ADDIS ABABA UNIVERSITY

COLLEGE OF HEALTH SCIENCES

SCHOOL OF NURSING AND MIDWIFERY

ASSESSMENT OF FACTORS AFFECTING CANCER PATIENTS' KNOWLEDGE AND ATTITUDE TOWARD CANCER THERAPY; ADDIS ABABA, ETHIOPIA; 2018

By Emnet Teklu (BSc)

A Thesis Submitted to Graduate program of Addis Ababa University, College of Health Sciences, School of Nursing and Midwifery for partial fulfillment of the Requirements for the Master's of Science in Oncology Nursing

June, 2019

Addis Ababa, Ethiopia

ASSESSMENT OF FACTORS AFFECTING CANCER PATIENTS' KNOWLEDGE AND ATTITUDE TOWARD CANCER THERAPY; 2018; ADDIS ABABA, ETHIOPIA

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

A Thesis Submitted to Graduate program of Addis Ababa University, College of Health Science Sciences, School of Nursing and Midwifery for partial fulfillment of the Requirements for the Master's of Science in Oncology Nursing

By Emnet Teklu (BSc)

Advisor: Hussen Mekonnen (Bsc,MSc, PhD)

Tefera Mulugeta (BSc, MSc, PhD fellow)

June, 2019

Addis Ababa, Ethiopia

APPROVAL SHEET

ADDS ABABA UNIVERSITY

COLLEGE HEALTH SCIENCE SCHOOL OF ALLIED SCIENCES DEPARTMENT OF NURSING AND MIDWIFERY

I, the undersigned MSc student, declare that I have submitted my original work on a title Assessment of factors affecting cancer patients' knowledge and attitude toward cancer therapy, TASH for the examination.

Submitted by:

_____ _____ _____

Name of student Signature Date

This thesis work has been submitted for examination with my approval as an advisor.

Approved by:

_____ _____

Name of Major Advisor Signature Date

_____

Name of Co-Advisor Signature Date

APPROVAL BY THE BOARD OF EXAMINATION

This thesis by _____ is accepted in its present form by the board of examiners as satisfying thesis requirement for the degree of masters in _____.

INTERNAL EXAMINER:

_____	_____	_____	_____
NAME	RANK	SIGNITURE	DATE

External EXAMINER:

_____	_____	_____	_____
NAME	RANK	SIGNITURE	DATE

RESEARCH ADVISORS:

_____	_____	_____	_____
NAME	RANK	SIGNITURE	DATE

_____	_____	_____	_____
NAME	RANK	SIGNITURE	DATE

DEPARTMENT HEAD

_____	_____	_____	_____
NAME	RANK	SIGNITURE	DATE

STATEMENT OF DECLARATION

By my signature below, I declare and affirm that this thesis is my own work. I have followed all ethical principles of scholarship in the preparation, data collection, data analysis and completion of this thesis. All scholarly matter that is included in the thesis has been given recognition through citation. I affirm that I have cited and referenced all sources used in this document. Every effort has been made to avoid plagiarism in the preparation of this thesis.

This thesis is submitted in partial fulfillment of the requirement for a graduate degree from the Addis Ababa University at College of Health Sciences, School of Allied Health Sciences department of Nursing and Midwifery. The thesis is deposited in the Addis Ababa University Digital Library and is made available to local, national and international scientific community. I solemnly declare that this thesis has not been submitted to any other institution anywhere for the award of any academic degree, diploma or certificate.

Brief quotations from this thesis may be used without special permission provided that accurate and complete acknowledgement of the source is made. Requests for permission for extended quotations from, or reproduction of, this thesis in whole or in part may be granted by the Head of the Department or all advisers of the theses when in his or her judgment the proposed use of the material is in the interest of scholarship and publication. In all other instances, however, permission must be obtained from the author of the thesis.

STUDENT

Name: _____ Signature: _____ Date: _____

RESEARCH ADVISORS:

_____	_____	_____	_____
NAME	RANK	SIGNITURE	DATE
_____	_____	_____	_____
NAME	RANK	SIGNITURE	DATE

Acknowledgments

First and for the most, I would like to praise the Almighty God who gave me all the strength and hope to accomplish this study and I would like to acknowledge Addis Ababa University for sponsoring me to conduct this research. Next I would like to recognize the contribution of the respondents for cooperation in providing me information to accomplish this study. I do not have words to express my thanks to my advisor Dr. Hussein Mekonnen and my co-advisor Mr. TeferaMulugetafor their constructive comments, and finallymy special thanks and appreciation also go to my mother the iron women Aba, my beloved Yene and all my family members for their moral support and encouragement in the course of achieving this goal.

ABBREVIATIONS/ACRONYMS

AAU:	Addis Ababa University
DNA:	Deoxyribonucleic Acid
IRB:	Institutional Review Board
MoH:	Ministry of Health
SD:	Standard Deviation
SPSS:	Statistical Package for Social Science
TASH:	TikurAnbessa Specialized Hospital
WHO:	World Health Organization

Contents

LIST OF TABLES

LIST OF FIGURES

ABSTRACT

Background: Knowledge and attitude about cancer disease influences the patient's healthcare seeking behavior and the treatment outcome. As cancer is among the leading killing diseases in the world including Ethiopia different treatment options are used to cure and prevent further complications. So the knowledge and attitude of the cancer patient towards cancer treatment is very important to start and finish the follow up.

Objective: The objective of this study was focused to assess factors affecting knowledge and attitude of cancer patients toward cancer therapy at Tikur Anbessa Specialized Hospital.

Methods: both qualitative and quantitative approaches were employed and sample size for quantitative study was determined by using single population proportion (SPP) formula, 298 samples were enrolled from adult inpatient and outpatient Oncology Unit. Also a sample size of 6 was selected for qualitative study by judgmental or purposive sampling technique. Structured questionnaire for quantitative and semi-structured interview guide for qualitative study was used as data collection tool. The data were analyzed using descriptive and inferential statistics; frequency percentage, mean, and standard deviation of all the variables were analyzed on SPSS version 21. Qualitative data were analyzed through thematic analysis.

Results: A total of 296 respondents were participated in the study. The proportion of participants with good knowledge and positive attitude about cancer therapy was 30.7% and 52.1% respectively with 95% confidence interval. Male cancer patients were 35.5% more knowledgeable than those female participants (AOR= 0.355, 95% CI; 1.130, 1.966). Those whose education is college and above were four times knowledgeable about cancer therapy than illiterate (AOR=3.92, 95% CI; 2.08, 7.40). Patients above age 60 years were 42.1% more to have positive attitude toward cancer therapy than 18-30 years (AOR= 0.421, 95% CI;1.999,4.9786).and whose educational background is college and above were 40% more likely to had positive attitude toward cancer therapy than illiterate participants' (AOR= 0.400, 95% CI; (1.209,4.765). The qualitative result shows that even though they have good attitude towards cancer therapy the costs are unaffordable and affecting their life as well as their family.

Conclusion and Recommendation: More than two third of cancer patients had poor knowledge and around half of the cancer patient had positive attitude about cancer therapy.

Male, patients from rural area and more educated patients were more knowledgeable than female, patients from urban and lesser educated patients respectively. Respondents with higher age, education and income level were more likely to have positive attitude than those with lower age, education level and income categories.

MoH attention on cancer and cancer treatment education program is vital. In addition, an improvement of low carrying capacity and poor patients' registry is necessary to reduce long waiting time for cancer therapy at the hospital.

Keywords: knowledge, attitude, cancer therapy, factors

1. INTRODUCTION

1.1. Background of the study

The global cancer burden is estimated to have risen to18.1 million new cases and 9.6 million deaths in 2018 (1) while approximately 70% of deaths from cancer occur in low and middle income countries(2).Cancer has been the leading cause of death worldwide for more than two decades(3). In Africa, it is an emerging public health issue, with estimated 715,000 new cases and roughly half a million people die of cancer in sub-Saharan Africa every year (3).

Cancer can impose people for heavy economic and social burdens. Even it is a global pandemic but it is very serious in low and middle-income countries, where resources for prevention, diagnosis and treatment are limited or non-existent due to the rapidly increasing pattern.(4)

Every year in Ethiopia, cancer claims thousands of life that estimated over 60 thousand new cancer cases and around 44thousand deaths reported and every year patients often visit hospitals with advanced stages cancer(2). Moreover, even though available data were limited, in Ethiopia more than 150,000 cancer cases estimated each year and actually about 4193 adult cancer patients visited Tikur Anbessa Specialized Hospital for new case cancer treatment in the year 2018(5).

Even though cancer is life threatening disease it can be cured if diagnosed and treated early(6). There are many treatment choices such as surgery, chemotherapy, radiation therapy, hormonal therapy and immune therapy and these treatments have different costs, criteria to be used and side effects and treatment dropout depend up on overall health of the patient and age(7).

Timely detection of cancer in its nascent stages can be regarded as one of most effective method, to control mortalities due to cancer. The majority of the cancers are detected on the basis of appearance of some overt symptoms. The detection of cancer at more advanced stages makes management of cancer more complex, with a little hope of recovery with existing treatment options(8).

Recently several factors have been investigated with a view to explaining differences in patients' management, such as patients' demographic and socio cultural characteristics, knowledge and psychographic factors, including the treatment methods(9).

During the process of medical treatment, treatment refusal by patients may due to adverse effects, underlying illnesses, a poor support system, financial situation, transport difficulty, use of alternative medicine, and other factors(10).

