person perceive the advantages of taking such action, proneness to the disease and its severity and challenges which may be encountered which may hinder the planned action, preventive action (Yandakale 2013:21). The model further asserts that modifying factors also influence preventive actions (Nwobodo & Ba-Break 2015:497). According to Glanz (2015: 100), the choice of this model was based on its ability to predict the possibility of taking steps to fight a specific illness which is related to one of these study objectives. Therefore, the researcher was interested in measuring woman's living with HIV perception: susceptibility to the disease, severity of the disease, benefits from screening service, and barriers to planning to uptake screening service. That is, the model provided a most relevant framework for identifying factors that influence women living with HIV' utilisation of cervical cancer screening services. In addition, modifying factors and their relationship to cervical cancer screening service utilisation were considered.

11.9.1.1 Components of the Health Belief Model (HBM)

The three foundational components of the Health Belief Model are individual perceptions, modifying factors, and factors influencing the possibility of individuals undertaking the recommended preventive health action (LaMorte 2019:1). The Health Belief Model contains several primary components that determine whether an individual will take steps toward prevention, early diagnosis and management of a condition. The components cover perceived: susceptibility, severity and benefits and also possible barriers to taking necessary steps, cues to self-efficacy and cues to act (Glanz 2015:100). Nwobodo and Ba-Break (2015:497) also described modifying variables that might be associated with an individual's uptake of health actions which include age, prior knowledge, and beliefs.

11.9.1.2 The six components of the HBM

This section presents the conceptual definition of the constructs of the HBM

11.9.1.2.1

Perceived Susceptibility

The perceived susceptibility is concerned with individuals' perceptions regarding the risk of suffering from a specific (Glanz 2015:102). Nwobodo and Ba-Break (2015:497) also define perceived susceptibility as how an individual perceive their risk of contracting a condition or disease. According to Tavafian (2012:3), the health belief model could assist in predicting that if women suspect that they are at risk of contracting cervical cancer, they will undergo cervical cancer screening.

11.9.1.2.2

Perceived Severity

Tavafian (2012:4) consider perceived severity of a disease as the individual assessment of the seriousness of the disease. According to (Glanz 2015: 102), this component focus on how individuals feeling concerning how serious the disease will be if remain unattended. The severity of the condition is mostly assed based on the severity of pain, resultant disability and possible death and how all those can affect the family or work situation.

11.9.1.2.3

Perceived benefits

Perceived benefits refer to the individual's convictions about the viability of a system to decrease the danger of an ailment or one's faith in the adequacy of the informed activity to lessen the hazard concerning the reality of effect (Glanz 2015: 102). Even if a person perceives personal vulnerability to a serious health condition, whether this perception contributes to changes in behavior will be affected by the person's belief on what can be benefitted from engaging in activities to prevent or manage the illness (Nwobodo & Ba-Break 2015:497).

11.9.1.2.4

Perceived barriers

Glanz (2015:102) defined perceived barriers as a possible obstacle to taking action, which can include negative consequences resulting from an action. According to Glanz (2015:102), these obstacles and negative consequences impede action or subsequent engagement in the behavior. Obstacles may include inconvenience, cost, or fear of a screening procedure. Perceived barriers could be symptoms causing embarrassment, conditions carrying a social stigma, the cultural influence of witchcraft, association of conditions with old age, procedures perceived as painful, fear of test results or time-consuming issues (Tavafian 2012:7).

11.9.1.2.5

Cues to action

According to Nwobodo and Ba-Break (2015: 497), cues to action allude to occasions or encounters that could be close to home, (for example, physical indications of a health condition), relational, ecological, media related exposure. Status to activity must be influenced by different factors, especially by signs to induce activity, for example, real occasions or by natural occasions. For example, media exposure that could spur an individual to make a move or receive a technique to initiate availability (Glanz 2015:103). In addition, some cues for individuals to engage in healthy actions include health promotion campaigns, lay-referral systems, relatives' and/or friends' illnesses, articles in newspapers or magazines, the pressure to take action coming from third parties such as spouses, friends or employers (Yandakale 2013:24).

11.9.1.2.6 *S*

elf-efficacy

Self-efficacy focuses on the confidence which an individual has to engage in desired activities successfully (Nwobodo & Ba-Break 2015:497).

11.9.1.2.7

Modifying factors

Nwobodo and Ba-Break (2015:497) defined modifying factors like demographics, socio-psychological and structural elements, which serve to condition an individual's perceptions.

11.9.1.2.8

Likelihood of taking recommended preventive health action

The possibility of engaging in the desired step to toward promotion of health or prevention of a condition (Yandakale 2013:24)

Adaptation of the Health Belief Model to Guide this Study

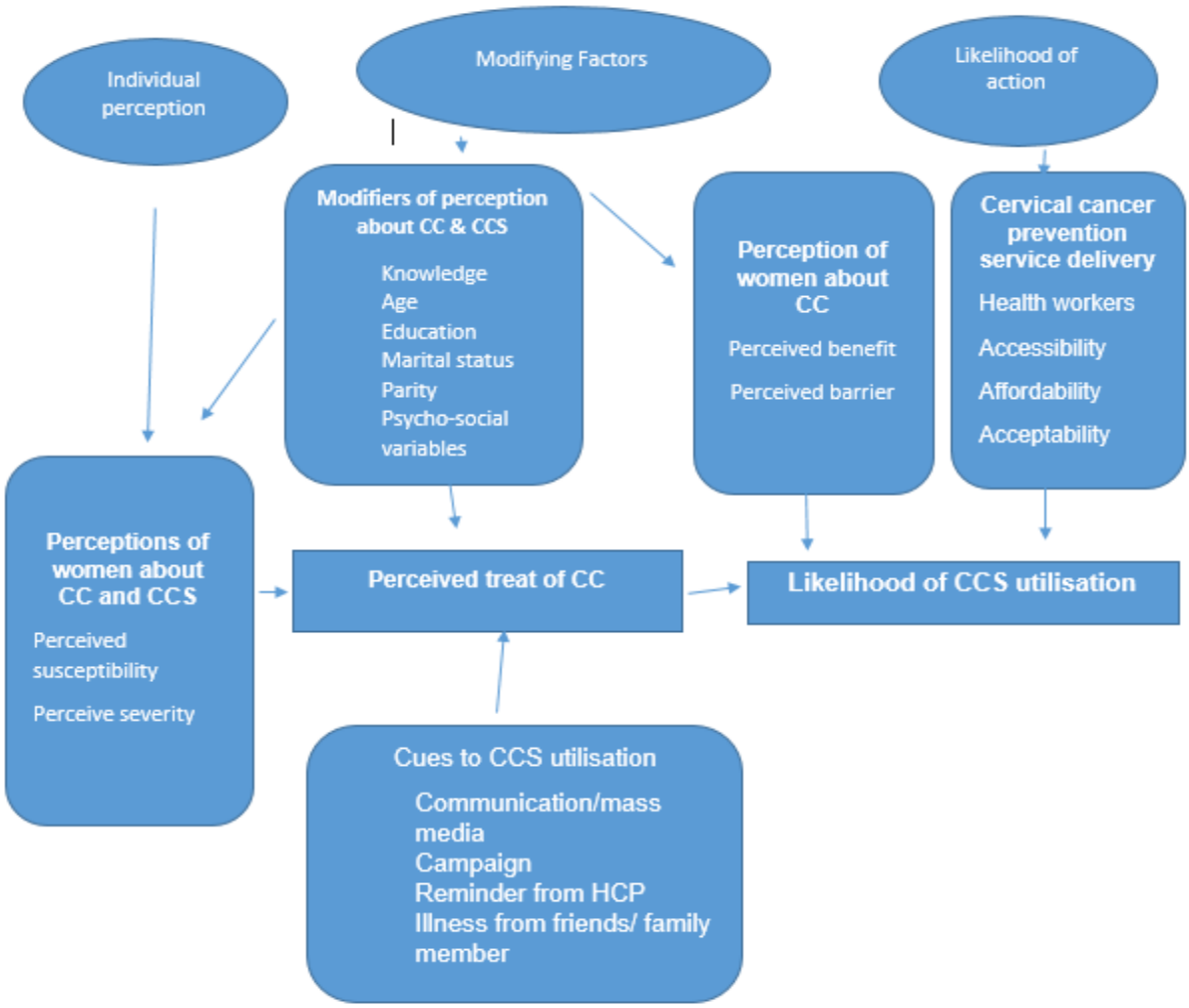

Figure 1-1: The adapted model showing the variables to be used in this study.

The adapted Health Belief Model concepts

This research has been directed by a modification of the HBM based on the five constructs. These constructs include perceived susceptibility, severity benefits, barriers, cues to action, and utilisation of cervical cancer screening service. The adapted HBM targets at evaluating the direct association of each concept with women living with HIV's cervical cancer screening service utilisation. Self-efficacy means being confident that to perform the recommended health behaviour (Glanz 2015:101). This study was conducted to determine the association between HBM concepts and women living with HIV's acceptance to be screened for cervical cancer. Therefore, in this study, self-efficacy was redefined as the utilisation of cervical cancer screening services among women living with HIV.

11.9.1.3 T

he five constructs of the adapted Health Belief Model

11.9.1.3.1

Perceived susceptibility

A woman living with HIV may have no interest in screening for cervical cancer if she assumes that she is not at risk of having cancer. In this study, perceived susceptibility measured based on knowledge of the causes of cervical cancer, the age at risk, mindfulness of being in danger, and the occurrence of the disease.

11.9.1.3.2

Perceived severity/seriousness

Perceived severity of cervical cancer is concerned with how one feels about the consequences of cervical cancer (pain, disability and consequent death) or social impact such as impact (on the family, social life and work) for developing cervical cancer or for delayed diagnosis. In this study, perceived seriousness is defined as knowledge about cancer of the cervix, and fears related to the sickness and the progression of the disease.

11.9.1.3.3 *P*

erceived benefits

Regardless of susceptibility and severity of Cervical cancer, if an individual does not foresee the benefits of screening, may not utilise the service. For this study, the researcher defines the benefit as individual's knowledge of the tests for screening for cervical cancer, advantages of detecting cancer early, reasons for cervical cancer screening, time for initiating screening, how often screening should be done and knowledge about available treatment of the condition were considered.

11.9.1.3.4

Perceived barriers

Perceived barriers are possible negative impacts related to screening for cervical cancer. This includes evaluating the possible benefits of screening compared to possible challenges (pain, financial problem, the amount of time required (but it may be painful, embracing, expensive, and time-consuming), which influence screening uptake. In this study, perceived barriers are defined as the attitudes of an individual and significant others towards screening and the norms which the family uphold with regard to screening and management of cervical cancer and the socio-economic status.

11.9.1.3.5 *C*

ues to action

Cues for individuals to screen for cervical cancer include campaigns that market cervical cancer screening, information from significant others regarding screening, follow -up by medical practitioners, sickness of significant others prompts women to want to screen for cervical cancer. For this study cues for cervical cancer

screening is based on access to information from mass media, billboards, posters, and notices about cervical cancer screening. It also included information from different individuals who are part of the individual. In addition, available sources of information.

11.9.1.3.6

Level of cervical cancer screening service utilisation

In this study, the likelihood of taking recommended preventive health action has been defined as the level of cervical cancer screening service utilisation among women living with HIV in Hawassa city administration.

11.9.1.3.7

Modifying factors

For this study modifying factors refer to demographic variables such as age, religion, education level, marital status, socio-psychological variables including the respondent's income, employment status, religion, occupation of the spouse, number of children and structural variables as previous experience with cervical cancer screening and duration of HAART. In addition, in this study, composite knowledge and willingness were considered.

11.10 RESEARCH PARADIGM

A paradigm is a world view, a general perspective, a way of breaking down the complexity of the real world (Terrell 2016:68). It is an essential arrangement of convictions that guide activity like how things work, what techniques ought to be utilized, and how the information ought to be interpreted in a social world (Creswell 2014:35). In this study, the positivist paradigm is used.

11.11 RESEARCH METHODOLOGY

The research methodology is an arrangement and strategy to explore that traverses the means from wide suspicions to definite techniques for information assortment, examination, and translation (Creswell 2014:31). The study was conducted in two phases namely: the situational analysis and strategy was strategy development during the second phase.

11.11.1 Phase one: Situational analysis

This phase covers the aspects of the research approach, research design, sampling, data collection, and data analysis for answering research questions one and two.

11.11.1.1 Research Approach

The researcher utilised a quantitative research approach. This approach is a methodology for testing target speculations by inspecting the links among variables (Creswell 2014:32). In this study, the researcher utilized a quantitative approach as it assists in finding the causes and also draws connections between factors. Quantitative research is a research approach that focuses on testing objective theories through investigating the relationship different among variables. These variables can be measured through the use of research instruments that are able to put data in a numerical order to enable statistical analysis using relevant procedures (Creswell 2014:32).

11.11.1.2 Research design

The researcher used a cross-sectional study design which is any research that examines information in many cases at one point in time. The design is commonly used in descriptive studies (Neuman 2014:44). In this research, the researcher used a quantitative approach because it can better help to assess levels of screening utilisation and enable them to draw relationships between variables.

11.11.1.3 Research setting and population

Health facility-based study was conducted in Hawassa City Administration. It is the regional capital and the only City administration in South Nation Nationality People Regional State (SNNPRS) and has an estimated population of 359, 558. Its adult HIV prevalence is estimated at 0.7%. For the female, HIV prevalence is about 1.4% based on the 2015 national estimate (Ethiopian HIV/AIDS Strategic Direction 2016:4).

11.11.1.4 Sampling, data collection and analysis

In this study, the researcher used a systematic sampling technique. Systematic sampling is a random sample in which a researcher selects every k^{th} number in the sampling frame to select participants (Neuman 2014:258). Quantitative data were collected using standardized, pre-tested, and structured questionnaires. The questionnaire was developed by reviewing different kinds of literature. Data were checked for completeness and consistency. Cleaned data was then be coded, entered and analysed using SPSS version 25 software.

11.11.2 Phase two: Strategy development

Phase two focuses on strategy development. The strategy was developed based on the current study results, WHO guidelines, standards, other relevant aspects from various reviewed literature based on the set conceptual framework. The theoretical framework informed the development of the strategy.

11.12 SCOPE OF THE STUDY

The study assessed the level of cervical cancer screening service utilisation among women living with HIV. The study was conducted in three public health institutions in Hawassa city administration that have functional HIV diagnosis, treatment, and related care.

11.13 STRUCTURE OF THE THESIS

The thesis is structured according to chapters. The following is the synopsis of what every chapter entails:

Chapter 1: Orientation to the study.

This chapter presents an overview of the study, including introduction, the background, statement of the problem, the objective of the study, the definition of key concepts, research methodology, theoretical framework, ethical considerations, the scope of the study and the structure of the dissertation.

Chapter 2: Literature Review.

The chapter focuses on the literature review. The focus of the review was cervical cancer screening service utilisation among women living with HIV. The chapter also examines the determinants of the screening services and different interventions used for the promotion of cervical cancer screening on the theoretical framework of the study.

Chapter 3: Research Design and Method.

This chapter provides a comprehensive portrayal of the research approach that was briefly featured in Chapter 1. This section further presents the aspects of validity and reliability of the study. It also presented the steps followed to address ethical issues.

Chapter 4: Analysis, Presentation, and Description of Research Findings.

The chapter presents the result of the study. The part exhibits the findings both descriptively and analytically, looking for the relationship between determinants of cervical cancer screening use in relation to the Health Belief Model.

Chapter 5: Discussion of Research Findings.

This chapter provides a discussion part of the study. The theoretical framework of the investigation guided the understanding and dialogue of the study findings in this section.

Chapter 6: Strategy development

The chapter tends to one of the goals of the study, which is the development of a strategy to improve cervical cancer screening usage among women living with HIV. The chapter presents the draft strategy, and the process used to refine the strategy and until the presentation of the final one. The final strategy.

Chapter 7: Conclusions, recommendation, and limitation of the study

This chapter emphasizes the conclusion, recommendation, and limitation of the study.

1.12 CONCLUSION

This chapter introduced the study and presented the background and statement of the research problem. It also provides the theoretical framework, research methodology, which includes both situational analysis and strategy development approach. The next chapter, which is chapter two, focuses on the literature review.

13 CHAPTER TWO

14 LITERATURE REVIEW

14.1 INTRODUCTION

In chapter one, the researcher provided an orientation to the study including the outline of this thesis. The researcher critically analyzes the relationships between different research works in this chapter, summarizes and synthesizes prior research related to the topic, problem, and main study variables and theory-based variables. This chapter discusses existing literature to recognize groundbreaking or classical research, history, and hypotheses already published utilisation of screening services for cervical cancer. The analysis of literature is based on the basis that scientific research is a cumulative effort based on participation and outcome exchange by different researchers (Neuman 2014:130; Rallis 2018:1).

The information in this chapter is structured in accordance with the key concepts in the study: the importance of reviewing the literature, methodology, and literature review strategy. The chapter also explains the epidemiology and etiology of cervical cancer, the use of screening among women living with HIV, related causes, and approaches to enhance the screening of cervical cancer among women living with HIV. The last section of this chapter presents the limitations of the existing literature.

14.2 LITERATURE REVIEW PARADIGMS

A literature review paradigm is a summary of the states of evidence on the research problem (Polit & Beck 2017:170). The literature review paradigm can be classified in six, according to Neuman (2014:130-132). The following are the different literature review paradigm:

- *Context review:* This is paradigm focus on linking a study to a broader knowledge base. This paradigm assists in locating the study in relation to a broader framework and how the study is adding value or complementing the existing framework.
- *Historical review***:** In this review, the researcher focuses the study in relation to what happened and evolved in the line of the concepts under study over time. This mostly relates to the initial development of specific theories and concepts and how that has changed over time up to the current stage.
- *Integrative review:* In this review, the author presents and summarizes a topic's current state of knowledge, highlighting agreements and discrepancies within it. This study is often paired with a background analysis or, as a service to other researchers, can be written as an independent paper.
- *Methodological review:* A detailed form of integrative analysis in which the author compares and examines different studies relative to the methodological intensity and demonstrates how different methodologies account for different results.
- *Self-study review:* A summary showing an author's familiarity with a subject area. It is often part of a prerequisite for an education program or course.
- *Theoretical review:* A detailed analysis in which the author introduces and compares various theories or ideas focusing on the same subject based on assumptions, logical consistency, and scope of the description.

In this research, an integrative type of literature paradigm was used. Using the paradigm of literature review enriches the researcher with basic knowledge of cervical cancer screening for women living with HIV, screening factors, and screening strategies based on the purpose and goals of the report.

14.3 SEARCH STRATEGY AND ORGANIZING LITERATURE

A systemic methodology (integrated literature review paradigm) was used to investigate all available literature references and incorporate specific research paradigms. The literature review was done systematically for evaluating current evidence based on the use of cervical cancer screening, obstacles that decide the use service, and strategy relevant to the screening of cervical cancer. The extent of the survey was restricted to English language publications, studies published between 2012 and 2019, and literature discussing the use of cervical cancer screening and factors determining the use of screening services among women living with HIV.

Data sources related to the study subject were methodically investigated and reviewed from published articles in newspapers or magazines, online publications, monographs, clinical journals, conference papers, master dissertations and doctoral theses and textbooks. Also included were national and international strategy studies, policy papers, blogs, and publications by government agencies and professional organizations.

The researcher reviewed databases and papers on PLOS ONE, Biomed Central Health Services Review, EBSCOhost, Elsevier, Google Scholar, CINAHIL and SAGE. The Guidelines and journals issued by UNAIDS, GLOBOCAN, Ethiopia's WHO, and FMOH have also been reviewed. Examples of terms used for literature search were: cervical cancer screening, cervical cancer screening HIV positive women, cervical cancer, cervical cancer screening strategy among women living with HIV, early detection, factors affecting the screening, information about screening for cervical, treatment, perceived Susceptible and perceived barriers.

14.3.1 Inclusion criteria for searching the literature

In current study searching literatures were based on different criteria including Studies that explored the magnitude of cervical cancer globally, Africa, and

national perspective; Studies that examine levels of cervical cancer screening utilisation among women living with HIV; Studies that examined factors that influences the utilisation of cervical cancer screening especially among women living with HIV; Studies that explored the strategy for improving cervical cancer screening among women living with HIV; Studies published in English and since 2012.

14.3.2 Exclusion criteria

In current study, studies that have not been able to verify academic credibility studies not written in other languages rather than English, publications before 2012, studies not focusing on the determinants of cervical cancer screening service, studies that did not focus on utilisation of cervical cancer screening service in Global, Sub-Saharan and Ethiopian context were excluded from literature review.

14.4 LITERATURE APPRAISAL

Critical evaluation of research involves a systematic, objective, careful examination of all aspects of studies to assess their strengths, shortcomings, significance, and purpose (Grove, Burns & Gray 2014:451). Polit and Beck (2017:183) describe the critical evaluation of the documents as helping to reduce the abundance of information and enabling researchers to concentrate on articles specific to the research issue. The review of this literature included a critical examination of the various sources, resulting in a description of evidence on the research topic (Polit & Beck 2017:185). According to Gray et al. (2017:242), then arranging literature sources in an organizational pattern is essential and helpful for readers to make sense of the studies reported by a researcher. Developing the ability to write coherently about what have found in the literature requires time and planning. Finally, the researcher organized the information that has been found into sections by themes (Gray et al. 2017:242). So, a careful analysis of the content led to the identification of the main themes.

14.5 EMERGENT THEMES

The following are themes that emerged in the process of literature appraisal:

- Epidemiology of cervical cancer in global, Africa, and Ethiopia perspective.
- Causes of cervical cancer
- Utilisation of cervical cancer screening among women living with HIV
- Factors determining screening of cervical cancer specifically for women living with HIV
- Strategy that helps for enhancing cervical cancer screening among women with HIV

14.5.1 Epidemiology of cervical cancer in Global, Africa, and Ethiopia perspective

This section presents information about the epidemiology of cervical cancer globally, in Africa and Ethiopia's perspective.

14.5.2 An overview of Cervical Cancer

Almost all cases of cervical cancer are caused by a continuous (very long-lasting) infection with one or more oncogenic HPV (Ibrahim 2014:1). Human papillomavirus (HPV) is a virus which is transmitted through sex, which is a causative agent of cervical cancer (Boda, Docea, Calina, Ilie, Caruntu, Zurac & Tsatsakis, 2018:640). There are more than 150 types of HPV among which 40 are able to infect the cervix, and some of those 40 are carcinogenic (Keller 2015:142). Keller (2015:142) the highly carcinogenic is HPV-16 which accounts for more than 50% of all cases cancer of the cervix. This is followed by HPV-18 which is responsible for more than 10% of Cervical cancer (UNAIDS 2016: 2).

Though HPV infection progress slowly to the cancerous stage, in women living with HIV the progression becomes rapid and fatal (WHO 2014:38; Ibrahim 2014:1). According to the World Health Organisation, the long period between the pre-cancer stages which can take about 10-20 years provide the opportunity for early

detection through screening and early initiation of treatment. However, immunocompromised women (for example, those living with HIV) progress more rapidly from pre-cancer to cancer phase (WHO 2014:38). The availability of prophylactic vaccines and programmes for screening reduces cervical cancer-related mortality (Arbyn, Weiderpass, Bruni, Sanjose, Saraiya, Ferlay, & Bray 2018:2). The healthy immunity is able to fight HPV infection and prevent the development progression of precancerous cells to cancer (Song, Li, Li & Dai 2015:601).

14.5.3 Global epidemiology of Cervical Cancer

Cervical cancer is very common among women aged 45 years and above globally and the number one killer in most countries especially those in the Sub-Saharan region and Asia (Runge, Bernstein, Lucas & Tewarib 2019:40; WHO 2014:37). This cancer is a major public health problem for women in poorly resourced countries (Fasanu, Akindele, Adebimpe, Ala, Omopariola, Adisa 2014: 172). According to the World Health Organisation report (2014:37), almost 231 000 women are annually living cervical cancer in low- to middle-income countries. Among those women, about nine out of every ten will die annually (Ngoma & Autier 2019:952). In contrast, in high-income countries, only 35 000 women are diagnosed with cervical cancer and only one out of 10 women died (Ginsburg, Bray, Coleman, Vanderpuye, Eniu, Kotha, Sarker, Huong, Allemani, Dvaladze, Gralow, Yeates, Taylor, Oomman, Krishnan, Sullivan, Kombe, Blas, Parham, Kassami & Conteh 2017:855).

14.5.4 Epidemiology of cervical cancer in Africa

Cervical cancer is the second most frequently diagnosed cancer annually (80,400) and the leading cause of cancer death (50,300) in African women (Abate 2015:1). Cancer of the cervix is an important public health challenge in low- and middle-income countries (LMICs) (Shiferaw 2016:88). According to Shiferaw (2016:88), cervical cancer is killing most of the women in low- and middle-income countries

who are in their productive age thus affecting the socio-economic status of the country and also their community.

In developing countries, almost nine out of ten (87 %) cervical cancer deaths occur (Belete et al. 2015:1). According to GLOBOCAN 2012, cervical cancer is the second most frequent cause of female cancer in women aged 15–44 years in Sub-Saharan Africa (Ferlay et al. 2015:381). Human Papillomavirus and Related Diseases Report also showed that age-standardized incidence rates in Malawi, Mozambique, Comoros, Zambia, Zimbabwe, and Tanzania have among the highest in the world at over 50 cases per 100,000 women annually (Vuyst, Alemany, Lacey, Chibwesha, Sahasrabuddhe, Banura Denny and Parhami 2013:32). Additionally, Ferlay et al. (2015:381) also showed that Cervical cancer is the leading cause of female cancer deaths overall in SSA, with 57,381 deaths reported in 2012.

Regarding Eastern Africa, age-standardized incidence and mortality rates are highest (Bray, Ferlay, Soerjomataram, Siegel, Torre & Jemal 2018:405). Which also has the highest HPV prevalence in the general population (20.5%, compared with 18.6% in SSA overall and global prevalence of 4.1%) (Black & Richmond 2018: 65). A study by Kileo (2015: 552) states that countries in East and Southern Africa have the highest reported age-standardized incidence rates per 100,000 women: Guinea (50.9), Lesotho (61.6), Tanzania (68.6) and Zambia (53.7).

Africa cervical cancer multi indicator incidence and mortality Scorecard showed that out of the 20 countries globally with highest mortality rate of cervical cancer by absolute numbers, seven are African countries with Nigeria being first; followed by Ethiopia at second position; third DRC; fourth South Africa; fifth Tanzania; sixth Mozambique; seventh Kenya (Africa Coalition On Maternal Newborn & Child Health 2014:3).

Two-thirds of the world's cases of HIV infection are found in sub-Saharan Africa, where a shortage of resources and biological factors work synergistically to increase women's lifetime risk for developing cervical cancer (Kharsany & Karim 2016: 36). Infection with HIV increases women's risk for human papillomavirus

(HPV) infection, cervical cancer precursor lesions, and invasive cancer (Huchko, Leslie, Sneden, Abdulrahim, Maloba, Bukusi, & Cohen 2014:740; Ochomo, Atieli, Gumo & Ouma 2017:675).

14.5.5 Epidemiology of cervical cancer in Ethiopia

In Ethiopia, cervical cancer is the commonest cancer which is killing most women (FMoH 2015:8). In 2010, about 20.9 million women were considered prone to f developing cervical cancer in Ethiopia (Getachew, Getachew, Gizaw, Ayele, Addissie & Kantelhardt 2019: e0216522). The annual number of women estimated to be diagnosed with cervical cancer was 4,648 with death of at least 3,235 Getachew et al. 2019: e0216522).

The World Health Organisation reported that in 2012, Ethiopia had about cervical 17.3% incidence rate, 16.5% mortality and the prevalence of 18.2% (Bedassa, Ali & Gizaw 2017:11). Bedassa et al. (2019: 13) also showed that the most prevalent cancers in Ethiopia among the entire adult population are breast cancer (30.2%) and cancer of the cervix (13.4%). In Ethiopia, despite the high estimation of cervical cancer, only 0.6% of women Age of 18- 69 years were screened every three years (FMoH 2016:13). Gedefaw, Astatkie, and Tessema (2013: e84519) also support this idea, who reported that nearly a quarter (22.1 %) of Southern Ethiopian women living with HIV were positive for precancerous cervical cancer.

Memirie, Habtemariam, Asefa, Deressa, Abayneh, Tsegaye, Abraha, Ababi, Jemal, Rebbeck and Verguet (2019: 2) state that local data on cancer epidemiology in Ethiopia are lacking. A study conducted by Tadesse (2016: 1) showed that Ethiopia has a high incidence rate of cervical cancer and it has to be prioritized as the level of existing risks so that resources, policies, and strategies can be properly set and put in place to address the issue comprehensively.

14.5.6 Cervical cancer and human immunodeficiency virus (HIV) infection

Cervical cancer is a defining illness of AIDS in patients living with HIV (Ghebre, Grover, Xu, Linus 2017:102). Women living with HIV have a higher prevalence of HPV infection. This is related to the evolution of precancer to cancerous at a very

young age, rapid progression to invasive cancer, and presentation to the clinic when the diseases have progressed to the final stage (WHO 2014:55).

14.5.7 Cervical Cancer Screening

World Health Organisation report (2017: 24) defined Screening as the application of a test on a symptom-free stage to rule out a particular disease. In relation to cervical cancer screening, this involves testing healthy women at regular intervals regardless of symptoms (Kauffman, Griffin, Lund & Tullar 2013: 315). Screening aims to detect cancer at a pre-cancer level that is potentially curable (Loud & Murphy 2017:122). Early detection of the precancerous cells assists in early initiation of treatment thus averting death (WHO 2017:24).

WHO Guideline (2009: 14) reported that the standard sequence of screening and diagnosis is colposcopy, biopsy, cytology and CIN histological confirmation. Paul, Winkler, Bartolini, Penny, Huong, Nga, Kumakech, Mugisha and Jeronimoa (2013:1281) emphasised the 'screen-and-treat' intervention where people are initiated to cancer treatment immediately after positive diagnosis. The goal of a screen-and-treat is to avert death related to cervical cancer (WHO 2009:9). The "screen-and-test" program include screening and referring woman for treatment mostly with Cryotherapy (Santesso, Mustafa, Schünemann, Arbyn, Blumenthal, Cain, Chirenje, Denny, Vuyst, Ecker, Forhan, Franco, Gage, Garcia, Herrero, Jeronimo, Lu, Luciani, Quek, Sankaranarayanan, Tsu & Broutet 2016:252). In resource-constrained settings, where screening with an HPV test is not feasible, the World Health Organization panel suggests a strategy of screening with VIA and treat (WHO 2009:16). However, the screening uptake remains very low (Catarino, Petignat, Dongui & Vassilakos 2015: 283).

The first choice is treatment is Cryotherapy (WHO 2013:9). According to the guideline, LEEP is the alternative treatment for women who are not prepared for cryotherapy. If the whole lesion is visible, the squamocolumnar junction is noticeable, and not more than 75% of the ectocervix is affected, screen-positive females are eligible for cryotherapy (Deroche, Rensburg, Roseleur, Sanusi, Phiri,

Michelow, Smith & Firnhaber 2018: e0203921). The patient is not prepared for cryotherapy if the lesion continues beyond the cryoprobe used or into the endocervical channel (Santesso et al. 2016:252).

14.5.8 Utilisation of Cervical Screening among Women Living with HIV

The initiation of cervical cervical smears has reduced the death related to this cancer (Kei, M'Ndegwa, Ndwiga & Masika 2016:289). In developed countries, the screening utilisation rate ranges from 40% and 90% (Kelio 2015:553). A study conducted in the USA by Frazier, Sutton, Tie, Naghten, Janet. Blair and Skarbinski (2016:124) showed that about 78% of women living with HIV were ever screened for cervical cancer. Another study conducted by Wigfall, Bynum, Brandt, Friedman, Bond, Lazenby, Richter, Glover& Hebert (2015: 213) showed that the majority (83%) of women living with HIV had utilised cervical cancer screening.

The incidence of cervical cancer differs grossly between women in high-income and those from low- to middle-income countries (WHO 2014:38-39). A study conducted in Nigeria among women living with HIV revealed that only one in every ten (9.4 %) of HIV positive women were screened for cervical cancer (Ezechi, Gab-Okafor, Ostergren & Pettersson (2013: 6). Another study conducted in Morocco showed that only 13% had undergone a Pap smear test (Belglaiaa, Souho, Badaoui, Segondy, Prétet, Guenat, and Mougin 2018: 3). Regarding Ethiopia, although the FMoH of Ethiopia supported the integration of cervical cancer screening services within selected HIV/AIDS centers, the utilisation of cervical screening services among women living with HIV is still low Shiferaw et al. (2016:88).

As indicated in a study conducted by Shiferaw et al. (2016: 88) in Addis Ababa Ethiopia, only about 24.8% of participants were ever screened for cervical cancer. In addition, a low (10%) utilisation of cervical cancer screening service was observed in Northwest Ethiopia among women living with HIV (Nega, Woldetsadik & Gelagay 2018:3).

14.5.9 The Health Belief Model (HBM)

Health belief models try to predict behaviour. For example, knowledge, attitudes towards cervical screening, and other preventive health actions can be explained by the health belief model. The model is based on a value-expectancy concept, where the “value” is the desire to avoid illness, and the “expectancy” is the belief that a health action would prevent illness (Ibrahim 2014:1). In accordance with the health belief model, people take action to prevent or alleviate an illness or condition if:

- They consider themselves as susceptible (perceived susceptibility) to the condition,
- They believe the condition to have serious consequences (perceived severity),
- They believe the available course of action would alleviate their susceptibility or the severity of the condition, and
- They believe the benefits of the suggested action out-weigh barriers or costs (Ibrahim 2014: 2)

14.5.9.1 Factors affecting cervical cancer screening among women living with HIV in relation to the Health Belief Model

The study was guided as a conceptual framework by the Health Belief Model (HBM), and the research questions were derived from Glanz, Rimerand and Viswanath's (2015:49) three main tenets of the HBM, namely:

- Modifying factors
- Individual beliefs
- Action

14.5.9.1.1 Modifying factors

According to Joshi and Bhagwat (2018:722), a risk factor is any trait, trademark, or the introduction of a person that improves the probability of building up a disease or damage. In this study demographic variables such as age, education level, marital status, occupation; socio-psychological variables including the respondent's income, employment status, religion, occupation of husband, educational level of husbands, number of children, number of sexual partners, duration of taking ART and structural variables as previous experience with cervical cancer screening and ever know someone with cervical cancer.

A study by Ekechi (2014:8) revealed that ethnicity, migration, and religiosity play a role in predicting cervical screening attendance. Accordingly, education level, age, having many sexual partners, and smoking were the most commonly reported risk factors. A study by Ochomo et al. (2017:677) also showed that the knowledge and utilisation of the availability of medical services like cervical cancer screening were determined by socio-demographic factors like gender, age, education level, religion, marital status, and occupation. A study conducted in Malawi by Yandakale (2013:2) also revealed that women's in African countries utilisation of cervical cancer screening might be influenced by the shortage of trained providers, absence of motivation talks, inadequate material, and structural resources, unfavorable schedules for screening, and women having to travel far to reach health facilities that render these services. Although cervical cancer is preventable, there are still large numbers of women who die of cervical cancer in many countries (WHO 2014:51).

14.5.9.1.2 Knowledge

Correct information related to cancer promote the choice of cervical screening (Ochomo et al. 2017:677). In sub-Saharan Africa, Low levels of awareness and poor knowledge of cervical cancer coupled with unavailability and inaccessibility of cervical cancer screening services are responsible for the very small number of women being screened (Mabelele, Materu, Ngida & Mahande 2018:566). Ochomo

et al. (2017:678) stated that the more the women is knowledgeable, the higher the possibility of utilizing the screening services.

14.5.9.1.3 Perceived susceptibility

According to Yandakale (2013: 22) and Mpata (2015: 34), perceived susceptibility is how an individual assumes the possibility of contracting a specific condition. According to Oshima and Maezawa (2013:4317), women must believe that there is a possibility of getting cervical cancer before they will be interested in getting screened.

14.5.9.1.4 Perceived severity

Consumer health informatics research resource defines perceived severity as the degree people believe a particular disease or condition is serious. Perceived severity includes how people perceive the deleterious consequences of a serious health event or outcome such as death, disability, and painis averted which are related to the diagnosis of cervical cancer. (Glanz et al. 2015:102) A study conducted in Zimbabwe by Mpata (2015: 35) also showed that the combination of susceptibility and severity had been labeled as a perceived threat.

14.5.9.1.5 Perceived benefits from screening

Perceived benefit refers to an individual's subjective opinion of the value or usefulness of enacting health behaviour to offset the perceived threat (Olji 2012: e9). The author further states that individuals must perceive that the target behaviour (cervical cancer screening) will provide strong positive benefits. Specifically, the target behaviour (cervical cancer screening) must have the tendency to prevent the negative health outcome (death, disability, and pain).

14.5.9.1.6 Perceived barriers

Perceived barrier refers to an individual's subjective evaluation of the difficulties of the hindrances associated with the target behaviour (cervical cancer screening) (Olji 2012: e9). Factors associated with perceived barriers of cervical cancer screening are complex and varied. The cervical cancer screening schedule can be a potential barrier to the services. Providing the services every day of the week can allow users to come on their convenient days and this can motivate more women to use the screening (Ibrahim 2014:3).

14.5.9.1.7 Clues to action

Early information on the Health Belief Model included the concept of the cues that can trigger actions. Readiness for action (perceived vulnerability and perceived benefits) could only be strengthened by other factors, in particular by signs of action such as body events or environmental events such as media advertising (Mpata 2015:39). It consists of both internal and external stimuli that will activate the desired action of a person (Orji et al. 2012:e9).

14.5.9.2 Strategies towards Cervical Cancer Screening among Women Living with HIV

In developed countries, programmes are in place that enables women to be screened, making most pre-cancerous lesions identifiable at stages when they can easily be treated (WHO 2019:3). Early treatment prevents up to 80% of cervical cancers in these countries (Jindala, Kaurb & Murugana 2017:2723). In contrast, 95% of women in developing countries had never been screened for cervical cancer (Abate 2015:4). Moreover, several studies indicate that many African nations have not recognized cervical cancer as a disease of public health importance (Ochomo et al. 2017:677). The new prevention strategy for cervical cancer is directed at immunization against this HPV infection before the first sexual exposure as a form of primary prevention, or to screen for evidence of pre-invasive

lesions of the cervix, as a form of secondary prevention (McGraw and Ferrante (2014:746).

Cervical cancer is a heavy burden parallel that of the HIV infection, which increases the risk of developing cervical cancer (Viviano, Catarino, Jeannot, Boulvain, Malinverno, Vassilakos & Petignat 2017:1382). The human resources necessary to implement cervical cancer prevention must also be appropriately managed.

Programme planners should be encouraged to use the WHO framework as a basis for building a national cervical cancer prevention and control programme. According to WHO, a strong health system should be built on the following six building blocks: Service delivery, Health workforce, Information, Medical products, vaccines technologies, financing, and Leadership/governance (WHO 2014:14).
Recently there has been a global call to action to eradicate cervical cancer worldwide. Advances in screening and early treatment methods combined with higher awareness and integration of public health programs are leading to the development of practical, locally tailored programs to reach the most women possible (Abt-ACOG 2019:2).

14.6 GAPS IN LITERATURE REVIEWED

There is lack of high-quality evidence on the prevention of cervical cancer for HIV-positive women. The most prevailing factors stand in the way of women attending cervical cancer screening needs deep investigation; these pose challenges on the intended uptake of cervical screening services (Viviano et al. 2017: 1383). There is a limited strategy to mobilise individuals to utilise cervical cancer screening programmes. Limitations in proper guidance on this aspect need to be addressed with further studies (Melamed, Rauh-Hain & Ramirez 2019: 3070).

There is scanty or inconclusive evidence on which a cervical cancer screening tool is effective and suitable for HIV-seropositive women. The available studies do not

reveal well the required standard cervical cancer screening test or programme for HIV-seropositive women (Mapanga, Girdler-Brown, Feresu, Chipato & Singh 2018: 199).

There are few researchers of women living with HIV that discuss the roles and functions of HPV vaccination. The scanty available information examined safety and serostatus of HPV types 6, 11, 16, and 18 in HIV-seropositive women showed in HPV-seropositive women, vaccination induced a significant increase in antibody levels (Andrea, Pellicano, VenanziRullo, Aleo, D'Facciola, Coco, Visalli, Picerno, Condorelli, Pinzone, Cacopardo, Nunnari & Ceccarelli 2019:e1224). The Author also further states that the seroconversion proportions were higher among women with baseline CD4 cell counts >200 cells/µL. Furthermore, HPV vaccination will potentially prevent cervical cancer: therefore, HPV vaccination should be recommended not only for young girls (age 9-14) but also for boys and people infected with HIV, regardless of their age. Further study needed in examining the facts on those aspects.

In the context, methodological limitations such as conventional methodology or drawbacks in identifying cause and effect relationships may be misleading. Similarly, it cannot be used as a cross-sectional analysis to analyze actions over time or to determine cause and effect. Therefore, it is not possible to conclude the factors with certainty; more rigorous studies should always validate it (Andrea et al. 2019: e1224).

As noted earlier, in HIV-positive women, many of the cited studies have expressed specific issues regarding strategies and methods for screening cervical cancer. However, many of these studies have considerable methodological and study design limitations that necessitate further investigation (Mapanga et al. 2018:201).

Ultimately, more research with greater analytical intensity includes analysis of the essence of the detection, screening, and follow-up of known cervical cancer. Correspondingly, in the plan of cervical disease anticipation, screening, and line up of HIV-positive Women with exceptional accentuation on creating nations, for example, Sub-Saharan Africa, where Ethiopia is a piece of it.

14.7 CONCLUSION

This chapter covered the literature review. Aspects such as Epidemiology of Cervical Cancer in global, Africa and Ethiopia perspective, the etiology of cervical cancer, utilisation of cervical cancer screening among women living with HIV, factors associated with cervical cancer screening among women living with HIV, strategies improving cervical cancer screening among women living with HIV in the study area. The chapter concludes by providing gaps in the existing literature. The next chapter highlights the methodology used and the issues of ethics and measures of ensuring trustworthiness.

15 CHAPTER THREE

16 RESEARCH METHODOLOGY

16.1 INTRODUCTION

The previous chapter focused on the literature reviewed in relation to cervical cancer screening. This chapter presents the methodology with more emphasis on research paradigm, approach and design. It further describes the study context, population, sampling process, how data was collected and analysed and issues of validity and reliability. It also highlights the development of a strategy.

16.2 PARADIGM

A paradigm is a fundamental set of beliefs that direct action. It is a "worldview" or collection of beliefs about how things work, what tools to use, and how to interpret data to gain knowledge of the natural or social world. It frames how the discipline's concerns will be viewed and the direction that the research project will take. It implies requirements or guidelines for assigning importance or meaning to both a discipline's processes and products and information creation methods (Creswell 2013:35). This paradigm reflects the epistemological ontological and methodological assumptions of the study. An assumption is a theory that, without proof, is assumed to be valid (Polit &, Beck 2017:39). Polit and Beck (2017:39) state the assumption of positivists' belief that phenomena are not haphazard but rather have the antecedent factors.

16.2.1 Epistemological assumption

The epistemological assumption is the process of how we know what we know, and it is a researcher's beliefs about his or her role during the research process (Terrell 2016:68). The positivists gain knowledge through scientific research and

the gained knowledge is quantifiable (Polit & Beck 2017:39). The researcher followed the standard scientific procedure to undertake the current study.

- Quantitative data obtained through structured interviews in this study would explain experiences of HIV- positive women; participant's actual experiences, facts, and how things are in context to cervical cancer screening utilisation among women living with HIV would be detected.
- The participants' knowledge or way of thinking (what does or does not constitute valid knowledge) or what is known to be true as they experienced would be classified based on the standard knowledge questions applied to this research. The data analysis and drawing inferences in this research process helped the researcher to see the amount of reasoning or knowledge required.
- Participant's knowledge of empirical facts about cervical cancer screening will be reached through an analysis of their perception.
- Strategy development in this study enhances the services available based on the concepts of epistemology approach "what constitutes valid knowledge and how it can be obtained."

16.2.2 Ontological assumption

Ontological assumptions are readily based on the nature of reality, or it is about the researcher's beliefs about reality (Terrell 2016). In the positivist paradigm, the nature of reality needs to be fixed, stable, observable, and measurable (Polit & Beck, 2017:39). The current study utilised the health belief model, which is stable and measurable to determine the factors that hinder cervical cancer screening utilisation.

- The statistical approaches used (measurement, correlations, verification) revealed the real experience and understanding of cervical cancer screening utilisation or other prevention activities among women living with HIV. Following this approach has facilitated an understanding of 'how' and 'why' in the context of the current study.

- In this study, participants' subjective knowledge, how and why things happen would detect the use of perceptions in question and elucidate meaning.
- The positive approaches of ontology allow greater opportunity to maintain control of the research process as well as easily comparable collected data on cervical cancer screening among women living with HIV.
- Participants' motivations, values and meanings revealed the use of culturally situated interpretations in this study.

