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

ASSESSMENT OF FACTORS THAT LEAD TO DELAY FOR THE DIAGNOSIS AND TREATMENT OF CERVICAL CANCER AMONG PATIENTS ATTENDING TIKUR ANBESA SPECIALIZED HOSPITAL RADIOTHERAPY CENTER ADDIS ABABA ETHIOPIA

A THESIS SUBMITTED TO ADDIS ABABA UNIVERSITY COLLEGE OF HEALTH SCIENCES, SCHOOL OF ALLIED HEALTH SCIENCES DEPARTMENT OF NURSING AND MIDWIFERY IN PARTIAL FULFILLMENT FOR THE REQUIREMENT OF MASTERS OF SCIENCE DEGREE IN ONCOLOGY NURSING

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ABSTRACT

Background: Cervical cancer is the second commonest cancer and leading cause of mortality in Ethiopia. The main reason for this is delay, in this study delay as classified in Primary (patient) and secondary (system) on diagnosis and treatment of cervical cancer.

Objective: To assess factors that lead to delay for diagnoses and treatment of cervical cancer among patients attending Tikur Anbesa Specialized Hospital Radiotherapy Center Addis Ababa, Ethiopia, 2017.

Methods: Descriptive cross-sectional study design was conducted with sample size of 422. Data was entered using Epi data version 3.1 and analyzed by stastical package for social sciences (SPSS). Bivariate and multivariate analysis was carried out to see the association between independent and the outcome variables.

Result: In this study 422 women were participated but 12 women were excluded due to incomplete information so the response rate was 410(97.1%). The mean age of women was 50 years (SD ±11.5). Half of the participants were 205(50%) illiterate and 234(66.3%) of them income were <500 Birr. With regard to prevalence of delay, 286(70%) were delay cases as having primary delay (> 90 days) with the reasons 274(80%) of assumed the symptoms heal by itself and 342(83.4%) were due to lack of awareness about cervical cancer. In this study 354(86.3%) were having secondary delay (>30 days) with the reason of 346(84.4%) were long waiting time. Factors that were the predictor of primary delay include; unemployed, low socioeconomic status, traditional hillers, fear and embarrassment at P-value <0.05 and factors that were predictor of secondary delay were advanced stage of cervical cancer during diagnoses, long waiting time and inaccessibility for services at p-value <0.05.

Conclusion and recommendations: - In this study high prevalence of primary and secondary delay were noticed. High level of illiteracy, low socioeconomic status, lack of awareness and traditional hillers were factors that lead to primary delay. Absence of a routine screening program, lack of early detection and treatment interventions were accountable for secondary delay. Raising awareness and improving health service should be promoted and advocated to decrease the usual delay of cervical cancer activities.

Key words: cervical cancer, diagnosis, treatment, delay, primary, secondary, Ethiopia

ACRONYMS AND ABBREVIATIONS

AA	Addis Ababa
AAU	Addis Ababa University
AAPBCR	Addis Ababa population Based Cancer Registry
AMR	Adjusted Mortality Rate
Ca Cx	Cancer of Cervix
CI	Confidence Interval
FIGO	International Federation of Gynecology and Obstetrics
GP	General Practitioner
HBV	Hepatitis B Virus
HCV	Hepatitis C Virus
HCP	Health Care provider
HPV	Human Papiloma Virus
MDT	Multi-Disciplinary Team
MOH	Ministry of Health
NRLS	National Reporting and Learning System
OS	Overall Survival
PAF	Population Attributable Fraction
PD	Primary Delay
QOL	Quality Of Life
RTC	Radiation Therapy Centre
SD	Secondary Delay
SES	Socioeconomic Status
SPSS	Statistical Package for Social Science
TASH-RTC	Tikur Anbesa Specialized Hospital Radiotherapy Center
WHO	World Health Organization

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CHAPTER ONE
1. INTRODUCTION

1.1 Background

Cancer is a term used for the malignant, autonomous and uncontrolled growth of cells and tissue. In global an estimated 14.1 million new cancer cases and 8.2 million cancer-related deaths occurred in 2012 (1).

Worldwide cervical cancer, 528 000 new cases every year, It is also the fourth most common cause of cancer death (266 000 deaths in 2012). Almost 70% of the global burden falls in areas with lower levels of development. Cervical cancer 85% deaths occurs in low and middle income countries and the higher incidence of cervical cancer in the developing countries compared to the developed countries(2).

In the developed countries, the incidence of cervical cancer and associated mortality rates has declined by 2.9% per year. The decline is due to wide spread, regular screening test which detects premalignant and malignant lesions and thereby facilitating early and timely treatment. More than 50% of females affected by cervical cancer in developing countries 66% of survive less than 5 years, compared to in developed countries(3-5).

In Africa High incidences of cervical cancer are reported at rates exceeding 50 per 100,000 Population. Nairobi hospital records showed that cervical cancer accounted for 80% of all cancers of the genital tract (6).

In Sub-Saharan Africa cervical cancer is the 2nd commonest cancer with incidence rate of 34.8 (93,225 new cases), first leading cause of mortality (57,381 deaths). In Eastern Africa it is the number one commonest cancer in women and of all cancer cases(7).

In Morocco, cervical cancer is the second most common cancer of women after breast cancer. The world age-standardized incidences of cervical cancer among women in Morocco were 14.1 new cases/100 000 inhabitants / year. The mortality rate from this cancer was 8.4 per 100 000(8)

In Ethiopia studies on the epidemiology of cancer in general and cervical cancer in particular are scarce.

According to WHO report, cervical cancer ranks as the second most common cancer among women In the year 2010, Ethiopia had an estimated population of 20.9 million women aged 15 years and older who were at risk of developing the disease. In the same year, the age-specific incidence of cervical cancer in Ethiopia was higher than the world average for women of age 55 (9).

Early diagnosis and timely initiation of treatment of cancer patients may improve survival and quality of life (QOL). Despite the advancement in cancer treatment and diagnosis, cancer is one of the most leading causes of death in many countries. One of the main reasons for this is delay in diagnosis or initiation of treatment at advanced stage. Thus, delay in diagnosis and treatment of cancer patients may impact on poor prognosis and QOL(10).

The effect of that delay is a complex and much debated issue in cancer. Cancer diagnoses are made on screening, as incidental findings and following the presentation of an individual with symptoms to HCPs. A delay in diagnosis can occur for many reasons. For example: when an individual does not attend for screening; when the screening service does not diagnose the cancer or initiate a treatment pathway; when an incidental finding is not appropriately acted upon; when an individual does not recognize a symptom of cancer; when an individual with symptoms does not seek healthcare advice or when a HCPs or system fails to detect a cancer or initiate a treatment pathway(11).

Primary delay is duration between onsets of symptoms to first presentation to HCPs, has to been referred to as patient delay since it is mainly influenced by the patient's characteristics (i.e. marital status, age, educational status, financial barriers, distance, and religion) and the most accepted threshold to establish it is three months but the women late more than 90 days decreased survival years(12).

Secondary delay is that which takes place between the first medical consultation and the definite diagnosis and treatment, associate with doctor and system related factors (accessibility and communication, waiting list for diagnosis and treatment) and the most accepted threshold is one month. Modeling the Cervical Cancer Growth Process by Stochastic Delay Differential Equations measured by in a month in area of cervical cancer cell (in cm^2), Initial condition is the area of cervical cancer at time that it was first detected (12, 13).

1.2. Statement of problem

Cervical cancer is preventable and curable if detected early enough and treated correctly. However the challenge in the developing countries like Ethiopia patients seeking medical care after they have developed signs and symptoms could not be early diagnosed treated(15).

A wide range of factors that directly or indirectly influence the time taken to seek help have been identified patient factors. Primary and secondary delay affected the diagnoses and treatments of cervical cancer(14).

In UK the factors' to contributed delay communication 26%, waiting lists <1% diagnostic delay. Study of National reporting and Learning showed that patient delay related to lack of awareness 54.6% and economical problem 12.4% (11).

In sub-Saharan Africa countries, lack of effective screening and treatment policy, strategies programs are accountable for high cervical cancer prevalence and mortality in the countries(7).

In Uganda cervical cancer delay related to patient, more than 65% patients have develop advanced stage due to lack of money' and due to healthcare factors associated 71.8% with advanced stage at diagnosis(44).

In Morocco showed that patient related delay in women such as residential area, contacting non-medical person, fear, lack of awareness, economical problem, and poor knowledge of cervical cancer, its symptoms, and causes(8)

In Ethiopia Almost over 7095 women are diagnoses with new cervical cancer and 4732 die in this case annually with the leading malignancy which covers 36.6% of all cancers (9)(16)(24). This major health problem not yet given priority, cancer control programs, the provision of early detection and treatment services are limited. The proportion of women 53.68%, showed diagnosed at advanced stages(14)(15).

Thus in Ethiopia there is no relevant documented study about factors that lead to delay of cervical cancer on diagnoses and treatment. So these study to contribute in order to identify the factors which affects for delay of cervical cancer on diagnoses and treatments.

1.3. Significant of study

This study is contribute for educational program to increase the awareness of cervical cancer; inform the prevention mechanisms, to educate concerning early mild gynecological symptoms, to inform women who visiting the pre cervical cancer screening every year and treatment options at community level and educational programs for each healthcare level may help to key information in order to improve early symptom recognition and timely help-seeking and diagnosis/treatment with symptoms suspicious of cervical cancer that might down stage the diseases cost effectively to improve the overall survival and quality of life of patients and families.

The study findings are to contribute as indicator for the local health professionals specifically; those who are managing patient with the problem cooperate with their clients to early diagnoses and treatment for improve prognosis and QOL. It helps policy makers and other organizations working in this area give insight for early prevention methods and to give much attention to well equip the diagnostic and treatment materials and create a way forward in order to control delay of cervical cancer diagnoses and treatment.

This study is to determine the level of factors that led to delay of cervical cancer related to patient and system among cancer patients. Since there is no adequate research done regarding with this topic in Ethiopia, it is the base line for future research.

CHAPTER TWO
2. LITERATURE REVIEW

2.1. Distribution of cancer and Cervical Cancer

Worldwide, cervical cancer is both the fourth-most common cause of cancer and deaths from cancer in women in 2012, 528,000 cases of cervical cancer were estimated to have occurred, with 266,000 deaths. It is the second-most common cause of female-specific cancer after breast cancer, accounting for around 8% of both total cancer cases and total cancer deaths in women. About 80% of cervical cancers occur in developing countries(18)

Study in the United States showed that An estimated 12,900 new cervical cancers and 4,100 cervical cancer deaths will occur in the United States in 2015(19). It is the eight-most common cancer of women. Hispanic women are significantly more likely to be diagnosed with cervical cancer than the general population. In 1998, about 12,800 women were diagnosed in the US and about 4,800 died in developed countries; the incidence of cervical cancer has decreased dramatically since the introduction of cervical screening programs(20).

2.2. Incidence and Prevalence of Cervical Cancer

The study conducted in USA In 2014, an estimated 12,360 new cases were expected to be diagnosed, and about 4,020 were expected to die of cervical cancer and Cervical cancer deaths decreased by approximately 74% in the last 50 years, largely due to widespread Pap smear screening(21).

In the European Union, study showed about 34,000 new cases per year and over 16,000 deaths due to cervical cancer occurred in 2004. In UK study revealed Cervical cancer is the 12th-most common cancer in women in the UK (around 3,100 women were diagnosed with the disease in 2011), and accounts for 1% of cancer deaths (around 920 died in 2012) With a 42% reduction from 1988-1997, as result of screening program has been highly successful, screening the highest-risk age group (25–49 years) every 3 years, and those ages 50–64 every 5 years.(22).