The knowledge and attitude of patients also vary for different treatments of cancer, and for different population groups. Diverse factors are responsible for such variations, including demographics, access to information, cost and side effect, cultural and religious factors, disease severity, and combinations of these(10).

There are many factors that affect directly or indirectly attitude of patients toward cancer therapy like socio-economic, environmental factor and psychological factors. Patients can be classified as striving for length of life or for quality of life. So knowing the patients attitude is crucial point before starting the treatment or in between the follow up. Studies revealed that older patients, patients who are more tired or who have less positive feelings, and patients who appreciate advance care planning are more inclined to strive for quality of life (2).

The aim of this study was to examine the cancer patients' attitude and knowledge and their influencing factors toward cancer therapy at Tikur Anbessa Specialized Hospital.

1.2. Statement of the problem

Cancer has become one of the biggest killers of the year 2018 , which ranks second only to deaths caused by cardiovascular disease(2). The huge mortality and economic burden associated with cancer, has brought it into prominence for policy makers, pharmaceutical companies, researchers with the common objective to control mortality and improve survival of the affected persons(11). The economic burden due to cancer incidences is increasing every day, according to an estimate the amount of money spent on cancer treatment has doubled in past two decades(12).

The bio-psychosocial and spiritual model guarantees the need to handle together the patients' perceptions of health, the threat of disease, and barriers in their social or cultural environment, which appears to influence the likelihood that a patient will engage in health-promoting and treatment behaviors such as medication, proper diet, and engaging in physical activity(10).

The foremost problems facing sub-Saharan countries are their unfavorable attitude toward modern medication, belief of attaching disease and its curing method to spiritual tradition and culture and for these reasons, the outcome of cancer treatment programs in these countries is critical. Several factors, such as culture, false beliefs, and taboos, can affect early detection and proper treatment. Failure to identify and react to these domestic factors can mess up the success of any cancer treatment outcomes, even with tolerable resources(13).Patients will commonly turn to alternative healthcare strategies and traditional healers, believing them to have equal or superior ability to address difficult health problems(14).

Mortality from cancer is significant if left untreated or with treatment significantly delayed. These delays lead, understandably, to the firm establishment of cultural notions surrounding cancer that emphasize its resistance to treatment at late stages (15). In many developing countries, particularly in Ethiopia, most patients with cancer, die of the disease being complicated by late diagnosis perhaps that caused by patients' refusal to go to hospitals in early stages and trying to cure cancer through traditional and spiritual ways(16).

Ethiopians use traditional medicines not only due to lack of access to modern health care facilities but also because of their attitude toward modern medication. Ethiopians use traditional medicinal plants for treatment of various diseases including cancer. However, the current

Ethiopian health care system is a primary health care focused system which improves access to modern medicine more than ever. But, both rural and urban populations continue to use traditional medicine. The reason behind this was found to be the cultural acceptability of traditional medicines that affects their attitude toward modern treatment (14).

Knowledge and attitude of the cancer patients' is very essential about the signs and symptoms of cancer, risk factors, benefits of early diagnosis and treatment, availability of health services and prevention methods. The patients' knowledge and attitude about cancer therapy is influenced by socio demographic factors, treatment options, cost and side effects and the availability and accessibility of health services (17).

Since Ethiopian culture is multi ethnic, multilingual and multifaceted, and it reflects diversity in culture and respect for traditional customs there is different attitude towards many diseases including cancer and also diseases' treatment options. However, there are no sufficient studies available which differentiate factors influencing patients' attitude towards cancer therapy.

This study assessed factors affecting knowledge and attitude of cancer patients' toward cancer therapy at Black Lion Hospital in the year 2019.

1.3. The Significance of the Study

Cancer research is moving towards establishing strength of causality for various factors, which contribute in cancer treatment options (chemotherapy, radiation therapy, Surgery).

- Examining cancer patients' knowledge and attitude toward cancer therapy may help ministry of health, researchers and healthcare workers in paving the way to the future on cancer center developments, cancer prevention and control policy formulation and treatment enhancement programs.
- The finding can be used to guide the hospital management as well as other concerned organizations and other stakeholders.
- Contribute to empirical literature on determinants of patients' attitude toward cancer therapy, hence serves as a point of reference to encourage further research both on the scope and beyond.
- This study aimed to assess knowledge and attitude of at TASH among cancer patients' so as to develop ways to improve the awareness towards cancer therapy in Ethiopia. Further, finding can assist program planners and health educators to target and develop prevention, control and treatment programs.

2. LITERATURE REVIEW

2.1. Introduction

Under this chapter cancer is defined along to its historical development and also types of cancer and epidemiology and prevalence, distribution of cancer focused at the global, Africa, Ethiopia as well as specifically Tikur Anbessa Specialized Hospital was discussed. The different cancer therapy methods with their own features, costs, side effects and patients' preference were described. This chapter also comprises the conceptual framework and literature gap availed.

2.2 Global and national trend of cancer therapy

Cancers that once were rare and considered the diseases of western countries, such as colon, breast, and lung cancers, are now frequently diagnosed in less developed or economically transitioning countries and their rates are on the rise. In addition to the increasing trends, the future burden of cancer in the developing world is likely to be exasperated by the expected increases in life expectancy and aging and growth of the population [10]. The proportion of cases diagnosed in less developed countries is projected to increase from about 56% in 2008 to more than 60% in 2030 (18).

Cancer treatment is the series of interventions, including psychosocial support, surgery, radiotherapy, chemotherapy and hormone therapy, that is aimed at curing the disease or prolonging the patient's life considerably while improving the patient's quality of life(19). The management of symptoms related to cancer and its treatment is an important part of cancer care, affecting the completion of treatment and quality of life, as well as physical and psychological functioning. Side effects may occur during active treatment, or months or even years later(20).

In addition to clinical factors multiple forces are at play in influencing treatment decisions and disparities including patients' personal and psychological factors. This may include patient knowledge, attitudes, and beliefs about treatment and healthcare experiences, provider communication and relationship, patient involvement in making the decision , and social relations (e.g., the influence of family) (21).

Cancer care is rapidly becoming a public health priority in sub-Saharan Africa. Up to 70% of the predicted 24 million people that will be diagnosed with cancer annually by 2050 will reside in

low-income and middle income countries. Cancer incidence in these countries is rising because of lifestyle changes, increased life expectancy, and improved treatment of infectious diseases. Many countries in sub-Saharan Africa have health-care systems that are struggling to meet the increasing demand caused by the growing number of patients with cancer, since all the necessary components of cancer care are inadequate (2).

Clinical assessment is an essential component of cancer diagnosis in sub-Saharan Africa, since advanced equipment is rarely available. Late presentation is commonplace in most countries in the region. However, clinical examination is not as accurate as staging with advanced imaging. Knowledge of regional differences in cancer burden can be useful for generating a differential diagnosis. For cancers with a high prevalence, identification of such groups of associated symptoms by geographical region is important. Additionally, knowledge of local benign infectious masses is useful for accurate diagnosis (22).

In Ethiopia where oncology practice is so young, awareness' even among both medical professionals and patients about oncology is much inferior than expected. In Ethiopia like most of sub-Saharan Africa countries had lower awareness and unfavorable perception of cancer treatment (18).

An estimated 50% of all cancer patients would benefit from treatment with radiotherapy, but access is highly inequitable. Globally, 80% of cancer patients live in low and middle-income countries, but have access to only 5% of the world's radiotherapy resources3. However investments in radiotherapy are recouped over 10-15 years and have the potential to strengthen the whole health system (23).

The target population for diagnosis and treatment according to the WHO's estimate for Ethiopia is 60,000 new cancer patients. There are 5 regional oncology centers under construction in five teaching hospitals located in different regions: Jimma, Hawassa, Haromaya, Mekelle and Gondar. There is ongoing specialty training on Oncology and hematology at School of Medicine, Addis Ababa University (24).

According to the Federal Ministry of Health Little awareness, improper understanding of the disease, associated stigma, a sense of hopelessness, and the lengthy process of referral to the country's only specialist centre are other barriers to cancer treatment in Ethiopia (5).

A cross sectional survey on sample population of 380 cancer patient receiving chemotherapy in the oncology clinic of Tikur Anbessa Specialized Hospital in 2017 to assess the knowledge and attitude of patients for anticancer chemotherapy and associated factors disclosed that 51.1% of the participants were with positive attitude and 33.3% of the participants were knowledgeable. Patients' previous history of chemotherapy and income were associated with knowledge while sex and family history of cancer were significantly associated with attitude of patient towards chemotherapy. Patient with no previously history chemotherapy were 21.5% times less likely to have knowledge of chemotherapy than those who have take chemotherapy previously. Patient who has more income were 25.49% more likely to have knowledge. Patient who were male were to have 42.1% time less likely to have a positive attitude than the females.. Patient who were male were to have42.1% time less likely to have a positive attitude [AOR=0.421(0.225, 0.786)] than the females. Patient with no family history of chemotherapy were 3.447less likely to have a positive attitude [AOR= 3.447(1.278, 9.296)] than with family history cancer(25).

A cross-sectional institution based study was conducted among 384 respondents who had cancer at TASH found that high number of respondents reported problems on accessibility of palliative care services for cancer in TASH and 62.2 % of respondents reported presence of previous knowledge. Respondent's previous knowledge about services, physical well being, social well being, income and marital status were a concern for utilization of cancer palliative care services at TASH(26).