16.2.3 Methodological assumption

According to Terrell (2016: 68), the methodological assumptions are based on the researcher's axiology, ontology, and epistemology. They use quantitative research methods such as experiments, quasi-experiments, exploratory and empirical models, case studies, and correlation to calculate the goal and interpretation as well as an appropriate tool for generating relevant information. In the current study, the following acceptable quantitative measurement has been conducted:

- Variables were computed in order to get composite knowledge, perception, and willingness concerning cervical cancer screening utilisation.
- Correlation between demographic variables with composite knowledge was conducted.
- Multivariate analysis between the demographic and psychosocial variables with knowledge about cervical cancer and cervical screening was done.
- Correlation between each variable with dependent variable utilisation of cervical cancer screening was done.
- Finally, to determine which variable is determining factor affecting cervical cancer screening utilisation, multivariate analysis was done.

16.3 RESEARCH APPROACH

The study utilised a quantitative approach. Quantitative analysis, through analyzing the relationship between variables, is a method for testing empirical hypotheses (Polit & Beck 2017:45). Quantitative approaches emphasize objective measurements and statistical, analytical, or numerical analysis of data obtained by interviews, questionnaires, and surveys, or by using computational techniques to modify pre-existing statistical data phenomenon (Creswell 2014:32).

In this study, the researcher used a quantitative approach in order to assess levels of the screening utilisation and to draw relationships between variables. In addition, variables (determinants influencing the use of cervical cancer by women living with HIV) can be calculated, usually on instruments, so that statistical methods can be used to evaluate numbered results. Therefore, the relevance of the quantitative paradigms in this study allowed an investigation of the factors associated with cervical cancer screening utilisation among women living with HIV.

16.4 RESEARCH DESIGN

A research design is an investigative plan, structure and approach designed to provide answers to questions and problems (Polit & Beck 2017:98). This provides an overview of what the researcher will do from writing the hypothesis and its practical consequences to the research's final analysis (Kumar 2019:154). Similarly, as reflected by Gray et al. (2017:52), a research design is a general strategy for the implementation of a study to answer a specific research question. Kothari and Garg (2014: 29) defines Study design as a conceptual framework and design for data collection, measurement, and interpretation to incorporate significance for the study. The research design enables the researcher to come up with solutions to problems like who is to be studied, what is to be identified, when the identifications should be made and how data should be collected and analysed and to guide the researcher in the various stages of the study (Creswell 2014:33).

Cross-Sectional explanatory study design was used for the study. The most widely used method in social science is cross-sectional studies, also known as one-shot or status studies. It is best suited for research to assess the incidence of a disease, condition, problem attitude or question by taking a cross-section of the population (Kumar 2019:172). The quantitative part was consistent with the health belief model concepts, investigating women's knowledge perception and attitude about the utilisation of cervical cancer screening services among women living with HIV in Hawassa city administration.

16.5 STUDY SETTINGS

The setting is a location where the study is conducted (Grove et al. 2013:372). The setting of this study is the Hawassa city administration. Hawassa city administration is the regional capital and the only city administration in South Nation Nationality People Regional State (SNNPRS), which is directly accountable to the region. According to the city administration, an estimated 359, 558 populations reside in Hawassa city. The city administration adult HIV prevalence estimated as 0.7%, particularly female HIV prevalence is about 1.4% based on the 2015 national estimate (Ethiopian HIV/AIDS Strategic Direction 2016:4). At present, Hawassa city has two public hospitals and two public health centers providing HIV diagnosis, treatment, and related supportive services. Similarly, the two public hospitals, three health centers, Mari-stop clinic, Mari-joy clinic, and FGA (Family Guidance Association) clinics are providing cervical cancer screening services.

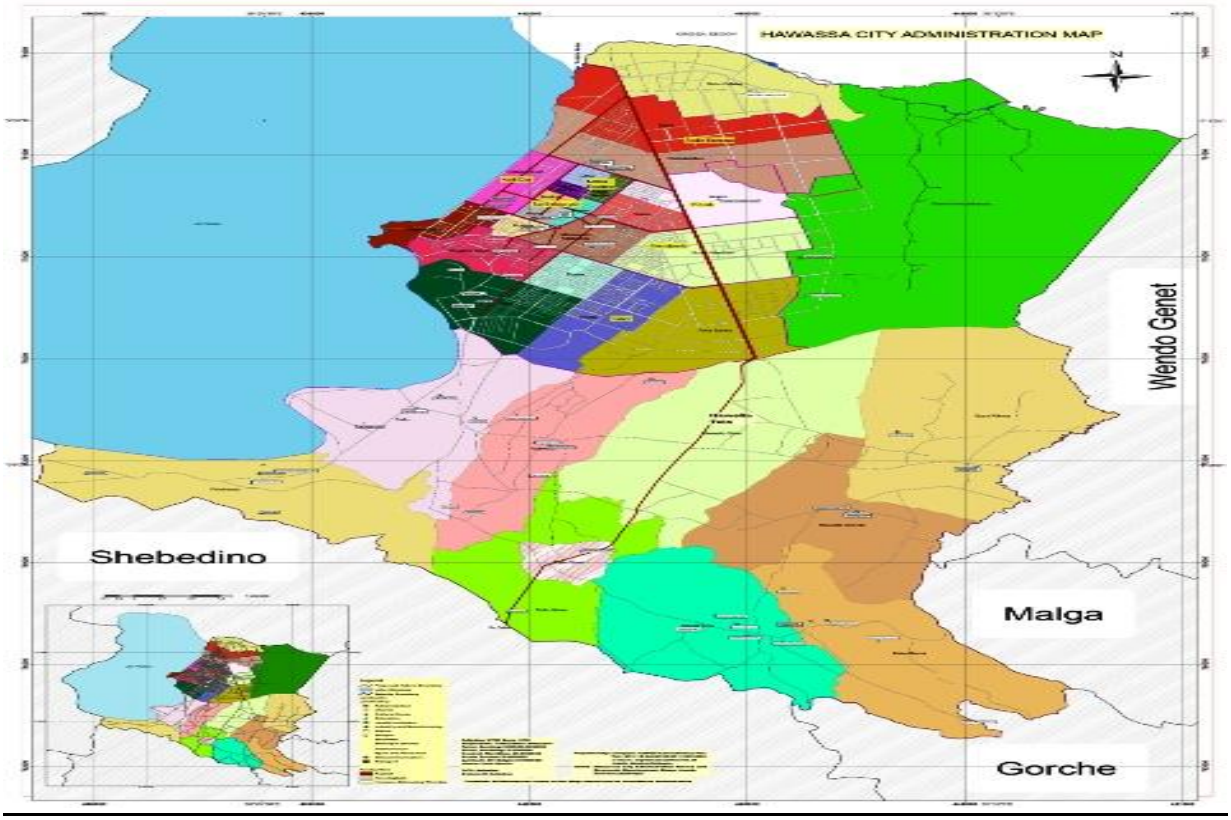

Figure 16-1 Map of Hawassa City Administration

16.6 POPULATION

A population is described as a particular group of people that is the focus of the research (Brink, Walt, & Rensburg 2018:116). There are different types of populations. One of those types is the target population. According to Brink et al. (2018: 116), the target population is the entire set of individuals meeting the sampling criteria under investigation which the researcher would like to make generalizations. In this study, all females living with HIV in the study setting were the target population.

Study units: is a subset of a study population, the unit on which information is collected or among women living with HIV in Hawassa city participating in the study (Babbie 2017:203).

16.6.1 Inclusion and exclusion criteria for participants

Criteria for inclusion are a collection of predefined criteria used to classify subjects to be included in a research study. Inclusion criteria, together with exclusion criteria, constitute the selection or eligibility criteria used to determine the target population for a study (Brink 2018:116). Inclusion criteria should respond to the scientific objective of the study and are critical to accomplishing it. Inclusion criteria or eligibility characteristics for the study included women: aged older than 18 years, women living with HIV.

16.7 SAMPLE

A sample is a part, or fraction, of a whole, or a subset of a larger set, selected by the researcher (Brink et al. 2018:117). Polit and Beck (2017:243) describes sampling as the process of obtaining information about the entire population by examining a smaller set of cases. It is important to minimize the cost of the study, make the study feasible and improves the quality of data (Yidenkale 2013:83).

16.7.1 Sampling strategy

Probability or random sampling technique has been used to improve the representation of the target population of the sample (Grove et al. 2015: 257). In order for a design to be called random sampling or probability sampling, each participant in the study population must have the same and independent selection opportunity in the sample (Kumar 2019:296). The researcher used a systematic sampling technique. According to (Babbie 2017:217), systematic sampling is a type of probability sampling technique in which every element in the total list is chosen in the sample.

In this study, Hawassa City Administration selected purposively, mainly due to very few studies in the city administration investigating the level of cervical cancer utilisation among women living with HIV. Hawassa City was also selected due to

the burden of people living with HIV (14 %) compared to other cities in Ethiopia (Federal HIV/AIDS Prevention and Control Office 2018:6). Public health facilities providing cervical cancer in Hawassa City Administration were selected randomly based on a simple random sampling technique. Following randomly selection of public health facilities the actual sampled participant or a woman living with HIV coming to the selected public health institutions' ART (Antiretroviral Therapy) clinic for ART services every third visitor was included in the sample within one-month period of the data collection. Interviewing of selected participants was done based on their arrival order to the health institution's ART services.

16.8 SAMPLE SIZE

According to Brink et al. (2018:128), in quantitative research, the sample size can be determined by using statistical computations. This is based on the assumption that data would be available for calculation of the sample size. Some of the factors utilised in calculating sample size include effective size (tables for many types of statistical tests that show the required sample size), standard error, confidence interval (power), and the size of the all-out populace from which the sample will be drawn (Kumar 2019:310). For this study, the population among women living with HIV who had visited the three randomly selected study sites during the previous year was used as an estimate for the population of such women during the study period. The researcher included systematically selected women living with HIV, from those who visited the three health facilities during the one month of the data collection. According to a study conducted in Addis Ababa City, which has similar socio-demographic characteristics with Hawassa city (Belete et al. 2015:1), the pervasiveness of cervical disease screening usage screening among Women living with HIV was 24.8%. Considering this prevalence level and assuming a precision level of 5% with a confidence level of 95%, the sample size required for this study would be 286 women living with HIV. Other researchers have been allowed for an anticipated non-responses rate of 10.0% (Belete et al. 2015:1).

Therefore, the total sample was 315. The sample size was calculated using the following formula:

The sample size (n) was determined using the single population proportion formula based on the following assumption.

- 24.8% proportion (p) was considered.
- 5% margin of sampling error tolerated.
- 95% confidence interval and $\left(Z_{\left(\frac{\alpha}{2}\right)}\right)^2$ is the value of the standard normal distribution corresponding to a significant level of alpha α = 0.05, which is 1.96.

$$n = (Z_{\alpha/2})^2 (p (1-p)) / d^2$$

- A further 10% of the sample was added to allow for participants attrition & incomplete questionnaires.

Hence the final sample size was 286 + 28.6 = 314.6 converted to 315 as the nearest decimal.

The sample was distributed among the three health facilities proportionally to the size of women living with HIV attending ART services. According to the Hawassa city administration health department and SNNPRS health bureau report, the numbers of women on ART services were 1569, 1056, and 209 for Hawassa comprehensive referral hospital, Adare general hospital, and Millennium health center respectively. Therefore, the samples comprised 174, 117, and 24 women in the above-mentioned health facilities, respectively.

16.9 DATA COLLECTION

This section is about data collection. It covers the aspect of the development of research instruments, recruitment of participants, and data collection procedure.

16.9.1 Research instruments

Research instruments are devices used to collect data (Brink 2018:135). The type can be varying from a checklist to a questionnaire to a sophisticated physiological measure (Brink 2018:135). The instruments include questions, scale, and interview (Brink 2018:138). Structured interviews, using interview schedules, were used for this study (See annexure 8). Grove et al. (2013:422), described the structured interview schedule as it contains closed-ended questions with pre-specified response alternatives by the researcher. The participants are asked to pick a response from the researcher's list and provide greater uniformity of responses and are easily processed.

The structured interview was developed based on the study objectives, literature review, and the HBM constructs. The researcher adapted questions from studies conducted by others and included sections about demographic characteristics, knowledge, and awareness about cervical cancer risk factors, symptoms, and screening level of knowledge (Shiferaw 2016:93) and barriers to cervical cancer screening (Mpata 2015:146). The interview schedule was comprised of A to H. This instrument comprised close-ended and open-ended questions. One-on-one individual structured interviews were conducted. Closed-ended questions required the interviewer to tick available responses and items, but where options were provided for the respondent to give ‘other responses’ and ‘specify,’ the interviewer was expected to write down the respondent’s answers precisely. For the open-ended questions, participants were allowed to respond freely, and the interviewer recorded the responses verbatim. For the open-ended questions, participants were allowed to respond freely, and the interviewer recorded the responses verbatim.

16.9.1.1 Section A: Modifying factors

According to Mpata (2015:51), different modifying factors such as demographics, socio-psychological, and structural variables may indirectly influence an individual’s perceptions. This, in turn, affects health-related behaviours such as

cervical cancer screening. Demographic factors might include age, marital status, educational status, occupation, household income, and religion. Socio-psychological variables were history of family planning, history of pregnancy, number of children, duration of HIV diagnosis, ART treatment, and knowing someone with cervical cancer. This section, therefore, in question 101 to 118 identified participants' socio-demographic information.

16.9.1.2 Section B: knowledge of women on cervical cancer and cervical cancer screening

Section B included questions that assessed participants Knowledge towards cervical cancer and cervical screening methods, Knowledge on risk factors and symptoms of cervical cancer, Knowledge on risk groups for cervical cancer, Knowledge on cervical cancer prevention and treatment methods, Knowledge on cervical cancer screening and Knowledge on recommended screening age and frequency for cervical cancer. Then measuring for the dependent variables and having any score greater than or equal to the mean score of knowledge defined as high score and a low score of knowledge as less than mean score of the collected data. This section, therefore, in question 201 to 218 identified participants' knowledge of cervical cancer screening.

16.9.1.3 Section C: Perceived susceptibility to cervical cancer

Section C included questions that assessed participants' perceptions of being susceptible to cervical cancer. Questions were designed to determine whether each respondent had undergone a cervical screening test previously; considered cervical cancer to be a health concern to her. This data established how participants perceived their risks of having cervical cancer, and their intentions of using cervical screening services. This was addressed in questions 301 to 406

16.9.1.4 Section D: Perceived severity/seriousness of cervical cancer

This section determined how women living with HIV perceived the seriousness of cervical cancer. Questions inquired about women's knowledge on the part of the

body affected, signs and symptoms, at what age cervical cancer would be common, likely hood of getting cervical cancer, whether they perceived the condition as a curse and how the removal of the uterus would affect them. This was explored through questions: 407-425.

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16.9.1.5 Section E: Willingness to cervical cancer screening

This section determined the willingness of women living with HIV to cervical cancer screening. Questions were designed to know the respondent's willingness to undergo cervical cancer screening if it is free and integrated with HIV, nearby health institutions, and any gynaecological examination. This was addressed by questions 501-506.

16.9.1.6 Section F: Perceived benefits of being screened for cervical cancer

This section determined the perceived benefits of being screened for cervical cancer by women living with HIV. Areas assessed included knowledge of available diagnostic procedures, where they could access these services, purpose of the screening procedures, and availability for treatment of early stages of the condition. This was addressed through questions: 208, 209, 217,218, and 302.

16.9.1.7 Section G: Perceived barriers to cervical cancer screening

Section G concentrated on the exploration of perceived barriers to cervical cancer screening. Questions in this section were categorised into sub-sections covering stigma, embarrassment, discrimination and fear, socio-economic factors, and traditional practices and the influence of traditional healers.

16.9.1.7.1 Sub-section G–1: Stigma, embarrassment, and fear

This sub-section contained questions structured to determine social factors associated with women’s intentions to be screened for cervical cancer such as stigma, embarrassment, and fear. These might affect regular attendance for

screening and sharing of information for support purposes. This was addressed in questions 701-710.

16.9.1.7.2 Sub-section G – 2: Socio-economic factors

The section covered areas such as discomfort, cost, and accessibility to cervical cancer screening services. Questions 706-712 explored social and financial determinants associated with women's intentions to utilise cervical screening services.

16.9.1.7.3 Sub-section G– 3: Traditional practices and traditional healers

This section explores how participants incorporated traditional beliefs in addressing cervical cancer-related problems. The information collected from this section assisted in identifying how the "use of traditional healers" is associated with early detection and treatment for cervical cancer. These could act as barriers to using cervical cancer screening services. This section comprised questions 713-716

16.9.1.8 Section H: Cues to taking a cervical cancer screening test

This section explored cues to having cervical cancer screening testing done by women living with HIV. Questions were designed to determine participants' knowledge about available sources of cervical cancer screening information, preferred venues, and methods of sharing cervical cancer screening-related information. This was addressed by items 801-805.

16.10 PRE-TESTING DATA COLLECTION INSTRUMENTS

No matter how carefully researchers design a data collection instrument, questioner, there is a possibility of error the researches will always make some mistakes: an ambiguous question one that people cannot answer (Babbie

2018:265). According to Brink et al. (2018:161), a pre-test or pilot study is a small-scale study conducted prior to the main study on a limited number of participants who are not part of the sample.

Prior to data collection, the researcher pre-tested the instrument with 15 women living with HIV, which are 5% of the total sample who meet the eligibility criteria, and they were not part of the actual study done at the Bushulo health center and family guidance association. Information collected from these women was not included in the final analysis of data. The health facility was also excluded from data collection for the main study.

16.10.1 Recruitment and training of three research assistants

Three Bachelor of Science (BSC) holder nurses or midwives were recruited and trained as research assistants (data collectors), and one Nurse holding Master of Science (MSC) was assigned as a supervisor in the process of the data collection. To ensure the quality of data collection training was conducted. The researcher conducted the training, which included the following areas: an overview of the study, how to recruit subjects, how to use the structured interview schedule, ethical considerations adhered to throughout this study, how to ensure quality data collection.

16.10.2 Recruitment of participants

According to Grove et al. (2013:374), after the researcher made a decision about the actual size of the study participants, the next steps in developing a plan for recruiting study participants, which involves identifying, accessing and communicating with potential study participants who are representative of the target population. According to (Grove et al. 2013:374), the researchers' initial communication with potential study participants affects the subject's decision about participating in the study. Therefore, the approach must be pleasant, positive, informative, culturally sensitive, and non-aggressive. This process involves the researcher explaining the importance of the study and providing

information to the potential participants about the duration of the study and how much of the participants' time will be involved (Grove et al. 2013:375).

Following ethical clearance from the Department of Health Studies, University of South Africa Research Ethics committee (Annexure 1), the proposal and ethical clearance were submitted to Southern Ethiopia Health Bureau ethics review board (SNNPR-IRB). A support letter was also obtained from the Southern Ethiopia Health Bureau health research and technology transfer support process (Annexure 3).

16.11 DATA COLLECTION TECHNIQUE

Data collection refers to gathering information to address a phenomenon under study (Grove et al. 2013:44). In this study, structured interviews were conducted among women living with HIV attending ART clinics at three health facilities. An interview is an experience with data collection in which one person (an interviewer) asks questions from another (an interviewer). It can be done face to face (Babbie 2017:273; Kumar 2019: 220). In structured interviews, the researcher asks a set of pre-determined questions, using the same wording and order of questions as specified in the interview schedule. An interview schedule is a written list of questions, open-ended or close-ended, thoroughly pre-tested for consistent language, context, and interpretation (Kumar 2019:221).

Three research assistants conducted data collection. The data collection process proceeded as follows:

- Clients waiting to be attended to at the ART clinics were given information regarding the study purposes and the inclusion criteria. while clients were
- Those interested in participating were asked to meet the researcher in a room identified for data collection, after their consultations with their healthcare providers.
- In the private data collection room, interested women met the interviewer individually and were provided with further information regarding the study, and the women's questions were answered.

- An informed consent form was sought and obtained from each woman who was part of the sample.
- The research assistant then interviewed each woman privately using the structured interview schedule.
- The interviewer asked the questions precisely, as stated on the instrument.

16.12 VALIDITY AND RELIABILITY

Validity and reliability are two important criteria for assessing the quality of design and instruments for quantitative research. Design validity is a consistency criterion that tests how reliable and well-founded inferences are made in a sample. In a research instrument, validity is an indication of the quality of a research instrument to measure what is supposed to measure (Kumar 2019:272). According to Brink et al. (2018: 151), instrument validity seeks to ascertain whether an instrument provides accurate measures given the content in which it is applied.

The definition of reliability in relation to a research tool has a similar meaning: if a research tool is consistent and stable, thus predictable and accurate, it is considered reliable (Kumar 2019:273). Thus, a reliable instrument should obtain similar scores when it is used with the same people on separate occasions or with a similar sample.

16.12.1 The validity of the structured interview schedule

The validity of the research tool refers to the degree to which an approach represents the abstract construct being studied (Terrell 2016:86). It is important for an instrument to be valid. The types of validity include face, content, predictive and construct validity (Brink et al. 2018: 151). For this study, face, content, and construct validity were used to determine the validity of the quantitative instrument.

16.12.1.1 Face validity

In face validity, the main concern is the extent to which the instrument is believed to be appropriate for the construct to be measured and essentially based on an intuitive judgment made by experts (Brink et al. 2018:152). According to (Grove et al. 2011: 194), face validity is a subjective assessment that might be made by the researchers or potential subjects.

During this study, the face validity of the instrument was enhanced by using ideas from the literature review, derived from similar studies. Besides, each question was reviewed against the objectives of the study. The research instrument was also examined by experts in the study areas to ensure that it was appropriate for measuring the construct under study. These experts included three study supervisors who are experienced researchers, the members of the Research and Ethics Committees of the Department of Health Studies, Unisa and Southern Nation Nationalities of People Institutional Ethics Review Board.

16.12.1.1 Content validity

Content validity is an assessment of how well an instrument represents all components of the variable to be measured (Brink et al. 2018: 152). This evidence is obtained from the following three sources: the literature review, representative of the relevant population, and content experts (Grove et al. 2011: 394). In this study, the content validity of the instrument was enhanced by incorporating ideas from the literature review of similar studies done by others. In addition, the experts assessed the wording of each item for clarity, sensitivity, and bias. The sequence of the items was also assessed so that there was a meaningful order.

16.12.1.2 Construct validity

Construct validity measures the relationships between the instrument and the related theory. Construct validity is useful mainly for measuring traits or feelings. It is used to explore the relationships between the instrument's result and the measure of underlying theoretical concepts (Brink et al. 2018: 154). To enhance construct validity for this study, the researcher identified variables to be measured in relation to the HBM. These variables guided the development of items for the structured interview schedule to ensure it measured what it was supposed to measure. These variables included: modifying variables such as demographic data and knowledge about cervical cancer, perceived susceptibility, perceived severity, perceived benefits of being screened, perceived barriers to cervical cancer screening, and cues to action.

16.12.2 Reliability of the instrument

Reliability is a question of whether a particular technique, repeatedly applied to the same thing, still yields the same result (Babbie 2010:150). The reliability of an instrument is indicated by a correlation measure that varies between 0 and 1. The nearer the measure is to 1, the higher the correlation.

For this study, three research assistants collected data which may have a potential threat to reliability in terms of consistency. This was curbed by training the research assistants on how to ask questions. On the first day of data collection, the researcher and the three research assistants completed structured interview schedules recording the same interview. One supervisor and the researcher supervised the data collection processes on an ongoing basis. This confirmed the consistency of the data collected. In addition, reliability was also addressed by pre-testing the instrument with 15 women at different facilities, which did not form part of the three study sites. The pre-test assisted the researcher to identify anomalies and make the necessary adjustments. Chronbach’s alpha coefficient was used to assess the internal consistency of the instrument.

Table 16-1: Cronbach alphas for sections of the questionnaire

Questions	Number of items	Cronbach alpha
Q328-333	6	0.704
Q409-417	9	0.603
Q607-613	7	0.712
Q701-712	12	0.675
Q713-716	5	0.795

16.13 DATA MANAGEMENT

This section will discuss the data management process of the study.

16.13.1 Knowledge about cervical cancer and cervical cancer utilisation

Knowledge: The researcher used a composite score of 12 items of knowledge to measure participants ' knowledge of the cause, mode of transmission, predisposing factors, vulnerable groups, risk factors, signs and symptoms, and methods of prevention of cervical cancer. Using the mean score, the cumulative mean score of participant information on cervical cancer was calculated. Depending on this, those who scored less than the average was deemed to have poor knowledge and those who scored more than or equal to the average value were deemed to have good knowledge. Different items were calculated to gain composite knowledge of the use of cervical cancer among women living with HIV in the city of Hawassa.

Table 16-2: Composed items

Items	*F*	%
Know the cause of cervical cancer	74	24.7
Know the mode of transmission of HPV	222	74.3
Know the predisposing factors to cervical cancer.	181	58.8
Know the signs and symptoms of cervical cancer.	152	54.0
Know Who is more likely at risk of developing cervical cancer	232	75.1
Know cervical cancer as a preventable disease	247	82.6
Know how to prevent cervical cancer	168	54.7
Know any screening methods to detect cervical cancer	84	29.9
Know the aim of cervical cancer screening	75	83.3
Knowledge about when HIV positive women should have screening?	75	27
Know about how frequent, cervical cancer screening should be done for HIV positive women	27	8.7
Knowledge about cervical cancer curable (treatable) if detected early?	243	85.8

16.13.2 Perception about Susceptibility of cervical cancer

A total of six variables were computed to get the sum score of perception on susceptibility. The mean of the scores with min score ten and max expected score

was 30. In addition, the lower bound mean 20.8830 and upper bound mean score were 21.6613.

The values of scores were assessed for normality and qualitatively judged by looking at the Q-Q plot, by being nearly normally distributed; all the dots in the plots were at near to the diagonal line.

Therefore, those who scored above the mean (23.4492) were considered to have had a good perception of severity.

16.13.1 Perception of Severity/seriousness of cervical cancer

Nine variables were computed to get the sum score of perception on the severity/seriousness of cervical cancer. The mean of the scores with min score 18 and max expected score was 40. The computed mean score was 31.2362 having a minimum mean score of 30.775 and a maximum mean score of 31.6975. The values of scores were assessed for normality. Those who scored above the mean were considered to have had a good perception of severity.

16.13.2 Perception towards benefit from cervical cancer screening

Seven variables were computed to get the sum score of perception on benefit from cervical cancer screening. The mean of the scores with min score 14 and max expected score was 33. The computed mean score was with upper and lower bound mean score 24.0430 and 24.7854. The values of scores were checked for normality, and those who scored above the mean (24.4142) were considered to have had a good perception of benefit from cervical cancer screening.

16.13.3 Perception towards barriers of cervical cancer utilisation

16.13.3.1 Stigma fear and discrimination

About five variables were computed to get the sum score of perception on stigma, fear, and discrimination that hinder cervical cancer screening. The mean of the scores with min score eight and max score was 24. The computed mean score had a minimum mean score of 18.2265 and a maximum mean score of 18.8285. The values of scores were evaluated for normality. Those who scored above the

mean (18.5275) were considered to have had a good perception of the stigma, fear and discrimination towards cervical cancer screening.

16.13.3.2 Socio-economic factors

A total of seven variables were computed to get the sum score of socio-economic factors that hinder cervical cancer screening. The mean of the scores with min score 12 and max score was 28. The computed mean score had a minimum mean score and the maximum mean score of 21.8189 and 22.4464. The values of scores were checked for normality using the Q-Q plot. Those who scored above the mean (22.1327) were considered to have a good perception related to socio-economic factors.

16.13.3.3 Traditional practices

A total of five variables were computed to get the sum score of perception on stigma, fear, and discrimination that hinder cervical cancer screening. The mean of the scores with min score five and max score was 20. The computed mean score had a minimum mean score of 15.6322 and a maximum mean score of 16.2319. The values of scores were evaluated for normality and qualitatively judged by looking at the Q-Q plot, to be nearly normally distributed; all the dots in the plots were at near to the diagonal line. Therefore, those who scored above the mean (15.9320) were considered to have had a good perception of traditional practices that affect cervical cancer screening.

16.14 DATA ANALYSIS

The researcher followed the quantitative data analysis approach to analyse data. Analysis of quantitative data is the systematic manipulation of numerical data by statistical methods to explain the phenomena being studied or to determine the significance and reliability of relationships between them (Grove et al. 2017:548). Statistics is a powerful tool when analysing quantitative data. Moreover, quantitative data is classified according to the level of measurement, or measurement scale, into nominal, ordinal and interval categories (Brink et al. 2018:166). The numerical data were analysed using the computerized Statistical

Package for Social Sciences (SPSS version 25) for closed-ended questions that had been captured, using a computer designed data entry base (Epi-data). In order to detect the trends and patterns of the construct under study, descriptive statistics were used to summarise and describe the data.

The responses to open-ended items on the structured interview schedule were coded and also prepared for computer analysis. Descriptive data were presented as numbers, charts, frequency distribution tables, percentages, and proportions. This helped to describe and summarise the data and to provide a pictorial view of the distribution of the study's findings.

According to Brink et al. (2018:179), graphics show differences in frequencies or percentages among categories of nominal or ordinal variables. These provide researchers with an alternative method of communicating information more effectively by displaying the information to create a visual impression of the data. In the current study, pie charts, bar charts and histograms were used to present the findings. According to Brink et al. (2018:167), frequency distributions show the frequency of occurrences in each category of the variable in a study. This is done by simply listing the categories of the variables and counting the number of occurrences in each category (Brink et al. 2018:167). This can be applied at all four levels of data measurements, which are nominal, ordinal, interval and ratio. Percentages and proportions show the relative weight of a specific variable in the distribution. They also allow the researcher to compare two or more frequency distributions (Brink et al. 2018:168). Proportion values are obtained by dividing the frequency of a category by the total number of responses in the distribution; percentages are obtained when the number of units in a sample with a certain characteristic is divided by the total number of units in the sample and then multiplied by percentages allow meaningful comparisons to be made between different categories of responses, irrespective of the number of responses in specific categories.

In addition, following frequency distribution calculations, findings were summarized and analysed using contingency tables. Contingency tables or cross-tabulations allowed the researcher to visually display the relationship between sets of two nominal variables within the sample (Brink et al. 2018:176). To test the significance of the association between variables under study, the Chi-square (X^2) was used, and P-values were calculated. The Chi-square is usually applied in situations involving two nominal variables. To calculate X^2, first, a table with two nominal cross-classified variables was created by summing the differences between the observed frequencies in each cell and the expected frequencies.

Finally, multivariate analysis using the Backward logistic regression method, the analysis of the simultaneous relationships among variables as a percentage distribution, typically used to know the effect of the independent variable on the dependent variable (Babbie 2017:440), was conducted. Since the dependent variable is binomial having 0 for 'not screened' and 1 for 'screened. A binary logistic regression model was used to calculate the association between dependent and independent variables. Odds ratio (OR) or Adjusted OR (AOR) and their 95% confidence interval were used to measure the strength of association. A p-value (two-tailed test) of less than 0.05 was considered to be significant.

16.15 ETHICAL CONSIDERATIONS

Research that is conducted in human participants requires careful consideration of ethical issues that may arise during the study, although in this study, the researcher did not anticipate any significant risk on participants as it is only Cross-sectional research (Brink et al. 2018:89). The researcher observed all the ethical principles outlined in Polit and Beck (2017:44), to ensure that the rights of all participants involved are protected. The researcher complied with the basic ethical principles including confidentiality, respect for the person, beneficence, non-maleficence, and Justice.

16.15.1 Confidentiality

Grove, Burns and Grey (2013:172) defined confidentiality as the researcher's management of private information shared by the participants that should not be shared with others without the authorization of the respondent. In the current study, all confidential information from participants was kept confidential by ensuring that their names are not written or specified. Instead of using names, all the questionnaires were coded for anonymity. Only the principal researchers knew the details and the documents are stored in the locked cupboard which belongs solely to the researcher.

16.15.2 Respect for persons

According to Grove et al. (2013: 165), the right to self- determination is based on the ethical principle of respect for persons. In this research, respect for a person is achieved through ethical clearance was obtained from the ethics committee of UNISA and consent was obtained from each study participants. In this study, the participants were free to ask questions for clarification concerning the research study. The researcher empowered the participants to make free decisions not to be part of the study. Participants who had some hesitance to take an interest in the study were neither forced nor excluded from the study.

16.15.3 Beneficence

The principle of beneficence focus on the benefits obtained by participating in the study. Research advantage is something of a subject's health, psychosocial, or other interest, or something that will lead to knowledge acquisition for evidence-based practice (Gery et al. 2018:347). According to Gery et al. (2018:348), money and other compensations for participation in research are not benefits but, rather, are remuneration for research-related inconveniences. Therefore, researchers

should conduct their studies to protect subjects from discomfort and harm (Grove et al. 2013: 174). In the current study, there was no direct benefit to study participants, but the study participants were provided with information regarding source population cervical cancer screening, knowledge on cervical cancer and associated factors. The result of the study will be disseminated to concerned bodies including South Health Bureau for better planning and implementation.

16.15.4 Risk of the study

Research risks can be physical, emotional, social, or economic and can range from no risk or mere inconvenience to the risk of permanent damage (Gery, grove & Sutherland 2018:348). The benefit-risk ratio is determined on the basis of the maximized benefits and minimized risks. The researcher attempts to maximize the benefits and minimize the risks by making changes in the study purpose or procedures or both (Grove, burns & Grey 2013:176). The current study poses a low risk to respond. One of the risks was an inconvenience to the participants. To mitigate this, the researcher ensures that questioners are responded to while participants are waiting to consult the doctor. The second risk was related to responding to the questions as some of the questions seemed to be sensitive and personal. To mitigate this, participants who became emotionally affected were referred to the professional counselor at no cost to the participants.

16.15.5 Justice

The principle of justice is concerned with treating each person in accordance with what is morally right and proper. That is equitable distribution of both burdens and benefits of participation in research (Wasie 2015:6). In research, the selection of subjects and their treatment during a study should be fair (Grove Burns & Grey 2013:173). To ensure adherence to the principle of justice in this study, the researcher obtained ethical clearance to conduct the study from the Department of Health Studies Research Ethics Committee. A support letter was also obtained

from the Southern Ethiopia Health Bureau. Privacy and confidentiality of information obtained from participants were maintained during and after data collection. The researcher tries to mitigate all the possible risks related to the study. Participants were interviewed when they were attending the health care centers to ensure that they do not incur additional risk.

16.16 CONCLUSION

The research methodology and design were discussed in this chapter. A cross-sectional analytic study design with the quantitative design was used. The instruments used were developed based on the health belief model. Random sampling was used to select the participants. Face to face interview using self-administered questioner was done to collect data. Participant's level of utilisation, perceptions, knowledge and willingness to be screened for cervical cancer was analysed using SPSS version 25 software. The next chapter will discuss the analysis and presentation of the data which were collected.

17 CHAPTER FOUR

ANALYSIS, PRESENTATION AND DESCRIPTION OF RESEARCH FINDINGS

17.1 INTRODUCTION

Chapter three presented the methodology of the study including the data collection process of the study. It also presented the ethical principles observed during the study and measures of ensuring the reliability and validity of the study. This chapter presents data analysis and interpretation of the results in order to obtain a better understanding of the women living with HIV cervical cancer screening utilisation and determinants that affect the utilisation based on the health belief model. Face to face interview was used to gather information. Though the sample size was 315, six participants ended up withdrawing from the study. A total of 309 participants took part in the study. The results of the study are presented in this chapter.

The purpose of the study was to investigate the level of utilisation of cervical cancer screening among women living with HIV in order to develop a strategy for improving the service in Ethiopia. This was guided by the following research questions:

- What is the level of utilisation of cervical cancer screening in Hawassa City Administration?
- What are the determinants affecting cervical cancer utilisation?
- What kind of strategy is required to enhance cervical cancer screening in the study area?

The interview schedule's ten sections were followed in analysing and discussing the data:

- Section A-Demographic, socio-psychological data
- Section- Knowledge about cervical cancer screening
  section C-perceived Susceptibility to cervical cancer
- Section D perceived seriousness of cervical cancer
  section E perceived benefits of cervical cancer screening
  section F perceived barriers to cervical cancer screening
  section G Willingness to cervical cancer screening
- Section H level of utilisation of cervical cancer screening
- Section I Determinants that affect utilisation of cervical cancer screening
- Section J Cues to taking a cervical screening test.

As 309 women living with HIV were interviewed, the total number of participants is indicated as N=309.

The following conventions were adopted to present and discuss the research findings:

•N=refers to the total sample. In this study, N=309

•n=refers to sub-sections of the sample

•f=refers to frequencies within the samples and can refer to either N or n

• the labels for the Likert scale have been abbreviated in all tables as SA, A, N, D, SD

17.1.1 Socio-Demographic Characteristics of the Study Participants

The information presented in this section presents the participants' demographic information. This was captured in responses to questions in section A of the structured interview schedule. Demographic data included participants' ages, marital status, educational status, religion, number of children, employment status, their families' monthly incomes, and husbands' educational and occupational

status. Psycho-social information like contraceptive use, pregnancy status, number of sexual partners, duration of HIV status and ART treatment also form part of the study.

17.1.1.1 Age of participants (n=309)

This section presents the age of the participants. Figure 4.1 indicates the participants' ages. The following were the frequencies and percentages of the different age groups:

- <=30 years
- 31-40 years
- Above 40 years

The participants' ages in the current study ranged from 18 to 65 years. The mean age was 35 years with standard deviation (SD±8.3). According to the result, the most represented age group distribution was 31-41 (43.7% [*f*=135]), followed by age less than or equal to 30 years with (33% [f=102]), and lastly, (23.3% [f=14]) of the participants were in the age group of above 40 years.

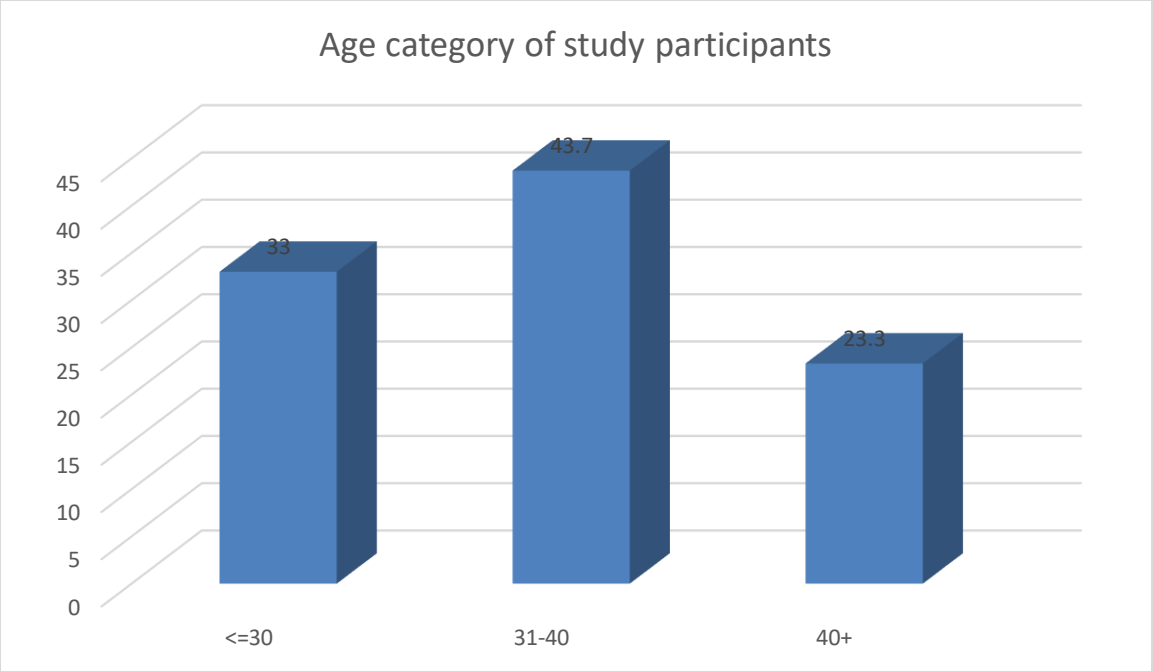


Figure 0-1: Age group of study participants

17.1.1.2 Marital status (n=309)

This section provides the marital status of the participants. Of the total participants about half (46.3 % [f=143]) were married, about one fourth (22.3% [f=69]) were widowed, (16.2% [f=50]) were separated or divorced and (15.2% [f=47]) were single. According to this study, the majority (46.3 % [f=143]) of participants were married. Marital status of participants is an important demographic variable in the current study; hence multiple sexual partners is risk factors for cervical cancer.

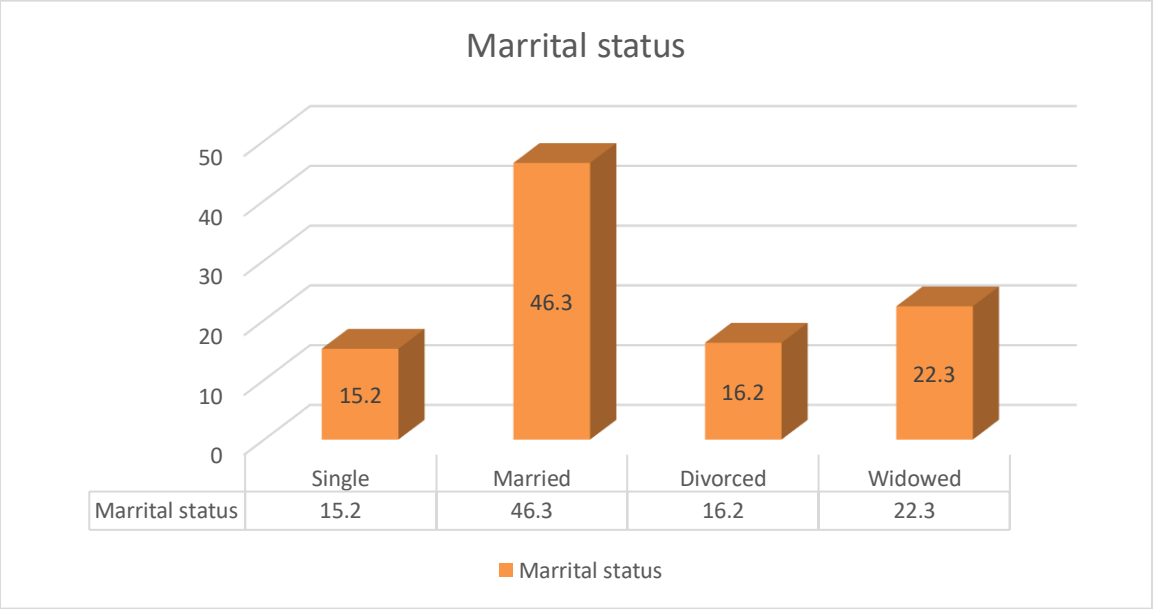


Figure 0-2: Marital status of participants

17.1.1.3 Religion (n=309)

Religion is one of the important variables in this study. The figure below shows the religious background of the participants. According to this study the most represented religious groups (43.7% [f=135]) were orthodox, (42.7 % [f=132]) were reported to be protestant, (5.5% [f=17]) were catholic and (8.1% [f=25]) were Muslims. The sample was mainly Christians (Fig. 4.3).