A study done in Australia Regular twice-yearly Pap tests can reduce the incidence of cervical cancer up to 90%, and save 1,200 Australian women from dying from the disease each year(23).The number of women diagnosed with cervical cancer has dropped on average by 4.5% each year since organized screening began in 1991 (1991–2005)(7).

In Ethiopia cervical cancer is the 2nd commonest cancer of all cancer cases in women next to breast cancer, with incidence rate of 26.5(7095 new cases) and second leading cause of mortality with AMR 16.5 (4732 death) (9, 24).

In Addis Ababa From nurse register book cancer patients at TASH-oncology unit retrospective study showed cervical cancer 36% follows breast cancer by 18% is the first among the ten top cancer diseases seen in fifteen years (16).

2.3. Prevalence of delay on cervical cancer

A study in India showed that over 80% of women with cervical cancer in developing countries are diagnosed at advanced stages. Cervical cancer, if diagnosed early is treatable, but the challenge is that most rural women in the developing countries seek medical care after they have developed signs and symptoms. Like developing countries In India, the number of people with cervical cancer is rising, but overall the age-adjusted rates are decreasing(25). Usage of condoms in the female population has improved the survival of women with cancers of the cervix(26).

From Iran study of 55 women mean age was 48.3±12.0. And 6/55 (10.9%) of them had early and 49/55 (89.1%) of them had delayed diagnosis of cervical cancer(27).

A survey in Malawi on the cervical cancer morbidity showed that 80% of women who sought help between 2001 and 2002, were at an inoperable stage, thus in the terminal stages of disease. The delay is due to both the patients' own reasons and those of the health providers(28, 29).

Study in Nepal revealed that among 110 cervical cancer patients the mean age of the participants was 52.72 years (SD = 10.63) the youngest patient was 27 years and the oldest 79 years and most of them (77.3%) were from rural areas two third (66.4%) of the patients were illiterate. out of total diagnostic delay were median patient delay 68.5 days, median health care provider delay40 days, median referral delay 5 days and median diagnostic waiting time 9 days. The median value of total diagnostic and treatment delay was 157 days with longer total diagnostic delay in 77.3% of patients Majority of the patients had experienced longer delay of each type except referral delay(30). 19% of the patients were diagnosed in early stage (≤IIA) and rest were in advantaged stage (≥IIB)(31).

A retrospective study in Taiwan reveled that factors of treatment delay in cervical cancer patients were analyzed age (≥75 years) had 2.42 times of delaying treatment as that of patients ≤44 years of age (95% confidence interval). Related to treatment delay increased with increasingly advanced cancer stage was 2.6 times that for the early on. And treatment delay of 4 months or longer in cervical cancer patients was associated with a 2.31 times increased risk of death relative to timely treatment. Low-income household was at 1.47 times increased mortality risk relative to the employees/employers group ($P<0.05$)(32).

In Malaysia Sarawak Hospital registry the cost effective Surveillance Program started in 1994, with the intent of down staging cervical cancer that the base line showed 70% of patients were diagnosed at an advanced stage (stages III and IV) for year 1993. Data analysis revealed that the program achieved down staging in cervical cancer in stage III and IV from 60% (1994) to 26% (1998) ($P < 0.0001$).The program consisted of training health staff and raising public awareness(33).In developing countries the disease incidence remains high. One of the most important prognostic factors for cervical cancer is how early the disease is when detected and how far it has spread. Delay in diagnosis and treatment continues to be the greatest hurdle to be overcome in the fight to cure cancer(34, 35).

In most African countries, cancer control programs and the provision of early detection and treatment services are limited despite this increasing burden. Cervical cancer is found to be the leading malignancy which covers 36.6%(15).

Study from Uganda showed more than half (55%) of the participants presented at the study hospital after 3 months or more from reported date of onset of symptoms. Of these, 71.8% (51/71) had advanced stage cervical cancer. Hence longer time to presentation tended to be diagnosed at an advanced stage(36).

A Crosse sectional study in Morocco showed that the mean age was 52.4 years (SD = 11.48) with the range from 28 to 83 years. Educational status 53.6% was illiterate and 63.3% were married. More than half of patients were urban inhabitants (68.6%). In 78.6% of the patients, the first consultation place from the residence was at a distance of less than 3 km; of all patients 81% were poor and 80.8% were unemployed more than 55.4% among patients with cervical cancer locally advanced or metastatic.

Regarding knowledge and practice data, the results showed that 48.9% of all patients have never heard about cervical cancer and 60.3% did not know the abnormal vaginal bleeding as cervical cancer symptoms. Greater proportion (90.3%) did not have any idea about causes of cervical cancer. 51.6% of cases have never heard about screening program and 74.1% did not know transmission mode(37).

Ethiopia likes any other developing countries, though difficult to get updated series of studies. However from 15 years since 1998 from hospital based nursing registration book analysis of cancer profile at TASH-RTC revealed a total of 12,671 patients found; and 72.8% (9229) are female and the rest 27.2 % (3442) are male. Cancer as a new merged major health problem not yet given as priority of program intervention as communicable disease of tuberculosis and malaria and so one. Despite no national cancer registry system in the country(38).

The same study in Addis Ababa population based cancer registry (AAPBCR) showed that a total of 5701 cancer cases registered from September 2011 to August 2014 in Addis Ababa city. Among these 3820 (67%) were females and 1881 (33%) males. the incidence rates of cancer in age groups 30-49 years were (38.4%). The most commonly leading cancers among females were cancers of the breast (33%), and Cervix uteri (17%)(38).

A retrospective data study in Addis Ababa showed that the Tikur Anbesa Specialize Hospital (TASH) over a period of sixteen years were study based on International Federation of Gynecology and Obstetrics (FIGO) 53.68%, showed the proportion of women diagnosed at advanced stages of cervical cancer was higher than those diagnosed at an earlier stage(14).

2.4. Factors that contribute delay on diagnoses and treatment of cervical cancer patients

A study in UK showed that estimated length of delay on cancer diagnoses and treatment 25% cases the delay was less than one month, 37% showing delays of 1-3 months and 38% showing delays of more than three months, with a maximum delay of up to three years(11).

A study in India showed that the patient-related interval may be influenced by a number of factors including: “demographic factors” (such as age, education); “psychological factors” (such as fear and anxiety); “social factors” (such as work and family commitment;

-financial constraints, competing life priorities); cultural (embarrassment about having a cervical examination, use of traditional methods).Awareness factor such as symptom recognition and interpretation(12).

Factors that related to system delay (patient reassured after negative physical cervical negative fine-needle aspiration biopsy, surgical excision without pathological examination, not oriented to specialized service, lack of information, appointment delay) were collected(12).

Delayed diagnosis and treatment of the cervical cancer was significantly higher in patients with lower degree of education, lower socioeconomic status, having smoker and addict husband and those who did not have a history of Pap smear test(27).

A study in UK the factors' to contributed delay are: -Communication (26%), Cancellations (15%), Clinical assessment (5%) and Waiting lists (<1%)Diagnostic delay is an issue that is recognized to be important by GPs. show that more than half the claims settled against GPs were for delayed diagnosis cervix (13%) the reasons for delay as: failure to examine the patient properly; inadequate follow-up arrangements; lack of appropriate investigations; reports misfiled in notes (usually kept in paper files);Follow up communication problems 37% Appointment miscommunication 31% Referral communication problems 19% Accuracy of information(11).

A study done in England showed that factors of delay are Symptom recognition and interpretation the manner in which individuals interpret and label their symptoms has been shown to influence help-seeking behavior in a wide range of illnesses including cancer. It has been suggested that symptom recognition accounts for at least 60% of the total delay in cancer treatment in women with breast and gynecological cancer(39).Individuals who do not identify symptoms as cancer are more likely to delay seeking healthcare advice than those who do(40).

In a qualitative literature national institution of health reviewed that fear of cancer and fear of embarrassment were identified as key factors contributing to delay in patient presentation to a healthcare practitioner. The anxiety associated with recognizing a potential cancer symptom has also been shown to result in delayed presentation(41).

In the systematic review study by healthcare provider showed that delay related to initial misdiagnosis and insufficient examination by the practitioner, was the most commonly occurring theme associated with delay in referral Healthcare practitioner or provider delay factors this is the interval between first consultation with a healthcare provider and referral for diagnostic tests or specialist assessment. Some authors refer to this phase of delay as primary care delay or delay in general practice(41).

A study of National reporting and Learning System analysis showed System delay refers to the interval between referral and definite diagnosis or treatment. This includes waiting times for tests in secondary care, further investigations of symptoms in secondary or specialist care, and administration. waiting times for diagnoses and administrative delays for initiation of treatment and follow up leading to increased patient delays(42).

A cross-sectional study the lack of awareness (54.6%).Economical problem (12.4%) and lack of time (9.7%) Fear of cancer was reported by only 3.5% of the patients while 9% of the patients got delayed in contacting to first medical person due to non presence of accompanying person.

The factors such as distance, economical and family related problems were observed among 4.5, 12.4 and 8.7% of the total patients respectively. The medical factors recorded for secondary delay include doctors making an inappropriate diagnosis among 27.5% of the patients and symptomatic treatment before their confirmed diagnosis among more than 50% of the patents. Related with tertiary delay, 11% of the patients were treated inadequately before their start of proper treatment(10).

Study in china analysis show 129 of patients,43 (33.3%) were diagnosed with stage IIB cervical cancer, 34 patients (26.3%) with stage IIIA, 29 patients (22.5%) with stage IIIB, and 23 patients(17.8%) of stage IVA, Age (≥55 years, OR=12.1; 95% CI: 3.3– 43.9), lower education (OR=4.6; 95% CI: 2.0–10.4), low annual household income (OR=2.3; 95% CI: 1.1–5.0) and widow/divorce (OR=0.11; 95% CI: 0.01–0.07) were the risk factors for delayed reporting. Patients who had experienced bleeding or bleeding with other symptoms (61.2%) were more likely to seek treatment within three month after the recognition of the first symptom(43).

A cross-sectional descriptive study In Nepal showed that Greater proportion (80.9%) of the patients had late diagnosis (stage ≥IIB) because of 68% of the patients distance of more than four hours of travel time,. 19% of patients were from lower socio-economic status and 78.2% Cervical examination or per-speculum examination was not performed and the symptoms were misinterpreted in 90% of the patients in initial consultation with health care provider (HCP).

Literacy status of women was found independently associated with late diagnosis of cervical cancer. Lower risk of late diagnosis was observed for women who were literate (Adjusted OR=0.121, CI: 0.030-0.482).

Compared to the foul smelling vaginal discharge, abnormal vaginal bleeding as early symptom was observed as a protective factor (Adjusted OR=0.160, CI: 0.035-0.741) for late diagnosis.

Women were more likely to have late diagnosis if they delayed to share their symptoms or problem with others (Adjusted OR=4.272, CI: 1.110-16.440). Moreover, the likelihood of late diagnosis of cervical cancer was observed among women who first discussed their symptoms or problems with their friends (Adjusted OR=12.701, CI: 1.132- 142.55) as compared to women who first did so with their husbands(30).

Study in morocco showed nearly sixty-one percent of patients reside in urban area, ninety-two percent of women with late stage of diagnosis had low socioeconomic level vs. 84.8% of women with early stage of diagnosis. Eighty-four percent of women with late stage of diagnosis were illiterate vs. 74.0% of women with early stage of diagnosis. Ninety-four of women with early stage of diagnosis in the multivariate analysis, elevated risks for late stage at cancer reporting were associated with three variables: marital status, distance from oncology center and gynecological bleeding. Occupation was considered as a protector factor (adjusted OR = 0.439, CI: 0.264–0.730, $p = 0.002$), Low socioeconomic status was found as a risk factor for patient delay (adjusted OR = 3.927, CI: 2.280–6.765, $p < 0.001$), Women who were not married (OR=5.0; 95% CI: 1.43-16.66); women who live more than 100 km from the location of cancer diagnosis (OR=4.51; 95% CI: 1.35-15.11); women without a family history of cancer (OR=14.28; 95% CI: 2.22-100) and women who had other signs that the bleeding as the first symptom (OR=25; 95% CI: 1.62-300) were more at risk of late stage cancer(36).