Patients should receive information about their disease, potential benefits and side effects of the proposed therapy, and give their consent before treatment commences. Relevant and understandable information is a prerequisite for patients to acquire enough knowledge to enable them to be actively involved in shared decision making, to comply with the treatment plan, to make them aware of potential side-effects and to understand what to do if side-effects occur. Furthermore, well informed patients are more satisfied with care, have a better sense of control of their total situation, and report a better quality of life (27).

Presently, Ethiopia has only one cancer treatment center in Black Lion hospital in Addis Ababa and only one population based cancer registry in Addis Ababa city(28). Therefore, the estimate

of cancer burden in the country is made on basis of extrapolations of data from these two sources.

At the data from Black Lion Hospital, radiotherapy center, where two third of patients seen are coming from different regions of the country the commonest cancer in males are Head and Neck tumors, sarcomas and GI malignancy. In women, cancers of the cervix, breast and colorectal are top three cancers(29).

2.3. Factors Affecting Knowledge and Attitude of Cancer Patients toward Cancer therapy

An attitude can be defined as 'a psychological tendency to view a particular object or behavior with a degree of favor or disfavor'. Attitudes are generally understood to be formed through a process of individual subjective evaluation (involving a rational assessment of costs and benefits), but also influenced by affective and emotional responses and related beliefs. Attitudes are defined as being specific to an object or behavior while beliefs are more generic, relating to a wider worldview, and tend to be more stable(30).

Knowledge, attitude and practice level of the community is very essential about the signs and symptoms of cancer, risk factors, benefits of early diagnosis and treatment, availability of health services and prevention methods. Patients' knowledge and attitude about the disease is influenced by socio-demographic factors and the availability and accessibility of health services. In turn, screening behavior is a complex outcome of many factors operating at individual, family, and community levels(31).

Some factors affecting Knowledge and Attitude of Cancer Patients toward cancer therapy were discussed as below

2.3.1. Socio-Demographic Factors

Socio demographic factors include variables such as age, sex, marital status, educational background, occupation, residence area, religion, income and others. A quantitative study conducted on cancer patients of different hospitals shows there was a significant association between the knowledge of patients with age, sex, and duration of education, educational level, income, and occupation (32).Demographic factors identified to affect knowledge and attitude of patients toward cancer treatment includes patient's age, ethnicity, gender, education, living standard, nationality, religion and marital status. The majority of the studies showed that age

was related to cancer treatment, although a few researchers found age not to be a factor affecting their knowledge and attitude toward it (33).

A mixed approach study conducted on 145 rectal cancer patients in china aimed at assess the knowledge, attitudes, and practices related to pre Chemo radiotherapy in Rectal Cancer Patients association was found between socio demographic characteristics of patients and their knowledge and attitude about cancer treatment methods. Older people might also have more concern about their health than younger patients, so that older patients' have favorable attitude toward cancer treatment than young patients. The effect of educational level on knowledge and attitude toward modern cancer treatment was evasive after reviewing articles; several studies found that patients with higher educational level might have good knowledge while some studies found no association between educational level and attitude toward cancer treatment, and also low-income patients are equipped with less knowledge(34).

2.3.2. Patient knowledge

Patient's knowledge about their disease and treatment is not always adequate. Some patients lack understanding of the role their therapies play in the treatment; others lack knowledge about the disease and consequences of poor fulfillment or lack understanding of the value of clinic visit. Some patients thought the need for medication was intermittent, so they stopped the drug to see whether medication was still needed(35).

Knowledge about health and health care are important determinants of health behavior. When knowledge is based on incomplete or erroneous information, inappropriate health behaviors may follow(33). Thus, if the knowledge and beliefs people possess regarding the etiology of cancer and its treatment are inaccurate, we would expect inappropriate care-seeking behaviors. When erroneous beliefs lead to a delay in therapeutic intervention, they may contribute to inferior survival outcomes(36).

2.3.3. Cost of cancer therapy and patients income

The economic burden due to cancer incidences is increasing every day, according to an estimate the amount of money spent on cancer treatment has doubled in past two decades. The mental agony it puts on cancer patients, and their near and dear ones cannot be enumerated by any statistics (2).Cost is a crucial issue in patient's conformity especially for patients with chronic disease as the treatment period could be life-long (29).

2.3.4. Disease factor

No consistent evidence shows that subjects with greater disease severity based on clinical evaluation comply better with medications than healthier ones. Instead of actual disease severity, perceived health status may have more significant influence on attitude. Similarly, the actual severity of the illness was not related to knowledge (37).

2.3.5 Side effect

The effects of the cancer therapy on healthy cells can cause side effects like nausea, vomiting, hair loss and tiredness or feeling sick that might lead to unfavorable attitude toward cancer therapy(38).

2.4. Conceptual Framework

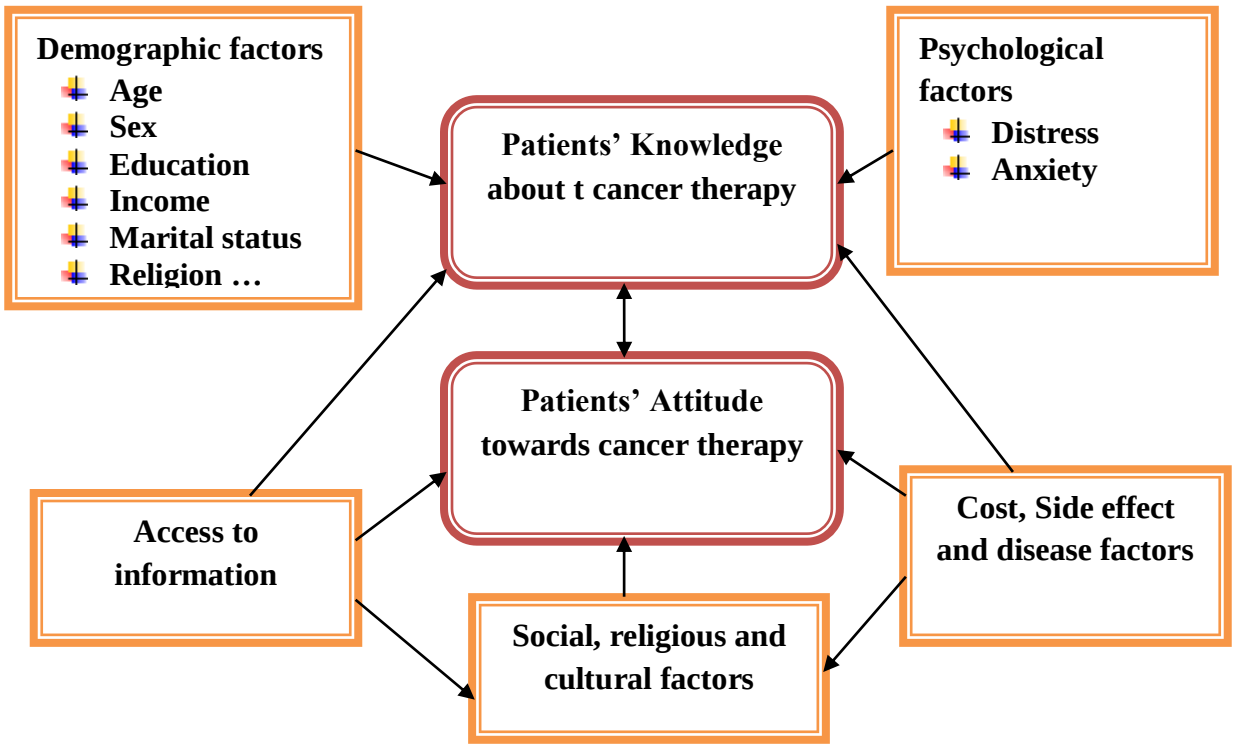

Figure 1 Conceptual Framework on knowledge and attitude of patients toward cancer therapy, TASH, Addis Ababa, Ethiopia

2.5. Justification of the study

Studies conducted so far on related topics but, didn't addressed and explained variables that affect patients attitude toward cancer therapy like personality, religion, culture and costs.

Previous studies, reviewed only focused on chemotherapy whereas this study was aimed to address three cancer treatment methods.

3. OBJECTIVES OF THE STUDY

3.1. General Objective

To assess factors influencing cancer patients' knowledge and attitude toward cancer therapy at Tikur Anbessa Specialized Hospital, Addis Ababa, Ethiopia, 2019.

3.2. Specific Objectives

The study identified and achieves the following specific objectives

- To identify cancer patients knowledge about cancer therapy in the oncology department of Tikur Anbessa Specialized hospital, Addis Ababa, Ethiopia
- To identify cancer patients attitude toward cancer therapy in the oncology department of Tikur Anbessa Specialized hospital, Addis Ababa, Ethiopia
- To identify associated factors that affects patients' knowledge and attitude toward cancer therapy, Tikur Anbessa Specialized Hospital, Addis Ababa, Ethiopia.

4. METHODOLOGY

4.1. Study area and period

Tikur Anbessa Specialized Hospital is the largest public hospital in Addis Ababa and the country's only cancer referral hospital. At Oncology unit one CT Scanner, one MRI and two Cobalt radiotherapy units and 600 beds of which 16 are allocated for cancer treatment(28).

TASH was selected as the study area because it is the only hospital that give service for radiation and chemotherapy(39).

As of December 2018, about 50,000 patients have been diagnosed with any type of cancer from which 30,000 patients are adults and had at least 6 months duration of cancer diagnosis, whereas in 2018 an average of 12 patients per day visited the oncology unit for cancer treatment(40).

The study was conducted at Tikur Anbessa Specialized Hospital from August 2018 to April 2019.