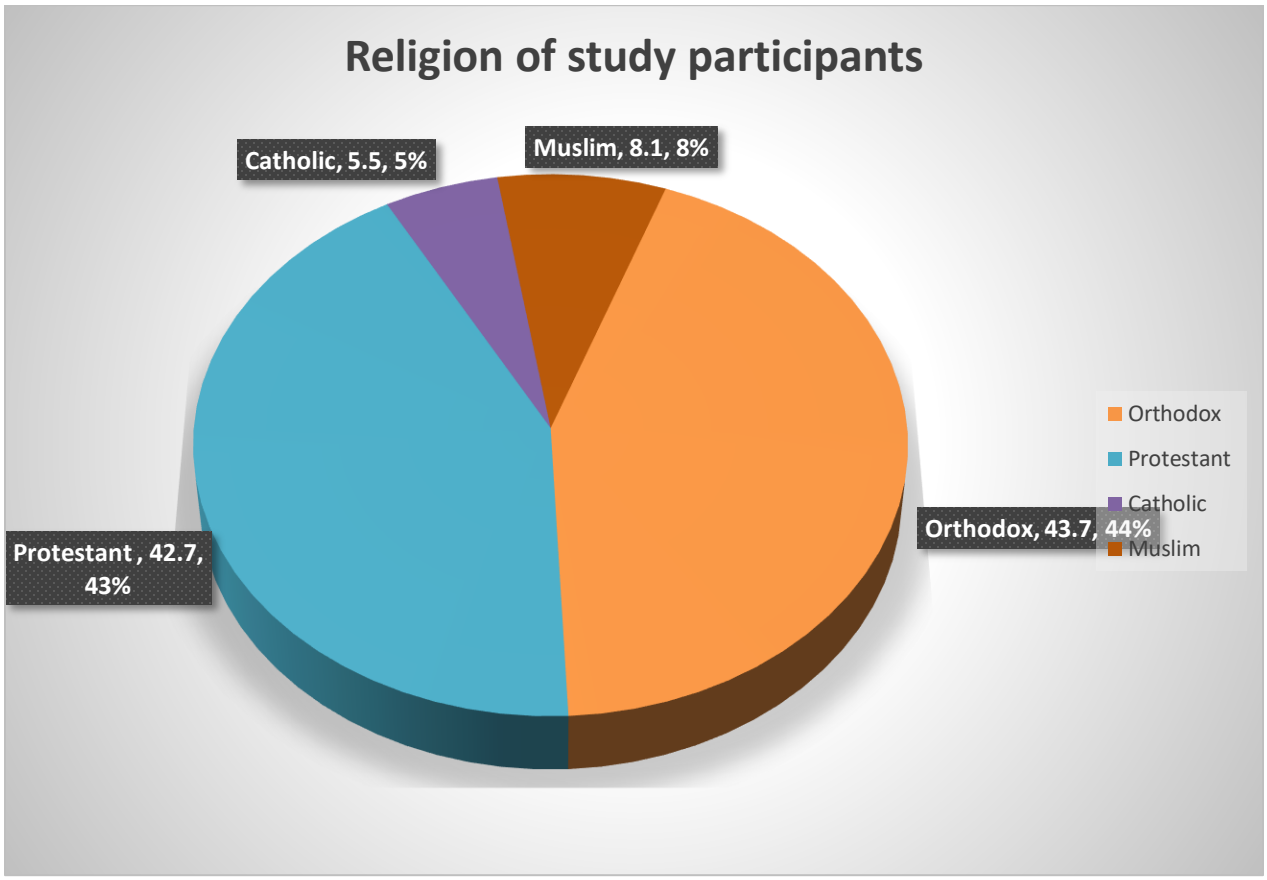


Figure 0-3: Religion of study participants

17.1.1.4 Level of education of study participants

This section presents the educational level of participants as one of the demographic variables in this study. The figure below represents the educational status of the participants. According to the results, out of total participants, (37.9 % *[f=117]*) had primary school education, (21.4 % [*f*=66]) had secondary school education, (20.7% [*f*=64]) had certificate and above, (20.1% [f=62]) had no formal education at all. Of the participants, more than half (57.9% [*f=179]*) were those who had no education or only primary school education.

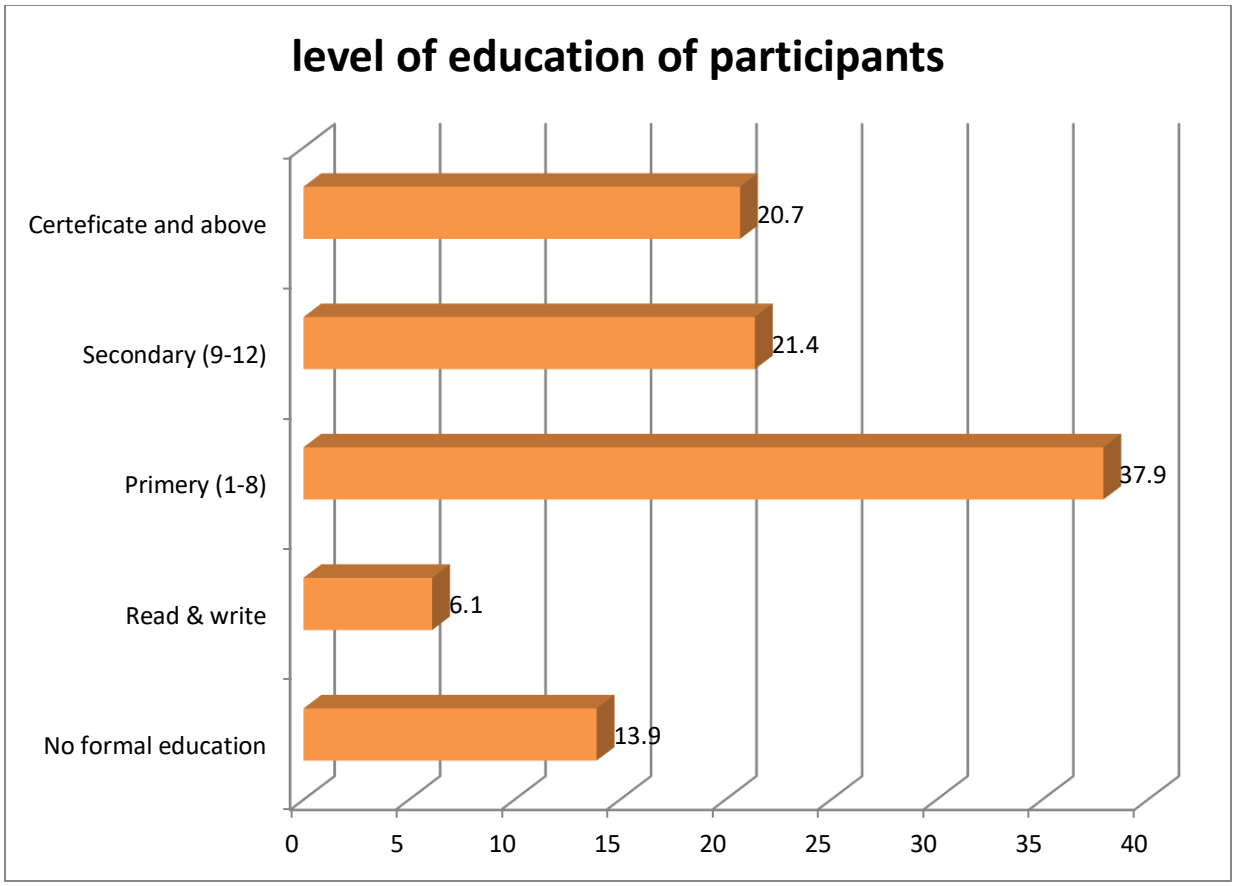


Figure 0-4: Level of education of study participants

17.1.1.5 Occupation of participants (n=309)

Figure below depict the different occupations of the participants. A large number (37.5 % [f=116]) of the participants are student/housewife, followed by (28.8% [f=89]) governmental/ Non-governmental employed, (25.6 % [f=79]) with merchants/farmer nongovernmental employ, (8.1 % [f=25]) of participants were Daily labor/Sex workers. The majority of the participants were housewives.

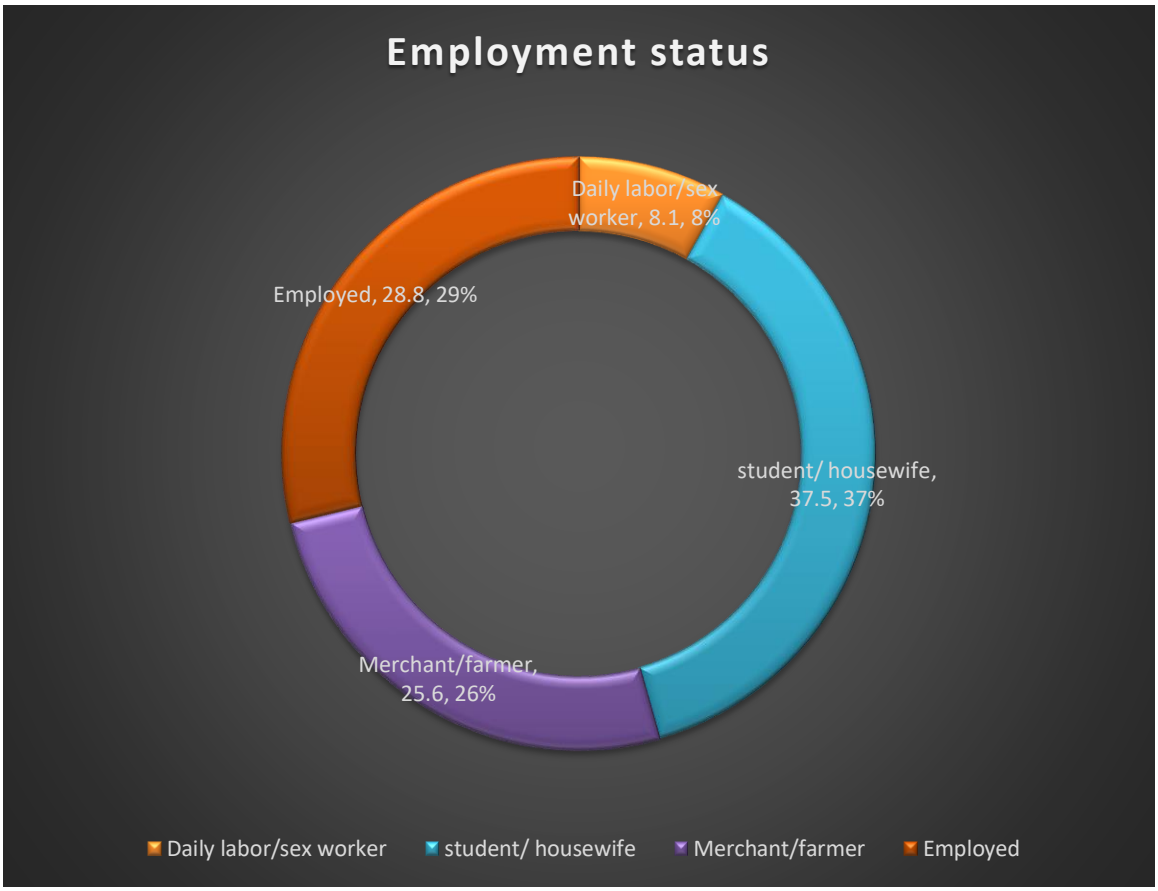


Figure 0-5: Occupation of participants

17.1.1.6 Number of children (n=375)

Figure 4.6 below represents the participants' number of children. According to the result, out of the 309 participants who answered this question as many as (60.8% [*f*=161]) participants have less than three children, about (35.5% [*f*=94]) of participants have four to six children and (3.8% [f=10]) had seven children or more as shown in Figure 0-6: Participants number of children

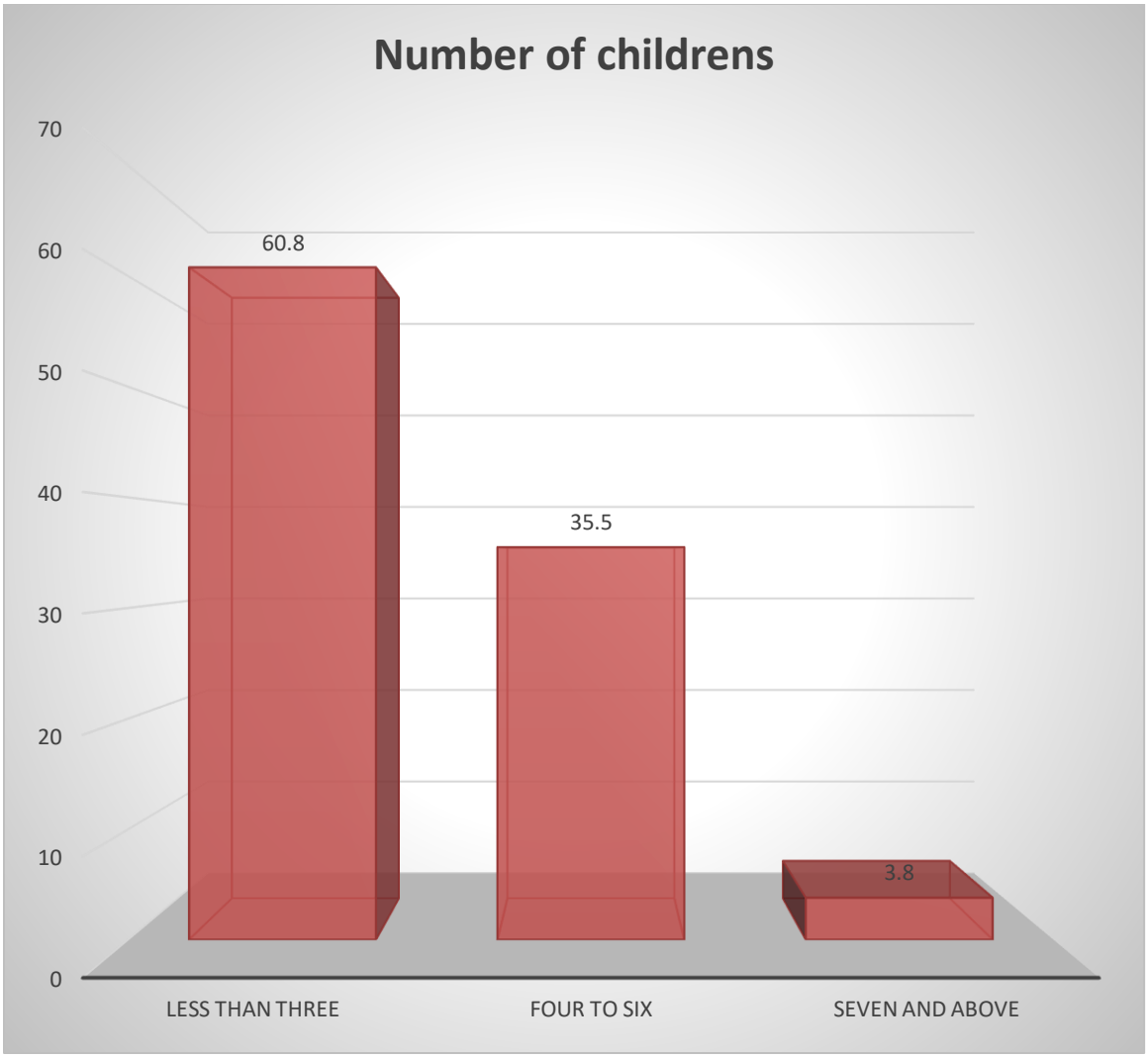


Figure 0-6: Participants number of children

17.1.1.7 Husband education (n=143)

Figure 4.7 shows the educational status of the participants' husband. This study revealed the most frequently reported educational status of husbands' education was certificate and above with (32.9% [f=47]) followed by primary education (27.3% [f=39]) and secondary education (22.4% [f=32]) while the least were participants' husband qualified with no formal education (17.5% [f=25]).

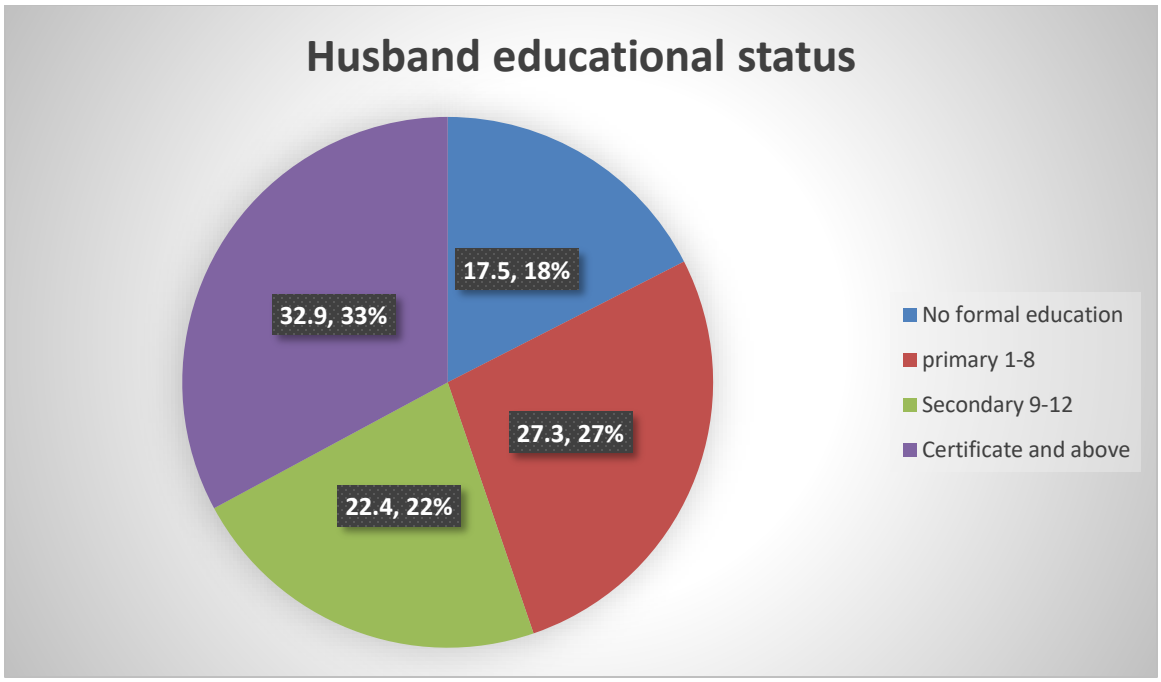


Figure 0-7: Husband educational status

17.1.1.8 Husband occupational status (n=143)

From those who were living with partner/s, more than one fourth, (28% [f=40]), reported that the main occupation of their partner was government employee and about one fourth, (24.5% [f=35]), reported that the main occupation of their partner was merchant and equal number of participants, 24.5% [f=35]), said that their partners were working for NGO (Figure 4.8).

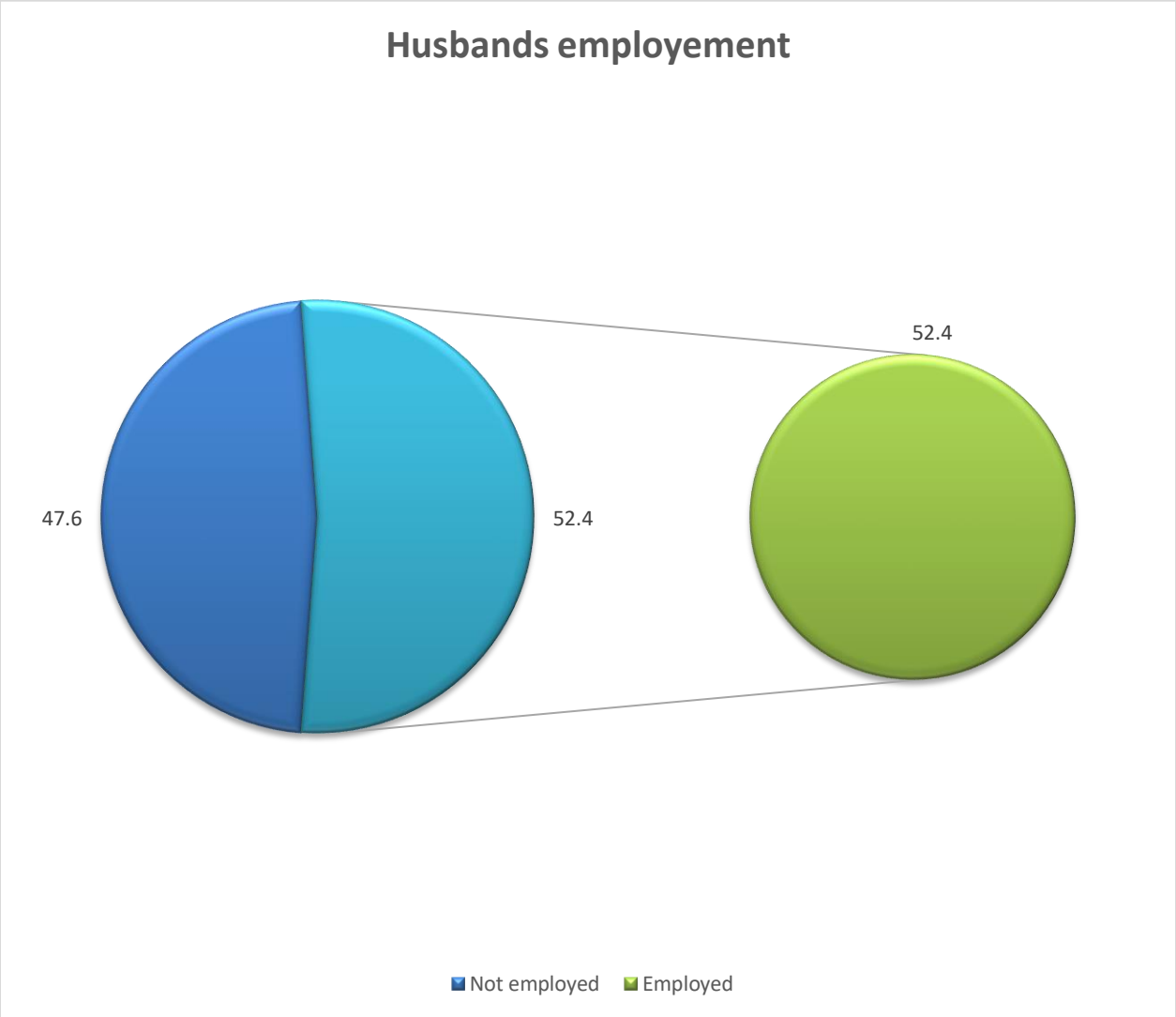


Figure 0-8: Husband's employment status

17.1.1.9 Income (n=309)

Participants were also asked about their families' total income per month. According to the current study from the total participants who knew their families' total monthly income, about half of participants (42.7% [f=132]) earned more than 2001 birr per month, (23% [f=71]) earned 1001-2000 Ethiopian birr, (21% [f=66]) earned less than 1000 Ethiopian birr while about (12.9 % [f=40]) don't know families' monthly income figure 4.9.

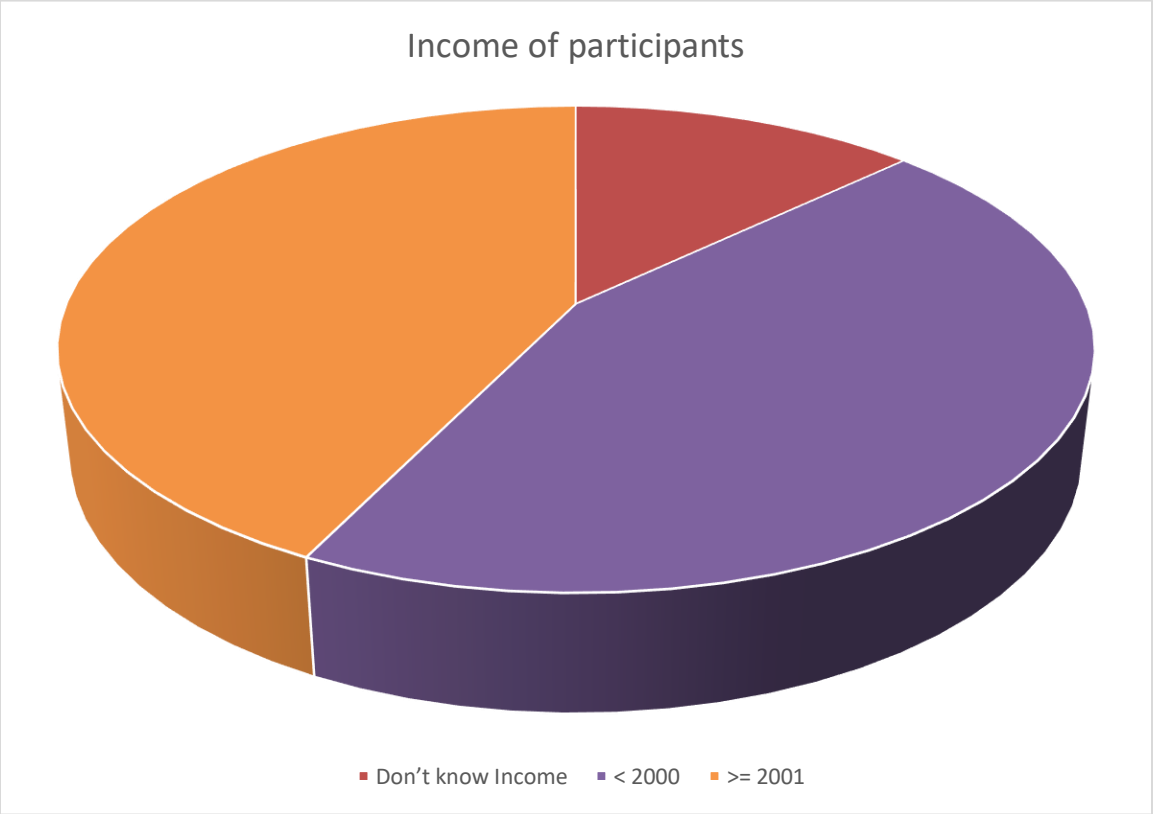


Figure 0-9: Monthly income of participants

17.1.2 Socio-psychological variables

There are various factors that influence the perception of women living with HIV towards screening for cancer as discussed below:

17.1.2.1 Ever used family planning (n=309)

Figure 4.10 below shows that out of the 309 participants, almost half of participants, (50.2% [=155]), had ever used family planning and the rest (49.8% [f=154]) never used family planning.

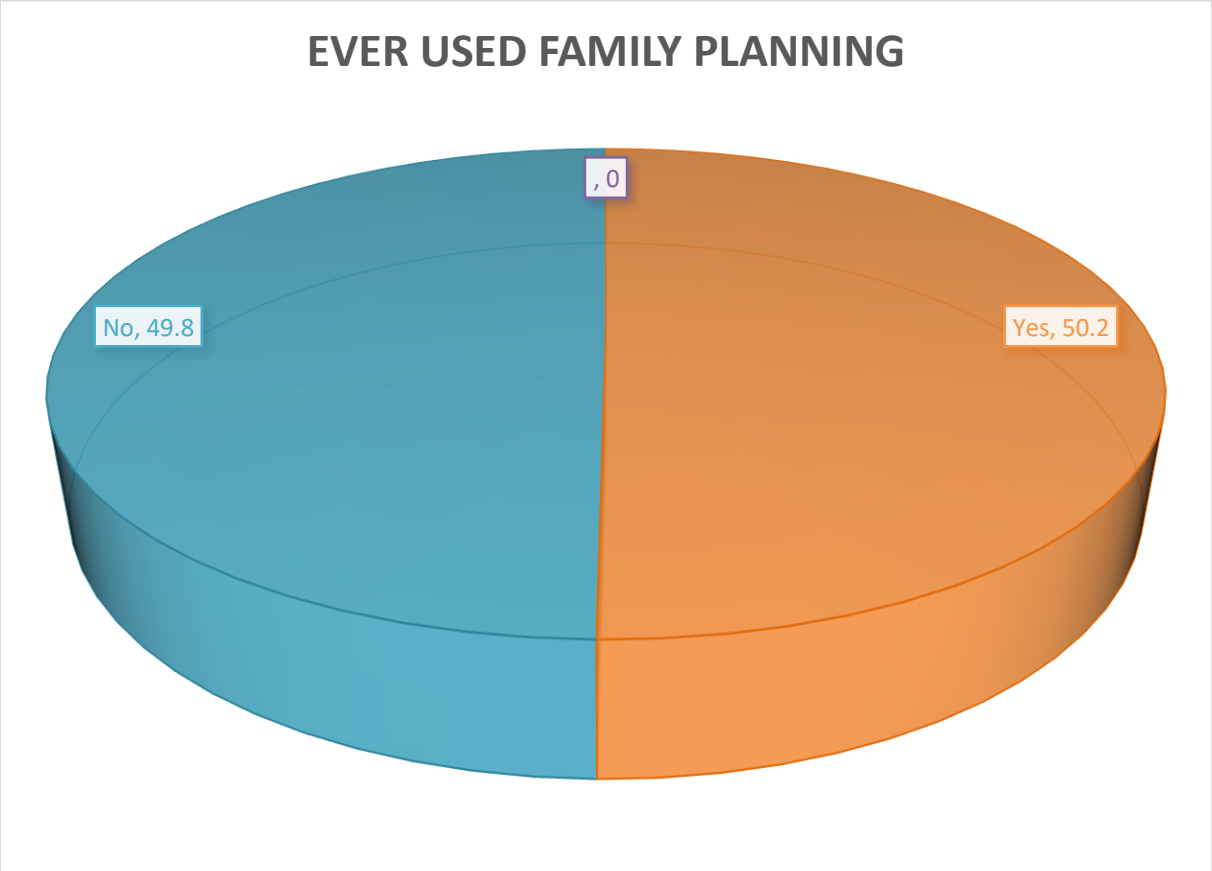


Figure 0-10: Participants whoever used family planning

17.1.2.2 Type of family planning (n=155)

Figure 4.11 shows the type of family planning that study participants have used. Almost half of the participants (50.3% [=78]) used depo-provera, followed by more than one fourth (27.7% [f=43]) used implant, (16.8% [f=26]) used condom, (12% [f=19]) COC (1.9% [f=3) permanent and (1.9% [=3]) used natural family planning method.

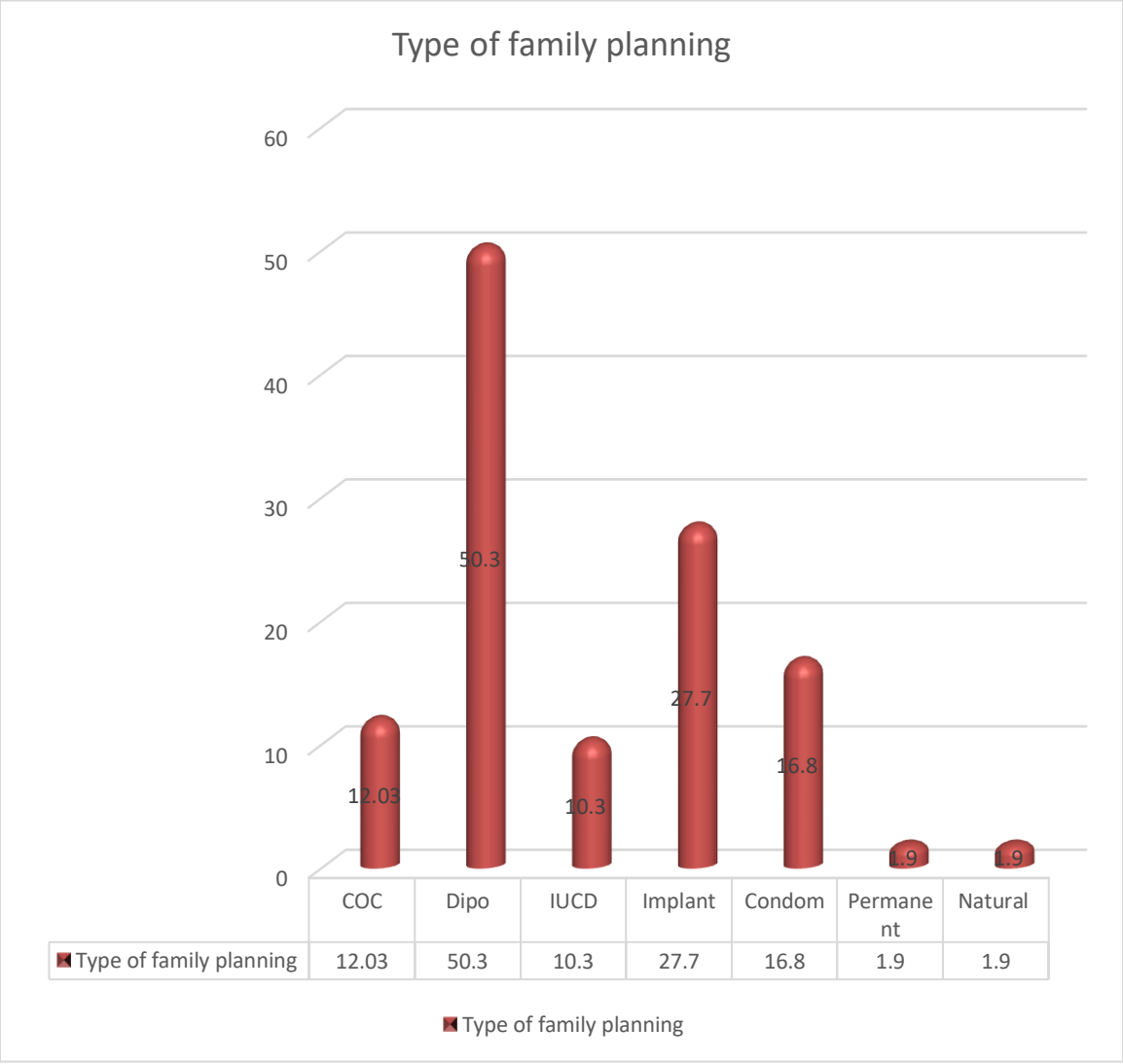


Figure 0-11: Type of family planning

17.1.2.3 Ever pregnant (n=309)

Figure 4.12 represents the pregnancy status of the participants. Out of 309 women living with HIV, above three fourth of participants, (85.8 % [f=265]), have experienced pregnancy and the rest (14.2 % [f=44]) were never pregnant.

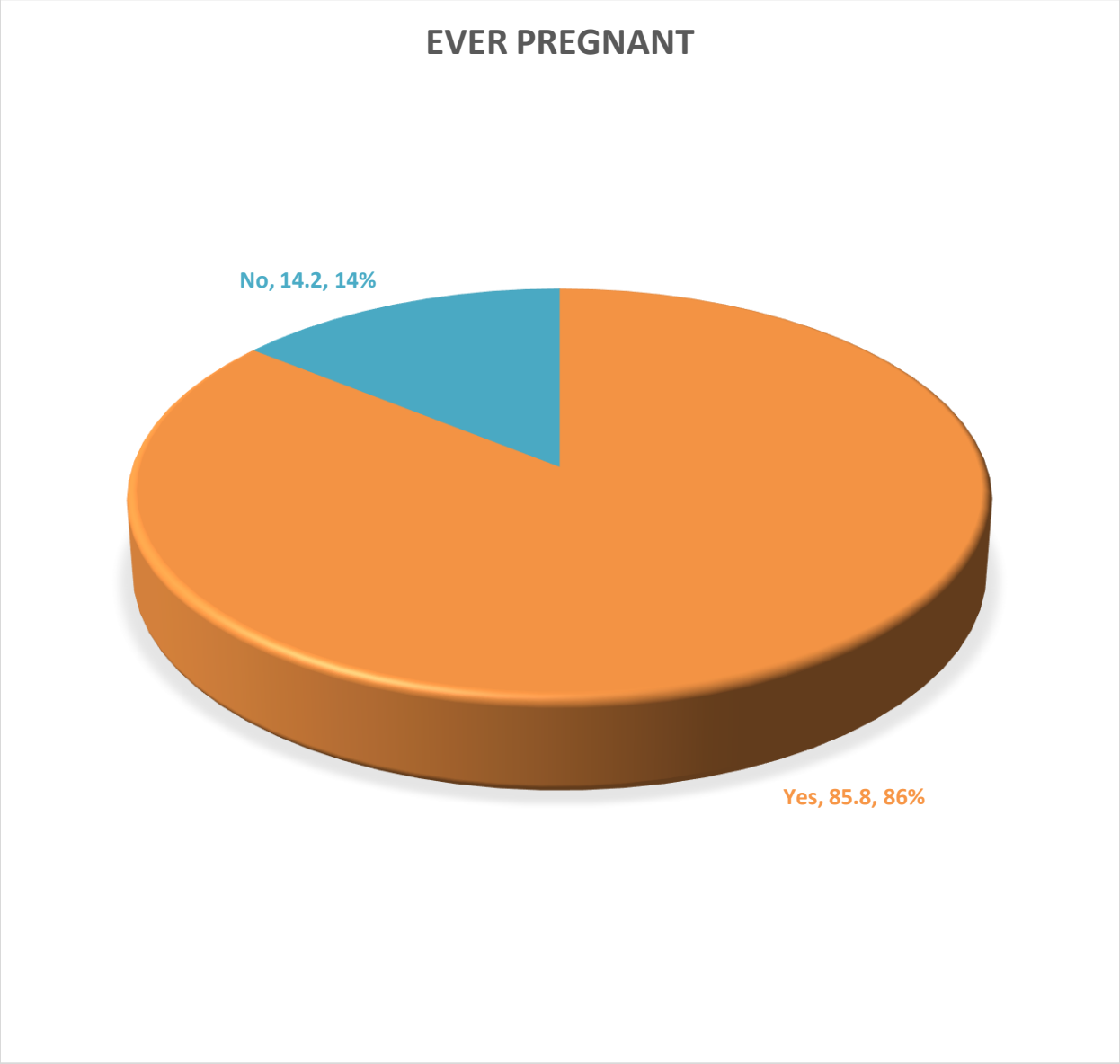


Figure 0-12: Participants who ever been pregnant

17.1.2.4 Number of live birth (n= 265)

From those who ever been pregnant, as many as (68.7 % [f=182]) participants had from one to three live birth, one fourth (24.2% [f=64]) of participants had four and above live births and (7.2% [f=19]) had no live birth or an abortion (Fig. 4.13). This study revealed that only (7.2% [f=19]) had an abortion. The number of live birth of participants is an important demographic variable in the current study; hence abortion is a risk factor for cervical cancer.

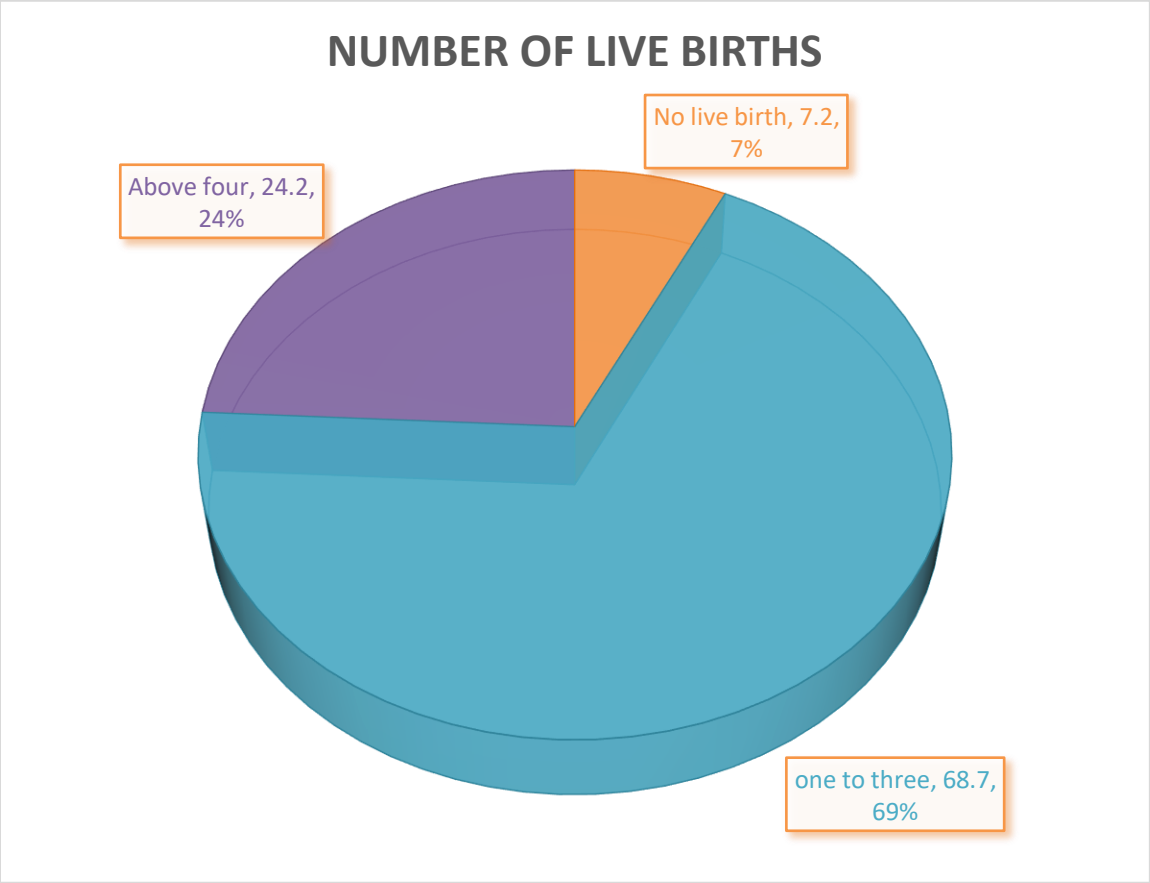


Figure 0-13: Participants number of live births

17.1.2.5 Was there anyone in your family or close friends or neighbours with cervical cancer?

According to the study, women were asked about whether they had anyone in the family or close friends/neighbors with cervical cancer. More than half, (59.5% [*f*=184]) replied that they did not know anyone with cervical cancer, about one-fourth (25.6% [*f*=76]) of the respondent know someone with cervical cancer while (14.9% [*f*=46]) did not remember (Fig. 4.14).

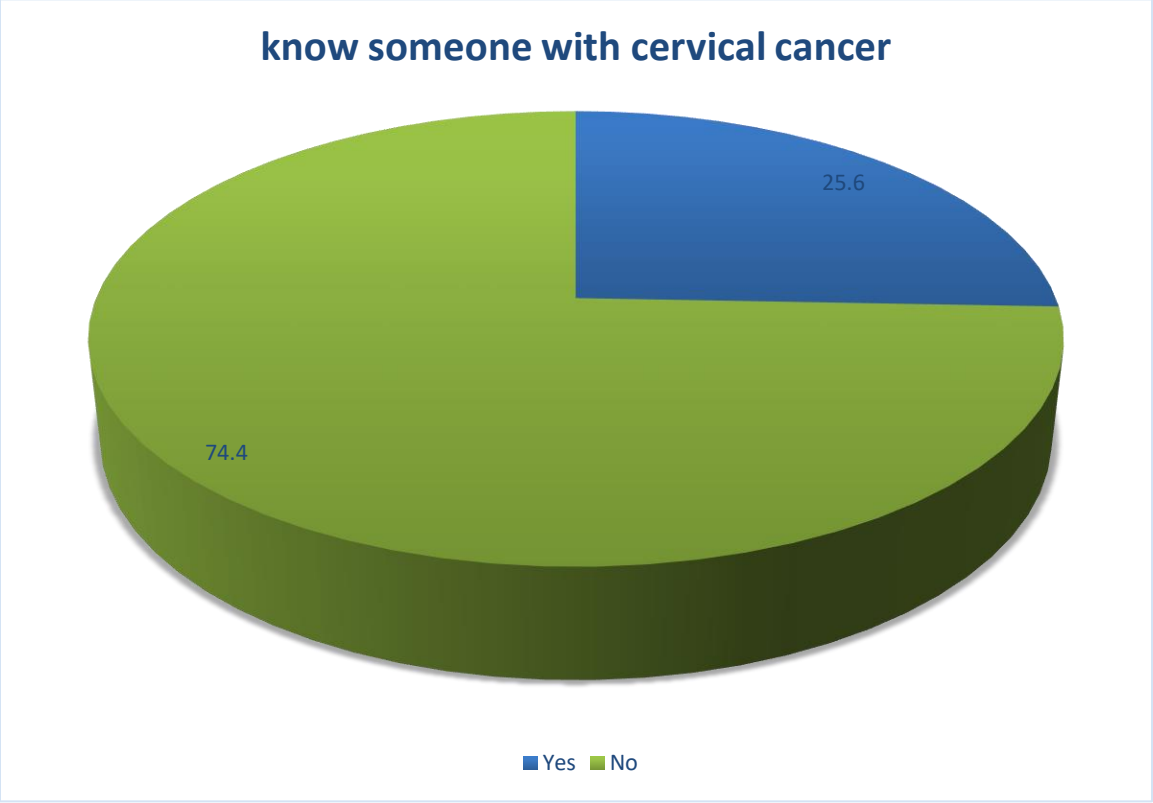


Figure 0-14: Participants who knew someone with cervical cancer

17.1.2.6 When was your HIV diagnosis that gave positive result? (n=309)

Figure 4.15 below depicted the duration of HIV diagnosis that gave a positive result. According to this study, more than half (51.5% [*f*=159]) of the participants knew their positive result within less than four years followed by (30.1 % [*f*=93]) reported knew there result before eight years ago. While the remaining (18.4%

[*f*=57]) knew there result within the age range of four to eight years. This variable is very important for this study since being living with HIV increases the probability of gaining cervical cancer.

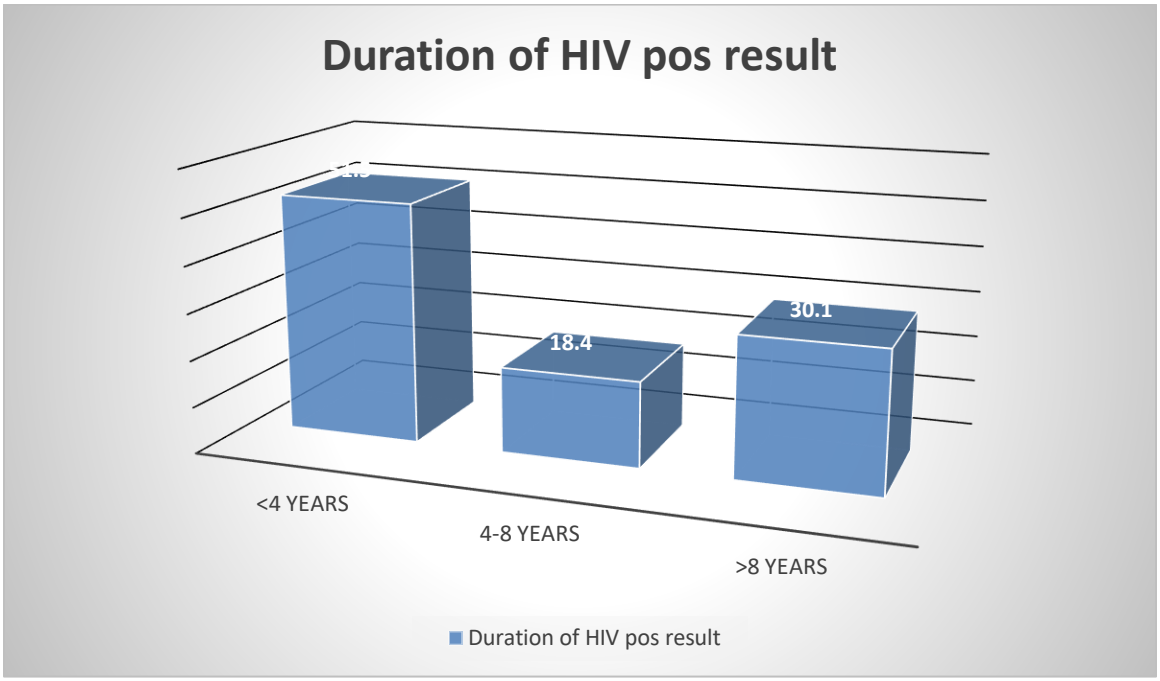


Figure 0-15: When was your HIV diagnosis that gave positive result?