A cross sectional study in Uganda showed there was evidence for association between advanced stage at diagnosis and pre-referral diagnosis of cancer by primary healthcare professionals (adjusted OR (AOR)=13.04:95% CI 3.59 to 47.3), and financial difficulties precluding prompt help seeking (AOR=5.5:95% CI 1.58 to 20.64) and visiting a traditional healer was the only variable associated with greater likelihood of delay (OR 2.69, p = 0.020, 95% CI: 1.17-6.17)(36). patient factors, that more than 65% patients have develop advanced stage due to lack of money' and due to healthcare factors associated 71.8% with advanced stage at diagnosis is essential for targeted effective public health interventions to prompt health seeking(44).

A study in Morocco showed that sought determinants of the patient delay in women factors such as residential area, contacting non-medical person-prior to first medical person, fear, lack of awareness, economical problem, family related problem and poor knowledge among most patients on the actual nature of cervical cancer, its symptoms, and causes(8).

A study in Malawi women who live more than 100 km from the location of cancer diagnosis (OR=4.51; 95% CI: 1.35-15.11) Majority of the women stayed far from health centers. The long distance had an impact on their access to health care. The long distance is a deterrent to seek early medical attention at times"(29).

A cross sectional study in Kenya, majority of the women 73.3% did not know 51 of the disease while 24.7% had some understanding of the disease, Bivariate analysis showed that having no knowledge on cervical cancer was significantly associated with late diagnosis of cervical cancer (Chi-square=9.27 (1, N= 320; p=0.0023)(45).

A study in Botswana revealed that among patients with cervical cancer, the median delay from date of biopsy to start of radiation treatment was 39 days (interquartile range, 34 to 57 days) for patients treated after MDT initiation, compared with 108 days (interquartile range, 71 to 147 days) for patients treated before MDT initiation (P < .001)(46).

A Case-control study design in Ethiopia showed that Late stage diagnosis was lesser among those women who had income between 650 to 1000 EB per month (AOR0.26; 95%CI (0.091-0.74) and higher among women who were unemployed (AOR3.2; 95% CI (1.38, 7.41)), women who had long diagnostic delay (AOR 4.17; 95% CI (1.197, 14.52)). On IDI, symptom misrecognition and interpretation, long waiting time to see a doctor, waiting time for test(47).

A cross sectional study in Ethiopia showed that the country suffers from a severe shortage of accessible facilities. Approximately 30% of the households were estimated to live more than 10 kilometers from the nearest hospital, health center or health station. In contrast, urban areas with 4-6% of the total population have 44% of all health facilities. This finding shows distance is a major impact for the delaines of cervical cancer diagnosis(17).

A study in Ethiopia, Rural/urban differentials are very large, with the nearest health facility in 2000 being 1.4 km away in urban areas and 8.8 km in rural areas. Regional differentials are also very large, with distances as low as 1.3 km in Addis and as far as 9.8 km in Afar. The differential between income quintile is however less marked although, on average, poorest groups live further away from a health facility than richer groups(48).

2.5. Conceptual frame work

This conceptual frame work adapted from literature handorsom model 2014 which is primary delay related factors adapted from (8, 10, 12, 27, 36, 44) and secondary delay related factors adapted from (11, 29 and 42).The independent variables factor related to primary delay such as socio-demographic, psycho culture, awareness and factors related to secondary delay such as accessibility, waiting time and communication affects the dependant (outcome) variable of delay in cervical cancer diagnosis and treatment.

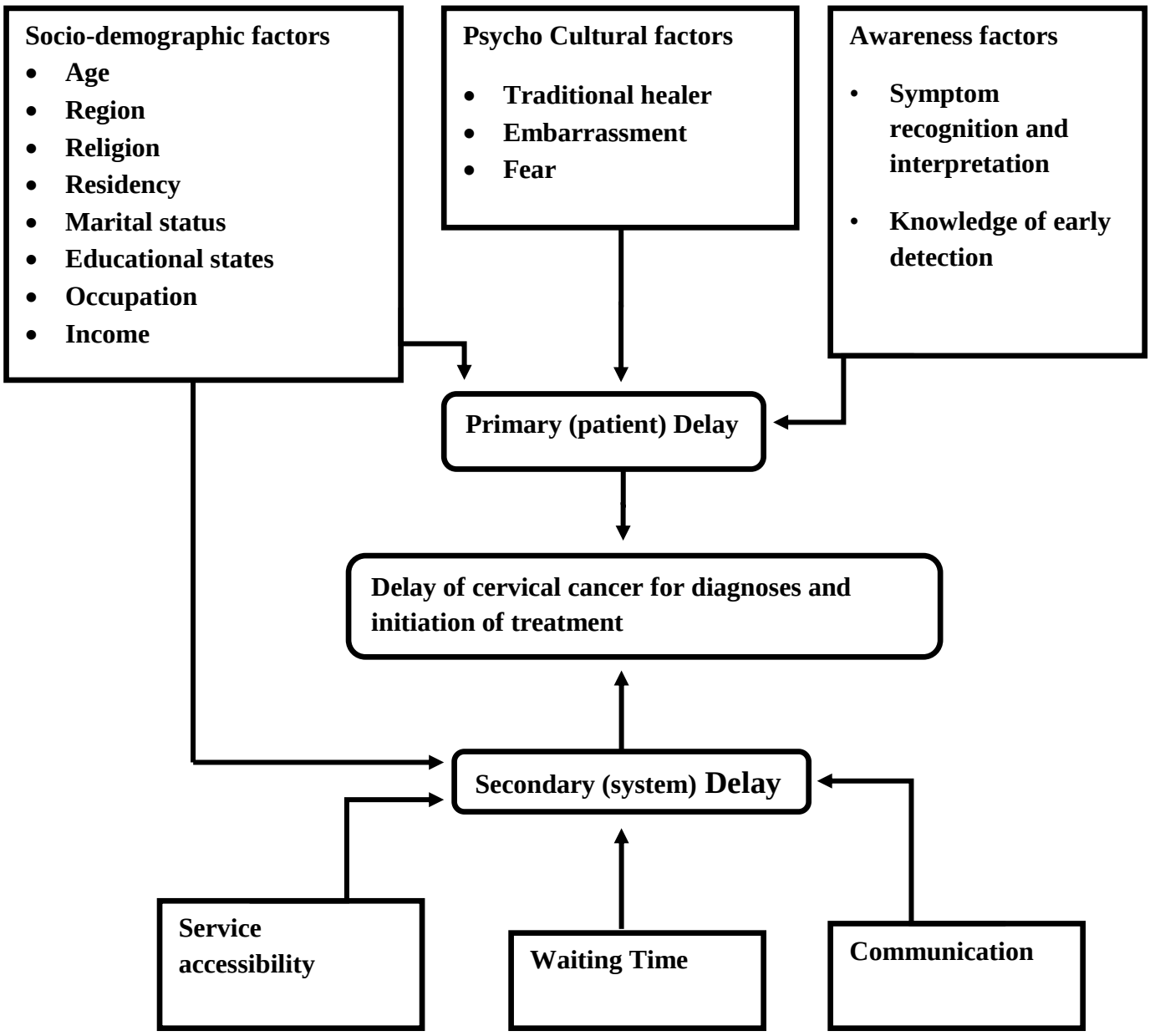

Figure 1.Conceptual frame work.

CHAPTER THREE
3. OBJECTIVES

3.1. General objective

To assessment factors that lead to delay for the diagnosis and treatment of cervical cancer among patients attending health care service at Tikur Anbesa Specialized Hospital Radiotherapy Center Addis Ababa, Ethiopia, 2017

3.2. Specific objectives

- To identify primary(patient) related factors that lead to delay for the diagnosis and treatment of cervical cancer among patients attending health care service at Tikur Anbesa Specialized Hospital Radiotherapy Center Addis Ababa, Ethiopia, 2017
- To identify secondary(system) related factors that lead to delay for the diagnosis and treatment of cervical cancer among patients attending health care service at Tikur Anbesa Specialized Hospital Radiotherapy Center Addis Ababa, Ethiopia, 2017

CHAPTER FOUR

4. METHODS AND MATERIALS

4.1 Study area and period

The study was conducted at Tikur Anbesa specialized hospital, radiotherapy centre (TASH-RTC). TASH is found under the administration of Addis Ababa University located in Addis Ababa and the referral teaching hospital. It has the sole RTC at the capital city of Ethiopia for all cancer patients that are coming from different regions of Ethiopia which accounts a total of 99.4 million people(49).TASH serves an estimation more than 80,000 new patients per year. The radiotherapy center of TASH is the only center in the country with only one functional radiotherapy machine serves more than 7000 new cancer cases per year (9). The study was conducted from March 15, 2017–April 30, 2017

4.2. Study design

Institutional-based descriptive cross sectional quantitative study design was conducted

4.3. Source of population

All cancer patients that were attending as new follow up, assessment and diagnosis, booked and waiting for treatment and on treatment at Tikur Anbesa Specialized Hospital Radiotherapy center

4.4. Study population

All cervical cancer patients who were attending at Tikur Anbesa specialized hospital Radiotherapy center

4.5. Inclusion criteria

- Age greater and equal 18 years and above
- Mentally intact (not having hearing impairment, can speech and who had no brain metastatic cancers) to be study participant during study period.
- Cervical cancer patients come to seek services diagnosed and just initiated treatment and volunteer.
- Cervical cancer patients on follow up and on palliative care for symptoms management

4.6. Exclusion criteria

- Cases differ from cervical cancer patients.
- New cervical cancer patient’s not yet stared treatment.

4.7. Sample size determination

Sample size was calculated using single proportion formula. To get maximum sample size the prevalence of delayed diagnosis and treatment of cervical cancer is 50%, level of significance <0.05 at 95% level of confidence, and 5% margin of error

$$N=\frac{Za/_2^2(p(1-p)}{d^2} = (1.96)^2\ 0.5(1-0.5)/(0.05)^2 = 384$$

By adding non-response rate of 10%, the final sample size is 422

4.8. Sampling procedure and techniques

The data was collected by using convenience sampling technique because to get the required sample size within the specified study period. All cervical cancer cases that were come for initiation of treatment and on follow-up during data collection period were asked. The number of study was all cervical cancer patients during the study period and those who was part of the final sample size (based on the number of patients coming per month).

4.9. Study variables

4.9.1 Independent variables

- Socio demographic (age, marital states, educational states, ethnicity , residency, occupation, religion, income)
- Psycho Cultural(fear, embarrassment and traditional method)
- Awareness(screening, symptom and causes)
- Access (health services delivery)
- Communication (health care provider-patient)
- Waiting time(diagnoses, treatment)

4.9.2 Dependent variable

- Delay in diagnoses and treatment of cervical cancer

4.10 Operational definitions

Primary delay: - Primary delay is related to patient and is defined as duration between onsets of symptoms to first presentation to visit the clinician. Primary delay is when it takes for a patient greater than 03 months between his first notices of symptoms to his first clinic visit.

Secondary delay- Is related to the health care service with sub classifications of: Treatment initiation waiting time, Referral delay, Diagnostic waiting time, Health care provider's delay. A patient is said to have secondary delay if it takes more than 30 days until he gets the first treatment.

Waiting time in diagnostic - The period of seven days or less defined as "short waiting time" and more than seven days was defined "long waiting time".

Treatment initiation waiting time- The period of seven days or less defined as "short waiting time" and more than seven days was defined "long waiting time".

Accessibility: - a health care service is said to be accessible if it can be obtained within 10 km walking distance for a primary health care center and 100 km distance for a tertiary hospital care.