4.2. Study design

A descriptive cross sectional study survey was employed using a mixed approach (qualitative and quantitative).

4.3. Source population

All cancer diagnosis adult patients at TASH were the source population of this study

4.4. Study population

Both adult inpatient and outpatient who were registered at Oncology Unit for cancer therapy from August 2018 to October 2019 at TASH that amounts 1094 was considered as target population of the study.

4.4.1. Inclusion criteria

Cancer patients above age 18 were included in the study for the matter of their analytical thinking, ability to understand language message and degree of their relatively determined socioeconomic, cultural, demographic and educational background different from that of age 18 and below patients.

4.4.2. Exclusion criteria

Those adult cancer patients who were seriously ill were excluded from study frame.

4.5. Sampling size and Sampling technique

Sample size was determined by using single population (SP) formula based on the assumptions of 95 % confidence level, 5% desired precision (d),50 % p value (no local study so far) and a 5 % non-response rate. Accordingly, the total sample sizes of 298 patients were determined as computed below. The sample size was determined using single proportion formula as follows.

$n = [(z\alpha/2)^2.p(1-p)]/d^2$ …… *Single population formula*

zα/2=1.96

Therefore, $n = \frac{(1.96)^2*0.5*0.5}{(0.05)^2}$

$= \frac{0.9604}{0.0025} = 384$

$No = \frac{n}{1+n/N}$…… *Adjustment formula*

$\frac{384}{1+(384/1094)}$

$=\frac{384}{1+0.351} = 384/1.351 = 284$

284+284*0.05 (non response rate) =298

Client's registration number was used from the oncology unit. Around 4193 adult clients with cancer whom visited TASH in October 2018 and around 1094 clients visited the unit for three consecutive months. This, therefore, used patient flow estimation of the current for sampling technique.

The sample of 298 cancer patients who visited the oncology unit of the hospital during the data collection period was selected by using consecutive sampling, where a researcher continues to gather cases until the amount of sample size is filled. Questionnaires were distributed and collected by the data collectors consequently from cancer patients whom visited TASH during the data collection session until the sample size of 298 was reached.

Data/ information saturation is considered to limit the number of sample/participants for qualitative study to six.

4.6. Data collection instrument

The study used primary data. Structured questionnaire and semi-structured interview guide were used as tool of data collection to collect data from sampled cancer patients.

For the quantitative part in order to measure attitude participants are given a set of five response options (strongly disagree, disagree, neutral, agree, or strongly agree) and are asked to choose one response to express their view of each statement for statements expressing favorable views of the object, responses are coded 1, 2, 3,4 and 5 respectively(32).

Quantitative data from participants were collected by trained nurses using the Amharic version of questionnaire in the oncology unit. Trained supervisors were assigned to a group of data collectors.

The questionnaire has 3-part: 1) demographic characteristics questions (8 questions with 2-5 responses based on nature of the variable), 2) knowledge and attitude related questions measured with Likert scale. The Likert scale questions comprise17 questions measured in five scales as; Strongly disagree = 1, Disagree = 2, Neutral = 3, Agree = 4 and strongly agree = 5 values.

Concerning to the qualitative part the five interview questions address how economic impact of cost of cancer therapy affects patients' attitude, the way social, the cultural and religious pressure affects patients' attitude toward cancer therapy and knowledge of patients about conditions of cancer therapy including what to do and not to do while attending cancer treatment, its side effect and efficiency management and duration of treatment.

Two interviewers and supervisor were trained for a day on the procedures of interview and two local language conversation skills. Day to day supervision was carried out for the entire length of the interview period by a trained supervisor. The participants were interviewed in Amharic and Afan Oromo languages. Participants were encouraged speaking and expressing their ideas freely and describing their knowledge, attitude and experience with cases of cancer therapy.

Each interview was audio taped with each participant's permission. An interview with each participant lasted approximately 20 - 40 minutes and closed after the saturation of thematic ideas. Apart from the participants, interviews and supervisor, no interviewees peer was allowed to intervene and speak during the interviews. Detailed hand written notes of each interviewee's were taken at the time the interviews were made and memos taken by the supervisor.

4.7. Study variables

Dependent variable

- ✓ Knowledge of cancer therapy
- ✓ Attitude toward cancer therapy

Independent variables

- ✓ Personal factors of the cancer patients including
  - Sex
  - Age
  - Marital status
  - Religion
  - Educational background
  - Area of Residence
- ✓ *Knowledge of patients*: Patients' awareness, information and understanding about cancer and its treatment conditions.
- ✓ *Cost of cancer therapy*: The amount of money that expense for cancer disease treatment for buying drugs, paying for radiation therapy or surgical interventions.
- ✓ *Side effect of cancer therapy*: Undesired clinical conditions that can possibly arise from surgery, chemotherapy and radiation treatment

4.8. Operational definitions

- ✓ **Good Knowledge**: those respondents who scored 50%and above score of assessing knowledge about cancer and cancer therapy.
- ✓ **Poor knowledge**: those respondents who scored below 50% score of knowledge assessing question about cancer and cancer therapy.
- ✓ **Negative Attitude**: those respondents who scored below mean score of attitude assessing question toward cancer therapy.
- ✓ **Positive Attitude**: those respondents who scored above mean score of attitude assessing question toward cancer therapy.

4.9. Data Quality Assurance

After collecting the data using structured and semi-structured questionnaire, the researcher was organized the data depending on the sources of information. Moreover, in order to ensure logical validity and consistency of responses, each completed questionnaire was checked for completeness by the researcher. Identified mistakes and data gaps were rectified as soon as possible.

Pre-test reliability of the questionnaire was tested using Cronbachs alpha coefficient of reliability because it is commonly used as a measure of the internal consistency or reliability of a psychometric test score for a sample of examinees. Some portion 10 % (30) of the questionnaire was pre-tested at Zewditu Memorial Hospital to check acceptability and consistency two weeks before the actual data collection. The reliability of the whole items was acceptable when as Lombard stated coefficients of 0.9 or greater are nearly always acceptable(41).

On this study the Cronbach's Alpha coefficient tested for each 17 items for knowledge and attitude were greater than 0.9 and found acceptable.

First questionnaires were prepared in English version and then translated by Ardi Translation Services plc along with data collectors and the researcher into Amharic and back to English to check its consistency. Amharic language is preferred as it is spoken all over the country.

The data collector nurses selected from TASH was oriented about the data collection procedure for 50 minutes/hours and their overall data collection procedure was supervised by a research supervisor.

Quality of data on qualitative study was assured for credibility, transferability, conformability and dependability. Data captured from the interviewees using voice recorders and detailed notes were transcribed verbatim into the English language each day. The transcripts were read and checked independently by the local investigators for verification. Also in order to maintain the reliability and credibility of the qualitative study part all knowledge and attitude related predetermined criteria were avoided and dichotomous terms were mediated subjectively. Unclear and vague response were managed to be clarified during the interview session. The traditional way of expressions of the participants was contextualized in order to validate their relevance and correct representation of the data.

4.10. Data Processing and Analysis

The collected data were coded and entered into Statistical Package for the Social Sciences (SPSS) version 21.0, then cleaned to check outlier or incomplete data and analyzed with statistical analysis. Descriptive statistics were used to summarize study variables. Logistic regression was used to analyze the associations between independent variables and knowledge and attitude status by using crude odds ratio (COR) and adjusted odds ratio (AOR) at 95% confidence level. A p-value of less than 0.05 was considered statistically significant.

4.11. Ethical Considerations

Ethical clearance was obtained from Addis Ababa University, College of Health Science, School of Nursing and Midwifery IRB while the proposal was approved. Official support letter was been written to College of Health Science Clinical director and then Oncology department allowed the data collection with pre-planned work plan. Informed verbal consent was secured to each of study subjects. Each respondent and interviewee patient was informed about the objective of the study and assurance of confidentiality, risks and benefits. On qualitative study interviewees were informed and asked for permission for audio taping. The audio taped information cannot be used for another purpose, disseminated and taken to another body, rather used only for the purpose of this study.

4.12. Dissemination of the result

The final paper will be submitted to the Addis Ababa University, College of Health Science, School of Nursing and Midwifery, Department of Nursing and Midwifery, presentation in professional conference and will be published in reputable local or international journals.

5. RESULTS

In this study, 298 sample size was proposed, of these 290 respondents have completed the questionnaire that account 97.3% response rate. The detail of the result has been presented below

5.1 Socio-demographic characteristics of Cancer patients

With this paragraph the result of the participants demographic characteristics depicted as 151 (52%) respondents were females and 139(48.2%) males; 109 (37.5%) of the respondents age ranges 31- 45, and 73 (25%) of respondents ages were between 46 to 60 years. Regarding their residence majority of the respondents 238 (82.2%) was from rural area of the country.

Concerning to educational background of the respondents 109 (37.5 %) attend elementary level, 73 (25 %) of them were illiterate and only 36 (12.5%) of the respondents have educational background college and above. With regard to religion of respondents as observed from below table; 224 (77.2 %) respondents were Orthodox Christians and followed by 36(12.5%) Muslims. Regarding the participants marital status145 (50 %) of the respondents were married and while only 55 (18.8 %)were singles. 181 (62.5%) of the participants monthly income were less than one thousand Ethiopian birr and those who have more than 4000 Ethiopian birr account only 18 (6.3%), and 109 (37.5%)of the respondents were private employees.