17.1.2.7 *Number of sexual partners*

Figure 4.16 below represents the number of sexual partners of participants. According to the result, almost equal number of participants (38.9% [f=119]), 38.5% [f=114]) had less or equal to one sexual partner and 2 sexual partners. While (17.5% [f=54]) had three sexual partners and only (7.1% [f=22]) had 4 and sexual partners.

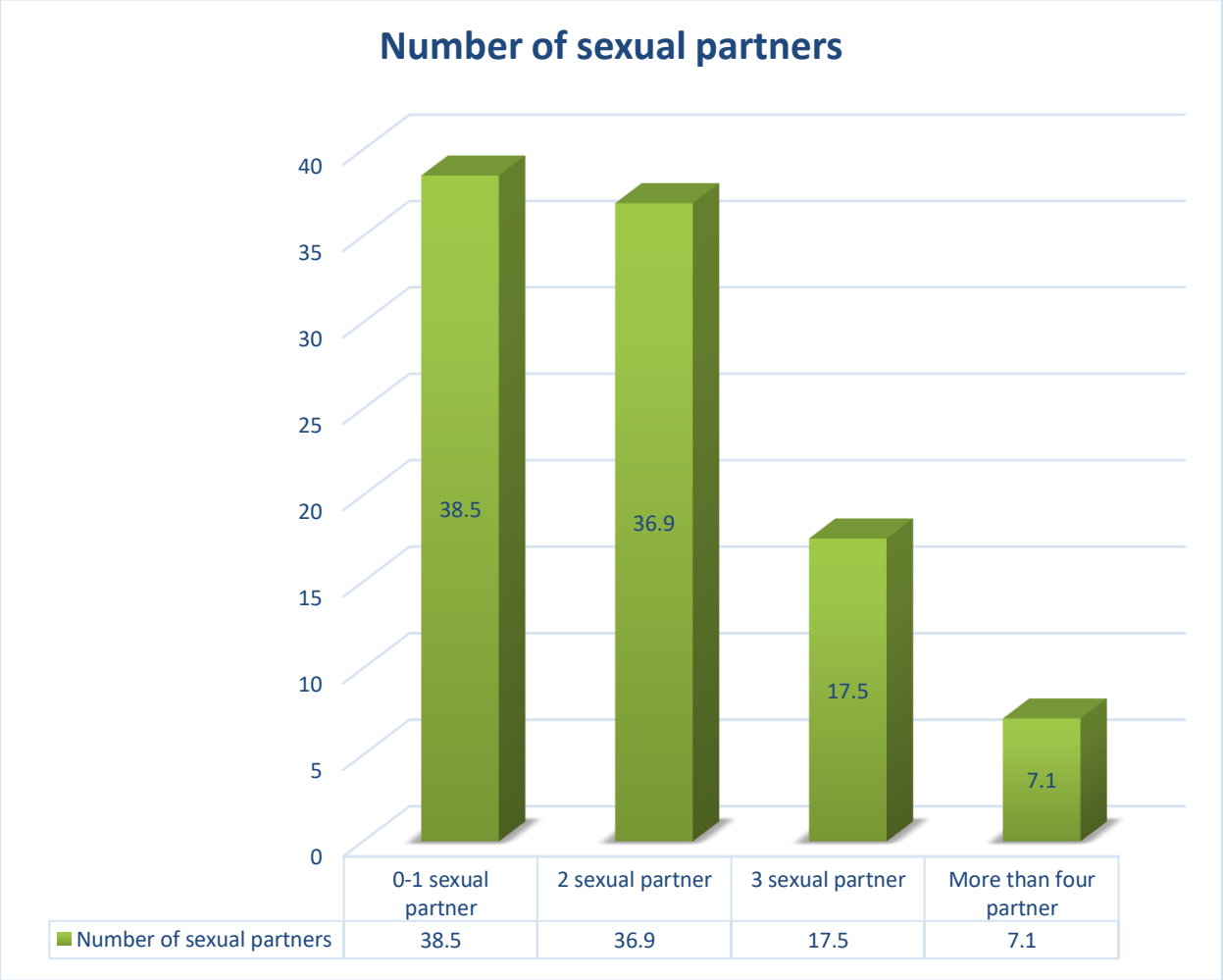


Figure 0-16: Participants number of sexual partners

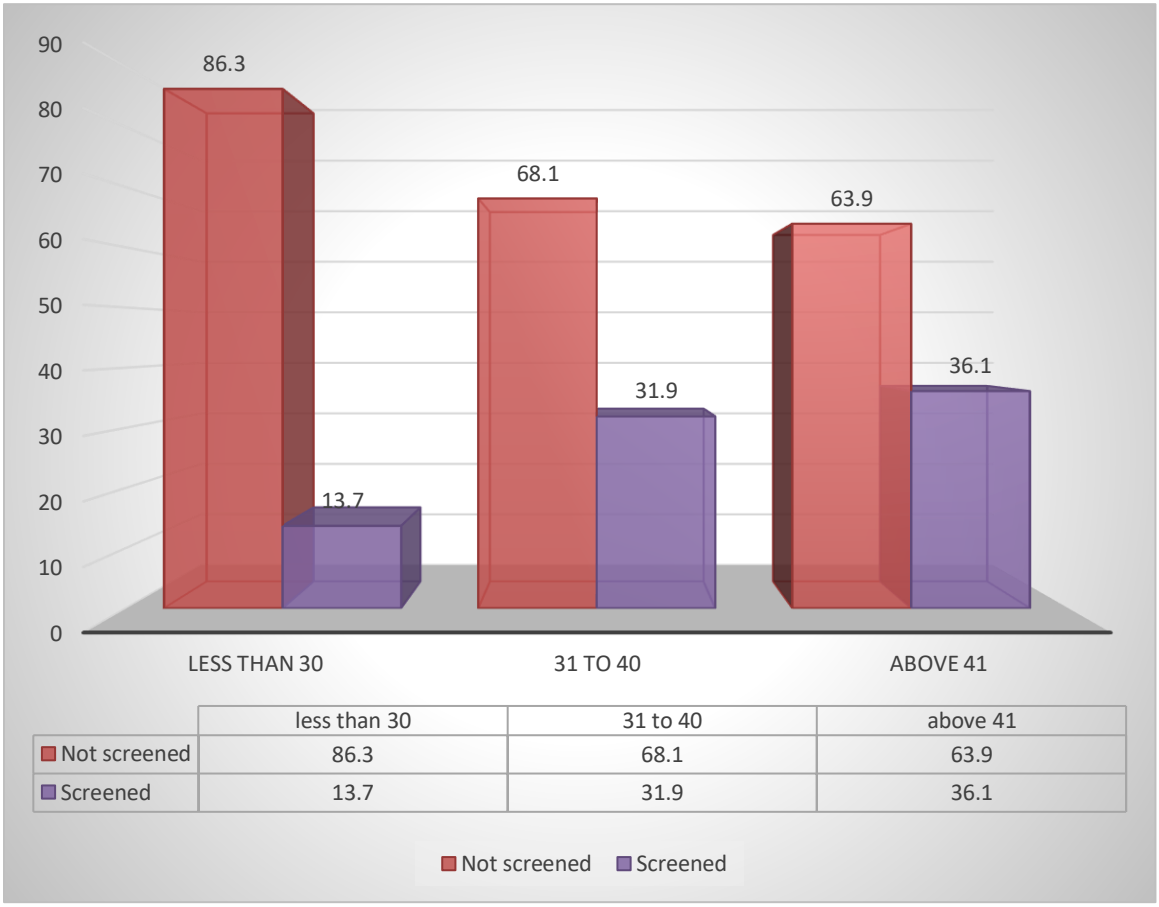
17.1.3 Correlations between cervical cancer screening utilisation and Demographic variables

A Chi-square test was used to assess the possible association between cervical cancer screening utilisation and age, marital status, education status, income, education level, and employment (see Table 4.1).

Table 0-1: Association between demographic data and utilisation of cervical cancer screening

Variables	X^2	df	P
Age cat	14.227	2	0.001
Marital status	9.577	3	0.023
Educational level	4.991	3	0.172
Occupational status	4.832	3	0.185
Husband education	6.588	3	0.086
Husband occupation	1.889	1	0.169
Number of children	1.387	2	0.500
Income	8.938	2	0.011
Pregnancy status	2.101	1	0.147
Number of sexual partners	7.267	3	0.064
Know someone with CC	12.223	1	0.0001
Duration of HAART	34.419	2	0.0001

Age of participants: Figure 4.17 below shows that there is a relationship between the screenings for cervical cancer and age. The number of participants who screened for cervical cancer increased with age. There was a huge relationship between having been screened for malignant growth and the age of the participant (X^2=14.227, df=2, p=<0.001).



	less than 30	31 to 40	above 41
Not screened	86.3	68.1	63.9
Screened	13.7	31.9	36.1

Figure 0-17: Correlation between Age categories of participants with cervical cancer utilisation

Marital status of participants: As delineated in Figure 4.18, there are ncreasingly married (25%), Widowed (29%) and separated (40%) participants who screened for cervical disease when compared with the single participants (12%). There was a huge relationship between having been screened for cervical cancer and the marital status of the participants (X^2=9.577, df=3, p=023).

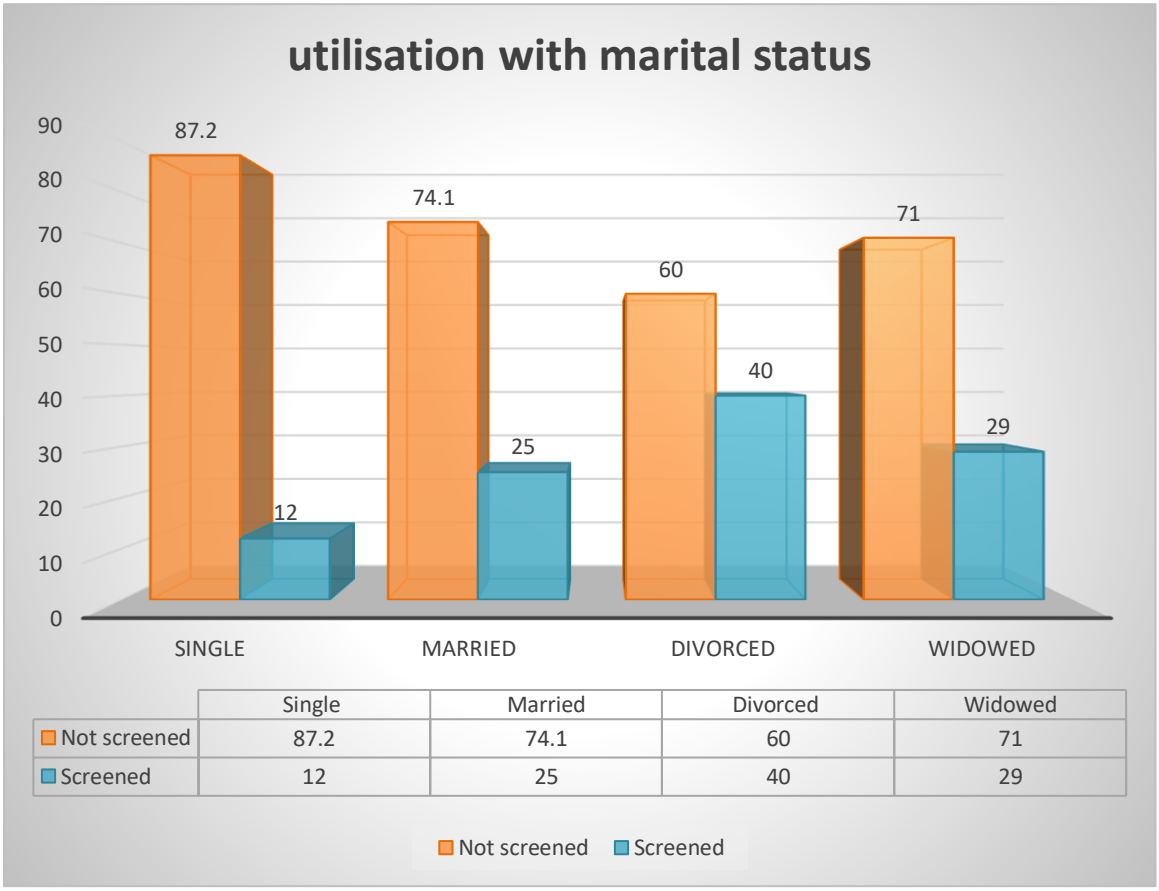


Figure 0-18: Correlation between marital status of participants with utilisation of cervical cancer screening

Income: A chi-square test was applied to identify possible relationships between the intentions to be screened and women's monthly income. The results showed that there was an association at the 5% significance level (X^2=8.938, df=2, p=0.011), with women with higher income indicating stronger intentions to utilise cervical cancer screening services (Fig. 4.19).

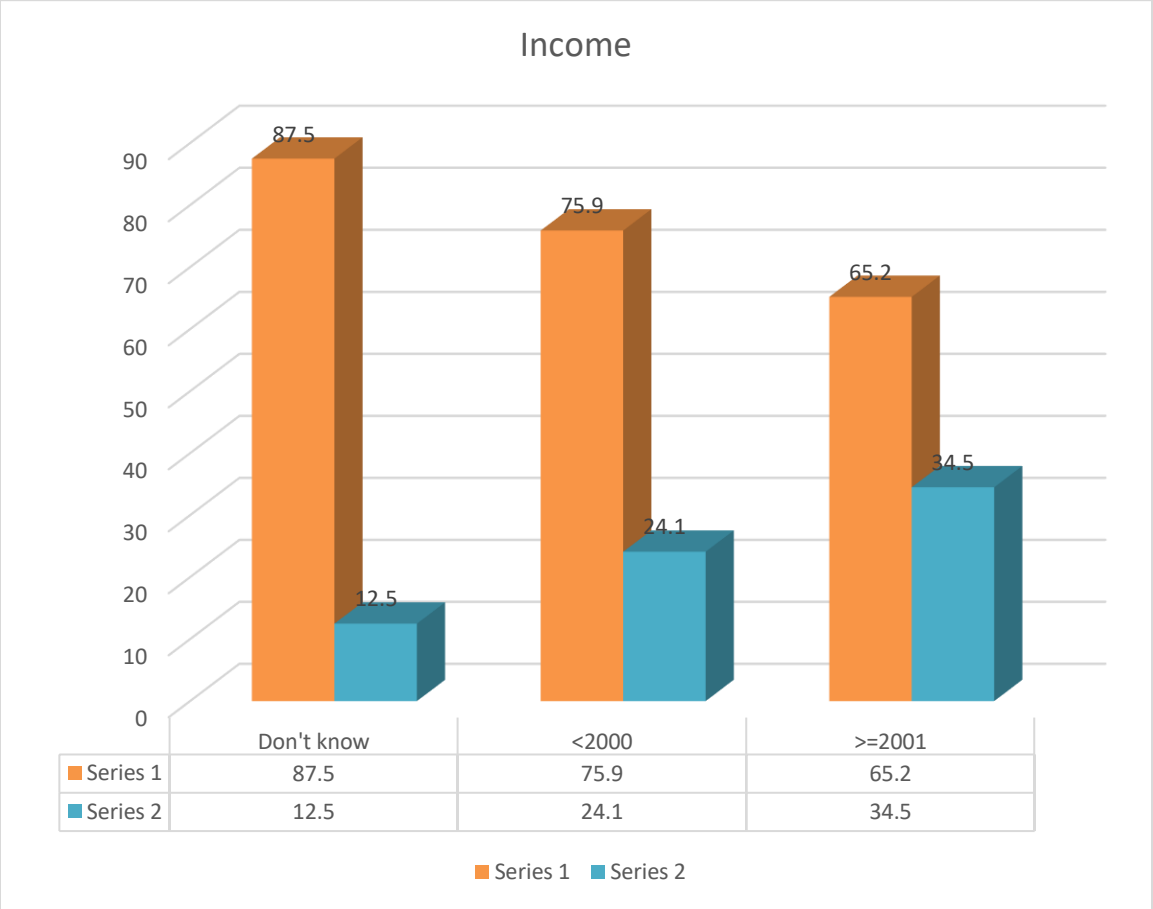
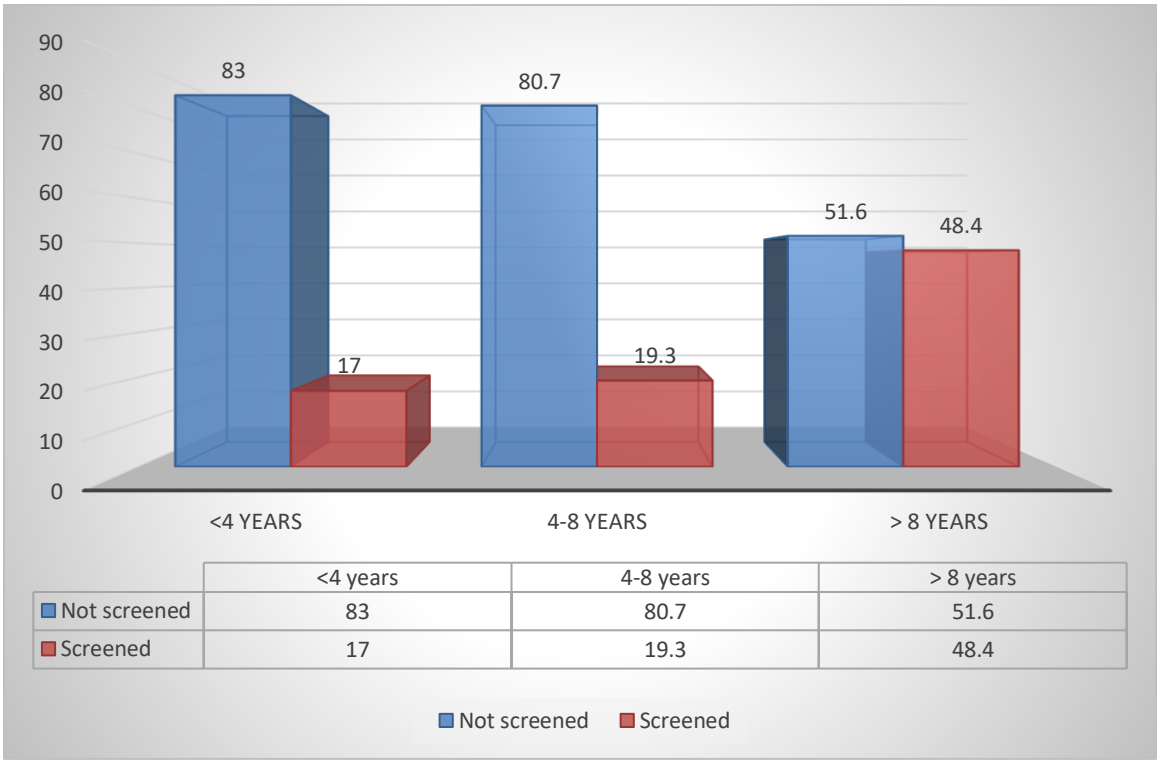


Figure 0-19: Correlation between monthly incomes of participants with utilisation of cervical cancer

Duration of HAART: According to this study a strong significant relationship was observed between participants' duration of HIV diagnosis and cervical cancer screening utilisation at less than 0.05% (X^2=34.419, df=2, p=<0.000).



	<4 years	4-8 years	> 8 years
Not screened	83	80.7	51.6
Screened	17	19.3	48.4

Figure 0-20: Correlation of cervical cancer utilisation with duration of taking HAART

As to the Level of Education of participants, there was no huge relationship between having been screened for cervical cancer and the degree of training of the respondent with a p-value more prominent than 0.05. (X^2=6.55=, *df*=4, p=162). Participant's employment status also had no significant correlation between intention to go for cervical cancer screening and participants' employment status (X^2=4.832, *df*=3, p=0.185). Also, the spouse level of training had no critical connection between having been screened for cervical cancer and the level of education of participants' husband (X^2=6.588, *df*=3, p=0.086). The correlation between husband employment status and utilisation of cervical cancer screening was also not statistically significant (X^2=1.889, df=1, p=0.169). Based on this finding there was no correlation between cervical cancer screening utilisation and

participants' number of children (X^2=1.387, df=2, p=0.50) at the 5% level of significance. There were more participants with more than four sexual partners who intended to go for cervical cancer screening. However, it was not statistically significant (X^2=7.726, df=3, p=0.064).

17.1.4 Knowledge of Women Living with HIV about Cervical Cancer

Participants who were asked whether they had information about cervical screening and the majority (90.9% [f=281]) reported that they have heard about cervical cancer. From those who had the information, about half of the participants (48% [f=135]) received the information from health care providers, (39.9 [f=112]) received from Television, 21.1 % heard from radio and (3.6% [f=10]) don not remember the source of the information.

Table 0-2: knowledge of women living with HIV about cervical cancer in Hawassa city administration

Variables	Frequency	Percent
Heard about cervical cancer		
No	28	9.1
Yes	281	90.9
Source of information		
Health care providers	135	57.3
Television	112	39.9
Radio	60	21.4
Friends/families	6	2.1
Newspapers	4	1.4
Don't remember	10	3.6

17.1.4.1 Knowledge of risk factors and symptoms of cervical cancer

Participants were asked about the causes of cervical cancer and only (26.3% [f=74]) of them had identified the virus as the causative factor for cervical cancer. The most frequently mentioned risk factor by study participants was multiple sexual partners (73.3% [f=206]) followed by the early onset of sexual intercourse (45.9% [f=129]). Regarding symptoms of cervical cancer, (53.7% [f=151]) of study participants mentioned foully vaginal discharge and (48.4% [f=136]) vaginal bleeding.

Table 0-3: Women living with HIV Knowledge about risk factors and symptoms of cervical cancer

Variables	Frequency	Percent
Causes of cervical cancer		
Virus	74	26.3
Fungus	7	2.5
Hereditary	5	1.8
Urinating on sun	10	3.6
I don't know	144	51.2
Risk factors for cervical cancer		
Having multiple sexual partners	206	73.3
Early-onset of sexual intercourse	129	45.9
Family history of cervical cancer	29	10.3
Infection by virus	47	16.7
Cigarette smoking	5	1.8
Low immunity due to HIV/AIDS	59	21.
Repeated abortion	10	3.6
Prolonged use of oral contraception	8	2.8
Sexually transmitted infection	23	11.7
Don't know	31	11.1
Symptoms of cervical cancer		

Vaginal bleeding	136	48.4
Foully vaginal discharge	151	53.7
Pelvic or back pain	40	14.2
Post-coital bleeding	116	41.3
I don't know	46	16.4

17.1.4.2 Knowledge of risk groups for cervical cancer

Concerning high-risk groups for cervical cancer, (68.7 %[f=193]) of study participants mentioned that HIV positive women whereas (47.7% [f=134]) of them mentioned that women with multiple sexual partners as high-risk groups for cervical cancer.

Table 0-4: women living with HIV about risk groups for cervical cancer in Hawassa City Administration, 2019

More likely risk groups for cervical cancer	Frequency	Percent
HIV positive women	193	68.7
Women with multiple sexual partners.	134	47.7
Women with a family history of cervical cancer	22	7.8
All women	48	17.1
I don't know	16	5.7
Others specify		

17.1.4.3 Knowledge of cervical cancer prevention and treatment methods

Concerning the preventability of cervical cancer, (86.5% [f=243]) of participants believed that cervical cancer is preventable meanwhile (8.9% [f=25]) of them believed that it is not preventable. Out of 281 participants, (74.4% [f=209]) participants believed that cervical cancer can be prevented by avoiding multiple sexual partners and (39.5% [f=111]) through early screening services. Out of 281 study participants, (85.8 %[f=241]) of them believed that cervical cancer is a

treatable disease if it was detected early, while (8.9% [f=25]) of study participants believed that cervical cancer as an untreatable disease. Seeking early treatment was identified by (68.7% [f=193]) of the study participants as things that make cervical cancer treatable.

Chemotherapy was identified as a treatment method by (17.8% [f=50]) study participants, radiation (15.3% [f=43]), surgery (11.4% [f=32]), while (58.7% [f=117]) do not know the treatment modalities for cervical cancer.

Table 0-5: HIV positive women Knowledge about prevention and treatment mechanisms of cervical cancer in Hawassa city administration

Variables	Frequency	Percent
Cervical cancer is preventable		
Yes	243	86.5
No	25	8.9
Don’t know	13	4.6
Prevention mechanism		
Avoid multiple sexual partner	209	74.4
Avoid early-onset sexual intercourse	95	33.8
Avoid smoking	25	8.9
Through vaccination	38	13.5
Seek screening services	111	39.5
Consistent use of condom	35	12.5
Prompt treatment of STIs	23	8.9
Do not know	23	8.9
Other (please explain)		
Q216 Is cervical cancer curable (treatable) if detected early?		
Yes	241	85.8
No	25	8.9
Don't know	15	5.3

Q217 What things make cervical cancer curable once diagnosed		
Seeking treatment at an early stage	193	68.7
Seeking treatment at late-stage	6	2.1
Seeking treatment at early or late-stage Don't have difference	17	6
Don't know	65	23.1
Q218 Treatment modalities for cervical cancer		
Traditional medication	8	2.8
Surgery	32	11.4
Radiation	43	15.3
Chemotherapy	50	17.8
Chronotherapy	5	1.8
Don't know	117	58.7

17.1.4.4 Knowledge of cervical cancer screening methods

Participants were asked about their knowledge of cervical cancer screening methods. About (70.1% [*f*=197]) of them did not know any screening methods which are used to detect cervical cancer. Regarding types of screening methods, study subjects identified (38.4% [*f*=32]) Pap smear and (55.4 % [*f*=46]) VIA. Concerning the way of information about screening methods, (53% [*f*=149]) had heard from health care providers whereas (46.7% [*f*=131]) of them had heard from media. Regarding the importance of screening methods, (48.7% [*f*=136]) study participants believe that screening helps in the prevention of cervical cancer, (33.3% [*f*=93]) for early detection while (31.5% [f=88]) for early seek of cervical cancer treatment.

Table 0-6: Knowledge of cervical cancer screening methods

Variables	Frequency	Percent
Do you know any screening methods to detect cervical cancer?		
Yes	84	29.9
No	197	70.1

Types of screening methods		
Pap smear	32	38.4
VIA	46	55.4
HPV /DNA	14	16.9
Don't know	189	67.2
Q210 From where did you hear about cervical cancer screening methods for the first time?		
Hospital	97	34.5
health care providers	52	18.5
Television	87	31.0
Radio	44	15.7
Friend	9	3.2
Relative	5	1.8
Q211 Importance of screening		
For prevention of cervical cancer	136	48.7
For early detection of cervical cancer	93	33.3
For early seek of cervical cancer treatment	88	31.5
For the treatment of cervical cancer	63	22.4
Don't know	13	4.6

17.1.4.5 Knowledge on recommended screening age and frequency for cervical cancer

Out of the total study participants nearly (24.8% [f=144]) of them said that the recommended age of women for cervical cancer screening is as soon as she became sexually active, while (19.1% [f=111]) of them identified that the recommended age for HIV positive women to be screened for cervical cancer was as soon as she became HIV positive and (32.9% [f=191]) of them did not know. The most frequently mentioned time interval for screening was everyone year (29.9% [f=174]) but remarkably (37.7% [f=219]) of participants did not know cervical cancer screening interval. The most frequently mentioned time interval for

cervical cancer screening for HIV positive women was everyone year (29.1% [f=169]) and remarkably (36.5% [f=212]) of participants did not know cervical cancer screening frequency for HIV positive women.

17.1.4.6 Knowledge towards cervical cancer and cervical screening methods

Of 309 study participants, (90.6% [f=281]) of them had heard about cervical cancer. The most common source of information was health care providers (50.8 % [f=181]) followed by Television (36.2% [f=112]) and radio (19.4 %[f=60]). Nearly one-third of them (25.9% [f=79]) knew someone with cervical cancer.

17.1.4.7 Composite knowledge of cervical cancer

About twelve items were composed to get the composite knowledge of participants. The items were depicted in Table 4.7 below.

Table 0-7: Items included to compute the composite knowledge of women living with HIV towards cervical cancer

Items	*F*	%
Know the cause of cervical cancer.	74	24.7
Know the mode of transmission of HPV.	222	74.3
Know the predisposing factors to cervical cancer.	181	58.8
Know the sign and symptom of cervical cancer	152	54.0
Know who is more likely at risk of developing cervical cancer.		
Know cervical cancer as a preventable disease.	247	82.6
Know how to prevent cervical cancer.	168	54.7
Know any screening methods to detect cervical cancer.	84	29.9
Know the aim of cervical cancer screening.	75	83.3
Knowledge about when HIV positive women should have screening.	75	27

Know about how frequent, cervical cancer screening should be done for HIV positive women.	27	8.7
Knowledge about cervical cancer curable (treatable) if detected early.	243	85.8

Of 309 study participants, 51.5% were knowledgeable about cervical cancer and cervical cancer screening. The response to ten item knowledge question ranges from zero to eight with a mean of 2.73 (SD± 2.27).

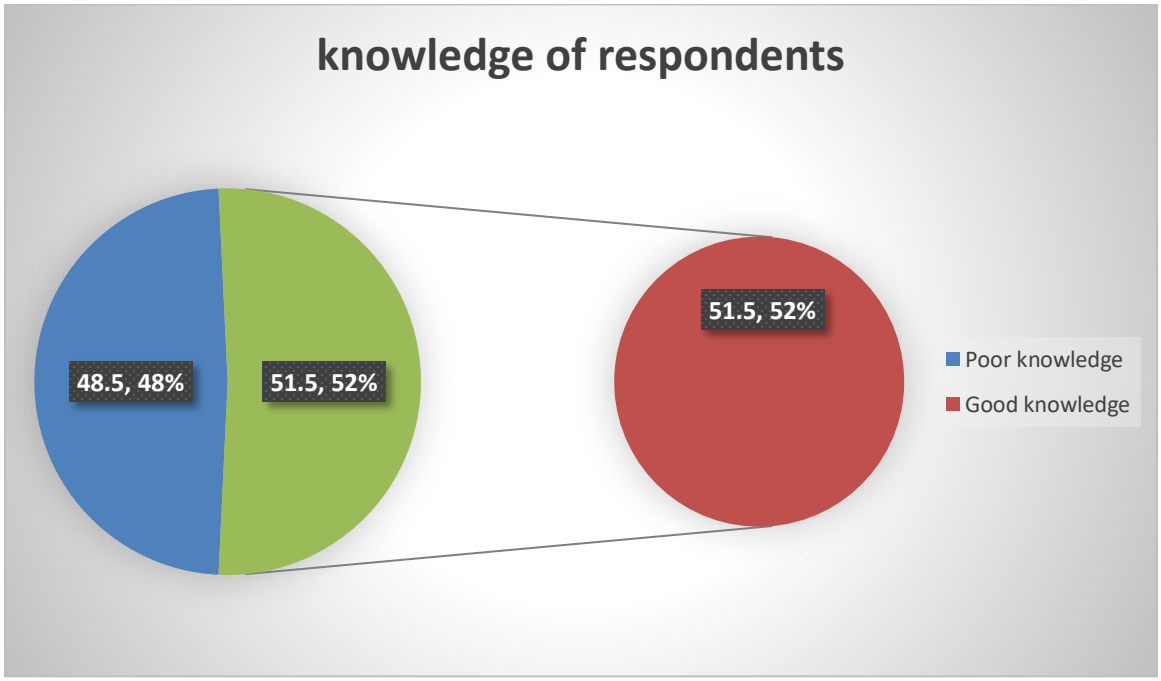


Figure 0-21: Knowledge of participants

17.1.4.8 Association between cervical cancer utilisation with total knowledge

As depicted in Figure 4.22 below there is a strong statically significant association between knowledge and utilisation of cervical cancer (X^2=43 df=1 p=0.000).

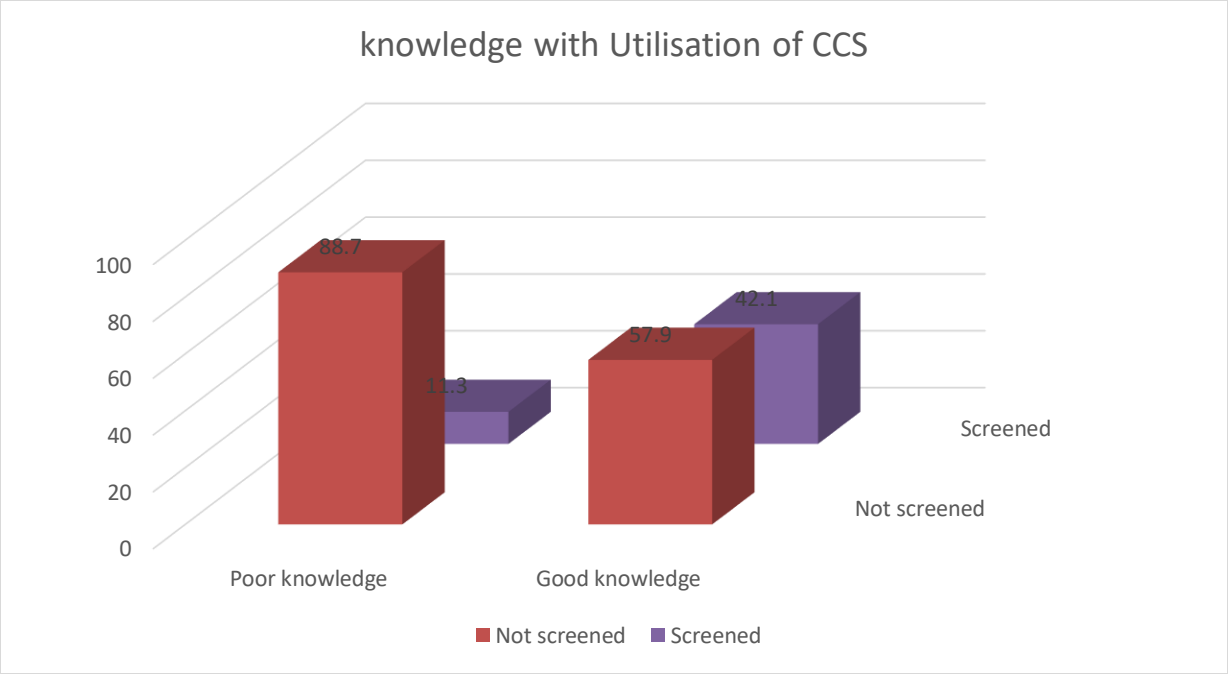


Figure 0-22: Correlation between composite knowledge with utilisation of cervical cancer

17.1.4.9 Determinant factors that affect knowledge towards utilisation of cervical cancer screening

Socio-demographic variables such as age, marital status, educational level, occupation, husband's education, husband's occupation, pregnancy status, parity, number of children, HAART duration, knowledge of someone with cervical cancer, monthly income, number of sexual partners were assessed to witness the presence of association between them and knowledge related to cervical cancer. Variables such as educational level, occupational status, husband's educational status, husband occupation, number of children, HAART duration, knowledge of someone with cervical cancer, monthly income and number of sexual partners had $p< 0.25$ during bivariate analysis, and thus considered for multivariate analysis.

Three factors were found to be associated with composite knowledge related to cervical cancer; these were educational status, knowledge of someone with cervical cancer and monthly income.

The odds of the educational status of participants being certificate and above were 14 times more likely to have good knowledge about cervical cancer than women attending no formal education (AOR=14.46; 95% CI: 2.88-72.52) (Table 4.8).

The odds ratio of participants who knew someone with cervical cancer were 6.813 times more likely to have good knowledge about cervical cancer than participants who did not know families/friends/neighbors with cervical cancer (AOR=6.813; 95% CI: 2.33-19.95). Similarly, participants who had monthly income having above 2001 Ethiopian birr were 11.781 times more likely to have good knowledge than participants who had no monthly income (AOR= 11.78; 95%; CI:1.20-115.4).

Table 0-8: Determinant factors that affect knowledge towards cervical cancer utilisation

Variables n= 309	**CCS Knowledge**		**COR (95% CI)**	**AOR (95% CI)**	**p-value**
	No # (%)	Yes # (%)			
Age category					
<=30	58	44	1		
31-40	70	65	1.224[0.73-2.05]	NA	
40+	33	39	1.558[0.85-2.86]		
Marital status					
Single	28	19	1		
Married	72	71	1.453[0.75-2.84]	NA	
Widowed	37	32	1.275[0.60-2.70]		
Divorced	24	26	1.596[0.75-2.84]		
Educational level					
No formal Education	52	10	1	1	
Primary 1-8	60	57	4.940[2.29-11.24] **	1.963[0.39-9.83]	.412
Secondary 9-12	34	32	4.894[2.13-11.24] **	.817[0.12-5.69]	.838
Certificate &above	15	49	16.987[6.97-41.37] **	**14.46[2.88-72.5]**	**.010**
Occupational status					
Daily labor/sex worker	17	8	1		
Student/housewife	78	38	1.035[0.41-2.61]		

Merchant/farmer	28	51	3.871[1.48-10.09] *		
Employed	38	51	2.852[1.12-7.29] *		
Husband education					
No formal education	20	5	1		
Primary	23	16	2.783[0.86-8.96] *		
Secondary	16	16	4.0[1.21-13.28] *		
Certificate & above	13	34	10.46[3.23-33.70] **		
Husband occupation					
Employed	30	45	1		
Non-employed	42	26	2.423[1.24-4.75] *		
Pregnancy status					
No	27	17	1		
Yes	134	131	1.553[0.81-2.98] *		
Number of children					
<=3	<=3	76	1		
4-6	4-6	53	0.69[0.42-1.15] *		
>=7	>=7	5	0.89[0.25-3.21]		
ART duration					
<= 4 years	95	72	1		
5 to 8 years	40	27	0.89[0.50-1.59]		
>= 9 years	26	49	2.49[1.41-4.38] *		
Know someone with cervical cancer					
No	141	84	1	1	
Yes	20	64	5.37[3.04-9.50] **	**6.81[2.33-19.96]**	**.000**
Monthly income					
Don't know	28	12	1	1	
< 2000	85	52	1.43[0.67-3.05]	5.56[0.32-97.56]	.240
>= 2001	48	84	4.08[1.90-8.76] **	**11.78[1.20-115.4]**	**.034**
Number of sexual partners					
0-1 partner	68	51	1		
2 sexual partners	57	57	1.33[0.79-2.24]		
3 sexual partners	27	24	1.19[0.61-2.29]		
> 4 partners	9	16	2.37[0.97-5.79] *		

** P value less than 0.001 *P value less than 0.25 for AOR

17.1.5 Perceived Susceptibility to Cervical Cancer

Section C, questions 3.1 to 3.9 of the questionnaire include specific questions that assess the participants' perceptions of being susceptible to cervical cancer. Questions assessed their knowledge about the cause of cervical cancer or abnormal cervical changes; virus as a causative organism for cervical cancer; the transmission of HPV; being at risk of having cervical cancer; risk factors of cervical cancer would initiate the idea of having cervical cancer. The structured interview schedule included specific questions that assessed participants' perceptions of being susceptible to cervical cancer.

17.1.6 Screening for cervical cancer

Participants were asked whether they had been screened for cervical cancer or not. This was done in order to obtain information regarding their previous health-seeking behavior relevant to cervical cancer. Out of 309 study participants, only (27.2% [*f*=84]) of them had been screened for cervical cancer while (72.8% [*f*=225]) had not been screened as displayed in Figure 4.23.

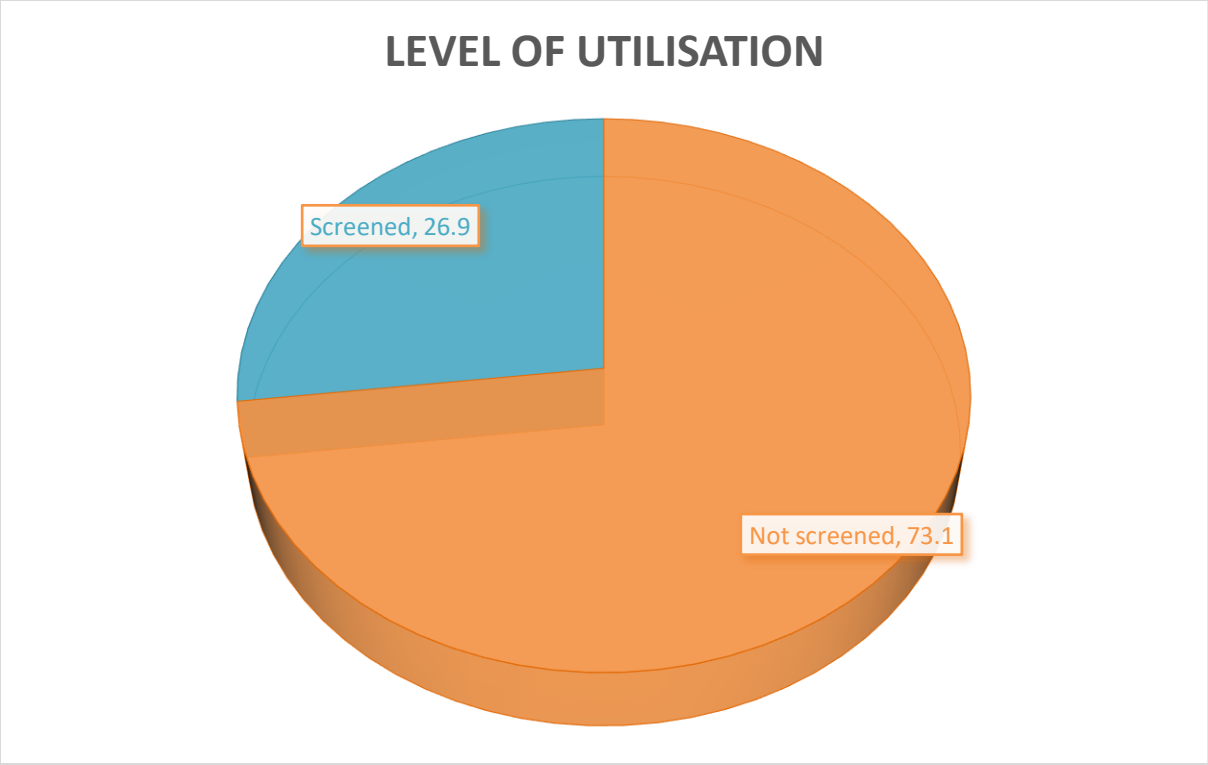


Figure 0-23: Cervical cancer screening among women living with HIV in Hawassa city administration, 2019

For those who had not been screened for cervical cancer (n=226), the most frequently cited reasons were shown in Figure 4.24.