4.11 Data collection tool

Structured interviewer administered questionnaire adapted from literature (8, 50) was used to collect data. The questionnaire had contained three sections.

1. Section one: Socio Demographic information of respondents
2. Section two: primary delay related factors
3. Section three: secondary delay related factors

The questionnaire was prepared in English and translated to Amharic language with second person and lastly back translated to English language by third person to see the consistency of questions.

4.12 Data collection procedure

Two supervisors were recruiting from BSC nurses and four data collectors were also recruiting among diploma nurses. All cervical cancer patients who fulfill the inclusion criteria were interview. The principal investigator and supervisors was made frequent cheeks on the data collection process to insure the completes and consistency of the gather information

4.13 Data quality assurance

Both the data collectors and supervisors were trained for half day on the objective and methodology of the research, data collection approach. Pretest was conducted at study area on 21 (5%) in radiotherapy centers (selected cervical cancer patients to have more than 2 months appointments) to see the completeness, consistency, and applicability of the instruments and was ratify accordingly by selecting those who have one day stay for follow up and appointed for 6 months.

During the data collection each participant medical record card was registered to prevent repetition. To protect the patient's privacy anonymous and voluntary participation was kept.

4.14 Data processing and analysis

Data was checked, cleaned and entered using EPI data version 3.1 and then it was transported to SPSS version 22.0 software for analysis. Incomplete and inconsistent data was excluded from the analysis. Descriptive statistics was used to describe the sample. The results of the descriptive statistics were expressed as percentage, frequency, mean and standard deviation and graphs. Associations between independent variables and dependent variables were analyzed using bivariate and multivariate analysis to identify factors which are significantly associated with the outcome variable.

4.15 Ethical consideration

Ethical clearance and official letter was obtained from the Research and Ethics Committee department of Nursing and midwifery of AAU to TASH. From the director of TASH letter of permission was submitted to the head of Radiation Therapy Centre; and as soon as getting permission from the TASH-RTC head conducting the research data collection was commenced verbal and written consent was obtained for willingness of patients to participate. The patients‟ privacy was maintained by conducting the interview in a private place.

4.16 Dissemination plan

The result will be presented in Addis Ababa University College of Health Sciences School of Allied Health science Department of Nursing and Midwifery. Then the result also will disseminate to Tikur Anbesa Specialized Hospital Radiotherapy centre, Ministry Of Health, to all concerned communities and gender in order to inform and educate about cervical cancer and its symptom to recognize and early diagnoses and treatment.

Finally, this study will be published in the known journals.

CHAPTER FIVE
5. RESULTS

5.1. Socio-demographic

In this study 422 women were participated but 12 women were excluded due to incomplete information so the response rate was 410(97.1%). The mean (±SD) age of participant was 50 (11.5) years with the range from 18-80 years. Majority 122(29.8%) and 124 (30.2%) of the respondents were in the ages group of 35-44 and 45-54 years respectively (fig 2).

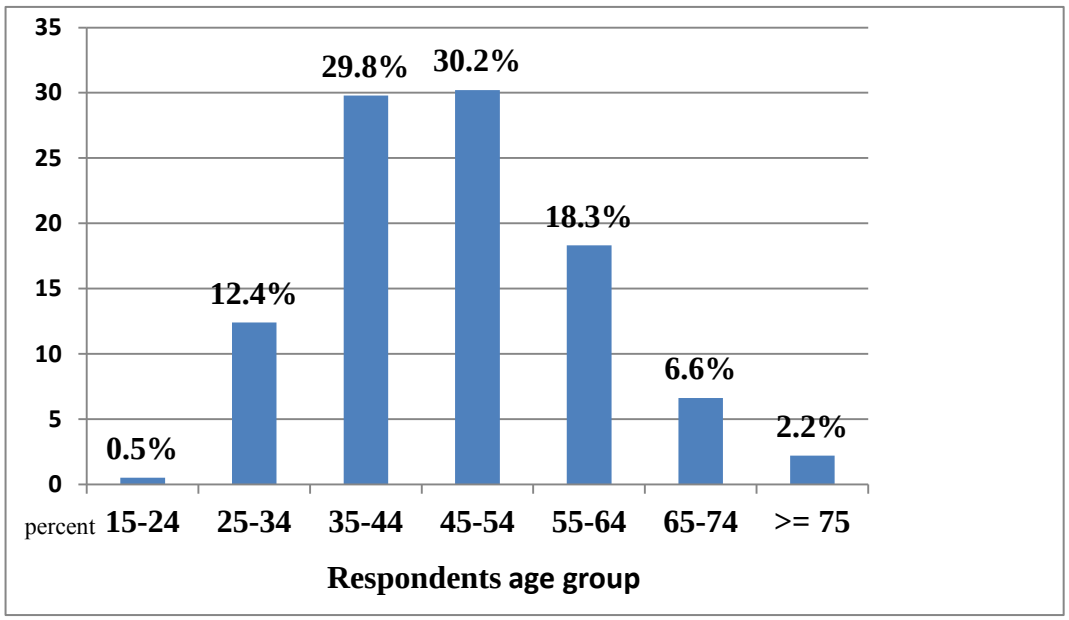

Figure 2: Age distribution of among cervical cancer patients attending at Tikur Anbesa Specialized Hospital Radiotherapy Center Addis Ababa, Ethiopia, 2017.

Regarding to region of the respondents 141(34.4%) and followed 128(31.2%) were from Oromia and Amhara respectively. Majority of 275(67.1%) respondents were Orthodox religion followers and 2(0.5%) were Catholic religion followers. In this study regarding with participants educational, marital and occupational status were 205(50%) of illiterate, 285(69.5%) of married and (182(44.4%) of Farmers. Large segment of participants 342(83.4%) were living estimated to be within 10 Km of radius accessible to any health institutions. Majority of 304(74.4%) respondent living estimated to be greater than 100 km of radius to RTC. Above half of participants 223(54.4%) were urban inhabitants (Table 1).

Table 1: Socio-demographic distributions of among cervical cancer patients attending at Tikur Anbesa Specialized Hospital Radiotherapy Center Addis Ababa, Ethiopia, 2017. (n =410)

Characteristics		Frequency	Percent
Residency			
	Urban	223	54.4
	Rural	187	45.6
Region			
	Amhara	128	31.2
	Oromia	141	34.4
	Addis Ababa	75	18.3
	SNNP	35	8.5
	Tigre	18	4.4
	Others*	12	2.9
Religion			
	Orthodox	275	67.1
	Protestant	60	14.6
	Catholic	2	.5
	Muslim	73	17.8
Marital status			
	Marred	285	69.5
	Single	11	2.7
	Divorce	36	8.8
	Widow	78	19.0
Educational status			
	Illiterate	205	50.0
	Informal education	74	18.0
	primary	75	18.3
	Secondary	32	7.8
	College	24	5.9
Occupational status			
	Farmer	182	44.4
	Governmental	27	6.6
	Private	54	13.2
	Unemployed	147	35.9
Distance to primary health center			
	<10Km	342	83.4
	>10Km	68	16.6
Distance to radiotherapy center			
	<100Km	106	25.9
	>100Km	304	74.1

*Note:*Gambella, Somalia, Harare, Afar and Benshangule.*

The participant birth status 317(77.3%) of them were give birth more than one child and 274(66.8%) of women monthly income were less than 500 Birr (fig 3and4).

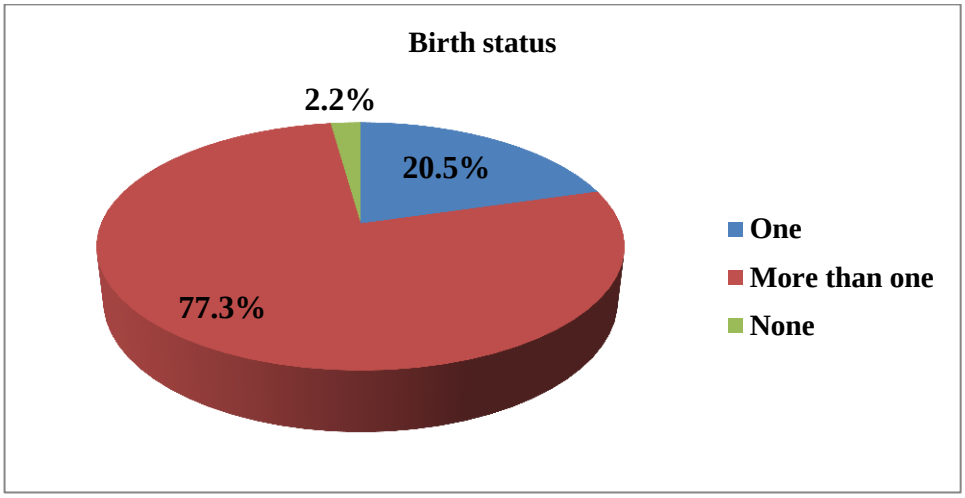

Figure 3: Birth status of among cervical cancer patients attending at Tikur Anbesa Specialized Hospital Radiotherapy Center Addis Ababa, Ethiopia, 2017.

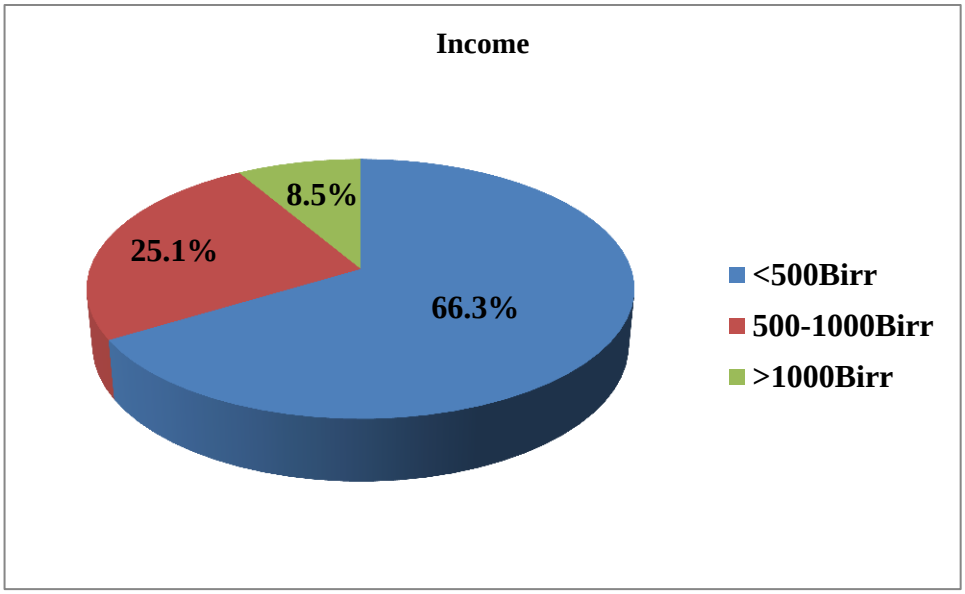

Figure 4: Income status of among cervical cancer patients attending at Tikur Anbesa Specialized Hospital Radiotherapy Center Addis Ababa, Ethiopia, 2017.

5.2. Factors related to delay

5.2.1. Primary delay related factors

In this study among the participants 286(69.8%) were classified as having primary delay with 120 median days of stay at home with their symptom, participant responded of the commonest symptom that they first noticed of cervical cancer are foul smelling vaginal discharge and vaginal bleeding were 151(36.8%) and 133(32.4 %) respectively (fig 5and6).