Table-1 Distribution of Socio-demographic characteristics of the respondents attending treatment in TASH, Addis Ababa, Ethiopia, 2019, n=290

Category	**Answer**	**N**	**%**
Age group(years)	18-30	55	18.8
	31-45	109	37.5
	46-60	73	25
	>60	55	18.8
Sex	Male	139	48
	Female	151	52
Area of residence	Rural	238	82.2
	Urban	52	17.8
Educational background	Illiterate	73	25
	Elementary	109	37.5
	High School	73	25
	College and Above	36	12.5
Religion	Orthodox	224	77.2
	Muslim	36	12.5
	Protestant	30	10.3
Marital status	Single	55	18.8
	Widowed	55	18.8
	Married	145	50
	Divorced	36	12.5
Monthly Income	<1000	181	62.5
	1000-3000	55	18.8
	3001-4000	36	12.5
	>4000	18	6.3
Occupation	Unemployed	91	31.3
	Private Employed	109	37.5
	Government Employed	36	12.5
	Merchant	36	12.5
	Farmer	18	6.3

The respondent cancer patients were also asked how many times they came to TASH for cancer treatment and majority of them (74.14%) received fourth cycle and above while only 6.21% of them were first time visited oncology unit of the hospital and receiving first cycle.

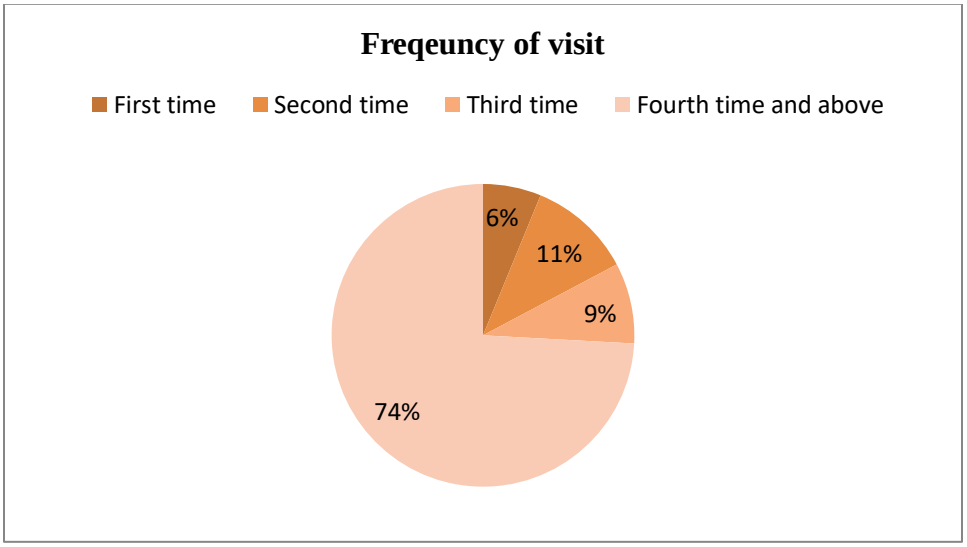

Figure-2: Respondents' distribution of treatment frequency in the period of data collection in TASH, 2019

In association with type of cancer and treatments option of patients, on this study respondents were diagnosed for majority of the cancer patients at TASH were found to be cervical cancer and breast cancer cases which accounts 92 (31.8 %) and 65 (22.6%), respectively, followed by 56 (19.2%) other unspecified cancers.

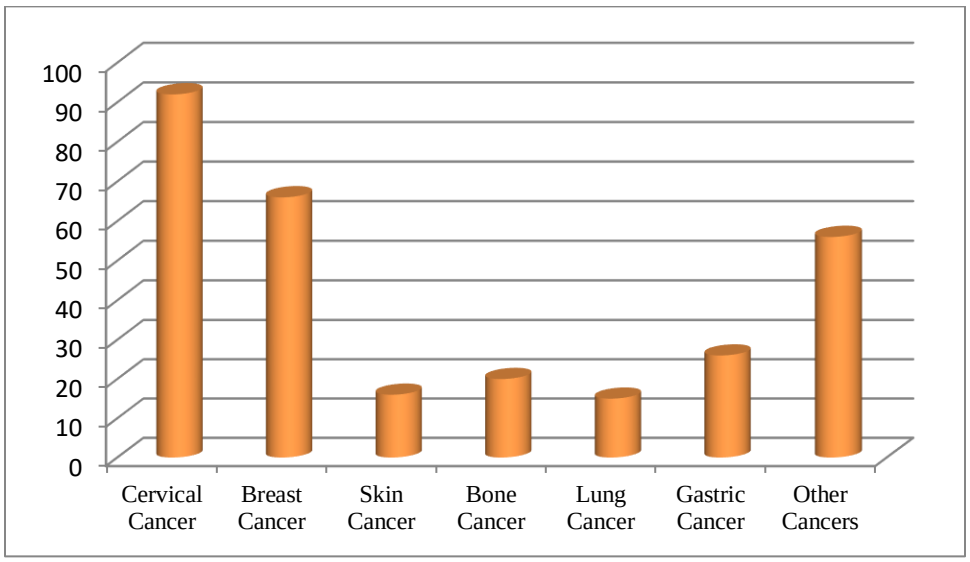

Figure-3: Description of respondents' cancer diagnosis and current treatment in TASH, 2019

Majority of the patients 212 (73.4%) were treated by the combination of chemotherapy, surgery and radiation therapy while only 32 (11.1%) of cancer patients were taking only chemotherapy and 15.5% were treated with radiation therapy only at TASH.

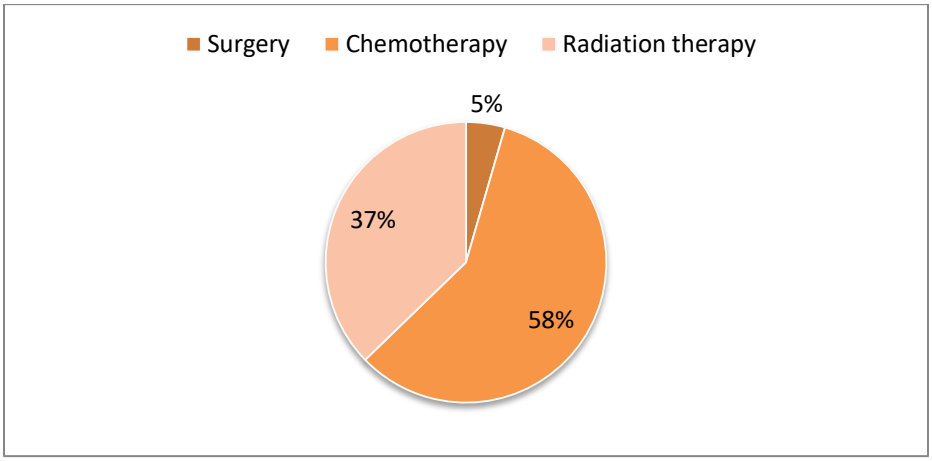

Figure-4: Description of respondents' current treatment in TASH, 2019

Result on Side effect of cancer therapy experienced by patients' shows cancer patients at TASH experienced different side effects of cancer therapy as they are taking chemotherapy, surgery, radiation therapy or combination of these as cancer therapy options and these types of cancer therapy has their own side effects on cancer patients.

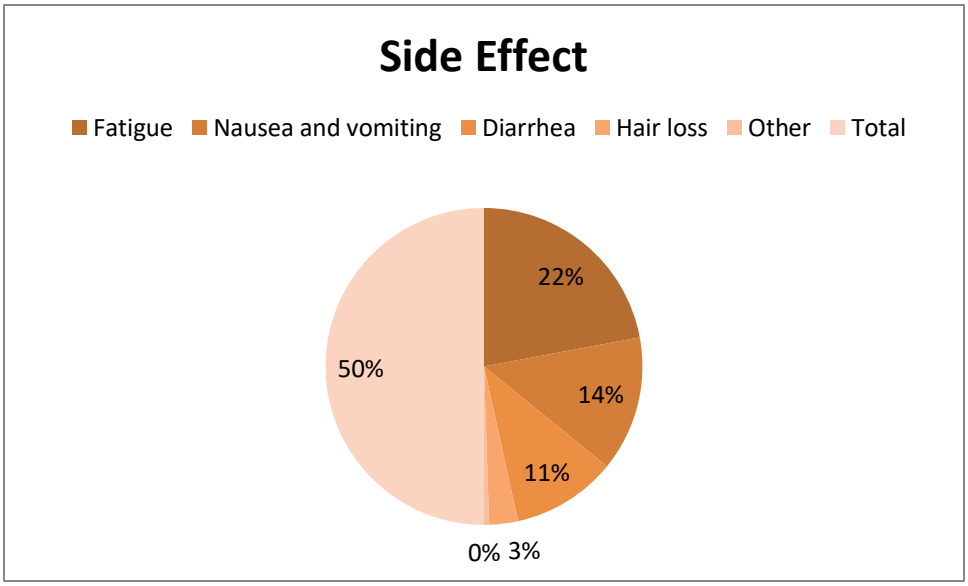

Figure-5: Description of respondents' experienced side effect for cancer therapy, in TASH, 2019

The result on this study revealed fatigue, nausea and vomiting, diarrhea and hair loss which were ranked based on their severity and frequency of occurrence on patients.

5.2 Respondents' Knowledge and Attitude towards Cancer Therapy

Knowledge and Attitude was assessed using five Likert scale questions. The questions on Likert's scale had positive and negative responses that ranged from strongly agree, agree, neither agree nor disagree, disagree and strongly disagree. The scoring system used with respects to respondents' responses was as follows: strongly agree scored 5, agree 4, neither agree nor disagree 3, disagree 2, strongly disagree 1. The responses were summed up and a total score was obtained for each respondent.