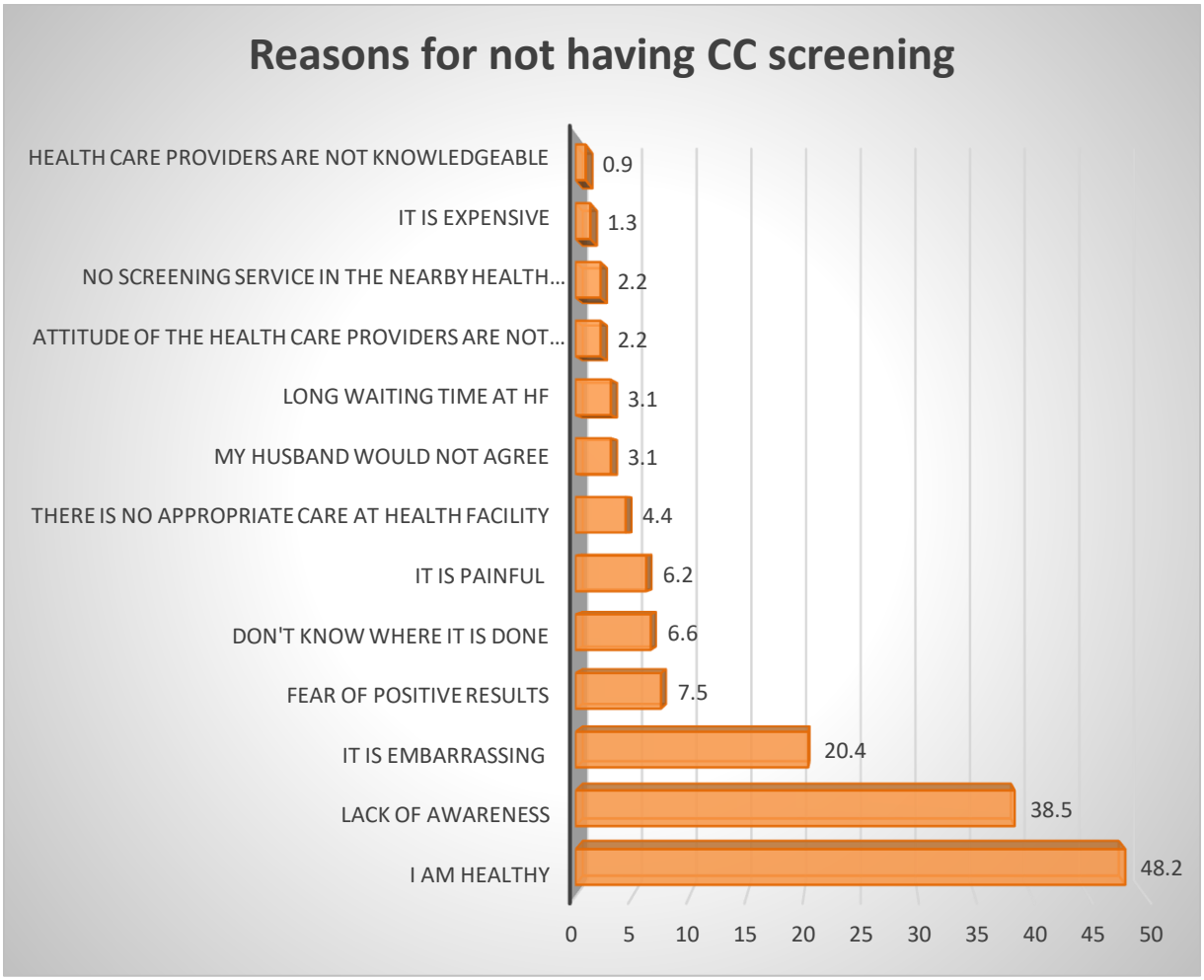


Figure 0-24: Reasons for not having used cervical cancer screening services (n=226)

In addition, out of 83 members who showed that they had been screened previously, were further asked about the frequency of screening. In response to this question, (66.3% [*f*=55]) of the participants screened once, (31.3% [*f=26]*) twice, (2.4% [*f=2]*) three times in lifetime.

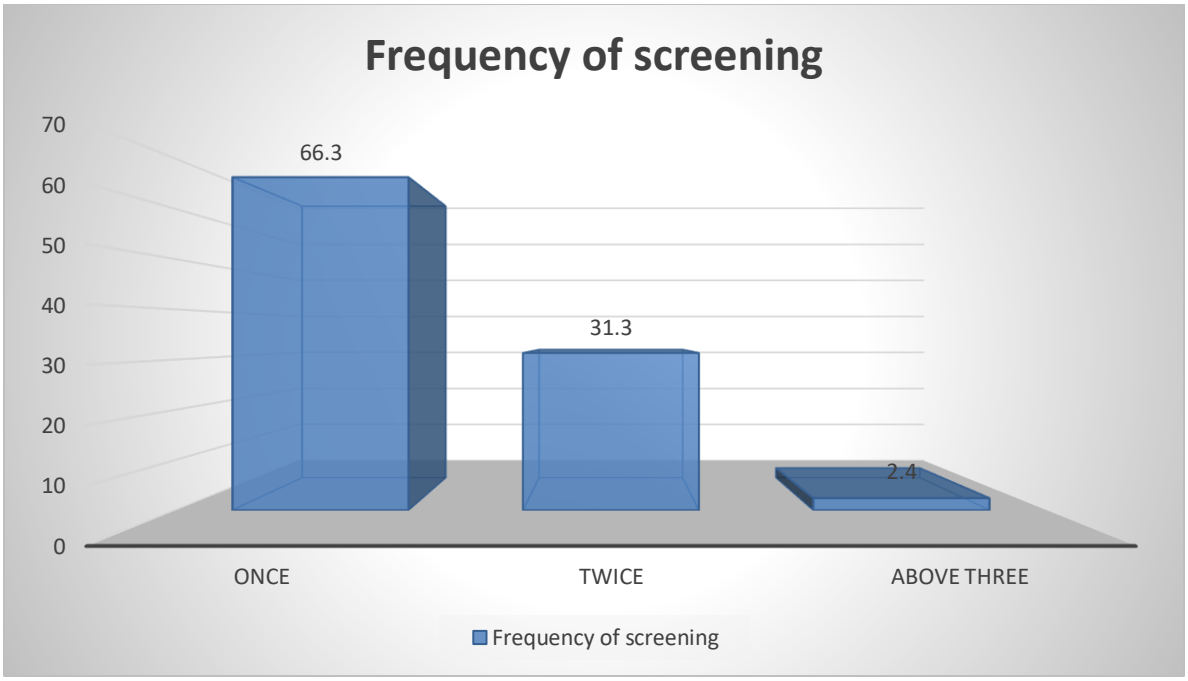


Figure 0-25: Frequency of screening

Out of 83 participants who had been screened for cervical cancer, (85.5% [*f*=71]) indicated that their results were normal, (14.5% [*f*=12]) stated that their results were abnormal (Fig. 4.26).

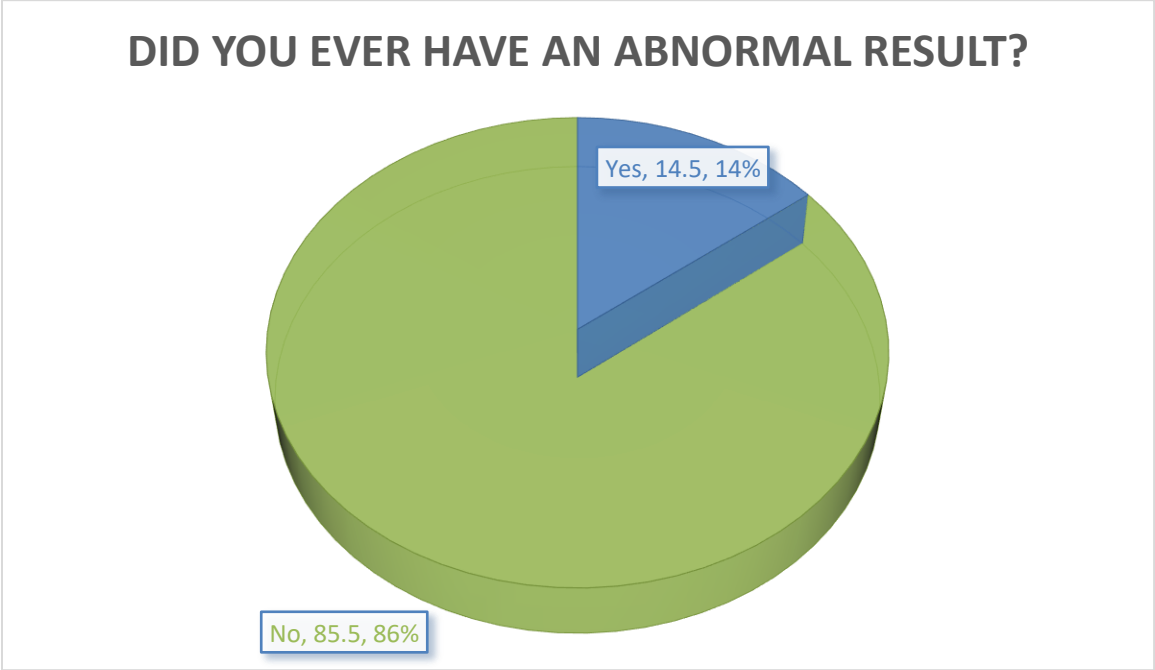


Figure 0-26: Ever had an abnormal result

The participants were asked whether they knew the cause of cervical cancer or abnormal cervical changes. Of the 309 participants, (51.2% [*f*=144]) admitted that they did not know the cause of cervical cancer, while (26.3% [*f*=74]) claimed that cervical cancer is caused by the virus.

A total of 309 responses were provided on knowledge about risk factors for cervical cancer. The most mentioned risks were: having multiple sexual partners (73.3 % [f=206]); early onset of sexual intercourse (45.9% [f=129]); low immunity due to HIV/AIDS (21.0% [f=59]); infection by virus (16.7% [f=47]); sexually transmitted diseases (11.7% [f=32]) and (11.1% [f=31]) don't know the risk factors for cervical cancer. These findings indicate that participants were knowledgeable about risk factors for developing cervical cancer. However; only (16.7% [f=47]) of them mentioned that cervical cancer is caused by HPV. The question on who should initiate the idea of having cervical cancer screening produced the following 84 responses: health care providers (63.1% [f=53]); self (27.4% [f=23]); family members (4.8% [f=4]); friends (2.4% [f=2]) and husbands (1.2% [f=1]).

This section also assessed members' impression of being defenseless to cervical malignancy by indicating "Strongly disagree" "Disagree" "Neutral" "Agree" or "Strongly agree" in response to different statements presented to them. If the "Strongly disagree" "Disagree" "Agree" or "Strongly agree" response did not apply, there was an option "Neutral" As shown in table 16.

Of the 309 participants, (60.6% [f=187]) strongly disagreed or disagreed to the statement "If you do not have any discomfort or pain, you do not need a cervical cancer screening test.", while (12.3% [f=38]) were neutral and (27.2% [f=84]) strongly agreed or agreed. In response to the statement "Cervical cancer screening test is for sexually active women", about three fourths, (73.4% [f=227]), strongly disagreed or disagreed with the statement while about one-tenth, (29 [9.4%]), strongly agreed or agreed, and about one-sixth, (17.2% [f=53]), were not sure.

Another statement presented to the participants was 'My Chance of getting cervical cancer is high'. The result revealed that only about one third (31.4% [f=97]) strongly agreed or agreed, (41.7% [f=129]) were strongly disagreed or disagreed and (26.8% [f=83]) indicated they were not sure with the statement.

When the following statement was posed to the participants (n=309), 'I do not need cervical cancer screening test because there is no history in our family', about one-tenth, (9.7% [f=30]), strongly agreed or agreed," about one eighth, (79.6% [f=246]), strongly disagreed or disagreed while (10.7% [f=33]) indicated they were not sure. Another statement presented to the participants as 'I do not need cervical cancer screening anymore, whatever it is.' The responses (n=309) revealed that only (8% [f=25]) strongly agreed or agreed about one eighth, (77.9% [f=241]), strongly disagreed or disagreed and (13.9% [f=43]) indicated "Neutral".

Table 0-9: Perceived susceptible to cervical cancer

Perceived susceptibility	**SD**		**D**		**N**		**A**		**SA**	
	F	%	f	%	f	%	F	%	F	%
If you do not have any discomfort or pain, you do not need a cervical cancer screening test.	11	3.6	176	57	38	12.3	75	24.3	9	2.9
Cervical cancer screening test is for sexually active women	39	12.6	188	60.8	53	17.2	24	7.8	5	1.6
My chances of getting cervical cancer are High.	6	1.9	123	39.8	83	26.8	77	24.9	20	6.5

Having cervical cancer is matter of bad luck or fate	15	4.9	226	73.1	28	9.1	39	12.6	1	0.3
I do not need cervical cancer screening test because there is no history in our family.	21	6.8	225	72.8	33	10.7	29	9.4	1	0.3
I do not need cervical cancer Screening any more. whatever it is	19	6.1	222	71.8	43	13.9	23	7.4	2	0.6

Association between the intentions to be screened for cervical cancer and knowing about the cause of cervical cancer

Knowledge about the cause of cervical cancer*:* There is a significant association between cervical cancer screening utilisation with knowledge about the cause of cervical cancer (X2=10.633: df=1, p<=0.001) as indicated in Table 4.10.

Table 0-10: Association between the intentions to be screened for cervical cancer and knowing about the cause of cervical cancer

Variable	X2	Df	p-value
knowledge of the cause of cervical cancer	10.633	1	0.001

17.1.7 Perceived Severity/Seriousness of Cervical Cancer

In section D of the interview schedule, specific questions were asked to assess the participants' perceived severity or seriousness of cervical cancer. The

participants were asked to mention the part of the body that is affected by cervical cancer. Out of the participants (n=309) who were allowed to choose multiple options, (59.9% [*f*=185]) mentioned the cervix, (56.6% [*f*=175]) mentioned uterus, (36.6% [*f*=113]) indicated the vagina and (23.9% [*f*=74]) mentioned the vulva. The participants were also asked to identify the signs and symptoms of cervical cancer. This question allowed participants to give multiple responses (n=309), as shown in table 18. Out of total participants who have ever heard about cervical cancer (n=281), about (16. % [*f=46]*) of participants did not know any signs and symptoms of cervical cancer, (53.7% [*f=151]*) indicated foully vaginal discharge, (48.6% [*f*=136]) mentioned irregular vaginal bleeding, (41.3% [*f*=116]) said it involved post-coital bleeding while (14.2 %[*f*=40]) indicated that pelvic or back.

Table 0-11: Sign and symptom of cervical cancer

Variable	Frequency	Percent
Foully vaginal discharge	151	53.7
Irregular Vaginal bleeding	136	48.6
Post coital bleeding	116	41.3
Pelvic or back pain	40	14.2
I don't know	46	16.4

The participants were asked to provide a 'yes or no' response (n=309) for the question 'was there anyone in the family or close friends or neighbors with history of cervical cancer?' Results showed that about three fourth (74.4% [*f*=230]) of the participants had indicated 'No,' while one third (25.6% [*f*=79]) stated 'Yes.' This is shown in table 4.12.

Table 0-12: ‘Was there anyone in the family or close friends or neighbors with a history of cervical cancer'

‘Was there anyone in the family or close friends or neighbors with a history of cervical cancer?’	Frequency	Percent
Yes	79	25.6
No	230	74.4

This section assessed participants’ perceptions of the seriousness of cervical cancer by indicating “Strongly disagree” “Disagree” “Neutral” “Agree” or “Strongly agree” in response to different statements. As shown in Table 4.13, out of 309 participants, about one third,73% (f=226), strongly disagree or agree with the statement "cervical cancer is a curse from God", about one-tenth, (9.4% [f=29]), were neutral, while (17.5% [f=54]) strongly agree or agree with statement. Out of 309 participants about three fourth, (74.5 %[(f=230]), strongly disagree or disagree to the statement ‘I would not get cervical cancer screening test because of fear of the results’, (14% [f=43]) strongly Agree or agree while (11.7% [f=36]) stated not sure. In response (n=309) to the statement "cervical cancer eats internal organs", about three fourth, (76.1% [f=235]), strongly agree or agree, (6.8% [f=21]) indicated strongly disagree or disagree while (17.2% [f=53]) indicated “Neutral.” Thus, as many as (76.1% [f=235]) considered cervical cancer as a serious condition affecting women's' internal organs. In addition, out of 309 participants, (41.8% [f=129}) strongly agree or agree to ‘there is very little one can do about cervical cancer,’ (22% [f=68]) were not sure and only (38.3% [f=112]) indicated strongly disagree or disagree.

In response (n=309) to the statement ‘, I would rather take the test and discover the

hidden disease than go through the pain’, about seven percent (f=22) strongly disagree or disagree, more than three fourth, (81.6% [f=252]), responded strongly agree or agree, (11.3% [f=35]) indicated neutral about the statement.

Out of 309 as many as (62.8% [f=194]) participants strongly disagree or disagree with the statement ‘If I am diagnosed with cervical cancer, I will die. About (14.2% [f=44]) of the participants strongly agree or agree whilst (23% [f=71]) were not sure about the statement. When the statement was posed to participants (n=309) that ‘loss of the cervix or uterus through surgery would affect sexuality’ (22% [f=68]) strongly agree or agree (46.3% [f=143]) strongly disagree or disagree and (31.7% [f=98]) stated that they were neutral.

This implies that about (46.3% [f=143]) participants strongly disagree or disagree that their sexuality would not be affected following the surgical removal of the cervix. When the participants (n=309) were further asked whether ‘a woman would lose a husband is diagnosed with cervical cancer,’ (14.5% [f=45]) strongly disagree or disagree, (83.5% [f=258]) strongly agree or agree while (25.6% [f=79]) were not sure. These findings indicate that almost all (83.5% [f=258]) of the participants strongly agree or agree that they may lose their husbands if they are diagnosed with cervical cancer.

Participants (n=309) were also asked whether seeing somebody suffering from cervical cancer would encourage women to go for screening. It was observed that (85.1% [f=263]) strongly agree or agree, (7.4% [f=22]) strongly disagree or disagree, while (7.5% [f=23]) were neutral. Almost all participants (85.1% [f=263]) considered that seeing somebody suffering from cervical cancer would encourage women to go for cervical screening.

Table 0-13: Perception about seriousness or severity of cervical cancer

Perceived seriousness/severity	**SD**		**D**		**N**		**A**		**SA**	
	F	**%**	**F**	**%**	**f**	**%**	**F**	**%**	**f**	**%**
Cervical cancer is a curse from God	56	18.1	170	55	29	9.4	50	16.2	4	1.3
I would not get a cervical cancer screening test because of fear of the results	28	9.1	202	65.4	36	11.7	36	11.7	7	2.3
Cervical cancer eats internal organs.	0	0	21	6.8	53	17.2	197	63.8	38	12.3
There is very little one can do about cervical cancer	3	1	109	35.3	68	22	108	35	21	6.8
I would rather take the test and discover the hidden disease than go through the pain.	4	1.3	18	5.8	35	11.3	219	70.9	33	10.7
If I am diagnosed with cervical cancer I will die.	28	9.1	166	53.7	71	23	39	12.6	5	1.6
Loss of cervix or uterus through surgery would affect sexuality	33	10.7	110	35.6	98	31.7	63	20.4	5	1.6
A woman would lose a husband if diagnosed with cervical cancer.	18	5.8	27	8.7	79	25.6	79	25.6	179	57.9
Seeing somebody suffering from cervical cancer would encourage women to go for the test.	8	2.6	15	4.9	23	7.4	242	78.3	21	6.8

Correlation between perceived severity/seriousness of cervical cancer with cervical cancer screening utilisation

To assess a possible association between cervical cancer screening utilisation and participants' knowledge of the experiences of women who had cervical cancer or who had heard of any woman with cervical cancer, a chi-square test was used.

Knowing someone with cervical cancer: this finding states that there was an association between women's living with HIV utilisation of cervical cancer with knowing families/friends/neighbors having cervical cancer (X^2=12.22, df=1, p<=0.001) (Fig. 4.27).

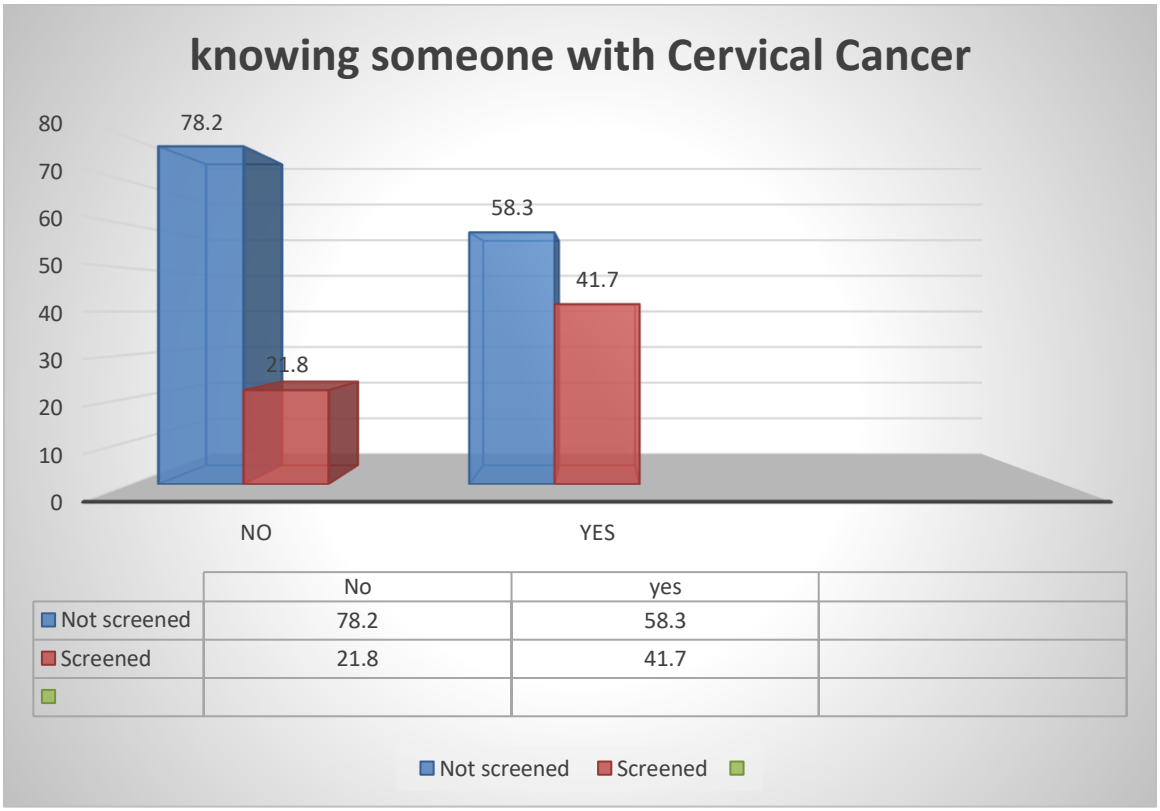


Figure 0-27: Correlation between perceived severity/seriousness of cervical cancer with cervical disease screening use

17.1.8 Perceived Benefits

Questions were asked in order to assess participants' perceived benefits of cervical cancer screening. In response (n=281) to the question 'Do you know any screening methods to detect cervical cancer?' (29.9% [f=83]) stated 'yes' while (70.1% [f=198]) indicated 'No.' And also, those who indicated that they knew were asked multiple questions about the cervical cancer screening methods they know. Of those 83 participants, (55.6% [f=46]) mentioned VIA, (38.6% [f=32]) indicated Pap test while (16.9% [f=16]) mentioned HPV testing.

The results indicate that only (33.1% [f=93]) out of the 281 participants knew that the aim of cervical cancer screening test is to help in the early detection of cervical cancer. The participants were also asked to mention all the known facilities where cervical cancer screening services are offered. This question allowed multiple responses and obtained a total of 630 responses. Out of these 630 responses, (58.6% [f=181]) indicated Hawassa referral hospital, (51.8% [f=169]) mentioned Adare hospital, (29.1% [f=90]) talked about family Guidance Association (FGA) and (10.4% [f=32]) cited Millennium health center. The results suggest that the majority of (58.6% [f=181]) respondent replied that the screening service is given in Hawassa referral hospital.

When the participants were asked "when should a woman living with HIV start having cervical cancer screening tests?: the following responses (n=278) were given by the participants: (16.2%[f=45]) thought When menstruation starts, (27% [f=75]) suggested as soon as sexually active, (14% [f=39]) stated at the age of 30, (6.8% [f=19]) stated when start having children (1.1% [f=3]) after menopause and (30.1% [f=84]) did not know when to start cervical cancer screening. Although only about one fourth, (27% [f=75]), knew when to start having cervical screening tests as soon as sexually active, three fourth, (73 % [f=203]), lacked this knowledge.

The participants were also asked the person they specifically thought should be screened for cervical cancer. A total of 281 participants answered the question, About (68.7 % [f=193]) women living with HIV, (47.7% [f=134]) women with multiple sexual partners, (17.1% [f=48]) all women, (7.8% [f=22]) and (5.2% [f=16])

did not know. In addition, the participants were further asked 'how often a woman living with HIV is supposed to be screened for cervical cancer.' The participants (n=281) had the following answers: (9.4% [f=29]) indicated every five years, (1.3% [f=4]) said every four years, (8.7% [f=27]) every three years, (2.3% [f=7]) indicated every two years, 13.3% [f=41]) thought it should be annually and (55.7% [f=175]) cited wrong answers such as twice in a year and did not know. This study also assessed participants' perceptions of being susceptible to cervical cancer by indicating "Strongly disagree" "Disagree" "Neutral" "Agree" or "Strongly agree" in response to different statements. Of the 309 participants, (58.3% [f=180]) strongly disagreed or disagreed with the statement "Cervical cancer screening would unveil/expose a hidden disease." About (29.4%) [f=91] of the participants were neutral and (12.3% [f=38]) strongly agreed or agreed. More than half of participants disagreed with the statement.

Out of 309 participants, (4.8% ([f=15]) strongly disagreed or disagreed with the statement "Cervical cancer screening would save life if detected and treated at an early stage." About (14.2% [f=44] were not sure. The majority (80.9% [f=250]) strongly agreed or agreed with the statement. The majority of participants perceived that cervical cancer screening would save life if cervical cancer is detected and treated at an early stage. When the following statement was posed to the participants (n=309), 'Cervical cancer screening is humiliating/ embarrassing'. More than half, (54.7% [f=169]), of participants, thought that cervical cancer screening is not embarrassing. While (29.4% [f=91]) thought it is embarrassing and (15.9% [f=49]) indicated they were not sure. Another statement presented to the participants was 'Cervical cancer is curable if detected early.' The responses (n=309) revealed that (77% [f=238]) strongly agreed or Agreed only (6.1 % [f=19]) were strongly disagreed or disagreed and (16.8% [f=52]) indicated they were not sure with the statement. The majority of participants perceived that cervical cancer is curable if detected early. Participants (n=309) were also asked whether regular cervical cancer screening decreases the risk of cervical cancer. It was observed that about three fourth of participants, (74.1% [f=229]), strongly

agree or agree, (5.8% [f=18]) strongly disagree or disagree, while (20.1% [f=62]) were neutral.

Table 0-14: Perceived benefits of cervical cancer screening

Perceived benefit from screening	SD		D		N		A		SA	
	f	%	F	%	f	%	F	%	F	%
Cervical cancer screening would unveil/expose a hidden disease.	3	1	35	11.3	91	29.4	176	57	4	1.3
Cervical cancer screening would save life if detected and treated at an early stage.	1	0.3	14	4.5	44	14.2	241	78	9	2.9
Cervical cancer screening is humiliating/embarrassing	12	3.9	157	50.8	49	15.9	82	26.5	9	2.9
Cervical cancer is curable if detected early	1	0.3	18	5.8	52	16.8	230	74.4	8	2.6
Regular cervical cancer screening decreases the risk of cervical cancer.	0	0	18	5.8	62	20.1	221	71.5	8	2.6
Regular asymptomatic screening is a waste of time and money	50	16.2	171	55.3	53	17.2	35	11.3	0	0
Financial constraints affect uptake of cervical cancer screening tests	9	2.9	71	23	57	18.4	162	52.4	10	3.2

17.1.9 Perceived Barriers to Cervical Cancer Screening

17.1.9.1 Stigma, fear, and discrimination

Participants' were asked questions related to stigma, fear, and discrimination, as presented in Table 4.15. In response to the statement that 'Women with cervical cancer are considered to be dirty.' The majority of participants (45.6% ([*f=141]*) strongly disagree or disagree (43.1% [*f*=135]) strongly agree or Agree while (10.7% [*f*=33]) were not sure about the statement. The results also indicate that (46.6% [*f*=144]) participants strongly disagree or disagree in response to the statement 'I would not want to be seen in a cervical cancer screening clinic by my friends or colleagues' (10% [*f*=31]) stated "neutral." While (43.3% [*f*=134]) of participants strongly agree or agree about the statement. In response to the statement that 'it is too embarrassing to have a cervical cancer screening test', (64.1% [f=198]) strongly disagree or disagree; (17.5% [f=54]) strongly agree or agree while (18.4% [f=57]) were neutral. Another statement posed was that 'being screened by a male healthcare provider would discourage me from being screened for cervical cancer.' Of the 309 participants, (63.1% [f=195]) participants would utilise cervical cancer screening services even if male healthcare workers provide it while (16.8% [f=52]) participants would not utilise cervical cancer screening services even if provided by male healthcare workers and (20.1% [f=62]) were not sure.

In response to the statement, 'cervical cancer screening is painful,' results showed that (42.4% [f=131]) think that cervical cancer screening is painful, about one fifth (19.7% [f=64]) strongly disagree or disagree while (37.9% [f=117]) were neutral about the statement. Of 309 participants, (47.5% [f=147]) strongly agree or agree with the statement: 'if it is treated early cervical cancer is a curable disease', (25.9% [f=80]) were neutral, while (26.5% [f=82]) strongly disagree or disagree with the statement. See Table 4.15 for results.

Table 0-15: Perception of stigma, fear, and discrimination

Variable	SD		D		N		A		SA	
	F	%	F	%	f	%	f	%	f	%
Women with cervical cancer are considered to be dirty.	5	1.6	136	44	33	10.7	106	34.3	29	9.4
I would not want to be seen in a cervical cancer screening clinic by my friends or colleagues.	13	4.2	131	42.4	31	10	116	37.5	18	5.8
It is too embarrassing to have a cervical cancer screening test.	8	2.6	190	61.5	57	18.4	45	14.6	9	2.9
if it is treated early cc is a curable disease	26	8.4	56	18.1	80	25.9	133	43	14	4.5
Being screened by a male health care provider would discourage me from being screened for cervical cancer.	41	13.3	154	49.8	62	20.1	48	15.5	4	1.3
Cervical cancer screening test is painful	1	0.3	60	19.4	117	37.9	106	34.3	25	8.1
if it is treated early cc is a curable disease	26	8.4	56	18.1	80	25.9	133	43	14	4.5

17.1.9.2 Socio-economic factors

This study assessed women's available support systems and how easily participants could access cervical cancer screening services. As shown in Table 4.16, (70.1% [*f*=223]) strongly disagree or agree in response to the statement: 'it would be difficult to find somebody to care for your child or older person while you go for cervical cancer screening,' about (19.1% [*f*=59]) strongly agree or agree

while (8.7% [*f*=27]) were neutral. In addition, participants were also asked to respond to the statement, 'I would have to get permission from my significant others prior to having a cervical cancer screening test.' The responses were as follows: (68.9% [*f*=213]) strongly disagree or disagree," (21.7% [*f*=67]) strongly agree or agree and (9.4% [*f*=29]) were not sure about the statement. In response to 'It is difficult to take time off to have a cervical cancer screening test.', out of 309 participants, (77% [f=238]) strongly disagree or disagree with the statement. (9% [f=28]) strongly agree or agree while (13.9% [*f*=43]) were neutral about the statement. Furthermore, the participants were asked to respond to the statement, 'It is too expensive to have a cervical cancer screening test.' The results show that (64.7% [f=200]) strongly disagree or disagree," (5.9% [f=18]) strongly agree or agree while (29.4% [f=91]) were not sure. In addition, participants were also asked whether financial constraints would affect the uptake of cervical cancer screening tests. The results also indicated that (23.3% [f=72]) strongly disagree or disagree but (59.6% [f=184]) strongly agree or agree while (17.2% [f=53]) neutral. Only (22.4% [f=69]) of the participants strongly agree or agree with the statement "limited access to screening services would affect regular uptake of cervical cancer screening," (60.9% [f=188]) of participants strongly disagree or disagree while (16.8% [f=52]) neutral. In addition, about one-fourth of participants' (75.7% [234]) strongly agree or agree with cervical cancer services should be provided near home or office. (11.7% [f=36]) were neutral while (12.6% [f=39]) strongly disagree or disagree with the statement.

Table 0-16: perception of Socio-economic factors

Variables	SD		D		N		A		SA	
	F	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**
It is difficult to find somebody to care for your child or older person while you go for cervical cancer screening.	10	3.2	213	68.9	27	8.7	48	15.5	11	3.6
I would have to get permission from my significant other/s prior to cervical screening	43	13.9	170	55	29	9.4	53	17.2	14	4.5
It is difficult to take time off to have a cervical cancer screening test.	38	12.3	200	64.7	43	13.9	23	7.4	5	1.6
It is too expensive to have a cervical cancer screening test.	38	12.3	162	52.4	91	29.4	15	4.9	3	1
Limited access to screening services affects the regular uptake of cervical screening tests.	8	2.6	180	58.3	52	16.8	62	20.1	7	2.3
Financial constraints affect uptake of cervical screening test.	5	1.6	67	21.7	53	17.2	168	54.4	16	5.2
Cervical cancer services should be provided near home or office.	2	0.6	37	12	36	11.7	222	71.8	12	3.9

17.1.9.3 Traditional practices

The current study assessed the participants' perceptions of traditional practices and cervical cancer screening seeking behaviours. Table 4.17 shows that (77.7% [f=239]) of the participants strongly disagree or disagree with the statement 'cervical cancer is caused by evil spirits,' (12.9% [f=39]) strongly agree or agree while (10% [f=31]) were not sure. With regards to the statement that 'In case one

has cervical cancer, the evil spirits have to be dealt with first before going to the doctor,' majority (89.6% [f=277]) of participants strongly disagreed or disagreed and only (3.9% [f=11]) strongly agreed or agreed with this statement and (6.5% [f=20]) were not sure about the statement. Furthermore, the participants were also posed to a statement, 'I would prefer consulting a traditional healer rather than a doctor for abnormal vaginal cervical bleeding.' The majority of participants (76.3% [f=236]) strongly disagree or disagree, (15.2% [f=47]) were neutral while (8.4% [f=26]) strongly agree or agree to the statement as indicated in Table 4.17.

Table 0-17 Perception towards traditional practices related to cervical cancer screening

Variables	SD		D		N		A		SA	
	F	%	F	%	f	%	f	%	F	%
Cervical cancer is caused by evil spirits.	60	19.4	179	57.9	31	10	36	11.7	3	1
In case one has cervical cancer, the evil spirits must be dealt with first before going to the hospital.	68	22	209	67.6	20	6.5	9	2.9	3	1
I would trust at Traditional healers to treat cervical cancer.	65	21	171	55.3	47	15.2	22	7.1	4	1.3
I prefer consulting a traditional healer rather than a doctor for abnormal vaginal/ cervical bleeding.	65	21	171	55.3	47	15.2	22	7.1	4	1.3

18 CHAPTER FIVE

19 DISCUSSION OF FINDINGS

19.1 INTRODUCTION

The previous chapter covers data analysis and presentation of results. tThis chapter describes the research findings in relation to cervical cancer screening utilisation among women living with HIV in Hawassa city Administration, providing a conclusion, limitation, and recommendations based on the findings of the study. The questionnaire used in this research was adapted from Shiferaw, Addissie, Gizaw, Hirpa, Ayele, Getachew, Kantelhardt, Assefa & Jemal 2018: 903-912; Yandakale, 2013: 293-300) modified for this study purpose. As noted (Shiferaw et al. 2018: 903-912; Yandakale, 2013: 293-300), the questionnaire was accurate and relevant to determine the awareness, perception, and willingness to use cervical cancer screening for women living with HIV.

19.2 DISCUSSION OF FINDINGS

In this section, the researcher reviews the results of the research compared to those of other researchers who published work on the awareness, perception willingness, and use of cervical cancer screening. Under the discussion of findings, the author expresses her opinion on the whole study and discusses the findings based on the specific objectives of this study, which are:

- To determine the utilisation of cervical cancer screening among women living with HIV in Hawassa City Administration, South Ethiopia
- To identify determinants of cervical cancer screening;
- To develop a strategy which will improve cervical cancer screening

19.2.1 Level of utilisation of cervical cancer screening among women living with HIV in Hawasa city administration

This study focused on assessing the extent of use of cervical cancer screening and the factors associated with the use of the screening service. The finding revealed that the level of utilisation of screening services was low, 27.2%. This finding was a little higher than the study conducted among Nigerian HIV-positive women were only about 9.4% of respondents had screened for cervical cancer (Ezechi et al. 2013:6). Another study conducted among HIV-positive women at the Adult HIV clinic in Nigeria, only 1 (9.1%) had used cervical cancer screening (Dim, Onyedum, Dim & Chukwuka 2015: 241). Similarly, only 10.8% of women living with HIV who were going to public health centers in Addis Ababa city, Ethiopia, reported that they had undergone cervical cancer screening (Shiferaw et al. 2018: 903). The current research result was also higher than the study done in Gondar University referral hospital. Northwest Ethiopia was only 10% of women infected with HIV have undergone cervical cancer screening (Nega et al., 2018: 87). A hospital-based cross-sectional study conducted in India also showed a lower screening of cervical cancer at 9.5% utilisation (Bansal, Pakhare, Kapoor, Mehrotra & Kokane 2015: 327). This current study was done in a predominantly urban setting (Hawassa city administration). This can be a potential source for the variation observed between the studies. At the same time, a difference in timing might have influenced the finding. Somehow, a region where this study was conducted has better awareness creation activities targeting people living with HIV towards anti-HIV services as well as utilisation of other HIV related services. That can be considered as a reason for the variation of the findings of this study and other previous studies. This result also confirms previous reports of low screening coverage among HIV-infected women, ranging from 9.1% to 9.4% in Nigeria, 10% in Northwest Ethiopia, to 10.8% in Addis Ababa. The low screening rate emphasizes the fact that women are not informed of the significance and benefits of screening cervical cancer in the prevention of cervical cancer (Teame, Addissie, Ayele, Hirpa, Gebremariam, Gebreheat & Jemal 2018:e0191506). At the same time, the results have an implication on the level of integrating anti-HIV services

with screening for cervical cancer is crucially important (Plotkin, Besana, Yuma, Kim, Kulindawa, Kabole, Lu & Giattas 2014:120).

In contrast to the above findings, the current finding shows comparable results with another study done in Northwest Ethiopia among women infected with HIV were around 23.5 % of women have cervical cancer screening (Erku, Netere, Mersha, Abebe, Mekuria & Belachew 2017:20). The findings are also comparable with that of the research conducted in Addis Ababa, Ethiopia among HIV-positive women were nearly 24.8% have utilised cervical cancer screening (Belete et al., 2015:6). Similarly, in agreement with the study done in Morocco among women attending an HIV treatment center, were about 19.1% cervical cancer screening (Belglaiaa et al., 2018:e020343). This similarity observed between the studies could be explained by similarity in the study setting as well as the sharing of common features in socio-demographic and economic characteristics.

The current finding also compared with other studies, which reported a high level of use. This study showed a much lower level of use than the Western Kenya research, where approximately 84 percent of women in an Urban HIV Clinic were screened for cervical cancer (Rosser, Njoroge & Huchko 2015:572). A study of women infected with HIV in Northern Italy had pap smear tests at about 91 percent (Maso, Franceschi, Lise, Bianchi, Polesel, Ghinelli, Falcini & Finarelli 2010:310). Approximately 80% of HIV-positive women had a Pap smear in a study conducted in Botswana (Mingo, Panozzo, DiAngi, Smith, Steenhoff, Masire & Brewer 2012:638). Likewise, a study conducted among African-Caribbean black women living with HIV in Ontario, Canada, roughly 82.1 percent had a pap smear test (Andany, Liu, Remis, Kaul, Tharao & Loutfy 2014:364). A survey of low-income women living with HIV in the U.S. showed that the majority (85.7%) confirmed a Pap smear test in the last three years (Ogunwale, Coleman, Sangi-Haghpeykar, Valverde, Montealegre, Jibaja-Weiss & Anderson 2016:491). Furthermore, the extent of use obtained in the current study is significantly lower than the findings reported in two studies conducted in the United States where approximately 83

percent of women living with HIV had taken pap smear (Wigfall et al. 2015: 213) and 78% had cervical cancer screening respectively (Frazier et al., 2016:129).

The variations observed in the above studies could be described by the differences in the socio-demographic and economic status of the study participants as well as the countries. For instance, the respondents ' educational level and their level of knowledge on cervical cancer and their screening program were very low in the current study. The level of commitment of health service providers to provide information, education, and counseling (IEC) and screening service could be the reason for low screening service uptake. Research that has shown a high level of cervical cancer screening such as in Kenya have shown that the availability of free cervical cancer screening initiatives, preventive services, and ongoing health education on cervical cancer and screening in the region may be the main reasons for the high intake of cervical cancer screening. In addition, the lack of continuous and coordinated health education and awareness-raising activities in the study area may result in the low uptake of cervical cancer screening services.

Regarding the pattern of use in the current study, about 60 percent of respondents screened once out of those screened for cervical cancer. This result was comparable with the research done in Addis Ababa, about three fourth of respondents had been screened once (Shiferaw et al., 2018:906). The result of the current study is higher than the study conducted in Abuja, Nigeria where only one-fifth of respondents had screened once (Ilesanmi & Kehinde 2018:18). In the current study, about 14.5% of respondents had an abnormal Pap smear results. These results were significantly lower than the study conducted in the USA, where about 68% of women had abnormal Pap smear test results (Wigfall et al., 2015: 213). The variation in results may reflect variation in the test types and also there could be targeting group differences between these studies.

19.2.1.1 Demographic variables

In the current study, age ranged from 18 to 65 years. The mean age was 35 years, with a standard deviation (SD) of ±8.3. This finding was similar to what has been reported in developing counties like Kenya, where the mean age of women living HIV was around 35 years (Rosser 2015:569). The outcome of the current study also showed that the purpose of the respondent to seek screening services for cervical cancer increases with age.

Similarly, a study conducted by (Strander, Hallgren & Sparen 2014:7362) found that the risk of cervical cancer among Swedish women was higher among women aged 70. This may be because women aged 30 and 60 are more likely to be symptomatic, which may increase the likelihood of cervical cancer screening. Regarding marital status, most of the respondents in this research were married. The finding is in conjunction with the Ethiopian Demographic and Health Survey (2016:7) that shows that of the Ethiopian women, nearly 63.9% were married. Marital status is one of the demographic variables that influence one to take preventive action against cervical cancer. This could be due to repeated exposure to unprotected sexual intercourse and change of sexual partners among unmarried young adults which, increases the risk of contracting cervical cancer. In this study, the majority of women had from three to five children. This finding was comparable with the survey done by the Ethiopian Demographic and Health Survey (2016:7). Based on the Ethiopian Demographic Health Survey (2016:7), Ethiopian women bear an average of four children. The study conducted by Nega et al. (2018:87) showed that participants with children were more likely than those without children to be screened for cervical cancer. This could be because women who had children have a better probability of visiting health facilities. This, in turn, may increase the likelihood of becoming aware of cervical cancer screening compared to those who do not have children as at present because health professionals are the main source of information on cervical cancer and screening.

Most of the respondents had no formal education as per the findings of the current study. This result was consistent with earlier findings in Ethiopia (Nega 2018:87), showing that most respondents did not have any formal education. The current study also reflected that women who had a high level of education had increased awareness about the screening of cervical cancer. This implies the likelihood that women with higher education will have high cervical cancer screening. Employment status and income levels were found among important variables in cervical cancer utilisation. In this study, a strong association was observed between income and level of awareness about cervical cancer. The research also showed that the majority of respondents were unemployed and had less than 2000 Ethiopian birr. This could be explained by lack of finances for transport to a health facility or lack of finance to meet the basic needs at home which may determine low intentions to utilise preventive health services.

In this study, above half of the respondents' husbands were unemployed. Not only having unemployed partners might imply less financial support for the women, implying less money for transport to access cervical cancer screening services but also men might have significant influence on the health-seeking behavior including cervical cancer screening uptake by their female partners in case of Sub-Saharan Africa (Adegboyega, Aleshire, Dignan & Hatcher 2019:666).

19.2.1.2 Psychosocial variables

About half of the respondents had experienced pregnancy and also used family planning methods. The most used method of family planning by respondents is Depo-Provera. A study conducted by Leno, Diallo, Delamou, Komano, Magassouba, Niamy, Tolno and Keita (2018:291) in Guinea showed that the integration of Family Planning Counseling to mass screening campaign for cervical cancer enhanced the use of screening service. Correspondingly, a study conducted in rural Kenya identified that family planning service utilisation is positively associated with knowledge on cervical cancer and utilisation of screening service (Rosser 2015:574). This might be related to the fact that women

who have been pregnant or ever used family planning have the possibility to visit health facilities and also got a better chance of receiving information and utilise the available health care services in the institute. Also, the high level of family planning utilisation in this study area can give a good output if the family planning services are well integrated with cervical cancer screening or cervical cancer prevention activities.

About one-third of respondents knew their HIV status for more than eight years. Women who had information about their HIV status for a longer duration and attendance of health facilities for longer duration might have repeated contact with health care providers for the routine HIV care and treatment services as well as for other medical conditions. This increases the likelihood of getting more information on cervical cancer screening from health care providers and peers. This finding stated better awareness about cervical cancer and its screening in those groups. The findings also signify that longer attachment to health facilities might allow better utilisation of the screening service. On the contrary, this is also explained by the low level of integration of cervical awareness creation, screening, and anti-HIV services. As learned from the findings, participants are forced to learn from prolonged attachment instead of doing this on entry to the existing HIV treatment.

In the current study, about one-fourth of respondents knew someone family/friend/neighbor with cervical cancer; this result was higher than the study conducted in Addis Ababa, Ethiopia, where only one-tenth of respondents knew someone with cervical cancer. In contrast, a study conducted in Nigeria by Okunowo, Daramola, Soibi-Harry, Ezenwankwo, Kuku, Okunade and Anorlu (2018:109) indicated that knowing someone who has cervical cancer showed a significant increment of both the awareness of Pap smear and the uptake of Pap smear test. The variation could be related to the study setting and nature of anti-HIV services delivery. In the case of this study, the majority of the participants were coming from Hawassa referral hospital. This can potentially increase interaction between the participants and knowing each other.