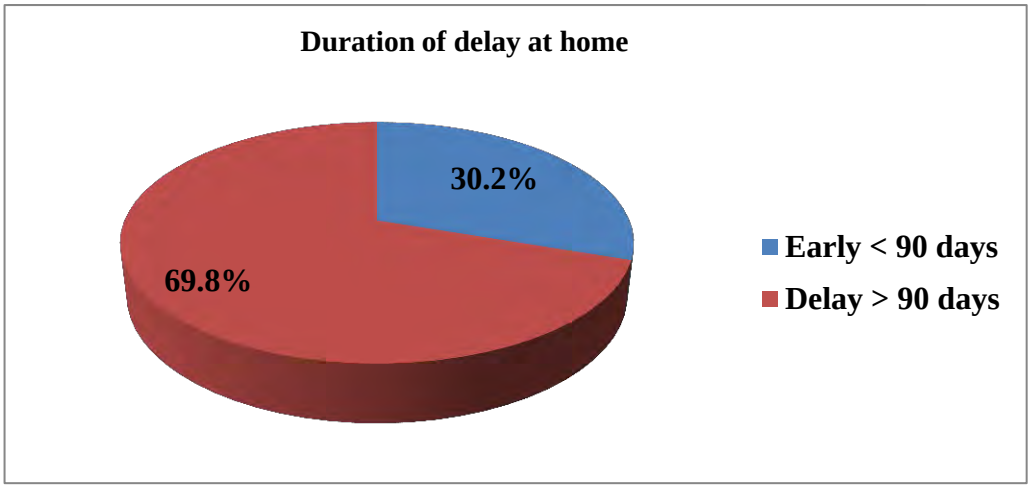

Figure 5: Stay at home among cervical cancer patients attending at Tikur Anbesa Specialized Hospital Radiotherapy Center Addis Ababa, Ethiopia, 2017.

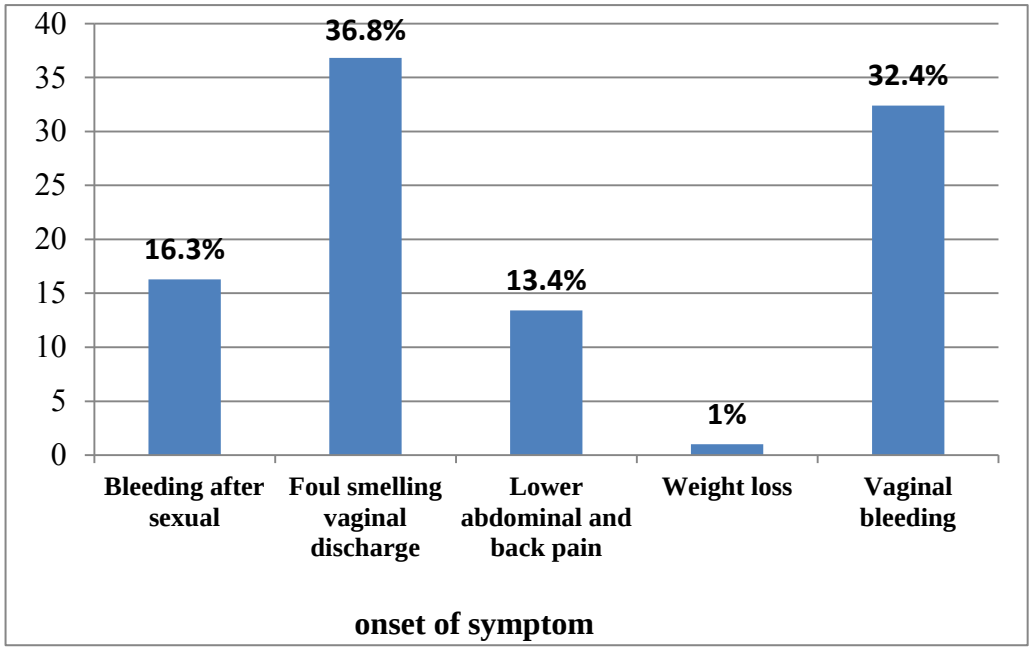

Figure 6: Onset of symptom among cervical cancer patients attending at Tikur Anbesa Specialized Hospital Radiotherapy Center Addis Ababa, Ethiopia, 2017.

With regard to respondent awareness 342(83.4%) were had never heard about cervical cancer, 373(91.0%) had lack of information about cervical cancer screening, almost all 395(96.3%) of respondents never heard the causes of cervical cancer, 386(94.1%) of them responded as no history of cancer in their family and the commonest reasons for delay were 234(57.1%) of respondents said to be assumption of healing by itself. 194(47.3%) 0f, the respondent's health workers are the first person to share the problem (Table2).

Table 2: Awareness of the disease among cervical cancer patients, attending at Tikur Anbesa Specialized Hospital Radiotherapy Center Addis Ababa Ethiopia 2017. (n =410)

Variables	Frequency	Percent
Having awareness of cervical cancer		
Yes	68	16.6
No	342	83.4
Having awareness of cervical cancer screening		
Yes	37	9.0
No	373	91.0
Family history of cancer		
Yes	24	5.9
No	386	94.1
Having awareness of Causes of cervical cancer		
Yes	15	3.7
No	395	96.3
Sharing of symptom		
Husband	67	16.3
Friend	10	2.4
Family	138	33.7
Health workers	194	47.3
Religious father	1	.2
Informative educational status		
Illiterate	28	6.8
Informal education	19	4.6
Primary	73	17.8
Secondary	51	12.4
College	239	58.3
Reason of delay at home		
Luck of money	17	4.1
To accepted cancer are not hill	4	1.0
Go to traditional hillers	21	5.1
Difficulty of decision and fear	66	16.1
To heal by itself	234	57.1
Give priority for others	29	7.1
Embarrassment	18	4.4
Others**	21	5.1

***Women who have intermittent symptom and unawareness for health service access*

5.2.2 Secondary delay related factors

In this study among participants 354(86.3%) were classified as having secondary delay with 270 median days of stay on diagnoses and treatment of cervical cancer (fig 9).

From Participant's personal medical document, advanced stage (IIIA-IVB) during assessment and during initiation of treatment were 212(51.7%) and 288(70.2%) respectively (fig 8).

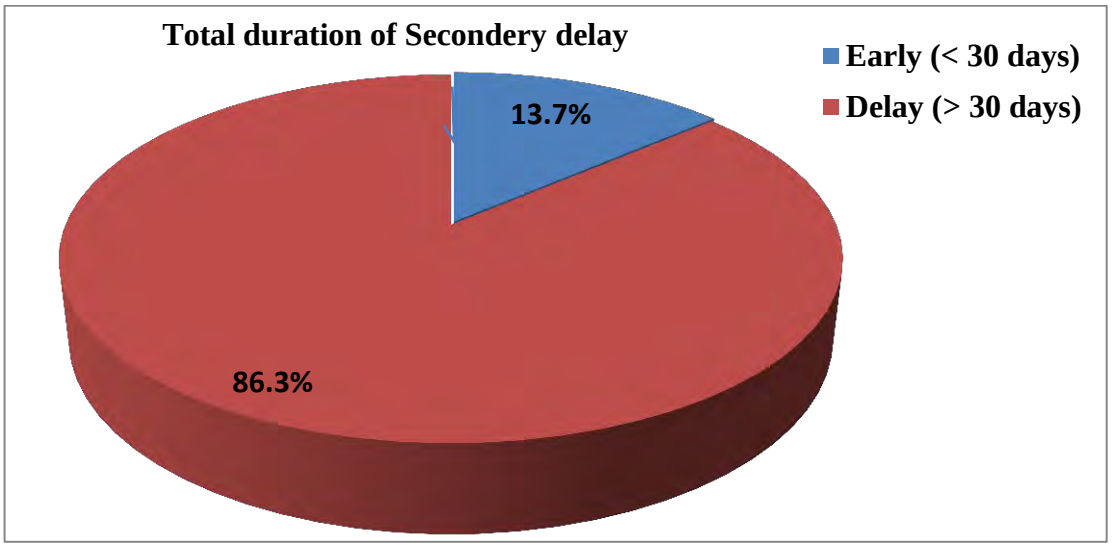

Figure 7: Total durations of stay for diagnoses and treatment among cervical cancer patients attending at Tikur Anbesa Specialized Hospital Radiotherapy Center Addis Ababa, Ethiopia, 2017.

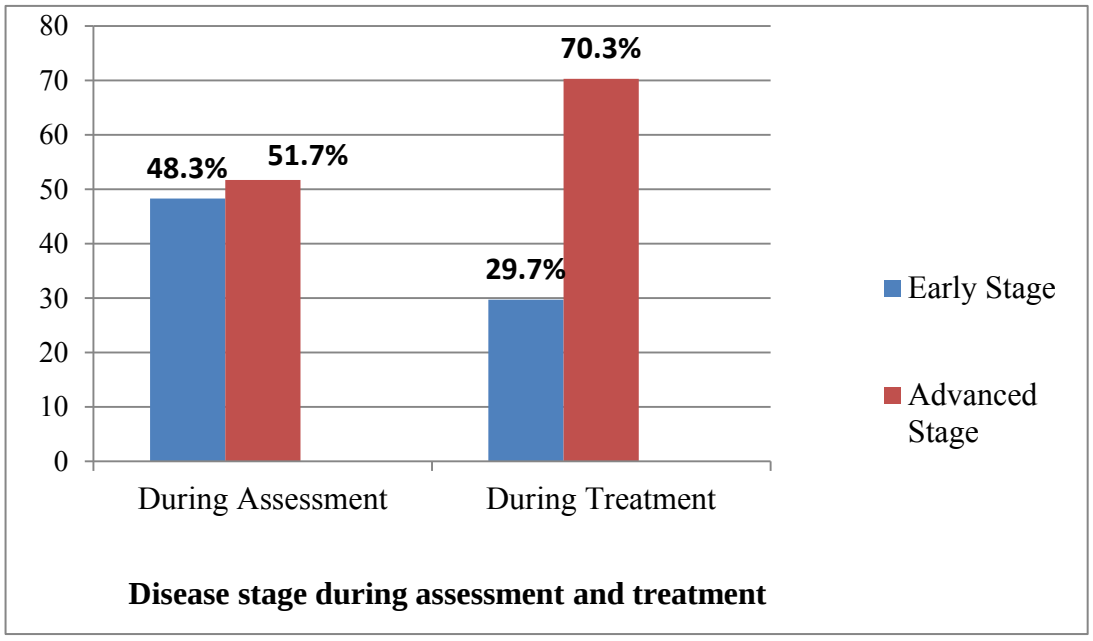

Figure 8: Stage of disease among cervical cancer patients attending at Tikur Anbesa Specialized Hospital Radiotherapy Center Addis Ababa, Ethiopia, 2017.

With regard to communication among respondents 289(70.5%) were good communication with health workers and 294(71.7%) of responded were easy understand to the health worker information. In consider treatment plan 295(72.0%) of the participants were received radiotherapy, among women's 245(60%) were received medical service at governmental health institution. Majority of the participants that they said to be the reason of secondary delay 346(84.4%) were long waiting time (Table 3).

Table 3: Secondary delay related factors among cervical cancer patients attending at Tikur Anbesa Specialized Hospital Radiotherapy Center Addis Ababa, Ethiopia, 2017. (n =410)

Variables	Frequency	Percent
Communication of health workers		
Yes	289	70.5
No	121	29.5
Cervical cancer information understanding		
Yes	294	71.7
No	116	28.3
Knowledge of staging		
Yes	85	20.7
No	325	79.3
Treatment plan		
Surgery	9	2.2
Chemotherapy	3	0.7
Radiotherapy	295	72.0
Chemo-radiation	102	24.9
Palliative care	1	0.2
Reason of system delay		
Waiting time	346	84.4
Luck of appropriate health workers	34	8.3
Luck of money	6	1.5
Inaccessibility	19	4.6
Others*	5	1.2
Pathway to diagnoses and treatment		
Governmental	245	59.8
Private	129	31.5
Both	36	8.8

** Hopelessness of the patient, absent for treatment schedule and poor referral system.*

5.3. Association to delay

5.3.1. Primary delay association

The association between primary delay and socio-demographic; a wide variety of variables were significantly associated with bivariate (chi-square test) analyses i.e. Residency P-value 0, 000, religion P-value 0.001, Occupation P-value 0.000, Income P-value 0.003, distance p-value 0.004, awareness p-value 0.019, screening p-value 0,029 and psycho-cultural reasons P-value 0.003 were significant associated to primary delay.