There were 5 Likert scale and 2 interview questions about knowledge of cancer therapy. The mean score was calculated and those scored above the mean and the mean score had good knowledge and scores below the mean meant poor knowledge about cancer therapy. The highest score was expected to be 25 and the lowest score to be 5. The proportion of participants with good knowledge about cancer therapy was 30.7% with 95% confidence interval. Out of 290 participants only 89 (30.7 %) had good knowledge regarding cancer therapy while the remaining 201 (69.3%) had poor knowledge on cancer therapy.

Table 2: Distribution of a patient's knowledge and attitude towards cancer therapy, TASH, Addis Ababa, Ethiopia, 2019 (n=290)

Variable	Category	Frequency	Percent
Knowledge Status	Good knowledge	89	30.7
	Poor knowledge	201	69.3
	Total	290	100.0
Attitude Status	Positive Attitude	151	52.1
	Negative Attitude	139	47.9

Attitude was assessed by 12 questions put on Likert scale. The highest attitude score was expected to be 60 and the lowest score to be 12. The proportion of participant with positive attitude was151 (52.1%) with 95% confidence interval, where more than half of respondent cancer patients at TASH had positive attitude toward cancer therapy delivered at the hospital.

5.3 Factors Associated with Knowledge

Bivariate and multivariate analyses were performed between knowledge of cancer therapy (dependent variable) and socio demographic status of Patients (independent variable). Binary logistic regression was performed to assess the association of each independent variable with knowledge of cancer therapy. The factors that showed a p-value of 0.05 and less were added to multivariate regression model.

In both binary logistic and multiple logistic regression analysis; sex, educational background, area of residence and previous knowledge of cancer therapy were significantly associated with the knowledge score of the respondents.

Male cancer patients were 35.5% more knowledgeable than those female participant patients (AOR= 0.355, 95% CI; 0.130,0.966). Cancer patients who were from rural area were 11.1% more knowledgeable than those patients from urban area of residence (AOR= 0.11, 95% CI; 3.037, 6.324).

Patient respondents whose educational background is college and above were four times more knowledgeable about cancer therapy than those illiterate respondents(AOR=3.92, 95%CI; 2.08, 7.40), and 2.21 times more knowledgeable than those patients at elementary level educational status (AOR=2.21, 95% CI; 1.25, 3.90).

The result from below table reveals cancer patient respondents whom had previous knowledge of cancer and its treatment before coming to TASH were 9.6 times more knowledgeable than those respondents whom had not previous knowledge of cancer and its treatment before coming to TASH (AOR=9.677, 95% CI; 10.895,104.656).

Table 2: Factors associated with patients knowledge of Cancer therapy in TASH, Addis Ababa, Ethiopia (n=290).

Variables	Knowledge Regarding Cancer Therapy		COR (95% CI)	AOR (95% CI)	P- value
	Poor	Good			
Gender					
Male	102(35.17%)	18(6.2%)	0.246(0.137,0.442)	0.355(1.130,1.966)**	0.043
Female	99(34.13%)	71(24.48%)	1.00	1.00	
Residence Area					
Rural	63(21.72%)	13(4.48%)	0.375(1.294, 1.725)	0.110(3.037, 3.24)**	0.004
Urban	138(47.58%)	76(26.2%)	1.00	1.00	
Education					
Illiterate	91(31.37%)	30(10.34%)	1.00	1.00	
Read & write	15(5.17)	20(6.89%)	0.888(0.416,1.895)	0.126(0.012,1.3)*	0.077
Elementary	60(20.68%)	26(8.96%)	3.590(1.425, 2.042)	2.21 (1.25,2.90)*	0.052
College & above	35(12.06%)	13(4.48%)	1.167(1.532, 1.665)	3.92 (2.08, 3.323)**	0.041
Previous knowledge					
Yes	124(42.75%)	50(17.24%)	0.796(0.480, 1.321)	9.677(1.089,1.465)**	0.012
No	77(26.55%)	39(13.44%)	1.00	1.00	

*** P< 0.1, ** P < 0.05**

5.4 Factors Associated with Attitude of Patient towards Cancer therapy

Respondents' age, sex, area of residence, educational background, monthly income and cancer therapy treated with cancer were associated both in binary logistic and multivariate logistic regression results.

Patients above age 60 years were 42.1% more to have positive attitude toward cancer therapy than respondent cancer patients of 18-30 years (AOR= 0.421, 95% CI; 1.999,4.9786).

Participant patients' whose educational background is college and above were 40%more likely to had positive attitude toward cancer therapy than those illiterate participants' (AOR= 0.400, 95% CI; 1.209,4.765).

Table 3: Factors associated with patients attitude of Cancer therapy in TASH, Addis Ababa, Ethiopia (n=290).

Variable	Category	Attitude status of Respondents		COR (95% CI)	AOR (95% CI)	P value
		Negative	Positive			
Age	18-30	8(2.75%)	8(2.75%)	1.00	1.00	
	31-45	10(3.44%)	11(3.79%)	0.400(0.209,0.765)*	0.864(1.425, 1.755)	0.070
	46-60	32(11.03%)	40(13.79%)	0.552(0.275,1.107)	0.654(1.275, 1.999)	0.32
	>60	89(30.68%)	92(31.72%)	0.589(0.353,0.986)*	0.421(1.999,2.786)**	0.04
Sex	Male	55(18.96%)	65(22.41%)	1.00	1.00	
	Female	84(28.96%)	86(29.65%)	0.867(0.518,1.450)	0.974(0.531,1.785)**	0.038
Area of Residence	Rural	31(10.68%)	45(15.51%)	1.00	1.00	
	Urban	108(37.24%)	106(36.55%)	0.225(0.640,0.796)*	0.215(0.058,0.830)*	0.01
Education	Illiterate	56(19.31%)	65(22.41%)	1.00	1.00	
	Read & Write	16(5.51%)	19(6.55%)	1.139(0.615,2.109)*	1.111(1.474,1.604)	0.478
	High School	37(12.75%)	49(16.89%)	1.618(0.817,3.202)*	0.292(1.327,2.398)**	0.046
	College and Above	30(10.34%)	18(6.20%)	0.847(0.218,1.921)*	0.400(1.209,1.765)**	0.02
Monthly Income	<1000	99(34.13%)	91(31.37%)	1.00	1.00	
	1000-3000	19(6.55%)	29(10.0%)	0.540(0.227,1.284)*	0.691(0.245,1.949)**	0.043

	3001-4000	6(2.06%)	10(3.44%)	1.500(0.804,2.798)*	2.549(1.044,1.6227)**	0.037
	>4000	15(5.17%)	21(7.24%)	1.877(1.124,2.4 22)*	2.99(1.899, 2.468)*	0.001
Type of cancer therapy	Surgery	6(2.06%)	7(2.41%)	1.00	1.00	
	Chemotherapy	82(28.27%)	87(30%)	0.975(0.526,1.807)	1.091(0.469,2.540)	0.046
	Radiation	51(17.58%)	57(19.65%)	0.648(0.324,1.296)**	0.734(1.27,1.995)**	0.02

*** P< 0.01, ** P < 0.05**

Cancer patient participants with monthly income of 4000 birr and above were 2.99 times to had positive attitude than those respondents whom earn less than 1000 birr monthly (AOR= 2.99, 95% CI; 1.899, 2.468)

Respondent patients' whom treated with radiation therapy were more likely to had positive attitude toward cancer therapy than those treated with surgery and chemotherapy (AOR= 0.734, 95% CI; 1.270, 1.995).

5.5 Association between Knowledge and Attitude status of respondents

Table 4: Association between Knowledge and Attitude status of respondents in TASH, Addis Ababa, Ethiopia (n=290).

Knowledge status of respondents	Attitude status of respondents		COR (95 % CI)	P Value
	Negative attitude	Positive attitude		
Poor knowledge	106 (36.55%)	95 (32.76%)	1.00	
Good knowledge	33 (11.38%)	56 (19.31%)	1.697 (0.317, 0.881)	0.014
Total	139	151		

The binary logistic regression result shows a significant positive relationship between knowledge status and attitude of patients with 1% significance level (0.0014, p value) at 95 % CI. From the result patients whom had a good knowledge about cancer therapy were 1.7 times to had positive attitude toward cancer therapy. In addition among 139 patients whom had a negative a negative attitude toward cancer therapy 106 of them had poor knowledge about it.

5.6 Qualitative Results

The collected audio tapes and detailed notes were changed to verbatim then reread the content then codes identified, then themes identified. Key identified themes were: impacts of cost on cancer patients' attitude, knowledge of cancer patients to cure from cancer disease, impacts of health administration and facility towards their attitude and influence of relative and friend on patients' knowledge and attitude.

Theme	**Subtheme**
Cost of cancer therapy	• Duration • Affect their attitude • Quality of life
Knowledge of patients to cure from cancer	• Side effect • Cancer treatment • Precaution during cancer treatment
Influence of friends and relatives	• Affect their attitude • Acceptance of family

Subthemes were induced from the text itself through repeated reading. After reading the transcripts, the investigator coded each theme. Statements were grouped by code to the corresponding theme. Once themes were established, the transcripts were re-read to ensure the themes appropriately reflected the content of the data.

The data were analyzed through thematic analysis. The findings were presented in narratives by thematic areas as the conceptual framework. The quotes included in the results were typical views.