The current study revealed that nearly one-fourth of respondents had more than three sexual partners. This study is comparable with the study conducted in Kenya, in which nearly one-fifth of participants reported involvement in risky sexual behavior (Haile, Kingori & 2017:241). The research conducted in Kenya also discovered that women engaged in risky sexual behavior or having multiple sexual partners had a significantly low proportion of having cervical cancer examination. This is contrary to the findings observed by Smith, Edwards and Canfell (2017:1394), which indicated that women who had not been sexually active in the last year with a male partner reported lower levels of Pap smear testing than women with a sexual partner. This particular study reflected that women who were not currently sexually active might not regularly test for cervical cancer. The finding of this research concerning a low proportion of cervical cancer examination in women engaged risky sexual behavior reflected very important implications on how cervical cancer prevention and control or screening program should be based on.

On the other hand, a fear of knowing cervical cancer results or a low level of understanding about risky behaviour and/or low level of convincing capacity on the benefits of cervical cancer screening could relate to the above-observed findings. This may also be an indication of the quality of counseling and client/patient education status and a deficit on the way of approaching risk levels in the services delivery process. Having information on the causes and risk factors of cervical cancer is beneficial for a woman to take preventive measures and to change behaviour.

In this regard, it is imperative to inquire about the method of information giving on the cause and risk factors in the study area. This can highlight the need to improve the quality of education and counseling about the cause and risky behaviour of cervical cancer and the benefits of screening, especially in high-risk groups.

This may also mean that when treating highly vulnerable women, HIV care providers need to have health education sessions on risk factors for cervical cancer.

19.2.2 Factors associated with cervical cancer screening utilisation

In the current study, knowledge length of ART, willingness, and perceived sensitivity are factors correlated with the use of cervical cancer screening services.

19.2.2.1 Knowledge about cervical cancer and cervical screening

Respondents with good knowledge of cervical cancer and screening for cervical cancer were eight times more likely to be screened for cervical cancer than those with poor knowledge of cervical cancer and screening. This result is consistent with the study conducted in Northwest Ethiopia, which showed that the likelihood of undergoing cervical cancer screening among women with comprehensive knowledge of cervical cancer and screening was 3.02 times higher than those who lacked comprehensive knowledge of cervical cancer and screening (Nega et al. 2018: 87). This is also consistent with other similar studies among women living with HIV in Nigeria, which showed that respondents who were aware of cervical cancer and cervical cancer testing were twice as likely to take the test as those who were unaware of the disease and test (Ezechi et al., 2013: 5). The current study is also consistent with results from other studies conducted among people living with HIV in Addis Ababa, Ethiopia (Belete et al., 2015: 6) and Botswana (Mingo et al., 2012: 642) suggesting that being aware of cervical cancer and screening for cervical cancer has increased the use of screening services.

Knowledge is a prerequisite for the use of screening for cervical cancer. Women in many developing countries, however, lack knowledge of cervical cancer and cervical cancer screening, and therefore the level of screening for cervical cancer is small (Shiferaw et al., 2018: 906). Women should first be made aware of the disease and the availability of screening methods in order to make full use of the screening methods. The study established cervical cancer screening awareness in Hawassa city administration as perceived barriers to screening adoption among women living with HIV. This current study found that the level of knowledge about cervical cancer screening was 47.9%. This was slightly higher than the survey of women living with HIV in Northwest Ethiopia, in which about 21.2% of respondents had knowledge of cervical cancer (Erku et al., 2017:20). This current study result

is also slightly higher than the study conducted in Addis Ababa, Ethiopia among women living with HIV attending public health centers where approximately 23.4% had an awareness of cervical cancer screening (Shiferaw et al., 2018:903). It also goes beyond the findings of the study (Belete et al., 2015:6) which found that 34.2 percent of participants knew about cervical cancer. Another study conducted in Addis Ababa, Ethiopia, among women accessing primary health care, found that a lower proportion (27%) of respondents had cervical cancer awareness (Getachew et al., 2019:e0216522). Similarly, a study conducted in Nigeria among women living with HIV revealed that a lower proportion (17%) of awareness was observed than the current study (Dim et al., 2015:243). However, the findings of the current study are lower than the study conducted in Nigeria among women living with HIV which shos that almost 56.2% of respondents were aware of cervical cancer (Ezechi et al., 2013:46).

The level of knowledge about cervical cancer and screening service among the general population was slightly lower than the current study, which is conducted in health facilities. For instance, a study conducted in the Ogun State of Nigeria showed that knowledge of cervical cancer lower than the current study (6.5% among the general female population, 11.8% among rural women and 17.6% among urban women) (Abiodun, Fatungase, Olu-Abiodun, Idowu-Ajiboye & Awosile 2013:54). In addition, around 30.3% of women in FinoteSelam town, northwest Ethiopia had lower knowledge of cervical cancer compared to the current study (Geremew, Gelagay & Azale 2018:29). However, a community-based study conducted in Hossana Town of Southern Ethiopia showed that 53.7% of community women were knowledgeable about Cervical cancer which is higher than the current study (Aweke, Ayanto & Ersado 2017: e0181415).

The knowledge among university students was found to be comparable to the current study. Thirty-five percent (35.6%) of Debrebrhan University female students of Ethiopia had good knowledge of cervical cancer (Mruts & Gebremariam, 2018: 1773). A study at a South African university found that approximately 33 percent of female students were aware of cervical cancer (Hoque

2010: 129) comparable to the current study. Students in the Niger Delta region of Nigeria had a slightly higher level of knowledge of cervical cancer screening than the current study at 56.2 percent (Isa, Gani & McFubara 2013:63).

These regional differences partly reflect differences in study participants ' socio-demographic characteristics and settings. That is all women versus HIV-positive women and health facility versus community-based studies, versus students. Nevertheless, this research has shown that awareness of screening for cervical cancer among women living with HIV is small. Because of their frequent contact with health care providers and a chance of access to cervical cancer prevention and control as part of HIV-related services, this could not fulfill the opportunity for women living with HIV to have better knowledge. This also has implications on the level of integrating anti-HIV and cervical cancer prevention programs.

19.2.2.1.1 Ever heard about cervical cancer

The current study reported that about 9.1 % of respondents had never heard about cervical cancer screening. This is higher than the 2019 survey of women living with HIV in Addis Ababa, Ethiopia, showing that 42.7% have knowledge of cervical cancer screening (Getachew et al., 2019: e0216522), study performed in Nigeria about 78.7% had heard of cervical cancer (Maree & Moitse, 2014:1209). In addition, a study conducted in Addis Ababa city, Ethiopia among HIV-positive women attending public health centers showed 57.8% proportion of participants had heard of cervical cancer (Shiferaw et al., 2018:906) Nearly a comparable proportion of 87.7% of women living with HIV in Northwest Ethiopia heard about cervical cancer and its screening (Erku et al., 2017:20) and in a study conducted in Western Kenya, almost all respondents had heard of cervical cancer (Rosser, 2015:574). However, there is a significantly lower proportion of 20.9% of respondents who had ever heard of cervical cancer among women attending an HIV treatment Centre in Morocco (Belglaiaa et al., 2018:e020343). This finding is also contrary to a qualitative study done in Nigeria where only a few women participating in focus group discussion said that they had heard about cervical

cancer (Modibbo, Dareng, Bamisaye, Jedy-Agba, Adewole, Oyeneyin, Olaniyan, Adebamowo 2016: 6:e008533).

In the current study, most of the respondents have heard about cervical cancer though the level of knowledge and utilisation of cervical cancer screening is still low. This discrepancy was clarified by a qualitative study carried out in Addis Ababa Ethiopia, where participants in the focus group reported that they had learned about cervical cancer screening, but some felt the test was not available in Ethiopia (Getachew et al., 2019: e0216522). Furthermore, there were numerous myths about screening, as some participants assumed that cervical cancer screening was a screening method when a woman encountered difficulties with children and suggested that it was part of the procedure during ANC follow-up (Getachew et al., 2019: e0216522).

The increased proportion of information on cervical cancer in this research could be partly explained by increased national support, community recognition, and understanding of cervical cancer screening in recent years. Nonetheless, the proportion of women screened for cervical cancer in this study is still low despite the National Health Ministry's concern to tackle screening of all HIV-positive people on antiretroviral therapy and not previously screened. This suggests that further action is needed to improve cervical cancer among women living with HIV.

19.2.2.1.2 Source of information

In the current study, the main source of information (more than half) about cervical cancer and cervical cancer screening were health facilities. The current finding is consistent with a study conducted in China among community female sex workers in which about forty-three percent of respondents had got cervical cancer-related information from health facilities (Hong, Zhang, Li, Lin & Liu 2013: 696). It is also in line with a study conducted in Lao PDR among women attending the HIV treatment center where respondents' source of information about cervical cancer was health professionals (Sichanh, Quet, Chanthavilay, Diendere,

Latthaphasavang, Longuet & Buisson 2014:161). Similarly, the current study is in agreement with Belete et' al. (2019: 4) from Addis Ababa Ethiopia, Maree (2014: 1209) from South Africa where the majority of participants mentioned that health professionals were their main source of information about cervical cancer. The finding of this study is much lower than prior study in Surat, Gujarat, India where about 84% of respondent's source of information was health professional (Goyal, Vaishnav, Shrivastava, Verma & Modi 2013:250). Different studies have found that women who received information from health care professionals on cervical cancer were more likely to seek cervical cancer screening than those who did not refer to health care professionals as a source of information (Getachew 2019: e0216522).

The least of the participants (1.4%) reported that the source of information was printed materials like newspapers and magazines. Participants highlighted the importance of broadcasting information through mass media such as television, radio as well as community-level dialogue. This can be imperative when combined with health facilities level provision of information. But relying dominantly on health providers may not allow reaching the majority of the participants, as a shortage of health workers or availability of only single providers, engaging in multiple roles, can hinder the continuity of the services.

19.2.2.1.3 Knowledge about the cause of the disease

In the current study, only one-fourth of the study participants had identified a virus as the causative factor for cervical cancer. This finding is different from a study conducted in Nigeria in which more than three fourth of respondents correctly reported the virus as the cause of cervical cancer (Titiloye, Womitenren & Arulogun 2017:223). This result where the higher risk group that is women living with HIV for cervical cancer does not know the causes of cervical cancer will hinder the prevention of behavioral risk factors. Having information on the causes of cervical cancer has paramount importance on women to take preventive measures and to change behaviour.

19.2.2.1.4 Knowledge about sign and symptom of cervical cancer

Regarding the signs and symptoms of cervical cancer, about 54% of study participants were knowledgeable in the current study. This was comparable with the level of knowledge about the signs and symptoms in Nigeria which discovered that 48.5% were knowledgeable about the signs and symptoms of cervical cancer (Titiloye 2017:231). The results are also in agreement with findings among women living with HIV in Nigeria which showed that above 50% of women know about the signs and symptoms of cervical cancer (Ahmed, Sabitu, Idris & Ahmed 2013:317, Ezechiel et al., 2013:46). However, the finding of this study is higher compared to findings in Southern Ghana (Ebu, Mupepi, Siakwa & Sampselle 2015: 35) The observed knowledge difference about signs and symptoms could be due to the ongoing sensitization in different study populations and socio-economic status, which mainly focuses on the passing of information on the signs and symptoms of the disease. In this study, the most commonly known signs were foully vaginal discharge and vaginal bleeding. This is in agreement with a study done in Zimbabwe by Mpata (2015:113) and India by Goyal et al. (2013:250) which indicated that foul-smelling discharge, as well as post-coital bleeding, were identified as signs and symptoms of cervical cancer by nurses. The most commonly known sign of cervical cancer is foul-smelling discharge in spite of being a very late sign of cervical cancer.

19.2.2.1.5 Knowledge about risk factors

In the current study, about 60% of study participants were unable to identify at list one risk factor. The most frequently mentioned risk factor by study participants was multiple sexual partners followed by early onset of sexual intercourse. The current result showed that respondents are more conscious of risk factors than the Moroccan study, where only about 18 percent were able to identify at least one associated risk factor (Belglaiaa 2018: e020343). A study conducted in Dessie,

Ethiopia revealed a similar result with the current study, showing that approximately 42% of the study participants reported one or more appropriate risk factors for cervical cancer, such as STIs, early sexual activity, multiple sexual partners and smoking (Mitiku &Tefera 2016: e0163136). According to the FMOH 2015 training manual, the most risk factor for cervical cancer was sexual activity before the age of 20, multiple sexual partners, exposure to sexually transmitted infection, smoking and immuno-suppression. Suppression of the immune system is an important risk factor because there is substantial evidence that HIV-positive women are at increased risk of developing precancerous lesions.

19.2.2.1.6 Knowledge about cervical cancer prevention

In this report, most respondents assumed that cervical cancer could be prevented. Which is comparable (73.8%) with a study done in northwest Ethiopia, 80.8% in China (Jia, Li, Yang, Zhou, Xiang, Hu, Zhang, Chen, Ma & Feng 2013: e67005). However, it is higher than a community-based study done in Hosanna Town Ethiopia which showed that about 57.6% of participants reported that cervical cancer is a preventable disease (Aweke et al., 2017:e0181415). Nearly three-fourths of participants in this study agree that cervical cancer can be avoided by avoiding multiple sexual partners and 39.5% by pursuing screening services for cervical cancer. Secondary prevention aims to prevent cervical cancer through early detection and treatment of cervical precancerous lesions since the long precancerous stage presents an excellent opportunity for successful intervention (FMOH 2015:60). However, in the current study, the response provided is not in line with existing evidence, not well inclusive, missed various important parts like avoiding early sexual exposure, vaccination in primary prevention and other important areas in other parts of prevention phases.

This study found that most respondents assumed that if detected early, cervical cancer would be a treatable disease. 68.7 percent of the study participants listed looking for early treatment as things that make cervical cancer treatable. Likewise, 64.5 percent of study participants in Addis Ababa, Ethiopia, confirmed t

hat cervical cancer could be treated if detected early (Shiferaw et al., 2018:903-912).

19.2.2.1.7 Knowledge about screening methods

In this research, about 70.1% of participants did not know any screening methods to detect cervical cancer. While out of participants who knew the screening method, the widest types of screening were 55.4% VIA and 38.4% Pap smear. Chemotherapy was identified as a treatment method by 17.8 % of study participants. This result is in line with the WHO report, stating that low and middle-income countries like Ethiopia's status have limited knowledge of cancer screening methods. Currently, in Ethiopia, population-based screening programs or campaigns were created by many governmental and non-governmental organizations to promote cervical cancer screening mainly using VIA. In addition, Cryotherapy will be used as a treatment modality for the lower stage of lesion immediately after screening. Also, referral linkage has been facilitated for those with advanced stage.

19.2.2.1.8 Knowledge about the screening age

Only 27% of the participants in the study said the ideal age for cervical cancer screening for women living with HIV is as soon as a person is sexually active. While the recommended age of women living with HIV for cervical cancer was reported by 16.2% of study participants as soon as menstruation begins, and others do not know. The most frequently mentioned time interval for the screening of cervical cancer for women living with HIV was everyone year 56.6% [f=169]. Remarkably, the remaining percentage of participants did not know cervical cancer screening frequency for women living with HIV. According to WHO guidelines, women living with HIV who have initiated sexual activity should practice screening at any time regardless of their age since they are the most vulnerable groups (WHO 2013:68).

According to the Guideline (WHO 2013:68), it is proposed that cervical cancer screening programs should be incorporated into ART clinics as routine care in countries in Sub-Saharan Africa, including Ethiopia. The above results reflected that, following guidelines from different experts or related organizations, women living with HIV are not well-targeted for the prevention and treatment of cervical cancer.

19.2.2.1.9 Factor associated with knowledge about cervical cancer and cervical cancer screening

Three factors were found to be associated with composite knowledge related to cervical cancer. These were educational status, knowledge of someone with cervical cancer, and monthly income. In the current study, the effect of education is discovered as more informed respondents were more knowledgeable about cervical cancer and had a more positive attitude towards screening and prevention of cervical cancer. The study revealed that the odds of the educational status of respondents being certificate and above were more likely to have good knowledge about cervical cancer than women attending no formal education. This result is in line with the research that Shiferaw et al. (2018:907) conducted in Addis Ababa, where educated women were more knowledgeable about cervical cancer. Another study in Gonder Northwest Ethiopia showed that educated women have a better awareness and screening for cervical cancer than non-educated women (Getahun et al. 2013:2). A study from Kenya also found that education beyond primary school was the only significant predictor of high-knowledge among women attending an urban HIV clinic in Western Kenya (Rosser 2015:212). The other study conducted by Maso, Franceschi, Lise, Bianchi, Polesel, Ghinelli, Falcini and Finarelli in Italy (2010:7) among women living with HIV also found that HIV-positive women with formal education (primary, secondary and tertiary) were almost four times more likely to have good awareness and to be screened for cervical cancer than women who did not undergo formal education. The current study is also similar to a study conducted in Morocco that showed that younger women who had never attended school were less aware of cervical cancer compared to women

who had been educated at school. The findings of this study are also consistent with those of a study in Desse, Northeast Ethiopia, which suggested that women with primary education and those with secondary and higher education were more likely to have sufficient knowledge of cervical cancer than those without formal education (Mitiku & Tefera 2016:e0163136). Furthermore, this result is consistent with evidence from studies conducted in other low-income countries like Nigeria by Adibe and Aluh (2019:5), Laos by Sichanh (2014:161) and Zimbabwe by Tirivanhu and Gundani (2013:6).

In general, as the level of education of women increases, women decision making power and better health care seeking initiative also improved, which also has resulted in the utilisation of the screening service. Therefore, education promotes the empowerment of women and may enhance the awareness of safe sex practices of women. Similarly, women with a higher level of education will get information by accessing different mechanisms than those who are illiterate. Moreover, educated women had a higher recognition of cervical cancer severity than those who are illiterate.

Respondents who knew someone with cervical cancer were more likely to have good knowledge of cervical cancer than those who did not know friends/family/neighbours with cervical cancer. This finding is supported by a study done in Nigeria (Okunowo 2018:109). A study conducted in Northwest, Ethiopia by Getahun (2013:6) and in Kenya by Sudenga, Rositch, Otieno and Smith (2013:898) also had similar findings. This indicates that women who have known someone with cervical cancer are more likely to receive more comprehensive information from people affected by the disease.

Likewise, respondents who had a monthly income above 2001 were more likely than respondents who had no monthly income to have good knowledge. The current result is in line with a study done in Desse, Northeast Ethiopia, which revealed that average monthly household income differed significantly from those with sufficient knowledge of cervical cancer to those without sufficient knowledge.

(Mitiku & Tefera 2016:e0163136). Another study done among 18–49-year-old women seeking services in Kisumu, Kenya, discovered that there is an association between income level with the level Knowledge about the use of cervical cancer screening (Morema, Atieli, Onyango, Omondi & Ouma 2014:5). This is related to the fact that, if the socio-economic status of women is enhanced, it is possible to place the women in a better position economically and knowledge-wise.

19.2.2.2 Perception to be susceptible

The perception of study participants regarding susceptibility to cervical cancer was computed from the total mean of the perception. Respondents with above-average scores were considered to have a positive perception, while those with below-average score perception were considered to have a negative perception. In this study, around 59.5% of respondents had good perception. However, this finding is slightly lower than a study done in Botswana among women attending Mahalapye District Hospital, which revealed that around 75% of respondents perceived themselves as susceptible to cervical cancer (Ibekwe, Hoque& Ngcobo 2010:16-21). In addition, it is also lower than the findings of the study done in Malaysia among women visiting outpatient clinics (Baskaran, Ping, Subramanian, Mohd Taib, Rahman & Rosli 2013:7693). These findings are in support of study done in Western Kenya among women attending HIV clinic were about 50.2% of respondents had a positive perception towards the cervical cancer screening (Rosser et al., 2015:574); and a study conducted in Ondo, Southwest Nigeria among women of reproductive by Titiloye et al. (2017:232) which indicated that 42.6% of respondents had positive perception towards cervical cancer screening. This difference might be explained by differences in the study area and awareness among study participants and also the presence of comprehensive cervical cancer screening and treatment programs in Malaysia and Botswana.

The result found that the chances of respondents who consider themselves to be susceptible to cervical cancer were four times greater than those who did not perceive themselves to be susceptible to cervical cancer to use cervical cancer screening. This result was comparable with the study done in Northwest Ethiopia among HIV-positive women. The odds of cervical cancer screening in women with a positive perception of their susceptibility to cervical cancer were 2,85 times higher than those with negative perception (Erku et al. 2017:20). This could be explained by the assumption of a behavioral model, which suggests that beliefs and attitudes, including disease self-vulnerability, are significant predictors of health-related activities (Ndikom & Ofi, 2012:11).

The findings of this study revealed that the majority (60.6%) of respondents disagreed with the statement, “If you do not have any discomfort or pain, you do not need a cervical cancer screening test.” And about 26.6% of respondents agreed or not sure with the statement “Cervical cancer screening test is for sexually active women,” meaning that there are some misconceptions and a lack of knowledge about cervical cancer screening. These findings are consistent with a study done in Malawi among women older than 45 years which demonstrated that the participants had misconceptions about people eligible for cervical cancer screening. According to FMOH cervical cancer screening guidelines, all women's ages range from 21-49 were recommended for screening. However, women living with HIV regardless of age are eligible for cervical cancer screening as soon as they are sexually exposed.

Nearly 41.7% of respondents disagreed with the statement related to the high chances of getting cervical cancer. This finding is similar to those of a study done on intension to take cervical cancer screening in Malawi among older age women, which revealed that around 49.9% of respondents did not believe they were susceptible to cervical cancer. However, the findings of the current study are in contrary to the findings reported by a study conducted among nursing students in Zimbabwe where the majority (90%) of respondents perceived that they were

susceptible to cervical cancer (Mutambara, Mutandwa, Mahapa, Chirasha, Nkiwane & Shangahaidonhi 2017:58).

This finding is similar to those reported by a study conducted in Nigeria among women of reproductive age. These authors' results revealed that more than eighty percent of the respondents had heard about Cervical cancer; Despite this, 85% of the female respondents had never been screened, mostly because they did not feel vulnerable to cervical cancer (Titiloye et al., 2017:229)

This study revealed that the majority of respondents strongly disagreed with the statement 'I do not need cervical cancer screening test because there is no history in our family.' Therefore, most respondents disagreed that one does not need cervical cancer screening tests if there is no such history in the family. According to the current finding, respondents believed that women should utilise cervical cancer screening services, even if they have no family history of cervical cancer. This is contrary to the findings reported by a study conducted among women living with HIV in Addis Ababa (Gemechu et al. 2019:e0216522) and Gondar that knowing someone with cervical cancer enhanced the utilisation of good screening practice (Getahun et al. 2013:4).

19.2.2.3 The willingness of HIV positive women to undergo cervical cancer screening

In the current study, three fourth of study participants were willing to practice ccs; meanwhile around eighty-five study participants were willing to be screened if the service is integrated with ART clinic. This finding is comparable with the study done in Addis Ababa, Ethiopia (Shiferaw et al., 2016:88). In the current study, respondents presented that they preferred the screening service not only in the same health institution where they were following ART but also in the same room by the same health care provider in order to secure their privacy.

Three fourth of the study participants were scored above the mean value for willingness. This finding is similar to a study done among HIV positive women in Addis Ababa and other African countries (75%) was recorded by Shiferaw et al.

(2016:93) and 62.7% recorded by Belete et al. (2015:3) and study 78.8% in Nigeria by Ezechi 2013:6) were women were willing to be screened. This finding is lower than another study done in Nigeria by Odafe, Torpey, Khamofu, Oladele, Adedokun, Chabikuli, Mukaddas, Usman, Aiyenigba, and Okoye (2013:181) were about 96.5% of women were able to have cervical cancer screening. The difference could be attributed to health policy variations in the promotion of cervical cancer screening, differences in awareness of the use of mass media, and socioeconomic variations.

19.2.2.4 Respondents' duration of taking HAART

The current study revealed that respondents who started HAART more than nine years were more likely to utilize cervical cancer screening than respondents who started HAART for less than four years. The current study was supported by a study conducted among women living with HIV in Gondar University referral hospital, Northwest Ethiopia which showed that women with a 10-year HIV diagnosis were three times more likely to have cervical cancer screening than those with a 5-year HIV diagnosis. This study, in agreement with a document written by Rosser (2015:574) indicating that women who have been HIV positive for a longer time know their vulnerability due to frequent health education.

19.2.2.5 The perceived barriers for cervical cancer screening

In the current study, the most mentioned reason, about 48%, for not to be screened for cervical cancer was feeling healthy. This result is comparable with the study done in Morocco were about 47% of respondents were specific reasons for not undergoing cervical cancer screening was the absence of symptoms (Belglaiaa et al., 2018:e020343). Similarly, studies conducted in Lao PDR among HIV-positive women by Sichanh et al. (2014:161) indicated that the main reason cited for not undergoing cervical screening was the lack of symptoms. The same reason was advanced by 67% of sex workers in a study conducted in Thailand (Sichanh 2014:161). This result represents complete ignorance of the natural history of cervical cancer and the Pap smear screening principle. Therefore, it is better to

stress the necessity of information about the natural course of cervical cancer in health prevention programs and also these misconceptions need to be addressed in an intervention program targeting this category of respondent.

19.3 CONCLUSION

This chapter has presented the results in relation to excisting literature. The results are presented according to the sections in the

20 CHAPTER SIX

21 STRATEGY FOR ENHANCING CERVICAL CANCER SCREENING UTILISATION AMONG WOMEN LIVING WITH HIV/AIDS

21.1 INTRODUCTION

The previous chapter presents a discussion of the study findings. The findings are discussed in relation to existing WHO guidelines, standards, other relevant aspects from various reviewed literature, and conceptual framework. This chapter presents the development of a strategy for enhancing cervical cancer screening services utilisation among women living with HIV in Ethiopia.

21.2 DRAFT STRATEGY FOR ENHANCING CERVICAL CANCER SCREENING UTILISATION AMONG WOMEN LIVING WITH HIV

According to Nickols (2016:2), a strategy is a term that refers to a complex web of thoughts, ideas, observations, experiences, objectives, skills, memories, beliefs, and aspirations that provide general guidance for specific actions for specific purposes. In this study, the strategy for enhancing cervical cancer screening utilisation among women living with HIV was developed based on the key findings of the current study and reviewing different relevant literature and guidelines.

The key findings of the current study were:

- Low level of cervical screening service utilisation.
- Low awareness about cervical cancer and cervical cancer screening service utilisation.
- Most of the participants were not perceived that they are susceptible to cervical cancer.
- A reasonable number of participants didn’t perceive that they are benefited from cervical screening service.

- The barriers that hinder cervical cancer screening service utilisation were identified.

21.2.1 Process of draft Strategy Development

The content of the draft strategy was developed based on the findings of phase 1 of this study. The draft strategy, which has six key performance areas, was developed. The developed draft strategy was sent to the selected experts for comments and validation. Gynecologists/obstetricians, health officers, and midwives have validated the draft key performance areas for building consensus on the content and evaluating its viability in the sense of Ethiopia. The experts validated the suggested key performance area based on the eight (Acceptability, Applicability, Clarity, Effectiveness, feasibility, relevance, sustainability, and Validity) ways of validating a strategy. Comments, recommendations and suggestions provided by the experts were incorporated. Further clarity and consensus were then obtained through a second-round evaluation of the strategy. After that, the final strategy development was finalised.

21.2.2 The Scope and Audience of the Proposed Strategy

The proposed strategy will be applied to community, private health facilities, charity health facilities, youth centers, school societies, people living with HIV associations, district health office, zonal health department, health science colleges, regional health bureau, HIV/AIDS prevention and Control Offices, universities and federal ministry of health.

The strategy is designed to support the planning, coordination, implementation, monitoring, and evaluation of cervical cancer screening services utilisation among women living with HIV. The target groups for the proposed strategy are people living with HIV, particularly women living with HIV, health workers, health managers, and health policymakers, as well as other related social services providers. The spotlight is especially put on South Ethiopia to guarantee the

decrease of instances of intrusive cervical cancer and the improvement of the personal satisfaction of Women living with HIV together with their families.

21.2.3 The benefits of Cervical Cancer screening enhancement Strategy

The accompanying noticeable reasons have shown the essence of giving increase attention for HIV positive Women; hence underlie precancerous cervical injuries will, in general, be increasingly predominant, persistent, and responsible for repeating in HIV-positive Women (Denslow, Rositch, Firnhaber, Ting, and Smith. 2014:163). In this manner, these Women ought to get exceptional guidance before treatment. Women ought to be exhorted that cryotherapy and LEEP are probably going to be less successful in treating sores in HIV-positive Women and that they will require ordinary follow-up. The below-elicited points are more specific advantages of this work;

- There is a recognized precursor stage (i.e., precancerous lesions) that can be treated in a safe, effective, and acceptable way.
- To advocate policy-makers, local leaders, and relevant implementing partners in planning, implementing, and monitoring of the prevention and control activities.
- The overall intention of the strategy development is to promote HIV positive women-centered approach in the screening is an integral part of cervical cancer prevention.
- Promote mainstreaming the screening services, including the known community-based program in Ethiopia, health extension programs, especially as outreach services.
- The integration of cervical screening services with services given related to HIV can leverage the synergy of relevant public health services.
- The existing screening services are not well conducive for HIV positive women, though they carry a very high risk; this particular effort can well serve people living with HIV.

- Enhance the involvement of relevant stakeholders in awareness creation, HPV vaccination, screening, treatment as well as buy-in demand, particularly among people living with HIV.
- Revitalization of the referral services to create a conducive system for HIV positive women.
- Identification and treatment of early lesions are very inexpensive compared to the management of invasive cancer, especially in HIV positive women.

21.2.4 Legislative Framework

The strategy is based on the following legislation, which guided the procedure of the cervical cancer screening improvement methodology and advancement:

- Ethiopian National Cervical cancer prevention and control guideline, 2015
- WHO cervical cancer prevention and control strategy and guideline, 2014
- Ethiopian national guideline on major non-communicable diseases, 2016
- Ethiopian Health sector transformation plan IV, 2015
- Sustainable development Goals (SDGs), 2015
- Pathfinder and Ethiopian Ministry of health pilot project on cervical prevention and control document, 2009
- Conceptual Framework for health service utilisation (Health Belief Model), 2015
- WHO Health System Framework, 2007
- Ethiopian national HIV/AIDS prevention and control operational plan, 2016
- Abt. Associate and American College of Obstetricians and Gynecologists strategic partnership document, according to Abt-ACOG (2019).

21.2.4.1 Key Components of the WHO framework for Comprehensive Cervical Cancer Prevention and Control

A comprehensive program includes three interdependent components: primary, secondary, and tertiary prevention. The interventions included in each component are described in the table below.

Table 21-1: Key components of comprehensive cervical cancer prevention and control

Components	**Interventions/operations**
1. **Primary prevention**: reduce the risk of HPV infection (The public health goal is to reduce HPV infections because persistent HPV infections can cause cervical cancer)	-Vaccinations for girls aged 9–13 years, before they initiate sexual activity. -Healthy sexuality education for boys and girls to reduce the risk of HPV transmission (along with other sexually transmitted infections, including HIV). -Condom promotion or provision for those who are sexually active. -Male circumcision when relevant and appropriate.
Secondary prevention: screening for and treating pre-cancer (the goal is to decrease the incidence and prevalence of cervical cancer and the associated mortality, by intercepting the progress from pre-cancer to invasive cancer).	-Counseling and information sharing; -screening all women living with HIV in respective of Age -Treatment of identified precancerous lesions before they progress to invasive cancer
Tertiary prevention: treatment of invasive cervical cancer (the goal is to decrease the number of deaths due to cervical cancer).	-A referral mechanism from primary care providers to facilities that offer cancer diagnosis and treatment -Accurate and timely cancer diagnosis by exploring the extent of invasion;

	-Treatment appropriate to each stage based on diagnosis (early and advanced cancer). -Palliative care to relieve pain and suffering
The context of delivering the prevention components (the above three prevention components are planned and implemented in conjunction with): A structured national approach to community education and mobilization strategies and a national monitoring and evaluation system.	

21.2.5 Guiding Principles

The following are the guiding principles for implementing the strategy:

- All suggested steps depend on logical proof and additionally study discoveries.
- The setting of a national cancer control program is considered as a base for the proposed methodologies or intercessions.
- National administrations should support cervical cancer prevention and control exercises'.
- Screening and early diagnosis will guide in early referral of patients to care and treatment before the cancer progress to debilitating stages.
- Intrusive cervical malignancy. Consequently, screening and early location projects ought to be joined with suitable treatment administrations and palliative consideration.
- The ideas and proposals on cervical cancer screening administrations are in concordance with WHO archives.

21.2.6 Validation of the Strategy

A list of the suggested activities was assembled and sent by email to the experts in cervical cancer counteraction for scoring and remarks. The focused-on experts were holders of senior situations as a clinician and additionally researcher, for

example, gynecologists/Instructors who have amassed long periods of experience identified with cervical cancer. The capabilities and work understanding of the specialists were a prerequisite for recording. The reason for approval was to guarantee that the vital arrangement with the given criteria, including feasibility, practicality, acceptability, applicability, sustainability, validity, clarity and effectiveness.

Five experts were enrolled for approval. The researcher guaranteed that the experts were very much orientated about the reason for the examination before they could approve the strategy. This was accomplished through tending to the solicitation for approval in a letter structure and providing the experts with the examination convention. Structures, each bearing a procedure to be approved, were given to every expert. The experts were mentioned to restore their reactions to the scientist by email.

21.2.7 Instructions Regarding the Validation of Each Strategy

Each strategy had to be validated using the identified criteria. Pournasir (2013:65) identifies acceptability, feasibility, and sustainability as the most important criteria in a strategy. The experts were requested to validate the stated key performance area in relation to the listed criteria and provide comments.

21.2.8 Results of the Validation of the Key Performance Areas

Five experts were recruited to validate the key performance areas bu only four returned the results by e-mail after two weeks. The experts who responded had spent most of their working experience in cervical cancer prevention.

The biographic information of experts who responded presented in table 6.2.

Table 21-2: Biographic information of experts

No.	Qualification	Occupation	Work experience
1.	Masters on public health	Transform PHCU on cervical cancer prevention	10 years
2.	Masters on public health	Maternal health	20 years
3.	Masters on public health	Zonal Clinical coordinator on cervical cancer	17 years
4.	Gynecologist	Lecturer	25 years

21.2.9 Calculation of Validation Scores

An approval score was determined regarding each key exhibition region for every master. The normal score for every technique was determined out of the all-out score of results contributed by every one of the four approving experts. One expert didn't respond. A normal score of eight was normal from every procedure following approval by four experts. A score lesser than eight was acknowledged just if it didn't fall below six to guarantee that the worthy outcomes for each key exhibition region stayed at 75% or more. A sample of results from an individual validation expert is as follows in Table 6.3.

Table 21-3: Sample of validation result from an individual

Sample of the validation results from an individual validation officer

Criteria	**Key performance area 1**	**Key performance area 2**	**Key performance area 3**	**Key performance area 4**	**Key performance area 5**	**Key performance area 6**
Acceptability	1	1	1	1	1	1
Applicability	1	1	1	1	1	1
Clarity	1	1	1	1	1	1
Effectiveness	1	1	1	1	1	1
Feasibility	1	1	1	1	1	1
Relevance	1	1	1	1	1	1
Sustainability	0	1	1	1	1	1
Validity	1	1	1	1	1	1
Totals	7	7	8	8	8	7

21.2.10 Evaluators' comments on low rated strategy (disagree) Key Performance Area 1

One of the experts valued the key performance, one at null in relation to sustainability. Validating experts claiming that there may be an issue of funding of the program, as they stated, it is donor based. One other validating expert was rated zero the same strategy by stating supply constraint to the program particularly due to the high cost of the HPV vaccine.

21.2.11 Resending the Corrected Key Performance Area to Stakeholders

The research has thoroughly revised this strategy document following evaluators 'comments, suggestions, and advice. The researcher revised the relevant activities as addressed by reviewers and resubmit the document until receipt of endorsement.

21.3 THE FINAL STRATEGY FOR ENHANCING CERVICAL CANCER SCREENING UTILISATION

This section presents the final strategy following the input of the experts:

21.3.1 Purpose of the Strategy

The purpose of the strategy is to enhance cervical cancer screening services utilisation among women living with HIV in Hawassa city administration.

21.3.2 Objectives of the Proposed Strategy

- To promote HPV vaccination for all people living with HIV regardless of Age
- To enhance cervical cancer awareness particularly among people living with HIV
- To mainstream cervical cancer prevention and control activities
- To Improve skill and competency of services providers
- To Increase availability and access to cervical cancer screening services
- To Standardize and improve referral network

21.4 IMPLEMENTATION OF THE KEY PERFORMANCE AREAS

The key areas for the strategy development included the predisposing factors (important demographic, socioeconomic and psychosocial variables from users sides like age, marital status, educational status, knowledge, income level, employment status of participants or their partner, number of sexual partners); enabling factors/resources (health care systems, service delivery, access, availability, health workforce, integration of services) and need factors (like perceived health status, wellness, expected benefits, etc.). Key action areas 1 to 6 were tabulated, and the categories from each key area were identified and presented with each expected outcome and key interventions or activities. The individual component of the key performance area was selected and developed informed by various literature and current study findings, as listed below.

21.4.1.1 Key Performance Area 1: Promote HPV Vaccination for All People Living with HIV Regardless of Age

High-risk types of HPV cause cervical cancer. The two high-risk HPV types that most commonly cause cervical cancer are types 16 and 18, which together are responsible for approximately 70% of the cases (Purdie 2018:2). Two vaccines preventing high-risk HPV infections; both have excellent safety records and can be co-administered safely with other vaccines (WHO 2014:8). According to the Guideline, one of the HPV vaccinations, the quadrivalent vaccine, also prevents HPV types 6 and 11 infections that cause 90% of anogenital warts or condyloma. Before sexual activity starts, vaccinating girls is an effective primary preventive intervention. Since the vaccines do not protect against all forms of HPV that can cause cervical cancer, girls with HPV will still need cervical cancer screening later in their lives (WHO 2014:8). HPV vaccination can potentially prevent cervical cancer: therefore, it is necessary to recommend HPV vaccination not only for young girls (age 9-14) but also for boys and HIV-infected people (Andrea et al.

2019:4). The avoidance of HPV vaccination is also considered a factor in raising the prevalence of the disease (Aldohaian, Alshammari & Arafah 2019:1).

Table 21-4: Key Performance Area 1: Promote HPV Vaccination for All People Living with HIV Regardless of Age

Expected outcome	**Activities**
Improved demand and uptake towards HPV vaccine among people living with HIV: (At present only girls age 14 years and above receive HPV vaccine in Ethiopia, and still in an introductory phase).	-Reinforce and promote HPV vaccination based on WHO schedules and recommendations for people living with HIV. -Vaccinate all HIV-infected people regardless of ages and genders (adolescent girls, boys, and all HIV positive women) -Integrate HPV vaccine into existing people living with HIV/AIDS associations & anti-HIV club -Use the existing youth-friendly programs for demand creation. -Maintain sustainable funding and other support activities as a national context -Build cold chain storage capacity to accommodate the HPV vaccine.
Improved advocacy and community mobilization for vaccine and other	-Prepare advocacy sessions for relevant leaders and influential groups

relevant primary prevention:	-Increase local leaders, women groups, and community champion's awareness. -Empower local and religious leaders and community on HPV vaccination. -Target teachings to the community in using various opportunities like public gathering -Prepare standardized advocacy and communication plan to enhance engagement on HPV vaccine uptake. -Engage community health liaisons such as village health development army to help identify hard to reach and out of school target population for HPV vaccine
Strengthened healthy sexuality education for boys and girls to reduce the risk of HPV transmission:	-Consider healthy sexuality education as one of the main components of HPV vaccination -Promote education on safe sexual practices and delaying sexual debut. -Promote and provision of condoms for those already engaged in sexual activity. -Warnings about tobacco and ''chat'' use that is an important risk factor for cervical cancer.

	-Address sexuality education tailored to age and culture (along with other sexually transmitted infections, including HIV) -Integrate safe sex education with schools, health facility, and youth-friendly services -Promote male circumcision.
Enhanced integration of HPV vaccination with screening and treatment promotion:	-Maximize integration and ensure saving time, efficient use of resources, and reaching more targets within limited resources and capacities. -Set standard operating procedures for integration activities

21.4.1.2 Key Performance Area 2: Increase Awareness of Cervical Cancer among People Living With HIV

Information is very crucial throughout the continuum of cancer care. Ethiopia's health system provides large community-based services, the HEWs and the Health Development Army (HDA) can be used and channeled through these existing systems for culturally acceptable knowledge distribution networks (FMoH 2015:31). Few women in developing countries have sufficient knowledge for a successful diagnosis of cervical cancer and its screening methods (Mitiku & Tefera 2016:e0163136). Advocacy and awareness-raising will target first-line women living with HIV, service providers, policy-makers, individuals, and the general public and increase trust and cooperation at all levels (Mukakalisa, Bindler, Allen & Dotson 2014:1078).

Communities should participate in developing their health (Haldane, Chuah, Srivastava, Singh, Koh, Seng & Legio-Quigley 2019:e0216112). Primary health care, particularly the Ethiopian Health Extension Program (HEP), which will play a central role in promoting community health through health promotion and disease prevention to tackle disease risk factors in an inclusive way (Assefa, Gelaw, Hill, Taye & Damme 2019:24). Standardized messages should be produced and circulated through various forms of IEC materials such as print and audiovisual to raise awareness, particularly among women living with HIV (FMoH 2015:13). Health workers and the wider community on the prevention, diagnosis and treatment of cervical cancer, especially risky behaviour, HPV vaccination, early signs and symptoms of cervical cancer and cervical cancer screening need to be addressed (Assefa et al. 2019: 24)

Table 21-5 Key performance area 2: Increase Awareness of Cervical Cancer among People Living with HIV

Expected outcome	**Activities**
Increased awareness creation and mobilization among the population, particularly women living with HIV:	-Develop, disseminate and distribute IEC (information, education, and communication) materials for the target audience -Utilize existing structures and personnel in enhancing awareness creation activities. -Revitalize awareness and behavior change communication intervention for policymakers, services providers, and community, particularly for women living with HIV.

Improved training of health care provider on skills of communication and counseling:	-Build health care providers' communication and counseling skills and their capability in integrating HIV and cervical screening programs. -Set policies and develop standards on the training of health care provider on means of communication and counseling to increase awareness of the population and improve linkage -Strength training, supervision, mentoring systems, and -Avail of relevant learning materials.
Improved provider assessment and feedback capacity:	-Conduct continuous assessment, maintain bilateral and supportive feedback for continuous improvement. -Develop SOPs -Promote experience sharing as well as rewards for good performance.
Strengthened use of people living with HIV associations and anti-HIV/AIDS clubs for community engagement activities:	-Stress on the importance of the group's contribution to improving awareness about the screening and promote the utilization of the service. -Develop SOPs and define means of information sharing or education need to be tailored. -Define ways of involvement of these relevant groups.

	-Avail printing materials, audio, and audiovisual as means of teaching aid and simulations. -Ensure focused communication, counseling, and effectiveness of interventions
Improved stakeholders and local leader's involvement:	-Sustain the screening and related activities through the involvement of local or community leaders. -Prepare TOR (Terms of Reference on the roles and responsibilities of relevant stakeholders). -Revive technical support and guidance to the technical working group of cervical cancer prevention and control -Training of stakeholders in advocacy and mobilization.

21.4.1.3 Key Performance Area 3: Promote Availability and Access of the Screening Services

Improving access and affordability of screening services is considered for individuals who did not undergo cervical screening or faced access barriers to screening (Ferdous, Lee, Goopy, Yang, Rumana, Abedin & Turin 2018:165). Different social determinants have been correlated with different screening access challenges, indicating that multi-pronged strategies at the patient, provider, and program level are critical for reaching under- or never-screened women (Wood,

Lofters & Vahabi 2018:e9). Health care resources (such as the availability of necessary equipment, sustainable program funding, and primary care providers) are scarce in many developing countries, especially in rural and remote areas, making it difficult for women to access screening (Viviano et al. 2017:69).

The WHO has confirmed in the 2014 the guidance that the research gap in cervical cancer screening and tracking of HIV-positive women living in developing countries needs to be met (WHO 2014:335). As it is difficult to define the screening periods and modalities for HIV-infected patients due to lack of good quality data, the current guidelines for this high-risk group of women are mostly focused on expert opinion (Viviano et al. 2017:70). According to Viviano et al. (2017:70), the existing discrepancies include the degree to which the best screening strategy can be identified for a disease that currently has a direct impact on the quality of life and expectation of women. Despite varying clinical effectiveness and accuracy, the screening procedures used for HIV-seropositive women are the same for HIV-negative women (Mapanga et al. 2018:198). Mapanga et al. (2018:198) also described as Population-based opportunistic and systematic screenings methods for HIV-positive women, although commonly missing across countries.