In multivariate analysis unemployed was the preventable predictor factor for patient delay; those women who were unemployed 55% less likely to have delay than farmer AOR=0.454, 95% CI (0.214, 0.965) p-value 0.04. Low socioeconomic status was found as a risk factor for patient delay; those women who had < 500 birr were three times more likely delay than high income AOR =3.79, 95% CI (1.48, 9.67) P-value 0.005 and those women who had middle income were four times more likely to have deliance than high income AOR=4.14, 95 % CI (1.50, 11.39) P-value 0.006.

In this finding according to Religion, Women who were orthodox religion followers were 2 times more delay than Muslim followers AOR=2.52, 95 % CI (1.40, 4.56) P-value 0.002 and protestant religion followers 4 times more delay than Muslim religion followers AOR=3.85, 95 % CI (1.60, 9.29) P-value 0.003.

As regards to psycho-cultural, women who went to traditional hillers were 9 times more likely to delay than others (women who have intermittent symptom and unawareness for health service access) AOR=9.10, 95 % CI (1.45, 56.86) P-value 0.018. Women who were afraid to tell their diseases were 6 times more delay than others AOR=6.20 95 % CI (1.91, 20.12) P-value 0.002. Women who perceived disease can hill by itself were 3 times more delay than others AOR=2.90, 95 % CI (1.04, 8.03) P-value 0.04 and embarrassment 10 times more likely delay than others AOR=10.0 with 95 % CI (1.66, 60.19) P-value 0.012 (table 4 below).

Table 4: Logistic regression analysis of primary delay and related factors among cervical cancer patients attending at Tikur Anbesa Specialized Hospital Radiotherapy Center Addis Ababa, Ethiopia 2017.

Categorical Variable	Duration of stay at home		OR(95% CI)	
	<90 days 124(30.2)	≥90 days 286(69.8)	Crude	Adjusted
	n (%)	n (%)		
Residency				
Urban	85(38.1)	138(61.9)	1	1
Rural	39(20.9)	148(79.1)	2.33(1.49,3.64)*	1.18(0.56, 2.45)
Occupational				
Farmer	33(18.0)	150(82.0)	1	1
Governmental	11(39.3)	17(60.7)	0.34(0.146, 0.793)*	1.08(0.31, 3.75)
Private	20(38.5)	32(61.5)	0.35(0.179,0.691)*	0.53(0.22, 1.31)
Unemployed	60(40.8)	87(59.2)	0.31(0.193, 0.526)*	**0.454(0.21, 0.96)***
Income				
<500 birr	80(29.2)	194(70.8)	3.03(1.495, 6.148)*	**3.79(1.48, 9.67)***
500-1000 birr	24(24.0)	76(76.0)	3.95(1.776, 8.825)*	**4.14(1.50, 11.39)***
>1000 birr	20(55.6)	16(44.4)	1	1
Religion				
Orthodox	78(28.4)	197(71.6)	2.08(1.22, 3.54)*	**2.52(1.40, 4.56)***
Protestant	11(18.3)	49(81.7)	3.67(1.65, 8.17)*	**3.85(1.60, 9.29)***
Catholic	2(100.0)	0(0.0)	0.00(.000, .000)	0.00(.000,.000)
Muslim	33(45.2)	40(54.8)	1	1
Distance to primary HC				
<10Km	114(33.3)	228(66.7)	1	1
>10Km	10(14.7)	58(85.3)	2.90(1.42, 5.88)*	1.90(0.84, 4.31)
Having awareness about cervical cancer				
Yes	28(42.4)	38(57.6)	1	1
No	96(27.9)	248(72.1)	1.90(1.11, 3.27)*	1.33(0.65, 2.71)
Having awareness screening				
Yes	17(45.9)	20(54.1)	1	1
No	107(28.7)	266(71.3)	2.11(1.06, 4.18)*	1.64(0.66, 4.07)
Reasons of delay				
Luck of money	3(16.7)	15(83.3)	6.66(1.47, 30.21)*	**7.28(1.38, 38.34)***
To accept cancer not hill	0(0,0)	4(100.0)	2153(0.00, 0.00)	9114(0.00,0.00)
Go to traditional hillers	3(15.8)	16(84.2)	7.11(1.57, 32.05)*	**9.10(1.45, 56.86)***
Difficult of decided and fear	13(19.4)	54(80.6)	5.53(1.92, 15,91)*	**6.20(1.91, 20.12)***
To hill itself	81(34.6)	153(65.4)	2.51(1.01, 6.22)*	**2.90(1.04, 8.03)***
Give priority for others	10(34.5)	19(65.5)	2.53(0.79, 8.03)	2.21(0.61, 8.00)
Embarrassment	2(11.1)	16(88.9)	10.6(1.93, 58.69)*	**10.0(1.66, 60.19)***
Others**	12(57.1)	9(42.9)	1	1

**Significantly associated (p<0.05).*

*** Women who have intermittent symptom and unawareness for health service access*

5.3.2 Secondary delay Association

The association between secondary delay and related factors; a wide variety of variables were significantly associated with bivariate (chi-square test) analysis i.e. Region P-value 0.008, stage during diagnoses P-value 0.009, and reasons of delay factors at P-value 0.000 were significantly associated with secondary delay.

In multivariate analysis Amhara and Oromia region was found a risk factors for secondary delay, those women who live Amhara region were six times more likely delay than others (Gambella, Somalia, Afar, Benshangul, Harare) AOR =6.070, 95 % CI (1.516, 24.310) P-value 0.011 and those women's who live Oromia region five times more likely delay than others AOR=5.71, 95 % CI (1.437, 22.71) P-value 0.013.

During diagnoses advanced stage were a preventable of secondary delay, women who were coming with advanced stage 74 % less likely to have secondary delay than early stage AOR=0.26, 95 % CI (0.095, 0.733) P-value 0.011.

Regarding with reasons for deliance long waiting time and inaccessibility were risk factors for secondary delay, those women who had long waiting time 12 times more likely delay than others (Hopelessness, absent for treatment schedule and poor referral system) AOR= 12.50, 95 % CI (1.25, 124.97) P- value 0.031 and women who had no access 19 times more delay than others AOR=19.57, 95 % CI (1.22, 313.07) P-value 0.036 (Table 5)

Table 5: Logistic regression analysis of secondary delay and related factors of among cervical cancer patients attending at Tikur Anbesa Specialized Hospital Radiotherapy Center Addis Ababa, Ethiopia 2017.

Categorical Variable	Duration of stay at system		Binary and multivariate logistic regression	
	<30days 56(13.7)	≥30 days 354(86.3)		
	n (%)	n (%)	Crud OR(95%CI)	Adjusted OR((%CI)
Region				
Amhara	13(10.1)	116(89.9)	8.923(2.510, 31.726)*	**6.07(1.516, 24.310)***
Oromia	14(9.9)	127(90.1)	9.071(2.576, 31.949)*	**5.71(1.437, 22.71)***
Addis Ababa	12(16.0)	63(84.0)	5.250(1.447, 19.054)*	3.56(0.876, 14.53)
SPNN	8(22.9)	27(77.1)	3.375(0.850, 13.408)	2.30(0.510, 10.396)
Tigre	3(16.7)	15(83.3)	5.000(0.933, 26.785)	2.41(0.391, 14.874)
Others**	6(50.0)	6(50.0)	1	1
Communication				
yes	43(14.9)	245(85.1)	1	1
no	13(10.7)	109(89.3)	1.472(0.761, 2.848)	1.10 (0.478, 2.52)
Information understanding				
yes	45(15.2)	251(84.8)	1	1
no	11(9.6)	103(90.4)	1.679(0.835, 3.374)	1.27 (0.535, 3.04)
Stage during diagnoses				
Early	18(9.1)	180(90.9)	1	1
Advanced	38(17.9)	174(82.1)	0.458(0.252, 0.833)*	**0.26(0.095, 0.733)***
Stage during treatment				
Early	15(12.3)	107(87.7)	1	1
Advanced	41(14.2)	247(85.8)	0.845(0.448, 1.591)	1.95(0.651, 5.85)
Reason of system delay				
waiting time	50(14.4)	297(85.6)	23.76(2.602, 216.95)*	**12.50(1.25, 124.97)***
Luck of appropriate HCP	0(0.0)	33(100.0)	64371(0.000, 0.000)	35392(0.00, 0.00)
luck of money	0(0.0)	6(100.0)	64618(0.000, 0.000)	18345(0.00, 0.00)
inaccessibility	2(10.5)	17(89.5)	34.00(2.436, 474.54)*	**19.57(1.22, 313.07)***
others***	4(80.0)	1(20.0)	1	1

**Significantly associated (p<0.05).*

*** Gambella, Somalia, Afar, Benshngul, Harare*

****Hopelessness of the patient, absent for treatment schedule and poor referral system.*

CHAPTER SIX
6. DISCUSSION

Prolong duration of cervical cancer diagnosis and treatment may increase the proportion of advanced stages. Thus, delay in diagnosis and treatment of cervical cancer patients may impact on poor prognosis and QOL(10). In this study delay was classified as primary and secondary.

Regarding to primary delay within 410 participants 286(69.8%) were classified as having primary delay with 120 median days of stay at home with their symptom, these median days of delay was found higher than Study at Nepal median patient delay 40 days (28). This discrepancy might be due to the influence of patient's characteristics such as high level of illiteracy, poor health awareness, poor economic condition, and their problematic health seeking behavior, as well as dependency on traditional practices.

Among the socio-demographic characteristics of patients the mean (SD±) age of study participant was 50 (SD ±11.5).This result is consistence with research conducted at morocco, Iran and Nepal the mean age were 52.4 years (SD±11.48), 48.3 (SD±12.01) and 52.72 years (SD±10.63) respectively.

In this study the age range of respondents was from 18-80 years. In this result the prevalence starting from early age groups than research done at Morocco, Iran and Nepal which were 28 to 83 years, 27 - 79 years and 25 - 60 years respectively (8, 25 and 29). This discrepancy might be due to early marriage in our context.

Here in this study the participants' marital, education and income status were 69.5% married, 50% illiterate and 66.3% <500 birr respectively. This finding is parallel with study conducted at Morocco, 63.3% marred ,53.6% illiterate and 81% were poor respectively, study at Malawi 60% of them were married and study at Nepal 66.4% was illiterate(8,27,29).

Concerning to distances 83.2% participants were living estimated to be within 10 Km of radius accessible to any health institutions. But study done at Morocco revealed that 78.6% participants their residence areas were close to health institutions (8). This finding higher than morocco the differences might be due to expansion of primary health care in the country.

Regarding to awareness 83.4% of women had lack of information about cervical cancer. Study conducted at Morocco were 60.3%, this differences might be due to lack of health information dissemination in this study context (8).

In this study low socioeconomic status was found as a risk factor for patient delay AOR=4.14, 95 % CI (1.50, 11.39). Similarly study at China, Uganda and morocco showed that low socioeconomic status were found as a risk factor for patient delay (AOR=2.3; 95% CI: 1.1–5.0), (AOR=5.5, 95% CI 1.58 to 20.64) and (AOR = 3.927, CI: 2.280–6.765) respectively (42, 43, 8).

The finding showed that unemployed was the predictor for delay AOR=0.454, 95% CI (0.214, 0.965) $p<0.05$. Similarly in Morocco Occupation was considered as a predictor factor (AOR = 0.439, 95 % CI: 0.264–0.730, = 0.002) (8). It might be due to because of unemployed women had more time to go to health facility and get a service.