A total ten patients aged between 30-55 years participated in the study. six patients whom were selected for analysis were with 2 cervical, prostate, gastric and blood cancer. and taking adjuvant chemotherapy and radiation therapy at least two times . Among those 4 were females

and 2 of them were males. Two of them came from Amhara region, three of them from Oromia region and one from Addis Ababa.

Cost of cancer therapy and its effect on patients life and family

For the question that says what the problems are you experienced to cover cost of Cancer therapy and its effects on your and families attitude

According to the interviewees the expensive cost of cancer therapy affected their own and families' life in different ways, Here the first speaker replied his experience as

"*I am a farmer engaged on only cultivation as a source income and the only my wealth is cattle. When I was referred to TASH where I had no close relative for cancer treatment I stay at hotel room for a night and attended the rest treatment spending the nights on the streets. I covered the cost of medicine which amounts up to 3000 birr selling my cattle one by one as I had no alternative option, and I am not sure for how long these continues. The next fate of my daughters and wife bothers me than my health as I am the only who economically lead my family*"(no1 age 45).

The different view was also responded by another female cancer patient "*Above the disease, its treatment cost and long duration is boring where I tried to quit the treatment many times but continued because of pressure from my family. Especially the treatment is difficult for who come from outside Addis Ababa as the long waiting time makes you hate your life. In addition after all these ups and downs the side effect of the treatment is challenging and boring. I have been treated free but I bought chemo three times outside hospital that amounts about 10,000 birr which was covered by my family this factor influence my attitude towards cancer therapy*"(no3 age 30)

The Muslim cancer patient from rural area replied that "*I have waited for eight months to start the treatment the physician told me that the disease spread over my body and I am also weakening day by day. I don't mind the cost I come for the 2nd round but there was no improvement on my health*"(no 4 age 55).

Recommendation of cancer patients to cure from cancer on cancer therapy conditions like side effects concerning dietary, infection and pain management

Secondly interviewees' were asked What do you recommend cancer patients to cure from cancer disease?.

Concerning to cancer patient interviewees' on their recommendation to other patients to cure from cancer: "*In order to keep the effectiveness of the therapies one has to abstain from smoking and drinking alcohol and manage his dietary and rest time"(no 5 age40), another female responded focusing on early treatment as "Hence the disease is severing and cannot be cured if not identified soon; I believe every patient have to start treatment early*"(no 2 age 34), and different view "*I don't believe that every cancer patient has to take chemo rather they can try alternative option that they believe can cure them from cancer*"(n0 6 age 55), and the other one associated the probability of curing with economic status as "*If your economic status is good you can be cured but if not you are obliged to wait as long as the time it takes*(no 3 age 30) .

Healthcare administration and facility

When asked on Is there any experiences that makes your positive or negative attitude during cancer diagnosis at TikurAnbessa specialized hospital associated to health care workers patient management, if there can you brief your opinion and experience?, "*I have no complain with the health workers of the hospital but sometimes they tell that the patient book was lost and experienced long waiting time, generally I hadn't negative attitude toward them*"(no 6 age 55) and supported by the respondent no 2 "*The physicians and nurses are good and I hadn't met any problem from them and I have favorable attitude toward them*." and similar view is that "*There is no problem behind health care workers but it is question for me why government is not giving attention to cancer therapy*"(n01 age 34) The odd view comes from the speaker n0 3 who said "*The health care workers are not good at all, they lost my history book twice that unconvinced me, I haven't good attitude toward them.*"

Influence of family, friends, relatives and the society on knowledge and attitude toward cancer therapy

Concerning to how family, friends, relatives and the society the patient came from affected patients' knowledge and attitude toward cancer and its treatment the first speaker replied '*'My neighbor whom is a health professional at public health center told me about duration, side effects and home management of cancer therapy after my first round treatment.*'', while the other three speakers replied ' *I was influenced by friends and relatives to treat the cancer with traditional medicines', 'my friends advised me to go to spiritual places'* and ' *my relatives and the neighbors recommended me to heal the cancer with traditional herbals*'. Speaker no 4 replied '*I was enforced by my elder sons to start cancer therapy at hospital, and they were supporting me financially, but some relatives discriminated me.*'

Reasons to continue or to quit taking cancer therapy

On patients decision either to continue or quit the cancer therapy they are taking: the first speaker said *"I took the medicine for the third time but never observed better health condition I am waiting for what the physicians told me as it takes time to commence health improvement*" and speaker no 3 says "*To be cured from cancer I have to continue the treatment, and I hadn't tried another option outside cancer therapy*."The different decision comes from another speaker no 5 saying "*I prefer to stay at religious place but I am here because of pressure from my family and there is no better improvement on my health*." And lastly the speaker no 4 said "*I prefer to continue treatment at this hospital."*

The sum up of qualitative result shows that the patients found cancer therapy and its associated costs unaffordable affecting their life and treatment which influence their attitude towards cancer treatment. Nearly all of the interviewees had knowledge on that as abstaining from drinking alcohol and smoking were mandatory keep efficiency of the therapies, and the side effects of the cancer therapies. Also all of the patients admired the pain management and facility offered to them by nurses at the hospital but complained them on the poor handling of patients' history book.

In addition concerning to peer influence on the patients' knowledge and attitude toward cancer and its treatment, some had a knowledge of cancer therapy acquired from friends and relatives to treat the cancer with traditional and religious healings and some patients decided to continue the

cancer therapy because of the health improvement they observed while some were to quit preferring religious healings.

6. DISCUSSIONS

This study has attempted to assess factors affecting the knowledge and attitude of cancer patients toward cancer therapy in TASH, Addis Ababa, Ethiopia.

The study shows that the level of knowledge of participants were very low only 30.7% of cancer patients had good knowledge which is different from a Hospital Based cross sectional study in India which is 86.3% of cancer patient had good awareness of medical care of cancer disease. the difference may be due to the study focuses only on breast cancer therapy(42).

The qualitative result that nearly all of the interviewees had knowledge on that as abstaining from drinking alcohol and smoking were mandatory to keep efficiency of the therapies, and the side effects of the cancer therapies were inconsistent with a study conducted in selected hospitals of Saudi Arabia (43).Might be these difference occur due to the variation in used cancer treatment methods frequency and dominancy distribution used in these two different countries.

On access to information of cancer of patients' about cancer and its treatment, conditions, outcome and duration of cancer therapy, 35.71% of them acquired information from media where this finding is consistent with cancer patients studied in Uganda, the commonest source of information about cancer and its treatment was the mass media (44).

From qualitative result except one respondent all are influenced by friends and relatives to treat the cancer with traditional medicines and went to spiritual places. This finding is similar with a qualitative study done in Iran hospital of cancer Institute which suggest that spiritual needs cancer care should be recognized, realized and considered in care of patients by medical team(45).

The proportion of participant with positive attitude was (52.1%) with 95% confidence interval which is consistent with a cross sectional study conducted in Korea at Seoul National University Hospital where about 56.7% of patients had a positive attitude toward cancer therapy(46). and also, a study done in China which assess the knowledge, attitudes, and practices 0f cancer patients towards cancer therapy express as 68.5% of cancer patient had positive attitude towards chemo and radiation therapy(34). These similarities may be due to increasing cancer control plan over these countries and also the decision to accept or reject modern

treatment of cancer is mostly affected by their attitude and perception.

The demographic factors were associated with knowledge and shows a significant relationship between sex, area of residence, education and previous knowledge and knowledge of cancer patients toward cancer therapy, where those whom are educated and males were more knowledgeable than illiterates and females respectively. On this study male cancer patients were more knowledgeable than females and respondents from rural area were more knowledgeable than those patients from urban area. The result is consistent with a descriptive study conducted on the knowledge regarding ill effects of chemotherapy in economically lower part of India where the selected variables like age, gender, education, area of living and previous knowledge of chemotherapy have significant association with the knowledge about ill effects of chemotherapy (47).

Respondents whose higher educational backgrounds were more knowledgeable about cancer therapy, which is similar to the study done in selected African countries. The study finding was almost similar with the study finding in Uganda, where about 37.4% of the participants were knowledgeable on cancer therapy (27).

The result shows, and patient respondents whom had previous knowledge of cancer and its treatment before coming to TASH were more knowledgeable than those respondents whom hadn't, and almost similar to a study conducted in India where patients whom had previous knowledge of chemotherapy were more knowledgeable than whom hadn't previous knowledge about it before visiting hospital (37).

The multivariable logistic regression of positive attitude level shows that age and income have association with attitude status of patients. Respondents above age 65 and those monthly income is above 3000 birr had a positive attitude toward cancer therapy is consistent with one and inconsistent with a study conducted on interpersonal influences and attitudes about therapy treatment decisions among economically poor Black and Hispanic Americans that found older patients and the poorer had more negative attitudes and beliefs towards cancer treatment(21). The difference may be due to differences between the two age groups in their beliefs, behavior and perceptions toward modern medication.

From the qualitative results most of the patients were influenced by friends and relatives to treat the cancer with traditional and religious healings and the patients' perception toward culture and religion made them have negative attitude toward cancer therapy, and the result is different from a qualitative study conducted on attitude of patients toward traditional healings in South Africa(48).The difference might be due to differences in traditional beliefs, cultural values and religion of people among the two countries.

The average interviewee patients admired the adequate pain management and facility offered to them by nurses at the hospital led them to develop positive attitude toward cancer treatment at the hospital and the finding was similar with that of conducted on attitude of patients attending cancer therapy in Pakistan(31).