Table 21-6: Key Performance Area 3: Promote Availability and Access of the Screening Services

Expected Outcome	**Activities**
Increased cervical screening services available and access:	-Organise the screening services and ensure consistent provision throughout working days and hours. -Consider outreach services in remote areas -Use people living with HIV associations for the promotion.

	-Consider the provision of services in more health facilities, including public health centers, private hospitals, and charity health facilities. -Enhance public-private collaboration -Establish triage and case management SOPs for precursors of cervical cancer -Establish clinical pathways and guidance for screening and treatment. -Set standards and SOPs on the integration of services
Improved quality of the screening using recommended cervical cancer screening modalities for HIV infected women:	-Use VIA coupled with visual inspection with Lugol's iodine for HIV-positive women as recommended by WHO. -Maintain specialize follow-up schedule for HIV positive women -Discover more convenient screening approaches specific for HIV-infected women -Develop evidence-based screening intervals & modalities for HIV-positive women

	-Implement locally-tailored, evidenced-based clinical standards on the prevention of cervical cancer. -Ensure continuous quality improvement and quality of care through evidence-based practice. -Maintain in-service practical training based on experiences to service providers to meet desired quality.
Improved performance management capacity:	-Establishing a steering committee with the involvement of relevant stakeholders -Prepare a well-detailed joint plan to facilitate all parties' roles and achieve objectives. -Organize regular performance review mechanism -Allocate enough resources -Set service standards and further scale-up achievement.
Empowered HEWs (Health Extension workers) on cervical cancer prevention activities:	-Develop a manual/educational material on local context to assist HEWs operation. -Conduct training of HEWs on promotion, detection, use of HPV

	vaccines, as well as on how to engage themselves. -Support HEWs in motivating and helping women to attend services and referral -Organize mobile clinics for very remote areas with the collaboration of HEWs
Improved financial capacities of cervical cancer prevention activities:	-Improve resource tracking methods and the use of market-based approaches. -Empower public health facilities self-financing in improving the services -Encourage involvement of charity organizations, private hospitals, and individuals. -Improve funding for focused support for women living with HIV screening and other related services -Reduce financial barriers in accessing prevention and control of cervical cancer.
Improved stakeholder's involvement:	-Work with professional associations to ensure standards in screening, treatment, and related care of HIV positive women.

	-Establish a steering committee with TOR to define roles and responsibilities. -Involve local leaders, including religious and community influential, can buy-in trust and better uptake.
Improved partnership:	-Develop partners and resources mapping with their corresponding areas of operation -Establish a technical working group with clear TOR on roles and responsibilities. -Develop a standard joint plan by addressing all pillars to improve operation & efficiency. -Develop clear indicators of measures for easier performance monitoring.

21.4.1.4 Key Performance Area 4: Mainstreaming of Cervical Cancer Prevention and Control with Other Relevant Public Health Services

HIV-positive women have a high risk of developing cervical cancer. Though emerging research suggests that HIV-positive women under-use gynecological health care (Fletcher, Vidrine, Tami-Maury, Danysh, King, Buchberg, Ardunio, & Gritz 2014:544). The HIV-positive women's frequent access to health facilities can be taken as an imperative advantage in improving the uptake of the services. One way to increase the level of coverage for cervical cancer screening would be to provide combined HIV and screening services within the same network, in a single room with the same provider (Mukakalisa et

al. 2014:1073). In addition, the advent of point-of-care technologies for human papillomavirus testing and the subsequent adoption of screening and treatment approaches was by reducing the number of hospital appointments and the lack of follow-up rates in the long term (Perkins & Skinner 2016:420). The integration of programs provides all women with new opportunities, regardless of their HIV status (Vodicka, Chung, Zimmermann, Kosgei, Lee, Mugo, Okech, Sakr, Stergachis, Garrison & Babigumira 2019:e0217331). Provides insight into the various screening procedures for cervical cancer to help define certain methods that are tailored to the opportunities and needs of HIV-positive women living in the middle to low-income countries (Viviano et al. 2017: 71-72)

Table 21-7 key performance area 4: Mainstreaming of the screening with other public health services

Expected Outcome	**Activities**
Strengthened integration of cervical screening with HIV services:	-Define the program needed in the context of women living with HIV. -Use of advantage of the HIV-positive women's frequent visit to HFs. -Provide integrated services within the same room, in a single visit & a single provider as a ''one-shop approach''. -Design locally tailored health education to address the group. -Develop SOPs on the day to day services delivery process, required resources and tools with the context of services integration to address women living with HIV.

Maximized integration of cervical cancer screening into family planning, reproductive health, and women's outreach health care services:	-Ensure family planning integration to contact and change attitudes among women with the highest unmet need. -Provide health information to women age 15–60 years old in towns/villages through community health workers -Maximize the contribution of community workers in teaching the importance of early detection and vital referrals. -Organize integrated outreach screening services on identified target areas -Maximize the synergy of the screening and reproductive health services.
Ensured women living with HIV centered approach in giving cervical cancer screening:	-Special emphasis needs to be given to women living with HIV and address all components of the prevention strategies. -Address gaps in the screening services and unmet needs through problem-oriented strategies and integrated interventions. -The screening and treatment need to be availed through various options for HIV positive women, regardless of their age.

Improved mainstreaming of cervical cancer prevention and control with other public and/or social services:	-Reinforce efforts to enhance cervical cancer prevention and control mainstreaming with all other relevant public health services -Use the proven good example of HIV mainstreaming with other public health and other social services in the efforts of integrating cervical cancer screening services

21.4.1.5 Key Performance Area 5: Improve Skill and Competency of Services Providers

Health systems need to introduce policies that provide effective and appropriate screening and care services for cervical cancer that are available to the target population to ensure coverage and timeliness (Maseko, Chirwa & Muula 2015:140). At the same time, professional and qualified health workers who are educated and experienced should provide these services (Heena, Durrani, AlFayyad, Riaz, Tabasim, Parvez & Shaheen 2019:1). In developing countries, multidisciplinary health care professionals play an important role in cervical cancer screening and prevention (Mukakalisa et al. 2014:1078). Community work will focus on educating women and preparing for successful screening and immunization approaches (Wood et al. 2018:e8). More efforts are needed to improve understanding of cervical cancer screening guidelines for women and health care providers, particularly those who are immunosuppressed (Melamed et al. 2019:3069). Master Trainer Model technique, special training on complex surgical interventions, especially through local universities and/or institutions, as well as e-learning strategies, offer new opportunities for both instructor and learner (Abt-ACOG 2019:4). According to the guideline, this training program can complement the current curricula of pre-service education and provide practical

training of the technical skills necessary for life-saving cervical screening and treatment. Hands-on simulation training will use models of low fidelity and will take place in a short and intense time frame, making it both cost-effective and engaging for today's learners (Abt-ACOG 2019:4).

Table 21-8: Key Performance Area 5: Improve Skill and Competency of Services Providers

Expected Outcome	**Activities**
Increased competency of health care provider (knowledge, attitudes, & skills):	-Avail adequately trained health care providers for improving the services. -Maintain standards through availing guidelines, mentoring systems, and on the job training. -Use innovative approaches in training providers, like the use of technology and blended learning approaches. -Integrate multi-disciplinary team training into pre-service education. -Avail printing and other I.E.C materials like job aids and manuals. -Incorporate cervical cancer screening in the standard HIV services training

	-Set standards and norms on screening and treatment training of health workers.
Implemented strategy on master trainer model:	-Train experienced clinicians or faculty members of medical universities on the model -Develop locally tailored curricula -Train instructors and providers for clinical competency under the supervision of an experienced clinician. -Develop training programs based on curricula/needs and resources. -Maintain sustainable training & quality of care by ongoing mentoring and coaching
Established a blended learning system:	-Intensify competencies of providers through a blended learning mechanism -Organise in-service refresher training programs with the support of university and professional associations.
Standardized curriculum to improve prevention & control of cervical cancer:	-Develop a standard curriculum to allow training in multiple sites and/or as a national program & maintain quality.

	-Develop curriculum based on the consensus of stakeholders
Increased engagement with professional associations:	-Expand access to trained non-physician clinicians in areas with a lack of doctors. -Conduct training for midwives; well-trained midwives can provide high-quality screening and treatment options -Develop SOPs in expanding scopes of practices for midwives, nurses, and other clinicians.
Adopted training and guidance on complex surgical interventions:	-Scale-up surgical treatment innovations for complex surgical conditions. -Establish a system to support complex surgical interventions. -Develop standards for training clinicians to be able to perform advanced surgical interventions.

21.4.1.6 Key Performance Area 6: Standardize and Improve Referral Network

Identification linkage will minimize the challenges related to referrals and help track patient treatments and outcomes. Electronic tracking is becoming possible and appropriate. As more and more low-income countries set up screening clinics and databases and standardize treatment protocols for cancer patients, the referral

system needs to be improved (Sedani, Soliman, Msami, Msemo, Mwaiselage, Schmid & Kahesa 2019:10). Providing appropriate screening and diagnostic services relies on effective program management, community-wide networks of providers, health systems and the use of information, procedures and technologies based on evidence (Coleman, Cespedes, Cu-Uvin, Kosgei, Maloba, Anderson, Wilkin, Jaquet, Bohlius, Anastos & Wools-Kaloustian 2016:31). Reference to a high-level facility that provides a better understanding after review of the missing follow-up. High-risk awareness expanded screening facilities and the alignment of screening services with existing health programs (Mpamani 2019:131).

Table 21-9 Key performance area 6: Standardize and Improve Referral Network

Expected Outcome	Activities
Developed a referral directory specific to the screening and treatment:	-Develop a meaningful referral directory and setting rules on its functionality. -Develop criteria and TOR for designing the directory, establish a steering committee to manage the system
Avail required resources:	-Allocate minimum required resources for a mandatory plan of action. -Establish a minimum standard for required resources in operating the referral network on the right track.
Maintaining functional referral systems:	-Consider triage and well-facilitated reception services to

	improve the low screening utilisation. -Strengthen referral networks to ensure women are appropriately served -Revitalize the referral network in addressing cervical cancer care -Maintain bilateral feedback mechanism -Register information, update clinic registry books to reflect the number of women and keep feedback mechanisms.

21.5 RESOURCES

To implement the existing key performance areas, resources need to be allocated.

- Existing funds, materials and human and other resources in the public health sector and other related institutions can be used in people living with HIV centered approach
- Mainstreaming can provide a vital opportunity in addressing cervical cancer prevention and control activities
- Public, charity and private health facilities partnership maximize services availability and synergize implementation capacity
- Implementing partners especially those working in HIV/AIDS areas can provide funds and other resources for HIV positive women-centered cervical cancer screening services

Well-coordinated resources support need to address the following major components of cervical cancer prevention and control activities:

- Advocacy and awareness of cervical cancer prevention and control
- Improve the quality of HPV vaccination
- Improve the required products and supplies availability
- Increase cervical cancer prevention services access including through outreach program or mobile clinic services
- Enforcement of cervical cancer prevention in the curriculum of midwifery education/training program
- Training and skills development of managers and services providers
- Revitalizing the referral services into consideration of cervical cancer prevention & control

21.6 MONITORING AND EVALUATION OF THE PROGRAM

According to the CDC (2019:1), the purpose of Monitoring and Evaluation is to Identifying the effectiveness of a particular program or model and understanding why a program may or may not work.

In this document, the monitoring and evaluation process follows the concepts underlie below:

- Strengthened data management, cancer registry, and information sharing systems
- Inclusion of cervical cancer prevention & control activities in the existing health information management systems as one component.
- Establish electronic data management and feedback mechanism, especially from clients or patients
- Conduct continuous basis active surveillance and cancer registry system to learn the status in a timely fashion.
- Scale-up best practices through rigorous monitoring, supervision & mentoring.
- Supervision of lower-level service provider by senior staff members like gynecologists.

- Improve information sharing, use of data for actions, and benchmarking for continuous improvement.
- Establish planned and regular supervision by coordinating office, streaming committee, and partners
- Develop joint supervisory checklists by addressing pillar areas as per guideline.
- Timely evaluation to ensure adherence standards and expectations.

21.6.1 Conclusion on the Strategy Development

Based on the findings of this study and a review of other relevant literature, a strategy that enhances cervical cancer screening utilisation was developed. The strategy has six key areas of performance. The rationale for considering these identified key performance areas outlined and discussed. Expected outcome following addressing of the focus areas listed out thoroughly and key interventions which enable to achieve the desired changes listed out. The key performance areas considered in context to local circumstances and in focus to the study groups.

The next section will address the Conclusion, recommendation, limitation, and strength of the study.

22 CHAPTER SEVEN

23 CONCLUSION, RECOMMENDATION, AND LIMITATION OF THE STUDY

23.1 INTRODUCTION

In chapter 6, the researcher discussed a strategy to enhance the screening of cervical cancer utilisation. Chapter 7 presents the study conclusion, recommendation and limitations grounded on the investigation of the currents study that builds upon the aims, objectives, and research questions of the study.

23.2 THE STUDY PURPOSE

The purpose of this study was to investigate the utilisation of cervical cancer screening services among women living with HIV and to develop strategies for enhancing the service in Ethiopia.

7.1.1 Research Design and Method

A quantitative approach was followed to investigate the level of use of cervical cancer screening among people living with HIV. In the process of collecting, analysing, and interpreting the data, findings informed the development of a strategy with the purpose of improving cervical cancer screening utilisation.

An in-depth literature review helped the researcher get to know all the latest trends in cervical cancer, legislative frameworks, assessing factors influencing the use of cervical disease screening. Information on perceptions, views, and other factors that might influence screening use were gathered through face to face interviews with people living with HIV using a standardized questioner.

Based on the research findings, reviewing different kinds of literature and guidelines about the draft key performance areas that improve cervical cancer

screening service utilisation were developed. The drafted strategy was sent to panels that have different types of work experience related to cervical cancer, then evaluated. Finally, the strategy was refined based on the Evaluation of the panels. Ethical issues were addressed throughout the research process by ensuring that all relevant authorities and participants had been permitted to perform the study before the study started.

23.3 SUMMARY OF THE STUDY OUTCOMES

The summary of the study findings is based on the following objectives of the study:

- To determine the level of cervical cancer screening utilisation among women living with HIV in Hawassa City Administration
- To assess factors that affect cervical cancer utilisation among women living with HIV in Hawassa City Administration.
- To develop a strategy that enhances cervical cancer screening utilisation among women living with HIV in Hawassa City Administration.

23.3.1 Level of cervical cancer screening utilisation among women living with HIV in Hawassa City Administration

This goal was accomplished quantitatively through members' structured interviews with Women living with HIV/AIDS through request as "Have you at any point been screened for cervical cancer?”

Similarly, patterns of utilisation, presence, or history of an abnormal result and barriers to the utilisation of cervical cancer screening services are identified. The finding revealed that the level of utilisation of screening was only 27.2%. Regarding the pattern of utilisation, in the current study out of those who had been screened, about 66% percent of the participants screened once. The most reasons cited by the respondent not to be screened for cervical cancer was feeling healthy.

23.3.2 Factors that affect screening utilisation among women living with HIV/AIDS in Hawassa City Administration

This objective was achieved because factors that determine cervical cancer utilisation identified. The determinant factors that hinder cervical cancer screening utilisation were the composite knowledge about cervical cancer and cervical cancer screening service, perceived susceptible to cervical cancer, willingness to be screened, and duration of HAART. In addition, factors that affect the knowledge about cervical cancer and cervical cancer screening service were level of education, monthly income and know someone with cervical cancer. Furthermore, misconceptions, socio-economic factors, and traditional related factors were identified as barriers that hinder cervical cancer screening utilisation.

23.3.3 Develop a strategy that enhances cervical cancer screening utilisation among women living with HIV

This goal also is achieved. A strategy that enhances cervical cancer screening utilisation among women living with HIV was developed. The strategy includes the six key performance areas that were identified based on the findings of this study and review of other relevant literature. The expected outcome was addressed on the focus areas listed out thoroughly and key interventions which enable to achieve the desired changes listed out. The key performance areas were considered in context to local circumstances and in focus to the study groups.

23.4 RECOMMENDATIONS BASED ON THE FINDING

In view of the results from the situational investigation, during the time spent, the strategy advancement and further study recommendations are elicited.

- Healthcare providers should educate women living with HIV, about the available cervical cancer screening services so that women would be more knowledgeable and make better-informed decisions about the use of the available free service.
- The identified factors need to addressed to enhance cervical cancer screening service utilisation among women living with HIV

- Health facilities should strive to advise women living with HIV, attending any department, to utilise cervical screening services.

- There is a need to enhance the information about cervical cancer in society to dispute misconceptions. That would create a more conducive environment for women living with HIV to use cervical cancer screening services freely without fear of stigma.

- The trained number of health care providers need to be increased for providing cervical cancer screening services plausibly.

- Awareness talks, using developed IEC materials, appropriate for women living with HIV, should discuss the sign and symptoms of cervical cancer. These might hinder the consequences of late diagnosis and treatment, compared to the benefits of early diagnosis and timely effective treatment

- Ensure that threre are resources for cervical cancer screening, provision of care for abnormal cervical test outcomes for early stages of cervical cancer, or referral for further advanced stage management.

23.4.1 Recommendation for further research

The following are the recommendation for further research:

- Evaluation of the impact of using the developed strategy on the cervical screening uptake.
- Qualitative study, to explore the perceptions of health care providers toward using the developed strategy.

23.4.2 Contributions of the Study

The survey addresses the very high-risk groups in cervical cancer morbidity and mortality. The situation analysis and reviewing relevant studies explored to learn and develop a helpful strategy that can enhance cervical cancer screening, treatment, and other services which particularly help to improve the health of HIV positive women and their families.

23.5 LIMITATION AND STRENGTH OF THE STUDY

This study section presents the strength and limitation of the study

23.5.1 Strength of the Study

This study has the strength that addresses HIV positive women cervical cancer screening status, its determinants factors, and producing evidence-based and workable strategy considering age groups affected by HIV.

- The possible strength of this study could be the generalisability of the findings to all HIV positive women attending care and treatment for HIV infection in public health institutions in Hawassa City Administration and other towns in South Ethiopia.

- The current study used the standard Health Belief Model to examine influencing factors and utilisation status of cervical cancer screening.
- Data was collected using a pre-tested questionnaire to guarantee the reliability of the results.
- Very few studies were conducted among women living with HIV related to cervical cancer screening utilisation in the study area. This study might help as baseline information for planning, monitoring, and implementation of issues related to cervical cancer screening utilisation.

23.5.2 Limitation of the Study

Though this study has the above-mentioned strengths, it also has considerable limitations that need to be taken into consideration:

- The study participants were recruited from health care facilities, and the findings might not be truly representative of HIV-infected women in the community.
- The study was conducted from women living with HIV attending ART clinics in randomly selected public health facilities. However, it did not cover information from HIV positive women who are utilising Non-Governmental organisation and charity health care institutions to follow up.
- The information provided by the participants could be affected by social acceptability bias and/or recall bias, despite the researcher's attempts to minimize this by ensuring anonymity.
- This is a cross-sessional study that has considerable methodological limitations in drawing cause and effect relationships between the variables.
- Based on various reviews made, the evidence available on the best applicable cervical cancer screening options for HIV positive women is inadequate and inconclusive.

23.6 CONCLUDING REMARKS

The study focusses on investigating the utilization of cervical cancer screening among women living with HIV and develop a strategy for improving the service in Ethiopia. Based on the study findings, the researcher developed a strategy for enhancing cervical cancer screening utilisation. The study findings and developed strategies helped to improve HIV positive women cervical cancer screening uptake and related services. The implementation of the strategy will assist in improving cervical cancer screening, treatment, and other prevention and control services uptake in these very important groups.

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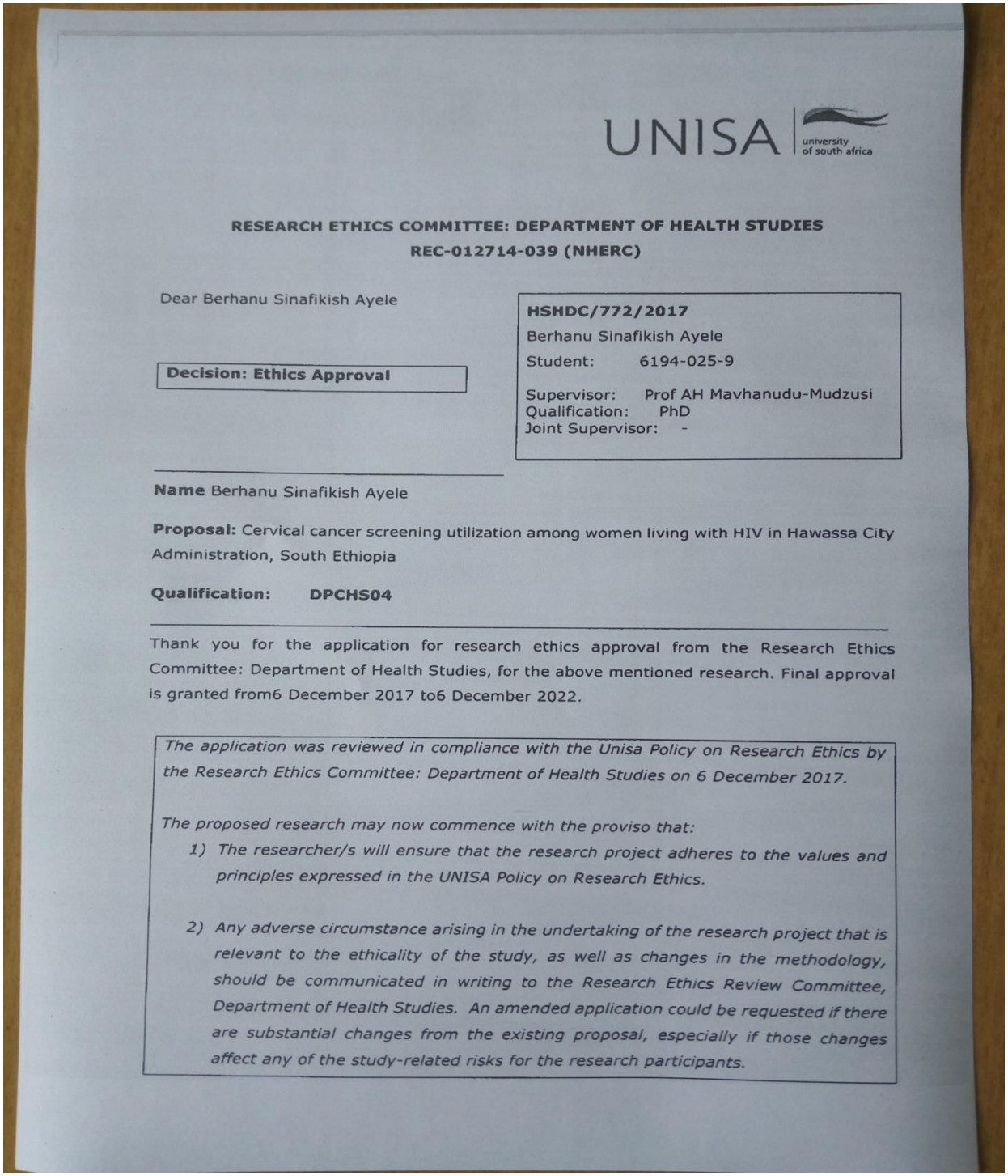
Annex 1: Ethical clearance from UNISA



UNISA university of south africa

RESEARCH ETHICS COMMITTEE: DEPARTMENT OF HEALTH STUDIES
REC-012714-039 (NHERC)

Dear Berhanu Sinafikish Ayele

Decision: Ethics Approval

HSHDC/772/2017
Berhanu Sinafikish Ayele
Student: 6194-025-9

Supervisor: Prof AH Mavhanudu-Mudzusi
Qualification: PhD
Joint Supervisor: -

Name Berhanu Sinafikish Ayele

Proposal: Cervical cancer screening utilization among women living with HIV in Hawassa City Administration, South Ethiopia

Qualification: **DPCHS04**

Thank you for the application for research ethics approval from the Research Ethics Committee: Department of Health Studies, for the above mentioned research. Final approval is granted from6 December 2017 to6 December 2022.

The application was reviewed in compliance with the Unisa Policy on Research Ethics by the Research Ethics Committee: Department of Health Studies on 6 December 2017.

The proposed research may now commence with the proviso that:

1) *The researcher/s will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.*

2) *Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study, as well as changes in the methodology, should be communicated in writing to the Research Ethics Review Committee, Department of Health Studies. An amended application could be requested if there are substantial changes from the existing proposal, especially if those changes affect any of the study-related risks for the research participants.*

3) *The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study.*

4) *[Stipulate any reporting requirements if applicable].*

Note:
The reference numbers [top middle and right corner of this communiqué] should be clearly indicated on all forms of communication [e.g. Webmail, E-mail messages, letters] with the intended research participants, as well as with the Research Ethics Committee: Department of Health Studies.

Kind regards,

Prof L. M. Human.

Prof JE Maritz
CHAIRPERSON
maritje@unisa.ac.za

for Prof MM Moleki
ACADEMIC CHAIRPERSON
molekmm@unisa.ac.za

A Phillips

Prof A Phillips
DEAN COLLEGE OF HUMAN SCIENCES

Annex 2: support letter from UNISA Addis Ababa learning center.

UNISA university of south africa

09 OCTOBER, 2018

UNISA-ET/KA/ST/29/09-10-18

SOUTHERN NATIONS NATIONALITIES AND PEOPLES

REGIONAL HEALTH BUREAU

HAWASSA

Dear Madam/Sir,

The University of South Africa (UNISA) extends warm greetings. By this letter, we want to confirm that Ms. Sinafikish Ayele Berhanu (student number 61940259) is a PhD student in the Department of Health Studies at UNISA. Currently, she is at the stage of data collection on her doctoral research entitled ***"Cervical cancer screening utilization among women living with HIV in Hawassa City Administration, South Ethiopia"***.

This is therefore to kindly request you to assist the student in any way that you can. Attached, please find the ethical clearance that she has secured from the Department of Health Studies.We would like to thank you in advance for all the assistance that you will provide to the student.

Sincerely,

Dr. Tsige GebreMeskel Aberra

Deputy Director – Academic and ICT Support

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Annex 3: Support letter from southern Ethiopia Health office for pre-test

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South Nations Nationalities and People's Regional
State Health Bureau

ቁጥር ፍጤ 37-186/25747
Ref. No
ቀን 15/05/2011
Date

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transfer support process owner

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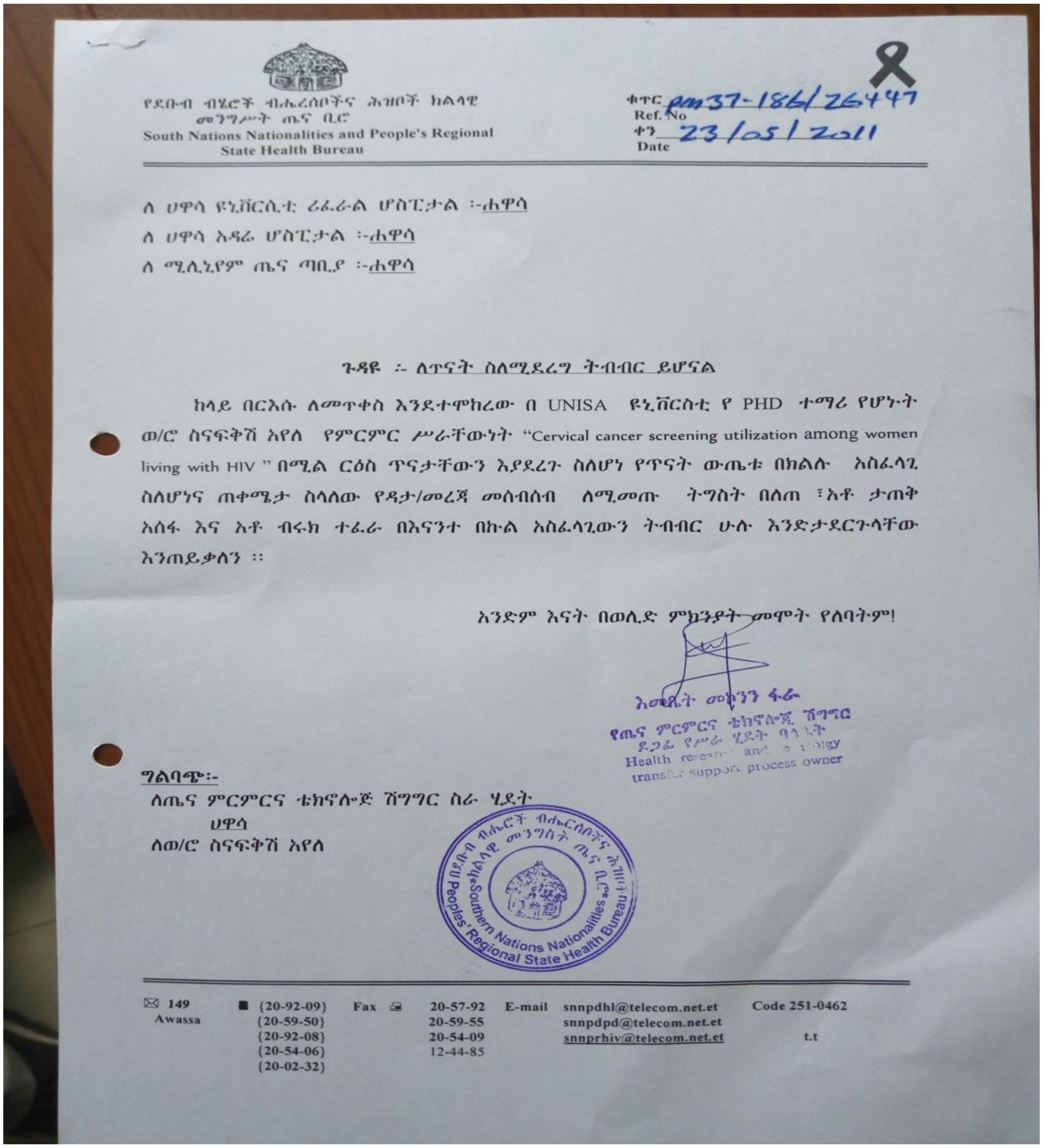
✉ 149 Awassa ☎ {20-92-09} {20-59-50} {20-92-08} {20-54-06} {20-02-32} Fax 20-57-92 20-59-55 20-54-09 12-44-85 E-mail snnpdhl@telecom.net.et snnpdpd@telecom.net.et snnprhiv@telecom.net.et Code 251-0462 t.t

Annex 4: Support letter from southern Ethiopia health office for main data collection



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South Nations Nationalities and People's Regional
State Health Bureau

ቁጥር ቀመ37-186/26447
Ref. No
ቀን 23/05/2011
Date

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Health research and technology
transfer support process owner

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Southern Nations Nationalities Peoples' Regional State Health Bureau

✉ 149 Awassa | ☎ {20-92-09} {20-59-50} {20-92-08} {20-54-06} {20-02-32} | Fax 20-57-92 20-59-55 20-54-09 12-44-85 | E-mail snnpdhl@telecom.net.et snnpdpd@telecom.net.et snnprhiv@telecom.net.et | Code 251-0462 t.t

Annex 5: Information sheet

PARTICIPANT INFORMATION SHEET

Date: _____

Title: Cervical cancer screening among women living with HIV in Hawassa City Administration, South Ethiopia

Dear Prospective Participant

My name is Sinafikish Ayele Berhanu, and I am doing research with Mavhandu-Mudzusi, Azwihangwi a professor, in the Department of health studies towards a PHD at the University of South Africa. We are inviting you to participate in a study entitled "Cervical cancer screening among women living with HIV in Hawassa City Administration, South Ethiopia".

Introduction: Cervical cancer screening is important for the health of women especially women living with HIV. However the importance of the care depends on the level of cervical cancer screening among women at high risk of the diseases.

Purpose: The purpose of this study is to investigate utilization of cervical cancer screening among women living with HIV and develop strategies for improving the service in Hawassa City Administration, South Ethiopia.

Procedure and participation: the method of the research is cross-sectional. The expected study duration will be for about one year. You are asked to participate in this research because the trustful information which you will provide is important for the understanding of the proposed subject matter. Moreover, your particular participation is affirmed by the procedure of systematic sampling technique among all women living with HIV in hawassa city taking HIV treatment in the selected health facilities. While you are getting the HIV care the data collector will not have any involvement in the service provision. You will be asked or interviewed about utilization of cervical screening, and access of health service, socio-demography, socio-economic and behavioural factors, which considered to be affecting cervical cancer screening utilization.

Annex 6: Informed consent

CONSENT TO PARTICIPATE IN THIS STUDY

I, _____(participant name), confirm that the person asking my consent to take part in this research has told me about the nature, procedure, potential benefits and anticipated inconvenience of participation.

I have perused (or had disclosed to me) and comprehended the investigation as clarified in the data sheet.

I have had adequate chance to pose inquiries and am set up to take an interest in the investigation.

I comprehend that my support is deliberate and that I am allowed to pull back whenever without punishment.

I am mindful that the discoveries of this investigation will be prepared into an exploration report, diary production as well as gathering procedures, however that my support will be kept classified except if generally determined.

I consent to the account of the up close and personal meeting.

I have gotten a marked duplicate of the educated assent understanding.

Participants Name & Surname ----------

Participants Signature ----------Date----------

Researcher's Name & Surname----------

Researcher's signature……..Date……

Annex 7: Informed consent (Amharic)

ፈቃደኝነትና ሚስጥርን ስለመጠበቅ

ጤና ይስጥልኝ!! እኔ _____ እባላለሁ፡፡ የመጣሁት ከደቡብ አፍራካ ዩኒቨርስቲ ጋር በመተባበር የፒኤችዲ ተማሪ የሆኑትወ/ሮ ስናፍቅሽ አየለ በ የማህጸን በር ካንሰር ልየታና አጠቃቀመም በተመለከተ HIV AIDS ቫይረስ በደማቸው ውስጥ ባሉ እናቶች ላይ ለማጥናት ስለተፈለገ፤ለጥናቱ የሚሆን መለጃ ለመሰብሰብ ነው፡፡

በዚህ ጉዳይ 30 ደቂቃ ልናናግርዎት እንፈልጋለን፡፡ እርስዎ የሚሰጡንን መረጃ በሚስጥር የሚያዝና ከአጥኚውውጪ ከማንም ጋር የማይጋራ ነው፡፡ ጥያቄዎችን በከፊልም ሆነ በሙሉ ያለመመለስ ሙሉ መብት አለዎት፡፡ በዚህ ጥናት ስለተሳተፉ ምንም ዓይይት ጥቅማ ጥቅም አንሰጥም፡፡ነገር ግን የሚሰጡን መረጃ በከልላችን የማህጸን በር ካንሰር ልየታና አጠቃቀመም በተመለከተ ለሚሰጠው አገልግሎት ግብአት በመሆን ከፍተኛ አስተዋጽኦ ያደርጋል፡፡ ጊዜዎትን ወስደው ምለሽ ስለሚሰጡን በቅድሚያ እናመሰግናለን፡፡

በጥናቱ ለመሣተፍ ፍላጎቱ አለዎት?

- *አዎ መሣተፍ እፈልጋለሁ —> ወደ 1 ይቀጥሉ*
- *መሣተፍ አልፈልግም —> ቃለ-መጠይቁን ይጨርሱ፡፡ ለተቆጣጣሪ ይንገሩ*

Annex 8: Structured interview schedule for women living with HIV(English)

Cervical cancer screening utilisation among women living with HIV

Participants ID_____Health facility _____

Interviewer ID_____

Section A: Socio-demographic characteristics of the women participating in the study

Q. No.	Questionnaire	Responses	Skip
101.	Place of residence	Rural----------1 Urban----------2	
102.	Age of respondent	……..years old	
103.	Religion	Orthodox….....1 Protestant…….....2 Catholic…….....3 Muslim.….....4 Others……..….....98	
104.	Current educational level	Illiterate….....1 Read and write only...……..2 1-8.....3	

		9- 12.....4 Certificate .....5 Diploma .....6 Degree and above....7	
105.	Current occupational status	Undergraduate.....1 Agriculturalist .....2 Housewoife .....3 Merchant……4 Government Employee..5 NGO.....6 day laborer…….....7 sex worker .....8 Other (specify)…… …...	
106.	Current marital status	Single ……..….....1 Married ….....2 separated.....3 Divorced……..….....4 Widowed…….....5 Boyfriend 6	If alone skip to 110
107.	Husband/boyfriend educational status currently?	Illiterate….....1 Read and write only.....2 1-8.....3	

		9- 12.....4 Certificate .....5 Diploma .....6 Degree and above.....7	
108.	Your husband/boyfriend occupation?	Student.....1 Farmer .....2 Merchant…….....4 Government Employee….....5 NGO.....6 day laborer…….....7 Other …….....	
109.	What is your household income monthly? (total household income)	..... in Birr	
110.	Have you ever used family planning	Yes…….....1 No…….....2	If no go to 112
111.	If yes! Type of family planning	COC.....1 Depo Provera injection.....2	

		Implanol.....3 Intra uterine device (IUCD).....4 Condom.....5 Permanent contraception.....6 Other specify.....	
112.	Have you ever been pregnant	Yes…….....1 No…….....2	If 1 go to 116
113.	Number of pregnancy	----------	
114.	No of live births	----------	
115.	When was your HIV diagnosis that gave positive result?(year or duration)	---------- In years ----------In month	
116.	Duration of follow up in PRE ART care	---------- In years ----------In month	
117.	Duration of follow up in HAART care	---------- In years ----------In month	
118.	Currently are you on HAART)	Yes…….....1 No…….....2	

119.	Where do you usually get treatment when you are sick?	Public hospital Public health center Private hospital Traditional healers Self-treatment	
120.	In the past 6 months, how often have you sought care at {insert answer from above}?	.....	
121.	How do you feel about the way you are treated when you go there?	Very good ----1 Good ---------2 Moderate--------3 Bad-------4 Very bad--------5 Other specify---------	
122.	Do medical providers and staff respect your privacy?	Yes…....1 No…....2	
123.	Have you ever heard of cervical cancer?	Yes…....1 No…....2	If 2 skip to 303
124.	Source of information	Health personal or HEW-- -------1	

		Health Facility------2 Radio-------3 TV----------4 Newspaper or magazine.....5 From my family members.....6 Do not remember----------99 Other specify …….....	
Section B 2: Information of the women on cervical cancer and cervical cancer screening			
Qn. No.	Questionnaire	Response	Skip
201.	What is the cause of cervical cancer?	Bacteria…….. 1 Virus……2 Fungus……3 Through genes from family…4	

		Urinating on the sun.....5 Do not know……99 Other specify…….....	
202.	What is the mode of transmission of HPV (Human Papilloma Virus? (Tick any/all that apply)	Physical contact …….....1 Aerosol/Air droplet……..2 Sexual intercourse……..3 Other (specify):_____	
203.	What are the predisposing factors to cervical cancer? (multiple answers are possible)	Having multiple sexual partners.....1 Early onset sexual intercourse.....2 Family history of cervical cancer.....3 Infection by virus causing cervical cancer.....4 Cigarette smoking…….5 Low immunity due to HIV/AIDS.....6 Repeated abortion..... 7 Prolonged use of oral contraceptive.....8 Sexually transmitted infection……9	

		Do not know……99 Other specify……..	
204.	What are the signs and symptoms of cervical cancer? (multiple answer is possible) (Probe)	Vaginal bleeding….1 Foully vaginal discharge……..2 Pelvic or back pain……....3 Post coital bleeding…….....4 Vaginal itching or irritation.....5 Pain with sexual intercourse....6 Frequent urination.....7 No symptoms.....8 Others specify..... I don't know….99	
205.	Who is more likely at risk of developing cervical cancer?(multiple answer is possible)	HIV positive women.....1 Women with multiple sexual partners....2	

		Women with a family history of cervical cancer.....3 All women…….....4 I don't know……..99 Others specify……..	
206.	Is cervical cancer preventable disease?	Yes…….....1 No…….....2 Don't know.....99	If no skip to 310
207.	If yes to question Number308, how? (multiple answers are possible) (Probe)	Avoid multiple sexual partners…....1 Avoid early-onset sexual intercourse….....2 Avoid smoking.....3 Through vaccination…….....4 seek screening services.....5 Consistent use of condom -----6	

		Prompt treatment of STIs---7 Do not know…….....99 Other …….....	
208.	Do you know any screening methods to detect cervical cancer?	Yes…….....1 No…….....2	If no skip to question #313
209.	If yes to question no 310, which cervical cancer screening methods do you know? (multiple answers are possible)	Pap smear.....1 VIA…….....2 HPV testing…….....3 Other specify…….....	
210.	From where did you heard about cervical cancer screening methods for the first time?	Hospital……..……1 Other health care providers…2 Television……3 Radio……..4	

		Friend…….5 Relative……....6	
211.	Have you heard about the Pap smear test?	Yes……..1 No……2 Other……... 3	
212.	What is a Pap Smear test used for?	Testing sexually transmitted diseases (STDs)……1 Treating Cervical Cancer…….2 Cervical cancer Screening….3	
213.	What is the aim of cervical cancer screening?	To prevent cervical cancer…….....1 It helps for early detection of cervical cancer.....2 It helps for early seek of treatment.....3 It helps to treat cervical cancer…….....4 Do not know…….....99	

		Other (please explain).....98	
214.	When HIV positive woman should have screening?	When menstruation starts….1 As soon as sexually active……...2 At the age of 30……...3 When start having children.4 After menopause…….....5 Do not know……99 Other……..……98	
215.	How frequent, cervical cancer screening should be done for HIV positive women?	----------year	
216.	Is cervical cancer curable (treatable) if detected early?	Yes……1 No……2 Don't know……..99	
217.	What things make cervical cancer curable once diagnosed?	Seeking treatment at early stage…….....1	

		Seeking treatment at late stage…….....2 Seeking treatment at early or late stage Don't have difference.....3 Don't know.....99 Others……..98	
218.	Treatment modalities	Traditional healers Surgery Radiation Chemotherapy Chemotherapy	

Section B: 1. Perceived susceptibility to cervical cancer			
301.	How many sexual partners do you have ever?	..... I don't know…….....98 I don't like to respond…....99	
302.	Distance from screening facility		
303.	How do you come to this facility	Foot…….....1 Bajaj……...…2 Taxi…….....3 Public bus …….4	
304.	Was there anyone in your family or close friends or Neighbors with a history of cervical cancer?	Yes…….....1 No…….....2 Don't know…….....99	
Cervical cancer screening is a type of pelvic exam where a health care provider places an instrument in the woman's vagina to see the mouth of the womb. They apply the vinegar solution and observe any changes.			