Regarding to psycho-cultural perspective, participants visiting a traditional healer were a risk factors AOR=9.10, 95 % CI (1.45, 56.86) P-value 0.018. Similar study revealed at Uganda traditional healer were a risk factors (OR 2.69, p = 0.020, 95% CI: 1.17-6.17) (43)

The prevalence of secondary delay was 86.3% with 270 median days in this study. In contrast the prevalence of secondary delays at UK and Nepal were 38% and 77% respectively (11 and 29). The longer secondary delay in this study might be due to ignoring the mild gynecological symptoms and shortage of diagnostic and treatment centers in the country.

In this study among participant's stages during diagnosis of cancer 51.7% was far advanced stage (III to IV). This result is similar with a research done at Morocco, China and Kenya were 55.4%, 66.7% and 55.8% respectively (8, 34 and 43). This indicated the advanced stage at presentation might be due to detected at later stages or lack early screening.

Similarly on initiation of treatment 70.2% was far advanced stage (III to IV). This finding is also parallel with Uganda which was 71.8%. In contrast study at Malaysia revealed that the program achieved down staging in cervical cancer in stage III and IV from 60% to 26%. This discrepancy might be due to lack of consisted screening service, training program for health staff, lack of treatment centers and public awareness.

In this study a risk factors for secondary delay were, Long waiting time AOR= 12.50, 95 % CI (1.25, 124.97), Inaccessibility AOR=19.57, 95 % CI (1.22, 313.07). This indicated the longer waiting time and inaccessibility might be due to shortage of trained health workers and shortage of diagnostic and treatment centers.

Regarding to participants stage, advanced stage in diagnoses was the predictor for secondary delay AOR=0.26, 95 % CI (0.095, 0.733). This indicated that the advanced stage was treated on time than early stage it might be due to disease severity and shortage treatment center.

6.1 Strength and limitation of study

6.1.1. Strength of study

The data was collected from both the primary by interviewing and secondary from medical card is the strength of this study.

6.1.2. Limitation of study

Since it is a cross-sectional study design it may not identify cause and effect relationships. There might be recall bias among respondents.

6.2 Conclusion and Recommendation

6.2.1 Conclusion

Cervical cancer is a major medical challenge in Ethiopia which is difficult to transforms the traditional incurable stage activities to curable. And it is burden of resource wasting process for far advanced stage of disease. Hence the inadequate educational communication of cervical cancer to the population, low awareness of cervical cancer etiology, socio-cultural, poor health seeking behavior and shortage of income were related to primary delay.

Low capacity of health care providers for early detection of cervical cancer, untimely referral mechanism for diagnosis and treatment, long waiting time and inaccessibility of service were factors for secondary delay.

6.2.2 Recommendation

Educating women about cervical cancer causes, symptoms and screening in ordered to raising awareness, to prevent the primary patient related delay and strengthening systems, health providers concerned to health promotion, gynecological symptoms and early detection to provide appropriate treatment is crucial to reduce secondary delay.

Availing vaccine and advancing diagnostic procedures, nearly access chemo-radiation treatment on each region and use friendly referral system shall be improved in order to prevent and decrease delay of cervical cancer on diagnoses and treatment.

Hence, there is a need for a multi-sectored approach in addressing cervical cancer conditions in Ethiopia, that need the involvement of Ministry of Health (Policy makers), training institutions, hospitals, communities, families and individuals to prevent delay in order to patient live saving.

Evidence based nursing practice is necessary for effective patients care; so this study for oncology nurses are used to indicate the gaps related to the deliance factors for cervical cancer on diagnoses and treatment, to easy addresses gaps concerned with both patient and system related problems and to making solution in order to prevent the primary and secondary delay.

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ANNEX

Annex I. English Version Information Sheet:

Principal Investigator: **Mesfin Anley**

Addis Ababa University

College of Allied health sciences

Department of nursing and midwifery

Dear participant! Here, I the undersigned, at Addis Ababa University College of Health Sciences, School of Allied Health Science, Department of oncology Nursing Graduate Study Program, currently I will be undertaking research on a topic entitled as assessment of factors that contribute to delay in seeking cervical cancer diagnosis and treatment among women in radiotherapy center. For this study, you will be selected as a participant and before getting your consent, you need to know all necessary information related to the study which will be detailed as follows.

Introduction

Privacy is the state of being free from intrusion, and in the context of health care it concerns the responsibility of a care provider to protect a clients from any disclosure (i.e., discovery by others), even unintentional, of personal health data, by providing security to the patient and the patient's records. Confidentiality, in contrast, is the limiting of information to only those for whom it is appropriate. Therefore this information sheet briefly provides the necessary guide to be considered during the study.

Objective To assess factors causing patients and system (health provider and facility) delay to initial diagnosis and subsequent treatment of cervical cancer patients presenting to the TASH-RTC.

Participants to be included: all cervical cancer patients sampled by convenient sampling was included in the study

Risks and discomfort: There is no risk in participating in this study. However there might be some discomfort in answering questions which will take a few minute (about 30 minutes).

Benefits:-There is no immediate benefit in participating in this study. However your participation will contribute in improving the health delivery system service provided to young male person in the future.

Incentive:-There is no financial or material incentive in participating in this study.

Confidentiality: The information that we will collect from this research project will be kept confidential. Information about you that will be collected from the study will be stored in a file, which will not have your name on it, but a code number assigned to it. Which number belongs to which name will be kept under lock and key, and it will not be revealed to anyone except the principal investigator**.**

Participant Rights

Your participation is entirely voluntary and up to you to decide. There is no penalty if you do not agree to participate. Also you have the right not to answer any questions you do not want to. You may also withdraw from the study at any time. If in the middle you decide to stop filling questions and no longer participate, you can stop without worry.

Persons to contact:

If you have any question, you can ask at any time. If you have additional questions about the study, you can contact the: Principal investigator: **Mesfin Anley** cell phone-0911302854, E-mail **mesfinanley@gmail.com**

Thank you for your cooperation.

If you are voluntary to participate in the study we kindly request you to provide your response for the questionnaire in the next page.

Annex 2. Consent form (English Version)

In undersigning this document, I am giving my consent to participate in the study entitled as assessment of factors that contribute to delay in seeking cervical cancer diagnosis and treatment among women in radiotherapy center Addis Ababa Ethiopia. I have been informed that the purpose of this study. I have understood that participation in this study is entirely voluntarily. I have been told that my answers to the questions will not be given to anyone else and no reports of this study ever identify me in any way. I have also been informed that my participation or non-participation or my refusal to answer questions will have no effect on me. I understood that participation in this study does not involve risks. I understood that Mesfin Anley is the contact person if I have questions about the study or about my rights as a study participant.

Respondent's signature_____

Interviewer Name _____Signature _____Date_____

Annex 3 English version structured questionnaires

Instruction: The questionnaire contains closed ended questions so circle the letter of your choice (you can answer more than one choice).

Identification code number _____

Name of data collector _____signature_____

Date of data collection _____Time started _____Time finished_____

Supervisor's name_____ signature_____

Hospital registration n ._____

Section1. Socio Demographic information of respondents

Question Codes	Questions	Probable Answers	Answer codes
101	Age in year	……..	
102	What is your common place of residence?	Urban Rural	1 2
103	What is your region?	Amhara Oromiya Snnp Tigray Somalia Afar Gambela Addis Ababa Dredawa Harari Benshangul	1 2 3 4 5 6 7 8 9 10 11
104	What is your religion?	Orthodox Protestants catholic Muslim Others (specify)	1 2 3 4 5

105	What is your marital status?	Married Un married Divorced Widow	1 2 3 4
106	How many you give birth?	One More than one Non	1 2 3
107	What is the highest level of school you completed?	Illiterate Informal education Primary education Secondary school education Collage	1 2 3 4 5
108	What is/ was your occupation, that is, what Kind of work do you mainly do?	Farmer Public employee Private employee Unemployed	1 2 3 4
110	What is the monthly income in per family members Birr?	≤ 500 birr (low income) 500-1000 birr (middle income) > 1000 (high income)	1 2 3
111	What is distance from basic health/ centre and or post in Km?	<10 >10	1 2
112	What is distance from TASH-RTC in Km	<100 >100	1 2

Section 2. level of awareness and communication

201	Have you previously heard of cervical cancer?	Yes No	1 2
202	Do you know about pre- cervical cancer screening?	Yes No	1 2
203	Was there any familial history of cancer?	Yes No	1 2
204	Do you know the commonest cause of cervical cancer?	Yes No	1 2
205	Did the health professionals good listeners?	Yes No	1 2
206	Did you the health practitioner explain the disease?	Yes No	1 2
	What is your disease stage	I do not know ≤IIA or Post op IIB IIIA IIIB IVA IVB	1 2 3 4 5 6 7

Section 3. Determinants for primary delay

301	What was your onset of primary main symptoms?	Post coital bleeding Foul smelling vaginal discharge Lower abdominal and back pain Loss of weight Vaginal bleeding(abnormal)	1 2 3 4 5

302	After feeling that something is wrong, to whom you shared the problem?	Husband Friends family members Health professional Religious father	1 2 3 4 5
303	If so what was his informative education status?	Illiterate Informal education Primary education High school education Collage	1 2 3 4 5
304	How many days you stay at home with thi/es symptom/s?	<90 days ≥90 days	1 2
305	If ≥90 days What are the reasons for this delay?	• Lack of cash money • Thinking that cancer will not be cured • Sought traditional faith healer and alternative practices • Difficulty to make decision/fear • I thought it will relief by itself • Competing life priorities • Embarrassment about having a cervical cancer • Others (specify)……	1 2 3 4 5 6 7 8

Section 4: Determinants for secondary delay

401	Days from first visit health center to diagnoses	Days	
402	Days from confirmed diagnosis to treatment	Days	

403	FIGO Stag during diagnoses • Early stage • Late stage	≤IIA or Post op IIB IIIA IIIB IVA IVB	1 2
404	Treatment planned	Surgery Chemotherapy Radiotherapy Chemo radiation Palliative care	1 2 3 4 5
405	Days of first visit to treatment at TASH-RTC	Days	
406	FIGO Stag on initiation of Treatment • Early stage • Late stage	≤IIA or Post op IIB IIIA IIIB IVA IVB	1 2
407	How many days you stay/wait at HF/s to get appraisal, diagnosis and treatment for your?	<30 days ≥30 days	1 2
408	What are the reasons related to delay your diagnosis and treatment?	• Waiting time • In appropriate health practitioner in the diagnostic and treatment • Lack of cash money • inaccessibility • Others(specify)----------	1 2 3 4 5
409	What are your treatment pathway?	• Governmental • Privet • Both	1 2 3

Annex 4. Subject information sheet (Amharic Version)

የአማርኛ መጠይቅ የመረጃና የስምምነት ቅፅ

የመረጃ ሰብሳቢው ስም_____የአባት ስም_____የተጠያቂው መለያ የካርድ ቁጥር_____

ጥቁር አንበሳ ሆስፒታል በጨረር ህክምና መስጫ ክፍል አዋቂዎች የማህፀን ጫፍ ካንሰር ህሙማን ታካሚዎች ሳይዘገዩ ወደ ህክምና ያልሂዱበትን እና ህክምና ያላገኙበትን ምክናያቶችን እና ተዛማጅነት ያላቸውን መንስኤዎች ለማጥናት የተዘጋጀ ቃለ መጠይቃዊ ጥያቄ፡፡

ሀ. የጥናቱ መረጃ፡- ጤናይስጥሌኝ፤እንደምንአደሩ?እንደምንዋለ?እንደምንአመሸ? እንደአስፈሊጊነቱ በመረጃ ሰብሳቢው፡፡ስሜ----------ይባላል፡፡

ጉዳዩ፤፡- ከአዲስ አበባ ዩኒቨርሲቲ ህክምና ናጤና ሳይንስ ኮሌጅ የሁለተኛ ዲግሪ ተማሪ በሆነው በተማሪ መስፍን አንለይ እየተሰራ ባለዉ ጥናታዊ ፅሁፍ ዙሪያ በመረጃ ሰብሳቢነት ሲሆን በዛሬው ዕለት እዚህ የተገኘሁት የማህፀን ጫፍ ካንሰር` ህሙማን ታካሚዎች ሳይዘገዩ ወደ ህክምና ያልሂዱበትን እና ህክምና ያላገኙበትን ምክናያቶችን እና ተዛማጅነት ያላቸውን መንስኤዎች ለማጥናት የተዘጋጀ ቃለመጠይቃዊ መረጃ ለመሰብሰብ ነዉ፡፡ ይህ ጥያቄ የተዘጋጀው ለምርምር ስራ ሲሆን በአዲስ አበባ ዩኒቨርስቲ በጥናትና ምርምር ኮሚቴ ተገምግሞ እንደ አስፈላጊነቱ ግድፈት ካለበት እርማት ይደረግበታል፡፡በዚህ ጥናት በመሳተፍዎ የሚያገኙት ቀጥተኛ የሆነ ጥቅም የሌለ ቢሆንም ከዚህ ጥናት የሚገኘዉ ዉጤት በቀጥታ ማህበረሰቡን የሚጠቅም ሲሆን ለእርስዎ ደግሞ እርካታን እንደሚሰጥዎት ተስፋ አደርጋለሁ፡፡ ለዚህ ቃለመጠይቅ የተመረጡት ጥናቱ በሚካሂድበት ወቅት በመገኘትዎ ነዉ፡፡ ከጥናቱ የሚገኘዉ መረጃ ከላይ ከተጠቀሰዉ ዓላማ ዉጭ ለሌላ ተግባር የማይዉል ሲሆን መረጃዉ በሙሉ በሚስጥር የሚጠበቅ መሆኑን ቃል እየገባሁ ለወደፊቱም ለሚፈልጉት የጤና አገሌግልት በእርስዎም ሆነ በቤተሰብዎ ላይ ምንም ዓይነት ተጽእኖ እንደሌለው ልገልፅልዎት እወዳለሁ፡፡

Annex 5. Consent sheet (Amharic Version)

የፈቃደኝነት ማረጋገጫ ቅጽ
የምርምር ጥናቱ ክፍል የሆኑ መረጃዎችና ሂደቶች ተብራርተውልኛል፡፡ እኔም በተብራራልኝ መንገድ ተረድቻለሁ፡፡ ምርምሩ ምንም የተለየ የገንዘብ ጥቅማጥም የሌለው እና አደጋ የማያስከትል መሆኑን እንዲሁም የማደርገው ተሳትፎ እና መረጃ በሚስጢር የሚያዝ መሆኑን ተረድቻለሁ፡፡ ስለዚህ በዚህ የምርምር ጥናት ላይ ለመሳተፍ ፈቃደኛ መሆኔን በፊርማዬ አረጋግጣለሁ፡፡
ፊርማ ---------- ቀን ----------

Annex 6 Amharic version structured questionnaires

መግለጫ፡- የሚከተሉትን ጥያቄዎች ምርጫ ስለሆኑ በማክበብ ይመልሱ

መለያ ቁጥር_____

መረጃ ሰብሳቢው ስም_____ፊርማ_____
መረጃው የተሰበሰበበት ቀን_____የተጀመረበት ሰዓት_____የተጠናቀቀበት ሰዓት_____

የክትትል አድራጊው ስም_____ፊርማ_____
የሆስፒታል መዝገብ ቁጥር(የህመምተኛው) _____ተንቀሳቃሽ ስልክ ቁጥር……..

ክፍል አንድ: ሥነ ህዝብና ማህበራዊ

የመለያኮድ	ጥያቄዎች	መልሶች	የመልስ ኮድ
101	እድሜ በአመት/ዕድሜዎት ስንት ነው?	…….	
102	በቋሚነት የሚኖሩበት ከተማ ወይስ ገጠር ነው?	ከተማ ገጠር	1 2
103	የሚኖሩበት ክልል የት ነው?	አማራ ኦሮሚያ ደቡብ ትግራይ ሱማሌ አፋር ጋምቤላ አዲስ አበባ ድሬዳዋ ሐረሪ ቤንሻንጉል	1 2 3 4 5 6 7 8 9 10 11
104	ሃይማኖትዎ ምንድ ነው?	ኦርቶዶክስ ፕሮቴስታንት ካቶሊክ እስልምና ሌላ……..	1 2 3 4 5
105	የጋብቻ ሁኔታ?	ያገቡ ያላገቡ የተፋቱ በሞት የተለያዩ	1 2 3 4
106	ስንት ልጅ ወልደዋል?	አንድ የወለዱ ብዙ የወለዱ ምንም ያልወለዱ	1 2 3
107		ያልተማረ መሰረተ ትምህርት	1 2

	የትምህርት ደረጃዎት?	የመጀመሪያ ደረጃ ሁለተኛ ደረጃ ከፍተኛ ትምህርት	3 4 5
108	ሥራዎት ምንድ ነው?	ግብርና የመንግስት ሠራተኛ የግል ሠራተኛ ስራአጥ	1 2 3 4
109	የወር ገቢ ለቤተሰብ ተካፍሎ ድርሻዎት ምን ያህል ነው/ይሆናል?	ዝቅተኛ(ከ 500 ብርበታች) መካከለኛ(500-1000 ብር) ከፍተኛ(ከ1000 ብርበላይ)	1 2 3
110	ከመኖሪያ ቤትዎ ወደ መጀመሪያ የህክምና መስጫ ጣቢያ ርቀቱ ምን ያህል ኪሎ ሜትር በግምት ይሆናል?	<10 ≥10	1 2
111	ከሚኖሩበት እስከ ጥቁር አንበሳ ሆስፒታል ርቀቱ ምን ያህል በግምት ይሆናል? በኪሎሜትር?	<100 ≥100	1 2

ክፍል ሁለት፡ስለ ማህፀን ጫፍ ካንሰር ግንዛቤና ከጤና ባለሙያ ጋር ያላቸውን መግባባት

201	ስለ ማህፀን ጫፍ ካንሰር ሰምተው ያውቃሉ?	አዎ የለም	1 2
202	ስለ ማህፀን ጫፍ ቅድመ-ካንሰር ምርመራ ያውቃሉ?	አዎ የለም	1 2
203	በቤተሰብ የካንሰር ህመም ተከስቶ ያውቃል?	አዎ የለም	1 2
204	የማዕፀን ካንሰር አምጪ/መዘዝ ምክንያቶችን ያውቃሉ?	አዎ የለም	1 2
205	ለህክምና መጥተው በሚታዩበት ወቅት የጤና ባለሙያዎች ለችግርዎ ጥሩ አድማጭ ናቸው?	አዎ የለም	1 2
206	ስለ ማኅጸን ካንሰር በሽታዎ በጤና ባለሙያዎች ተነግርዎታል?	አዎ የለም	1 2
207	የበሽታዎት ደረጃ ስንት ነው?	አልተነገረኝም ≤II ኤ ከኦፕሬሽን በኋላ II ቢ III ኤ III ቢ IV ኤ IV ቢ	1 2 3 4 5 6 7

ክፍል ሶስት፡ለመጀመሪያ መዘግየት ወሳኝ ነገሮች

301	በሽታው/ህመሙ ሲጀምሮት መጀመሪያ የተከሰተው ምልክት ምንድን ነው?	ከግንኙነት በኃላ መድማት ሽታ ያለው የማዕፀን ፈሳሽ ከወገብ በታችና የጀርባ ህመም	1 2 3 4

		ክብደት መቀነስ ከማህፀን ደም መፍሰስ	5
302	ምልክቶቹ ከተከሰቱ በኋላ ችግርዎትን ለማን አካፍለዋል?	ለባለቤትዎ ለጓደኛዎ ለቤተሰብአባል ለጤናባለሙያ ሌላ…..	1 2 3 4 5
303	የነገሩት ሰው የትምህርት ደረጃ?	ያልተማሩ መሰረተ ትምህርት የመጀመሪያ ደረጃ ከፍተኛ ሁለተኛ ደረጃ ኮሌጅ	1 2 3 4 5
304	ለመጀመሪያ ጊዜ ምልክት አይተው ህክምና መስጫ ሳይሔዱ ምን ያህል ቀናት እቤትዎ ውስጥ ቆዩ?.....ቀን	<90ቀን ≥90ቀን	1 2
305	የቆዩበት ዋናው ምክንያት ምንድን ነው?	• የገንዘብ ማጣት • ካንሰር የማይድን ህመም ነውበማለት • የባህል ህክምና መሄድ • መፈራት • በራሱ ይተወኛል በማለት • ለሌሎች ቅድሚያ በመስጠት • ህመምን ለመናገር ማፈር • ሌሎች ካለ ባጭር ግለጽ……..	1 2 3 4 5 6 7 8

ክፍል አራት፡ ለሁለተኛ መዘግየት ወሳኝ ነገሮች

401	መጀመርያ ጤና ተቋም ሂደው በሽታው እስከተረጋገጠበት ጊዜ ድረስ ስንት ቀናት ወሰደብዎት ?	ቀናት----------	
402	በሽታው ከተረጋገጠበት በኋላ ህክምና እስከጀመሩበት ድረስ ስንት ቀናት ይሆናል?	ቀናት----------	
403	በፊጎ ወደ ህክምና ተቋም ሲመጡ የነበራቸው የህመሙ ደረጃ? • ዝቅተኛ ደረጃ • ከፍተኛ ደረጃ	≤II ኤ ከኦፕሬሽን በኃላ II ቢ III ኤ III ቢ IV ኤ IV ቢ	1 2
404	የተወሰነላቸው የህክምና አይነት	ኦፕሬሽን	1

		ኬሞቴራፒ የጨረር ህክምና ኬሞቴራፒና ጨረር ህክምና የማስታግሻ እንክብካቤ	2 3 4 5
405	መጀመርያ ጊዜ ወደ ጥቁር አንበሳ የጨረር ህክምና ክፍል ከመጡበት እሰከ ህክምና የጀመሩበት ጊዜ ድረስ ስንት ቀናት ይሆናል?	ቀናት----------	
406	በፊት ህክምና ሲጀመርላቸው የህመሙ ደረጃ • ዝቅተኛ ደረጃ • ከፍተኛ ደረጃ	≤II ኤ ከኦፕሬሽን በኃላ II ቢ III ኤ III ቢ IV ኤ IV ቢ	1 2
407	ወደ ሕክምና ተቋማት ከሄዱ በኋላ ሕክምና እስከሚያገኙ ድረስ ምን ያህል ጊዜ/ቀናት ቆዩ?.... .....ቀን	<30ቀናት ≥30ቀናት	1 2
408	በሕክምና ተቋማት ውስጥ ቶሎ ሕክምና ሳይጀምሩ የቆዩበት ምክንያት ምንድን?	• ህክምና ለማግኘት ወረፋ/ተራ መጠበቅ • ብቁ ባለሙያ ያለማግኘት • Luck of mony • የህክምና መስጫ በቅርብ አለመኖር	
409	ከመጀመሪያ ጤና ተቋም ጀምሮ እሰከ ጥቁር አንበሳ ጨረር ህክምና ክፍል ድርስ ህክመና የወሰዱት	በመንግሥት በግል በሁለቱም	1 2 3

DECLARATION

I, the undersigned, declared that this thesis is my original work and has not been presented for a degree in this or any other university, and all source materials used for the thesis have been fully acknowledged

Name of the student: Mesfin Anley

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