305.	Have you at any point been screened for cervical malignant growth	Yes …….....1 No…….....2 Don't know…….....99	
306. r	Frequency of screening	----------	
307.	If yes, when were you screened last time	less than a year ago…….....1 A year ago…….....2 Two years ago……....3 Three years ago……..4	
308.	Did you ever have an abnormal result?	Yes…….....1 No…….....2 Don't know…….....99	
309.	Who should initiate the idea of having cervical cancer screening	Self Family member Husband Friends Colleagues Health care provider Others specify……	
310.	Did you receive any	yes, I was treated on the	

	treatment or other care after your last test for cervical cancer? Did you receive treatment on the same day or different day?	same day…1 yes, I was received treatment on different day……..…2 no…….3 I don't know……8 I don't like respond …….9 Specify other care you received beside..10 treatment	
311.	Did you have any follow up result because of your test results?	yes ……1 no……..2 don't know……8 I don't like respond ….9	
Service delivery preference			
312.	Who would you screen?	Male ----------1 Female----------2	
313.	Would you be comfortable if a male health worker conducted the cervical cancer screening?	Yes……1 No……..2 I don't know……..4	
314.	Was the examination center neat and clean?	Yes……1	

		No……..2	
315.	Was your privacy during examination adequately maintained?	Yes……1 No……..2	
316.	Did the nurse/service provider explain to you before and after the test?	Yes……1 No……..2	
317.	How much time did you spend to travel from your home to the center?	_____hr	
318.	How much time did you have to wait before the test at the center?	_____hr	
319.	How will you rate the overall experience you had at the center?	Very Good……1 Good…… …..2 Good, could be better…….3 Neither good nor bad……4 Bad…… …5	

		Very bad ……..6	
320.	Would you be comfortable getting cervical cancer screening at this health facility?	Yes……1 No……..2 I don't know……..3	If 1 skip Q505
321.	Do you have any suggestions to improve the service?	_____ _____	
322.	Did you encounter any problem from health professionals when you need to be screened?	Yes……1 No……..2 I don't know……..3	
323.	If yes what was the problem?	----------	
324.	Will you screen again?	Yes I No 2	
325.	If no to question no 304 why? (multiple answers are possible)	It is painful 1 It is embarrassing 2	

	(Probe)	Fear of positive results.....3 It is expensive 4 There is no appropriate care at health facility…….5 Health care providers are not knowledgeable 6 Attitude of the health care providers are not good 7 No screening service in the nearby health institution 8 Long waiting time at health institution 9 Other specify	

326.	If you are not screened at all, what is/are your reason(s)? (multiple answers are possible) (Probe)	It is painful 1 It is embarrassing 2 Don't know where it is done 3 I am healthy 4 My husband would not agree 5 Fear of positive results 6 It is expensive 7 lack of awareness 8 There is no appropriate care at health facility 9 Health care providers are not knowledgeable l0 Attitude of the health care providers are not good 11 No screening service in the nearby health institution l2 Long waiting time at	

		HF……..l3 Religion/cultural l4 Other specify	

Please answer the following questions with "Strongly agree", "Agree" ""Neutral", "Disagree" or "Strongly disagree"

	ITEM	Strong	Agr	Neutra	Dis	Strong
401.	If you do not have any discomfort or pain, you do not need a cervical cancer screening test.					
402.	Cervical cancer screening test is for sexually active women					
403.	My odds of getting cervical cancerare High.					
404.	Having cervical cancer is matter of bad luck or fate					
405.	I do not need cervical cancer screening test because there is no history in our family.					
406.	I do not need cervical cancer Screening any more. whatever it is					

Section C: perceived severity/seriousness of cervical cancer

Qn	Questionnaire	Response	Skip
407.	What part of the body is affected by cervical cancer(Multiple answer)	Vagina .....1 Uterus .....2 Cervix.....3 Vulva .....4 Other.....	
408.	At what age is Cervical cancer most common	.....in years	
409.	Have you heard about any women with cervical cancer	Yes……1 No…..……2 Don't know……...99	
410.	During the last 12 months, have you had an abnormal discharge from your vagina?	Yes……1 No……2 don't know……8	
411.	During the last 12 months, have you had experienced pelvic pain?	Yes……1 No……2 don't know……98 I don't like respond ….99	

412.	During the last 12 months, have you had experienced unusual smell, color or texture	Yes……1 No……2	
413.	During the last 12 months, have you had pelvic pain	Yes……1 No……2	
414.	During the last 12 months, have you had an ulcer or sore on or near your vagina?	Yes……1 No……2	
415.	How likely do you think it is that you will get cervical cancer?	very likely ……1 somehow likely…..2 not likely…….3 don't know……..8 I don't like to respond….9	

Please answer the following questions with "Strongly agree", "Agree" '"Neutral", "Disagree" or "Strongly disagree"

	ITEM	SA	A	N	D	SD
416.	Cervical cancer is a curse from God					
417.	I would not get cervical cancer screening test because of fear of the results					
418.	Cervical cancer eats internal organs.					
419.	There is very little one can do about cervical cancer					
420.	If I am diagnosed with cervical cancer I will die.					
421.	I would rather take the test and discover the hidden disease than go through the pain.					
422.	Loss of cervix or uterus through surgery would affect sexuality.					
423.	A woman would lose a husband if diagnosed with cervical cancer.					
424.	Seeing somebody suffering fromCervical cancer would encourage women to go for the test.					

Section D: Willingness to cervical cancer screening

Q	Questionnaire	Response		S
501.	Do you think it is helpful to detect Cervical Cancer early?	Yes No	l 2	
502.	Has anyone ever recommended that you should have screening for cervical cancer?	Yes No	1 2	
503.	Would you like to undergo gynecological examination?	Yes No	l 2	
504.	If screening is free and integrated to ART clinic, will you willing cervical cancer screening?	Yes No	1 2	
505.	If screening is available at nearby health institution, will you ready to go and screen?	Yes No	1 2	
506.	Are you willing to pay for a screening service?	Yes No	1 2	

Section E: perceived benefits of cervical cancer screening

Q n N o .	Questionnaire	Response	Skip
601.	Do you know where cervical cancer screening services are offered	Referral Hospital Adare Hospital Millennium Health center Family Guidance Association Other Specify…….	
602.	What is the purpose of performing a	----------	

Please answer the following questions with "Strongly agree", "Agree" '"Neutral","Disagree"or "Strongly disagree"

	ITEM	SA	A	N	D	SD
607.	Cervical cancer screening would unveil/expose a hidden disease.					
608.	Cervical cancer screening would save life if detected and treated at an early stage.					
609.	Cervical cancer screening is humiliating/embarrassing					
610.	Cervical cancer is curable if detected early					

611.	Regular cervical cancer screening decreases the risk of cervical cancer.					
612.	Regular asymptomatic screening is a waste of time and money					
613.	Financial constraints affect uptake of cervical cancer screening tests					

Section F: perceived barriers to cervical cancer screening

Please answer the following questions with "Strongly agree", "Agree" '"Neutral", "Disagree" or "Strongly disagree"

Sub: section F-1: stigma, fear and discrimination

	ITEM	SA	A	N	D	S D
701.	Women with cervical cancer are considered to be dirty.					
702.	I would not want to be seen in a cervical cancer screening clinic by my friends or colleagues.					
703.	It is too embarrassing to have a cervical cancer screening test.					
704.	Being screened by a male health care provider would discourage me from being screened for cervical cancer.					
705.	Cervical cancer screening test is painful					

SUB-SECTION F – 2: SOCIO-ECONOMIC FACTORS

	ITEM	S A	A	N	D	S D
706.	It is difficult to find somebody to care for your child or older person while you go for cervical cancer screening.					
707.	I would have to get permission from my significant other/s prior to cervical screening					
708.	It is difficult to take time off to have a cervical cancer screening test.					
709.	It is too expensive to have a cervical cancer screening test.					
710.	Limited access to screening services affects regular uptake of cervical screening test.					
711.	Financial constraints affect uptake of cervical screening test.					
712.	Cervical cancer services should be provided near home or office.					

SUB-SECTION F – 3: TRADITIONAL PRACTICES

	ITEM	S A	A	N	D	S D
713.	Cervical cancer is caused by evil spirits.					
714.	In case one has cervical cancer, the evil spirits have to be dealt with first before Going to the hospital.					
715.	I would trust at Traditional healers to treat cervical cancer.					
716.	I would prefer consulting a traditional Healer rather than a doctor for abnormal vaginal cervical bleeding.					

SECTION F – CUES TO ACTION

Qn No.	Questionnaire	Response	Skip
801.	On the off chance that you need to find out about cervical cancerand screening administrations, from where you get this data? (Beyond what one can be given)	Friends.....1 Family member.....2 Health care provider.....3 Television.....4 Radio.....5 Posters.....6 Magazines.....7. Newspapers.....8 Books.....9 Pamphlets.....10 Others specify.....	

802.	What are the available sources of information on cervical cancer? (More than one response can be given)	Friends.....1 Family member.....2 Health care provider.....3 Television.....4 Radio.....5. Posters.....6 Magazines Newspapers.....7 Books.....8 Pamphlets.....9 Others specify.....10	
803.	What do you believe are the best strategies for giving data about cervical cancerand screening? (Sit tight for answers from participants)	Crusade promotion on television.....1 Crusade promotion on radio.....2 Wellbeing talks by medicinal services providers.....3 Wellbeing talks by community leaders.....4 Other specify.....	
804.	What are the preferred venues for cervical cancer information sharing? (Wait for responses)	Hospital clinics.....1 Women seminars in schools.....2 Women seminars in churches....3 Community meetings.....4 Others specify.....	

805.	Any other suggestions on how best cervical cancer screening service provision would be improved to increase uptake?	....	

Thank you!!! .

Annex: 7 Amharic Quesioner

ከኤች አይቪ ጋር የሚኖሩ ሴቶች የማህፀን በር ካንሰር የምርመራ አገልግሎት አስፈላጊነት ላይ ለጥናት የቀረበ መጠይቅ

Participants ID---------- Name of health facility----------

Interviwer ID----------

ፈቃደኝነትና ሚስጥርን ስለመጠበቅ

ጤና ይስጥልኝ! እኔ _____ እባላለሁ፡፡ የመጣሁት ከደቡብ አፍራካ ዩኒቨርስቲ ጋር በመተባበር የፒኤችዲ ተማሪ የሆኑትወ/ሮ ስናፍቅሽ አየለ በ የማህጸን በር ካንሰር ልየታና አጠቃቀመም በተመለከተ HIV AIDS ቫይረስ በደማቸው ውስጥ ባሉ እናቶች ላይ ለማጥናት ስለተፈለገ፤ለጥናቱ የሚሆን መለጃ ለመሰብሰብ ነው፡፡

በዚህ ጉዳይ 30 ደቂቃ ልናናግርዎት እንፈልጋለን፡፡ እርስዎ የሚሰጡንን መረጃ በሚስጥር የሚያዝና ከአጥኚው ውጪ ከማንም ጋር የማይጋራ ነው፡፡ ጥያቄዎችን በከፊልም ሆነ በሙሉ ያለመመለስ ሙሉ መብት አለዎት፡፡ በዚህ ጥናት ስለተሳተፉ ምንም ዓይይት ጥቅማ ጥቅም አንሰጥም፡ነገር ግን የሚሰጡን መረጃ በከልላችን የማህጸን በር ካንሰር ልየታና አጠቃቀመም በተመለከተ ለሚሰጠው አገልግሎት ግብአት በመሆን ከፍተኛ አስተዋጽኦ ያደርጋል፡፡ ጊዜዎትን ወስደው ምለሽ ስለሚሰጡን በቅድሚያ እናመሰግናለን፡፡

በጥናቱ ለመሣተፍ ፍላጎቱ አለዎት?

አዎ መሣተፍ እፈልጋለሁ —> ወደ 1 ይቀጥሉ

መሣተፍ አልፈልግም —> ቃለ-መጠይቁን ይጨርሱ፡፡ ለተቆጣጣሪ ይንገሩ

¡õM 1: ¾²=I Ø"ƒ }dqò ¾J'< c?„‹ ¾TIu^©" e' Q´w G<'@q			
	SÖÃq‹	SLj‹	}hÒ]
101.	¾S•]Á ›É^h	ÑÖ` ----------1 Ÿ}T----------2	
102.	¾SLi °ÉT@	.....	
103.	GÃT•ƒ	*`„Ê¡e.....1 ፕሮትስታን----------2 ካቶሊክ----------.3 ሙስሊም----------..4 ሌሎች----------..98	
104.	›G<" ÁKi ¾ƒUI`ƒ Å[Í	U"U ÁM}T[‹ ..1 Séõ" T"uw .....2 Ÿ1-8 ¡õM.....3 Ÿ9-12¡õM.....4 c`}õŸ?ƒ .....5 Ç=ýKAT .....6 Ç=Ó]" Ÿ²=Á uLÃ....7	
105.	›G<" ¾Uƒc]¨< e^ U"É'¨<	}T] ----------1 Ñu_ ----------2 ¾u?ƒ •Su?ƒ------3 'ÒÈ----------4 ¾S"Óeƒ c^}— ---5 S"Óe}© ÁMJ' S/u?ƒ----------6 ¾k" e^ ----------7	

		K?KA‹ ----------8	
106.	›G<" ÁKi ¾Òw‰ G<'@}	ÁÑv‹ ----------1 ÁLÑv‹ ----------2 ¾ð}‹ ----------3 vM ¾V}v*ƒ* ------4	If 2 go to 110
107.	¾vM ¾*ƒ*Ul`*ƒ* G<'@} u›G<'< ¨p*ƒ*	U"U ÁM}T[-------1 Síõ" T'uw w‰ ¾T>‹M ----------2 Ÿ1— ---8— ¡õM ----3 Ÿ9— --12" ŸõM ---4 c`}õŸ?*ƒ* ---------5 ÉÓ]" Ÿ³ uLÃ ----6	
108.	¾vKu?}g e^	}T] ----------1 Ñu_ ----------2 ¾u?*ƒ* •Su?*ƒ* ------3 'ÒÈ----------4 ¾S"Óe*ƒ* c^}— ---5 S"Óe}© ÁMJ' S/u?*ƒ*----------6 ¾k" e^ ----------7 K?KA‹ ----------8	
109.	¾u?}cw ¾Ñu= U"ß U"É'¨< u¨` e"*ƒ* ÃÑ—M ; ÖpLL Ñu= e"*ƒ* '¨<;	----------w`	
110.	¾u?}cw ›pÉ }ÖpSi }¢ÁKi	›- ----------1 ›ÃÅKU --------2	

111.	›- ŸJ' ¾ƒ—¨<" ›Ã'ƒ	›"¡wM..........................1 S`ô............................2 IUCD..............................3 Implanol.........................4 Condom........................5 Permanent 6	
112.	›`Ó²i ታ¨<mÁKi	›- --------------1 ›ÃÅKU --------2	If 2 go to 115
113.	›- ŸJ' uIØ` e"ƒ	----------------------------	
114.	uH>¨ƒ ¾}¨KÆ MÐ‹ IØ`	----------------------------	
115.	›?‹ ›Ãy= ›"ÇKwi uU`S^ ¾}[ÒÑÖ¨< SŠ ‘¨< ; ¯S} UI[~ ¨ÃU	-------------------¯Sƒ ---------------- ¨^ƒ	
116.	kÅU c=M (PRE ART) ¾¡ƒƒM Ñ>²? KU" ÁlM Ñ>²? ‘u`	-------------------¯Sƒ ---------------- ¨^ƒ	
117.	uSÅu—'ƒ SÉG'>ƒ S¨<cÉ ¾ËS`i¨< KU" ÁlM Ñ>²? ‘¨<	-------------------¯Sƒ ---------------- ¨^ƒ	
118.	›G<"U uSÅu—'ƒ የጸረ ኤችአይቪ.SÉG'>ƒ ħ¾¨cÉi ‘¨<;	›- ---------------------------1 ›ÃÅKU---------------------2	

119.	∪U*ƒ*ታST>∪*ƒ* Ñ>²? l¡U‟ ¾*ƒ* •ታÅ`Ñ>ÁKi	¾l′w JeúqM----------1 ¾l′w Ö?‟ ×∪=Á----------2 ¾ÓM JeúqM ----------3 vlL© l¡U‟ ----------4 ∪^c? l¡U‟ ---------- 5	
120.	LKñ*ƒ* 6 ¨^*ƒ* l¡U‟ KU” ÁIM Ñ>²? ›É`ÑhM; ∪¾*ƒ*—¨< ጤና ተቋም	.....•	
121.	ጤና ተቋም Kl¡U‟ e*ƒ*H@Í= ›kvuL†¨< ›”È*ƒ* ′∪`; ›”ÅK?KA‹ •q"T>-‹ ′∪`; የግል ፍላጎትሽ ተጠብቆልሻል	በጣም ጥሩ ---------- ------1 ጥሩ---------- ----------2 መልካም ነው ---------- ----3 ጥሩም መጥፎም አይደለም --------4 መጥፎ ---------- --------5 በጣም መጥፎ---------- ----6	
122.	eKTlç” ∪` Ÿ”c` U`S^ cU}¨< Á¨nK<	›- ----------1 ›ÃÅKU----------2	
123.	¾S[Í U”ß (Ÿ›”É ∪LÃ SMe ScÖ*ƒ* Ã‰LM)	ŸÖ?‟ ∪KS<Á-‹----------1 ŸÖ?‟ É`Í=*ƒ* ----------2 Ÿ^Ç=Ä ----------3 Ÿ,K?y=»” ----------4 ŸÒ²?× /SîN?*ƒ* ----------5 Ÿu?}cw ›vL*ƒ* ----------6	

		›Le}¨<eU----------99 K?KA‹ U"à‹ ---------- •	

ክፍል 2፡ ተሳታፊዎች ለማህፀን በር ካንሰር እና ለካንሰር ምርመራ ያላቸው ግንዛቤ ወይም ዕውቀት

¾ Ø Á o ¨ < l Ø `	SÖÃq‹	ULj‹	}h Ò]
201.	¾TIì" u` "c` SŸc‰ U¡"Áƒ U'É'¨<;	v¡,]Á ----------1 zÃ[e ----------2 ð"Ñe ----------3 Ÿu?}cw ¨<`e----------4 ìNÃ LÃ uSi"ƒ ----------5 ›Ã}¨pU ----------99 K?KA‹ ----------	
202.	¾TIì" u` "c` S}LKòÁ S"ÑÊ‹	u›"L© "¡Ÿ= ----------1 u›¾` ----------2 uÓw[eÒ Ó"–<'ƒ ----------3 uK?KA‹ ----------	
203.	KTIì" u` "e` SÒKÝ S"ÑÊ‹ U"É"†¨<; (Ÿ›"É	Ÿ›"É uLÃ ¨ÇÏ S•` --------1 ÁK°ÉT@ ¾Ów[eÒ Ó"–<'ƒ SðìU ---------- ----------2	

	uLÃ SMe SeÖƒ Ã‰LM)	¾u?}cw ¾Tlì” u` "”e` ¾%L ••ታ]¡ ------------------------------3 uTlç” u` ›=”ô¡i” U¡”Áƒ ----------------------4 c=Ò^ uTÚe ------------------------5 u›?‹ ›Ãy= U¡”Áƒ ui} ¾SŸLŸM wnƒ T’e --------------6 u}ÅÒÒT>Tf[É --------------7 K[ÏU Ñ>²? ¾¨K=É እንከብልSÖkU ----------------8 uÓw[eÒ Ó’<˜’ƒ U¡”Áƒ uT>}LKñ ui}-‹ ----------------9 ›L¨<k¨<U --------------------------99 K?KA‹ "K< ÃÑKî	
204.	¾Tlì” u` "”c` UM¡„‹ U”É‹†¨<; **(Ÿ›”É uL SMe ScÖƒ Ã‰LM)**	ŸTlì” ÅU Sõce ---------------1 ŸTlì” uT>¨× SØö iq• ÁK-------------2 ¾Ë`v ISU ------------------------3 ŸÓw[eÒ Ó”–<’ƒ }ŸƒKA ¾T>ðe ÅU----------4 ›L¨<pU ---------------------------99 K?KA‹ ÃÑKî------------------------	
205.	KTlì” u` "”c` Ÿõ uK Å[Í }ÒLß MƒJ” ¾Uƒ‹M c?ƒ ¨ÃU cò ¾SÒKØ °ÉM ÁLƒ c?ƒ ¾… "ƒ; **(Ÿ›”É uLÃ SMe ScÖƒ Ã‰LM)**	›?‹ ›Ãy= ÁKvƒ c?ƒ -----------1 ŸG<Kƒ uLÃ ¨Çï ÁLƒ c?ƒ ---2 kÅU c=M uiq¨< uu?}cw "K---3 G<K<U c?„‹ ------------------------4	

		›L¨<pU ----------99 K?L "K< ÃÑKî ----------	
206.	¾Tlì" u` ""c` K=ŸLŸK<ƒ ¾T>‹M uiq ′¨<;	›- ----------1 ›ÃÅKU ----------2 ›L¨<pU ----------3.	
207.	¾Tlì" u` ""c` •›"ÈƒSŸLKŸMÃ‹LM; **(Ÿ›"É uLÃ SMe ScÖƒ Ã‰LM)**	Ÿ›"É uLÃ ŸJ'< c¨< Ò` Ów[ eÒ Ó"–<'ƒ vKTÉ[Ó----------1 ÁK^ÉT@ ¾Ów[-eÒ Ó'<˜'ƒ vKTÉ[Ó ---------- ----------2 c=Ò^ vKTÚe ----------3 uiƒvƒ ----------4 uTlç" u` U`S^----------5 G<MÑ>²? ¢'ÅU uSÖkU ----------6 ¾›vK²` uiq c=•` ð×" l¡U" uTÉ[Ó---------- ---7 ›L¨<pU ----------99 K?KA‹ "K< •v¡- ÃÓKì<---------	
208.	¾Tlì" u` ""c` KT¨p ¾T>[Æ ¾SS`S]Á S"ÑÊ‹ q¨<mÁKi; (SMc< ›ÃÅKU ŸJ' ¨Å ØÁo 212 ÃH>Æ)	›- ----------1 ›L¨<pU ----------2	if no go to 210
209.	KØÁo 310 SMc< ›- ŸJ' ¾}—¨<" ›Ã'ƒ U`S^ q¨<mÁKi ; **(Ÿ›"É uL SMe ScÖƒ Ã‰LM**)	ûý ^eT>` ----------1 ñ›Ã›?----------2 ¾Tlç" u` zÃ[e U`S^----------3	

		K?KA‹ "K<ÃÑKê----------	
210.	KSËS]Á Ñ>²? eKTlì" υ` U`S^ Ÿ¾ƒ cTi;	ŸJeúqM ----------1 ŸK?KA‹ Ö?" vKS<Á-‹ ---------2 Ÿ,K?y=»" ----------3 Ÿ^Ç=Ä----------4 ŸÕÅ— ----------5 Ÿ²SÉ ----------6	
211.	eK ûû ^eT>` U`S^ cU}g q¨<mÁKi;	›- ----------1 ›ÃÅKU ----------2 K?L ----------	
212.	ûû ^eT>` U`S^ KU" ÃÖpTM;	υÓw[-eÒ Ó"–<'ƒ ¾T>}LKñ υiq-‹ KSS`S` ----- --1 ¾Tlì" υ` '"c` KTŸU ----2 ¾Tlì" υ` '"c` υU`S^ KSK¾ƒ....3	
213.	¾Tlì" υ` '"c` U`S^ ›LT¨< U"É'¨<;	¾Tlì" υ` '"c` KSŸLŸM ----1 ¾Tlç" '"c` S•\" kÅU wKA KT[ÒÑØ---------- ------ 2 υÑ>²?l¡U" KSðKÓ ---------- 3 ¾Tlì" υ` '"c` KTŸU Ã[ÇM----4 ›L¨<pU ----------99 K?KA‹ "K< ÃÑKî----------•	
214.	¾›?‹ ›Ãy= zÃ[e uÅT†¨< ¨<cØ ÁKv†¨< c?„‹ SŠ '¨< ¾Tlç" υ`	¾¨` ›υv c=ËU` ----------1 K›pS H@ª" ^"ÅÅ[c< ¨Ç=Á¨<--2 υ3o ›Sq†¨<----------3	

	U`S^ TÉ[Ó ¾T>Ñv†¨<;	MÐ‹ S¨<KÉ c=ËU\ ----------4 ¾¨` ›uv T¾ƒ "qS< u|L-----5 ›L¨<pU ----------99 K?KA‹ ----------	
215.	¾›?‹ ›Ãy= zÃ[e ÁKv†¨< c?„‹ ¾Tlì" u` ""c` U`S^ u¾e"ƒ Ñ>²? TÉ[Ó ÃÑv†ªM;	----------	
216.	¾Tlç" ""c` uiq uÑ>²? Ÿq¨k K=É" ¾T>‹M uiq '¨<";	›- ----------1 ›ÃÅKU ----------2 ›L¨<pU ----------3	
217.	¾Tlì" u` ""c` S•\ uU`S^ Ÿ}[ÒÑÖ u|L SÇ" ›"Ç=>‰M ¾T>ÁÅ`Ñ< 'Ña‹ U"É"†¨<;	uÑ>²? ¨ÃU ðØ• U`S^ TÉ[Ó ---1 l¡U" qÃ„ TÉ[Ó ----------2 l¡U" ðØ• TÉ[ÓU J' ÁKTÉ[Ó M¿'ƒ ¾K¨<U ----------3 ›L¨<pU ----------99 K?KA‹ ----------98	
218.	እርሰዎ የሚያውቋቸው የማህፀን ጫፍ ካንሰር ህክምና ካለ ይጥቀሱ(ብዙ አማራጮች አሉት፣ ከአንድ መልስ በላይ መመለስ ይቻላል)	የባህል ህክምና……..1 ቀዶ ጥገና…….....2 የጨረር ህክምና…….....3 ኬሞቴራፒ(በአፍ የሚወሰድ ኪኒን)…….....4 ክራዮቴራፒ…….....5 አላዉቅም…….....99 ሌላ ካለ ይጥቀሱ…….....98	

ክፍል 3 ፡– ለማህፀን በር ካንሰር በቀላሉ መጋለጫ መንገዶች ተብለው የሚታሰቡ

3	•eŸ›G<" É[e U" ÁIM ¨ÇÐ‹ ›K<i;	----------	
3	ŸTlì" u` "'c` SS`S]Á •T^ŸM S•]Á u?ƒi U" ÁIM Ã`nM	----------c›ƒ	
3	uU" S×i	uእግር . . . . . .1 በሞተር . . . . . .2 በባጃጅ . . . . . .3 በመኪና . . . . . .4 ሌላ ካለ ይጠቀስ	
3	uTlì" u` "'c` ¾¿Á² ¾u?}cw ›vM & ÕÅ— ¨ÃU Ô[u?ƒ ¾U⍰¨<m¨< 'u`	›- ----------1 ¾KU ----------2 ›L¨<pU ----------3	
የማህፀን በር ካንሰር ምርመራው የሚደረገው የጤና ባለሙያው መሳሪያ በሴት ማህፀን በማስገባት የማህፀንን አፍ ለማየት የሚደረግ የምርመራ ዐይነት ሲሆን መራራ ነገር በመጨመር ልዩነቱን ያያሉ			
3	¾Tlì" u` "'c` U`S^ ›É`Ñi •q¨<mÁKi?	›- ----------1 ›L¨<pU ----------2	If no go to 318
3	በሂወት ዘመንሽ ስንት ጊዜ ተመረመርሽ	----------	
3	U`S^ ›É`Ñi ŸJ' SŠ '¨< KSÚ[h	----------	

3	የማህጸን በር ካንሰር ምርመራ ያደረገልሽ ማነው	ወንድ ----------1 ሴት ----------.....2 አላስታውስም.....3	
3	¨"É ¾Ö?" vKS<Á υ=S[U`i ‹Ó` ¾K¨<U;	አዎ ----------1 የለውም ----------2	
3	¾SS`S]Á¨< ×υ=Á "îl"¨< ¾}Öuk'υ`;	አዎ ---------- -1 አይ ---------- -2 አላስታውስም.....3	
3	¾ÓM T>eƒ^©'ƒ υU`S^ ¨pƒ }ÖwqMhM;	አዎ ---------- -1 አይ ---------- -2 አላስታውስም.....3	
3	¾l¡U" vKS<Á¨< ŸU`S^ υòƒ" υ|L eK¨<Ö?~ Tw^]Á cØ„hM;	አዎ ---------- -1 አይ ---------- -2 አላስታውስም.....3	
3	ከቤትሽ ወደ መመርመሪያ ቦታ ለመድረስ ምን ያህል ጊዜ ይወስድብሻል	----------ሰዓት	
3	υTlç" υ` U`S^ c›ƒ υsS< U`S^¨<" KTÓ–	----------ሰዓት	

	ƒ KU" ÁIM Ñ>²? Öupi¡		
3	∪Tlç" ∪` U`S^i ¨pƒ ¾}sS<" ›ÑMÓKAƒ ▯▯›"Èƒ ƒS′˜ªKi•	በጣም ጥሩ ----------1 ጥሩ----------2 መልካም ነው ----------3 ጥሩም መጥፎም አይደለም ---------4 መጥፎ ----------5 በጣም መጥፎ----------6	
3	∪²=I ¾Ö?" É`Ï„‹ ¾Tlì" ∪` "″c` U`S^ KTÉ[Ó ′Ói ′i¡	›- ----------1 ›ÃÅKG<U ----------2 ›L¨<pU ----------99	
3	KØÁo 318 SMei ›ÅKG<U ŸJ′KU"¡	----------	
3	ስለ ማህፀን ካንሰር በተለይ መደበኛ መድሃኒት መውሰድ ከጀመርሽ ጀምሮ ያነጋገርሽው ሰው አለ ? ማነው ?	ዶክተር----------1 ነርስ----------2 የመደበኛ መድሀኒት ተጠቃሚ-------3 ጓደኞች ----------4 የቤተሰብ አባላት ----------5 ሌሎች ---------- -6 ማንም---------- ---7 አላስታውስም ----------8	
3	የማህፀን በር ካንሰር ምርመራ	አዎ ---------- ---1	

	ለማድረግ ፈልገሽ በጤና ባለሙያ ያጋጠመሽ ችግር አለ	የለም ---------- --2.	
3	ለጥያቄ 321 መልሱ አዎን ከሆነ ለመመርመር ያጋጠመሽ ትግር ምንድነው		
3	ÅÓSi U`S^ ታÅ`Ñ>ÁKi;	›- ----------1 ›LÅ`ÓU ----------2	If 2 go to 325
3	KØÁo lØ` 304 SMc< ›ÃÅKU ŸJ′ KU"; **(Ÿ›"É uL SMe ScÖƒ Ã‰LM**)	U¡"Á~U eKT>ÁU ----------1 Ádõ^M ----------2 ¨<Ö?~ ›K Ÿ}vK ›ð^KG----3 U`S^¨< ¨<É ′¨< ---------4 uÖ?" xu=Á um ›"¡w"u? ¾KU---5 ¾Ö?" vKS<Á-‹ um °¨<kƒ ¾L†¨<U ---6 vl]Á†¨< Ø\ †ÃÅKU ----------7 ¾Tlì" u` '""c` U`S^ u›"vu=¨< Ö?" xu=Á ›ÃcØU ---8 cMõ w²< ÁeÖwnM ----------9 K?KA‹ "K< ÓKÜ ----------98	
3	እስካሁን ተመርምረሽ ካላወቅሽ U¡"Á„‹i U" K=J′< Ã‹LK< ; **(Ÿ›"É uL SMe ScÖƒ Ã‰LM**)	U¡"Á~U eKT>ÁU ----------1 Ádõ^M ----------2 U`S^¨< ¾ƒ ›"ÅT>cØ ›L¨<pU -------3 ›'@ Ö?'— '˜----------4	

		በ ጣ	አ ሰ	መ ህ	አ ል	በ ጣ
301.	ምንም አይነት ህመም ካልኖረ የማህፀን በር ካንሰር ምርመራ አስፈላጊ አይደለም					
302.	የማህፀን በር ካንሰር ምርመራ የሚያስፈልገው ከፍተኛ የወሲብ ፍላጎት ላላቸው ሴቶች ብቻ ነው					
303.	ለማህፀን በር ካንሰር ተጋላጫ የምሆንበት እድል ሰፊ ነው					
304.	የማህፀን በር ካንሰር የሚይዛት ሴት በመጥፎ እድሏ ምክንያት ነው					
305.	እኔ ምርመራ አላደርግም ምክንያቱም በኛ ቤተሰብ ችግሩ የለም					
306.	ከዚህ በታላ የማሕፀን በር ካንሰር ምርመራ አያስፈልገኝም					

ክፍል ሐ፡– የማህፀን በር ካንሰር አደገኛነት ያለ አመለካካት

¾ØÁo¨ ›Ã'ƒ	SÖÃq‹	ULj‹	}hÒ]
401.	uTlì" u` "c` ¾ƒ—¨< ¾c¨<'ƒ ¡õM ÁÖnM ¡ (Ÿ›"É uLÃ SMe ScÖƒ Ã‰LM)	¾c?ƒ wMƒ ---------- --1 Tlì" ---------- 2 ¾Tlì" Ýõ----------3 ¾c?ƒ wMƒ ¨<Ü—¨< ¡õM ---4 K?KA‹ ---------- --5	
402.	¾ƒ—¨< °ÉT@ '¨< ¾Tlì" u` "c` u›w³—¨< ¾T>Ÿc}¨<	----------°ÉT@	
403.	¾Tlì" u` "c` UM¡„‹ **(Ÿ›"É uL SMe ScÖƒ Ã‰LM**)	¾wMƒ TdŸ¡/ TuØ ----------1 uÓw[-eÒÓ"–<'ƒ ¨pƒ ¾lSU ScTƒ ----------2 „KA „KA Si"ƒ ----------3 Ñ>²?¨<" ÁMÖuk ŸTQì" ደም መፍሰስ ---------- ------4 ምንም ምልክት የለውም ------ ---5 ሌሎች ----------	
404.	¾Tlì" u` "e` ÁKvƒ c?ƒ q¨<mÁKi¡	›- ----------1 ¾KU ----------2 ›L¨<pU(I don't know) ---------- -99	

		SSKe ›MðMÓU --------98.	
405.	LKñƒ 12 ¨^ƒ ŸTIì"i ¾¨× ÁM}KSÅ ðdi ›K¨ÃU ISU 'u` U"Mvƒ ¾}K¾ iq&ቀለም ወይም ይዘት ያለው	›- ---------------------------1 ¾KU -------------------------2 ›L¨<pU -------------------99 SSKe ›MðMÓU --------98	
406.	LKñƒ 12 ¨^ƒ ¾TIç" ISU ›K; u}KÃ uÓw[-eÒ Ó"–<'ƒ ¨pƒ ;	›- ---------------------------1 ¾KU -------------------------2 ›L¨<pU -------------------99 SSKe ›MðMÓU --------98	
407.	vKð¨< 12 ¨^ƒ ¨<cØ uwMƒi LÃ ¨ÃU ›ÖÑw leKƒ ¨ÃU ISU 'u[	›- ---------------------------1 ¾KU -------------------------2 ›L¨<pU -------------------99 SSKe ›MðMÓU --------98	
408.	uTIì" u` ""c` ¾SÁ´ °ÉMi U"ÁIM '¨< wKi qeu=ÁKi?	በጣም ሊሆን የሚችል-------------1 ምንአልባትሊሆን የሚችል----------2 ሊሆን አይችልም----------------------3 አላውቅም ---------------------------------99 መልስ መስጠት አልፈልግም ---98	

ከዚህ በታች ያሉትን መጠይቆች አውነት ወይም ሐሰት ብለሽ መልሺ

		በ ጣ ም	አ ስ	መ ሀ	አ ል	በ ጣ	በ ጣ

409.	የማህፀን በር ካንሰር የˆግዚአብሄር ቁጣ ነው						
410.	ዉጤቱን ስለምፈራ የማህፀን በር ካንሰር ምርመራ አላደርግም						
411.	የማህፀን በር ካንሰር የውስጥ አካላትን ይበላል						
412.	ስለ ማህፀን በር እየተሰጠ ያለው ትኩረት አነስተኛ ነው						
413.	የማህፀን በር ካንሰር ከተገኘብኝ ˆሞታለሁ						
414.	በህመም ከምሲቃይ ተመርምሬ ራሴን ባውቅ ይሻለኛል						
415.	በቀዶ ህክምና የማህጸን ወይም የማህጸን በር ማሰገድ የፍተወተ ስጋ ፍላጎትን ይቀንሳል						
416.	አንዲት ሴት በማህፀን በር ካንሰር ከተያዘች ባሏ ይተዋታል						
417.	አንዲት ሴት በማህፀን በር ካንሰር ስትሰቃይ ያዩ ሴቶች ሀኪም ቤት ለመሄድ ይበረታታሉ						

ክፍል 5 ፡- የማህፀን በር ካንሰር ምርመራ ለማድረግ ፍቃደ„}r

¾ØÁo¨< ›Ã'ƒ	SÖÃq‹	ULj‹	}hÒ]
501.	¾Tlì" u` "“c` uU`S^ uÑ>²? Sq¨l ÖnT> '¨< wK¨< ÁU"K<;	›- ----1 ›ÃÅKU ---2	
502.	ˆe"G<" É[e ¾Tlì" u` "“c` U`S^ TÉ[Ó ›Kwi wKA ¾SŸ[i c¨< ›K;	›- ----------1 ¾KU----------2	
503.	›ÖnLÃ ¾Tlç" U`S^ TÉ[Ó ƒðMÑ>ÁMi;	›- ----------1 ¾KU ----------2	
504.	¾Tlç" u` U`S^ KTÉ[Ó õnÅ— 'i;	›- ----------1 ¾KU ----------2	

505.	¾Tlì" u` '"c` U`S^ u'í ŸJ'" up"Ïƒ Ÿç[ ›?‹›Ãy= ›ÑMÓKAƒ Ò^ ¾T>c^ ŸJ' KSS`S` õnÅ— 'i;	›- ----------1 ›ÃÅKU ----------2	
506.	¾Tlì" u` '"c` U`S^ u›p^u=Ái uT>Ñ˜ ¡K='>¡ ¨ÃU ¾Ö?" É`Ïƒ ¾T>cØ u=J" KSS`S` 'ÓÌ 'i;	›- ----------1 ¾KU ----------2	
507.	KTlì" u` '"c` U`S^ Ñ"²w ŸõKi KSS`S` õnÅ— 'i ;	›- --------1 ¾KU -----2	

ክፍል 6 **፡- የማህፀን በር ምርመራ ማድረግ ጥቅሙ ምንድ ነው**

¾ØÁo¨< ›Ã'ƒ	SÖÃq‹	ULj‹	}hÒ]
601.	¾Tlì" u` '"c` ›"ÇKwi kÅU wKi KT¨p S"ÑÊ‹ ›K<;	›- -1 ¾KU ----------2	
602.	›-" ŸJ' SMei ›"Èƒ '¨<¾U`S^¨< G<'@q;	ፓፓ ቴስት-------1 ቪኢይኤ -------2 ሌላ ‹ለ ይገለጽ-------3	
603.	¾Tlì" u` '"c` U`S^ ¾T>cØv†¨< xq-‹ •q¨<mÁKi;	ሀዋሳ]ô^M JeúqM1 ›Ç_ Jeúqል -----2 ሚሊኒየም ጤና ጣቢያ– 3 ሀዋሳ ቤተሰብ መምሪያ 4	
604.	›"Ç=ƒ c?ƒ ¾Tlì" u` '"c` U`S^ SËS` ÁKvƒ SŠ '¨<	u21 ›S... --------1 ¾Ów[-eÒ Ó"–<'ƒ ŸËS[‹Ÿ 3 ›Sƒ uGL----------2 Ów[-eÒ Ó"–<'ƒ dታደ`Ó uòƒ ---3	

		K?L "K ÃÑKê------------	
605.	T’¨< ¾Tlì” u` "”c` S`S^ TÉ[Ó ÁKuƒ **(Ÿ›”É uLÃ SSKe Ã‰LM)**	G<K<U c?„‹ ---------1 °ÉT@Á†¨< Ÿ21 ›Sƒ uLÃ ¾J’< c?„‹ ------2 ÁLÑv‹ c?ƒ ----------3 ÁÑv‹ c?ƒ ------------4 ¾u<" u?ƒ c?„‹ -------5 K?KA‹ ÃÑKê-------------	
606.	›”Ç=ƒ c?ƒ KU” ÁlM Ñ>²? ’¨< U`S^ TÉ[Ó ÁKvƒ	-----------------------------	

ከዚህ በታች ያሉትን መጠይቆች አውነት ወይም ሐሰት ብለሽ መልሺ

		በጣ	እስ	መሀ	አል	በጣ	በጣ
607.	የማህፀን በር ካንሰር ምርመራ ሌሎች የተደበቁ በሽታዎች እንዲገለጡ ያደርጋል						
608.	የማህፀን በር ካንሰር ምርመራ ገና በጅምሩ ከተካሄደ በሽተኛው መዳን ይችላል						
609.	የማህፀን በር ካንሰር ምርመራ አሸማቃቂ እና አሳፋሪ ነው						
610.	የማህፀን በር ካንሰር ምርመራ በጊዜ ከተደረገ የመዳን እድል አለው						
611.	የማህፀን በር ካንሰር ሁልጊዜ መመርመር የበሽታውን መከሰት እድል ይቀንሳል						
612.	ሁልጊዜ የማህፀን በር ካንሰር ምርመራ ማድረግ የጊዜና የገንዘብ ብክነት ነው						
613.	የገንዘብ እጥረት የማህፀን በር ምርመራን ይጎዳል ወይም ምርመራው እንዳይደረግ ያደርጋል						

ክፍል 7 ፡- የማህፀን በር ምርመራ እንዳይደረግ የሚያጋጠሙ ችግሮች

ክፍል 7 1፡- ሀፍረት፤ ማግለል እና ፍርሀት

		በጣም አስማ	አስማ ማለሁ	መሀከለኛ	አልስማ ማም	በጣም አልስማ ማም
701.	በማህፀን በር ካንሰር የተያዙ ሴቶች እንደቆሸሹ ይታሰባሉ					
702.	በጓደኞቼና በስራ ባልደረቦቼ ምርመራው የሚደረግበት ቦታ መታየት አልፈልግም					
703.	የማህፀን በር ካንሰር ምርመራማድረግ እጅግ አሳፋሪ ድርጊት ነው					
704.	በወንድ የጤና ባለሙያ ምርመራ ማድረግ ራሴን እንድጠላ ያደርገኛል					
705.	የማህፀን በር ካንሰር ምርመራ በጣም ያማል					

ንዑስ ክፍል 7-2፡- የማህበረሰቡ የኢኮኖሚ ሁኔታ

		በ ጣ	አ ስ	መ ሀ	አ ል ፉ	በ ጣ
706.	አንቺ ለምርመራ ስትሄጂ ልጅን የሚይዝልኝ ወይም የሚጠብቅልኝ ስለሌለ ምርመራ ለማድረግ አስቸጋሪ ይሆንብኛል ብለሽ ታስቢያለሽ					
707.	ከምርመራ በፊት ቀደም ብዬ ለመመርመር ከባለቤቴ ፍቃድ ማግኘት አለብኝ					
708.	የማህፀን በር ካንሰር ምርመራ ለማድረግ ጊዜ የለኝም					
709.	ምርመራው በዋጋ ደረጃ በጣም ውድ ነው					
710.	ለምርመራው በቂ ነገር በለመመቻቸቱ በየጊዜው ለመመርመር አስቸጋሪ አድርጎታል					

711.	የገንዘብ እትረት ምርመራውን ያስተጓጉላል					
712.	ምርመራው እቤቱ/ቢሮ አቅራቢያ መደረግ አለበት					

ንዑስ ክፍል 7-3፡- ባህላዊ ልማዶች

		በጣም	አስ	መ	አልስማ	በጣም
713.	የማህፀን በር ካንሰር የሚከሰተው በክፉ መንፈስ ነው					
714.	ምንአልባት አንድ ሴት በማህፀን በር ካንሰር በሽታ ከተያዘች ከክፉ መንፈስ ጋር መጀመሪያ መነጋገር አለባት ወደ ሆስፒታል ከመሄዷ በፊት					
715.	ባህላዊ ህክምና የማህፀን በር ካንሰርን ያድናል ብዬ አምናለሁ					
716.	ዶክተሮችን ከመመከር ባህላዊ ህክምና የሚሰጡ ሰዎችን ማማከር ይሻላል፡፡ በተለይ ከማህፀን ደም ሲፈስ					

ክፍል 8 ፡– ለድርጊቱ ምልክት መስጠት

¾ØÁo¨< ›Ã′ƒ	SÖÃq‹	ULj‹	}hÒ]
801.	eK Tlì″ ∪` ‴″c` U`S^ በሰፊው ማወቅ ብትፈልጊ S[Í¨<″ ⍰›″Èƒ TÓ–ƒ ƒ‹LKl¡	ŸÕÅ™‹ ----------1 Ÿu?}cw ›vLƒ ----------2 ŸÖ?‟ vKS<Á ----------3 ቴK?y=»″ ----------4 ^Ç=Ä----------5 ሌላ ካለ ይገለጽ----------	
802.	ስለ Tlì″ ∪` ‴″c` U`S^በአሁኑ ሰአት K=•\ ¾T>‹K< ¾S[Í U″à‹›′T″ ‟†¨< ¡ ∪}KÃ KTlì″ ∪` ‴″c` S[Í¾T>cÖ< **(Ÿ›″É ∪LÃ SSKe Ã‰LM)**	ŸÕÅ™‹ ----------1 Ÿu?}cw ›vLƒ ----------2 ŸÖ?‟ vKS<Á ----------3 ቴK?y=»″ ----------4 ^Ç=Ä----------5 þe}` ----------6 SîN?ƒ ----------7 ሌላ ካለ ይገለጽ----------	
803.	•እርሶ ∪×U Ø\ ¾S[Í ›c×Ø S″ÑÊ‹ ናቸው ብለው የሚያምኗቸው መንገዶች ›′T″ ‟†¨< ∪}KÃ ¾Tlì″ ∪` ‴′c` S[Í K=cÖ< ¾T>‹K< ›′T″ ‟†¨<	ለጉዳዩ በቴሌቪዥን ማስታወቂያ መስራት ---1 ለጉዳዩ በራዲዮ ማስታወቂያ መስራት ------2 የጤና ውይይቶች በጤና ባለሙያዎች ማድረግ በማህበረሰቡ ውት ማድረግ ---------- ----------4	

		ሌላ ካለ ይገለጽ---------- --	
8o4.	እርሶ ስለ Tlì” ∪` ‟”c` U`S^ ¾T>S[Ö< ¾S[Í ›c×Ø S”ÑÊ‹ ¾ƒ™‡ “†¨<¡u}KÃ ¾Tlì” ∪` ‟”c` u}SKŸ}	JeúqKA‹“ ¡K=’>¢‹ ------1 ¾c?„‹ ewcv ∪ƒ/∪?ƒ -------2 ¾c?„‹ ewcv uu?}¡`e+Á” 3 ¾Tlu[cw ewcv ----------4 ሌላ ካለ ይገለጽ----------	
8o5.	K}ÖnT>-‹ ¾Tlì” ‟”c`” U`S^ KTe}ª¨p ¾ƒ—¨< ¾S[Í ›ÑMÓKAƒ ShhM ›Kuƒ : u}KÃ U`S^¨<” w²<-‹ c?„‹ ›”Ç=ÖkS<uƒ	---------- ----------	

እናመሰግናለን!!!!!!.

Annex 11: Certificate of edition

Proof of Editing

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This is to certify that I have edited the draft thesis for the following candidate:

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