Concerning to cost of cancer therapy the qualitative result that revealed the patients found cancer therapy and its associated costs unaffordable affecting their life and treatment while covered some portion of the cancer therapy cost limiting the consumption of their family and these led them to develop an unfavorable attitude toward hospital level. Similarly a qualitative study done in Malaysia suggest that high treatment cost was given as one of reasons patients perceived modern therapies to be ineffective because traditional medicine can be bought easily from local market at a cheap prices (49).The finding is also supported a study conducted in Netherlands where higher income patients more likely to focus on survival when making decisions while low income patients were more likely to prefer avoiding costly treatment or exposed to different financial problems (50).

7. STRENGTH AND LIMITATIONS OF THE STUDY

7.1 Strength of the study

- This study is the first study that attempted to assess both patients' knowledge and attitude toward all cancer therapy types delivered at TASH.
- Mixed study done to strengthen the quantitative results

7.2. Limitation of the study

- Instrument bias like lack of accuracy of the attitudinal measures was considered as limitations of the study.

8. CONCLUSION AND RECOMMENDATION

8.1. Conclusions

- More than two third of cancer patients had poor knowledge about cancer therapy and predictors such as being female, rural residents, individuals with lower educational background and whom had not previous knowledge of cancer and its treatment were found to be significantly associated with poor knowledge.
- About half of participants had a positive attitude toward cancer therapy and major predictors associated with positive attitude were older age, higher education status and higher income level.

8.2 Recommendations

Federal Ministry of Health

- Prepare cancer and cancer treatment education programs on different medias in order to raise knowledge of the cancer patients at national level.
- Facilitate affordable cancer treatment service hence majority of patients were at lower living standard.
- Develop more cancer centers all over the country having as its long term plan.

Hospitals

- Facilitate cancer treatment education programs and assign nurse educators to raise knowledge and persuade patients' attitude on cancer therapy conditions offered at the hospital.
- Improve its low carrying capacity and poor patients' registry in order to reduce the long waiting time at the hospital.

Oncology Nurses

- To take more initiatives in improving the awareness of the patients about the duration, side effects of cancer therapy and its home management by providing information and conducting awareness creation programs.

Other researchers

- Further integrate other knowledge and attitude related factors and use more standardized knowledge and attitude measuring tools.

References

1. The International Agency for Research on Cancer. 2018.
2. WHO. Global Cancer Control World Cancer declaration Progress Report. 2016.
3. Ferlay. Estimates of worldwide burden of cancer in 2008: GLOBOCAN Int J Cancer. 2008;2008(127).
4. Ferlay J, Soerjomataram I, Ervik M, Dikshit R, Eser S, Mathers C , 2013 GLOBOCAN 2012v1.0, Cancer Incidence and Mortality Worldwide: IARC Cancer Base No. 11. Lyon, France: International Agency for Research on Cancer. Available from: http://globocan.iarc.fr.

.
5. Woubishet Y. Cancer in Ethiopia. 2013.
6. WHO. Cancer Control Knowldge into Action WHO Guide for Effective Programmes. 2008.
7. Stanton AL. Life After Diagnosis and Treatment of Cancer in Adulthood. Psychosocial Oncology Research. 2015.
8. Getahun G. Comprehensive knowledge about cervical cancer is low among women in Northwest Ethiopia

ttp://wwwbiomedcentralcom/1471-2407/13/2 https://doiorg/101186/1471-2407-13-2 :. 2013;2.
9. Forbes. Differences in cancer awareness and beliefs between Australia, Canada, Denmark, Norway, Sweden and the UK: do the contribute to differences in cancer survival

ICBP. 2013.
10. Mia MS. Knowledge, Attitude and Practice Regarding Breast Cancer Among Medical Students of Bangladesh.- A protocol study

2012.
11. Dieguez. A Multi-year look at cost burden of cancer care. Milliman Research Report. 2017.
12. Bisen PS KZ, Bundela S, . Biology of Oral Cancer - Key Apoptotic Regulators. CRC Press, 292. 2013.
13. WHO. World Cancer Report 1ed2009.
14. An Overview of Ethiopian Traditional Medicinal

Plants Used for Cancer Treatment.
15. Dein, S.,. Explanatory models of and attitudes toward cancer in different cultures. Lancet

16. Cancer in Ethiopia [press release]. 2013.
17. Tadesse A. Knowledge, attitude and practice (KAP) towards screening for cervical cancer among Adama University female students, Adama, Ethiopia, . 2014.
18. Molla T. Pattern of Cancer in Tikur Anbessa Specialized Hospital Oncology Center in Ethiopia from 1998 to 2010. International Journal of Cancer Research and Molecular Mechanisms. 2015;1(1).
19. WHO. Cancer control: Knowledge into action: WHO guide for Cancer Incidence and Mortality Worldwide:

. In: GLOBOCAN, editor. 2012.
20. Society AC. Cancer Treatment & Survivorship. 2017.

21. Shelton R. Interpersonal Influences and Attitudes about Adjuvant Therapy Treatment Decisions among Early Stage Breast Cancer Patients: An Examination of Differences by Age and Race/Ethnicity in the BQUAL Study. Breast Cancer Res Treat. 2013;137(3).
22. Kingham P. Treatment of cancer in sub-Saharan Africa. Lancet Oncol. 2013;4.
23. WHO. World Cancer Declaration Report 2016.
24. Disease Prevention and Control Directorate [press release]. 2015 2015.
25. Yohannes E. The Knowledge and Attitude of Patient on Chemotherapy and its Associated Factors in Oncology Department in Tikur Anbessa Specialized Hospital, Addis Ababa, Ethiopia,

2017.
26. Lakew S. Assessment of knowledge, accessibility and utilization of palliative care services among adult cancer patients at Tikur Anbesa Specialized Hospital, Addis Ababa, Ethiopia, a cross‐sectional institution based study

2014.
27. Berger O. Cancer patients' knowledge about their disease and treatment before, during and after treatment: a prospective, longitudinal study. 2018.
28. Kebede E. Tikur Anbessa Specialized Hospital (Addis Ababa University).
29. Tigeneh W, Molla A, Abreha A, Assefa M, Pattern of Cancer in Tikur Anbessa Specialized Hospital Oncology Center in Ethiopia from 1998 to 2010. Int J Cancer Res Mol Mech 1.1. 2015

30. Yang LH. Measurement of Attitudes, Beliefs and Behaviors of Mental Health and Mental Illness. 2015.
31. Khan N. Assessment of knowledge, skill and attitude of oncology nurses in chemotherapy administration in tertiary hospital Pakistan. Open Journal of Nursing. 2012;2.
32. Geleta T. Assessment of Knowledge and Associated Factors Regarding Colostomy Care Among Staff Nurses Working in Surgical, ICU And Oncology Units at Selected Public Hospitals, Addis Ababa, Ethiopia 2017.
33. Jin. Factors affecting therapeutic compliance: A review from the patient's perspective. 2008.
34. Chen X. Knowledge, Attitudes, and Practices Related to Preoperative Chemoradiotherapy in Rectal Cancer Patients. 2016.
35. Chiang T-Y. Factors Related to Treatment Refusal in Taiwanese Cancer Patients. 2015.
36. Budkaew J. Knowledge and Attitudes toward Palliative Terminal Cancer Care among Thai Generalists. 2013.
37. Choenyi N. Knowledge Regarding Ill Effects of Chemotherapy and Its Home Management among Patients Receiving Chemotherapy. IOSR Journal of Nursing and Health Science (IOSR-JNHS). 2016.
38. Chemotherapy Diagnosis and Treatment.
39. Tigeneh W MA, Abreha A, Assefa M. Pattern of Cancer in Tikur Anbessa Specialized Hospital Oncology Center in Ethiopia from 1998 to 2010. Int J Cancer Res Mol Mech 1.1. . 2015.
40. Dagne S. Assessment of Breast Cancer Treatment Outcome at Tikur Anbessa Specialized Hospital Adult Oncology Unit, Addis Ababa, Ethiopia. 2018.
41. Kothari.

Research Nerhodology Methods and Techniques. 2004.
42. Rai A. Knowledge of Cancer Patients With Regard To Disease and Medical Care. Indian J Prev Soc Med. 2012;43(4).

43. Prince J. A Study To Assess The Knowledge Regarding Diet Therapy Among The Attendants Of Cancer Patients, In A Selected Hospital, Hyderabad. Journal Of Environmental Science, Toxicology And Food Technology (IOSR-JESTFT). 2013;7(3).
44. Nakandi K, Semugabo, Kittengo. Knowledge, attitudes and practices of Ugandan men regarding prostate cancer. 2013.
45. KhadijehHatamipou. Spiritual Needs of Cancer Patients: A Qualitative Study. IndianJPalliatCar. 2015;21(1).
46. Lim Y. Korean Cancer Patients' Awareness of Clinical Trials, Perceptions on the Benefit and Willingness to Participate. 2016;49(3).
47. Choenyi N. Knowledge Regarding Ill Effects of Chemotherapy and Its Home Management among Patients Receiving Chemotherapy. Journal of Nursing and Health Science. 2016;5(3).
48. Colak D. Morphine: Patient Knowledge and Attitudes in the Central Anatolia Part of Turkey. Asian Pacific Journal of Cancer Prevention. 2014;15.
49. Farooqui M. A qualitative exploration of Malaysian cancer patients' perspectives on cancer and its treatment. 2011.
50. Dijk V. Willingness to accept chemotherapy and attitudes towards costs of cancer treatment, A multisite survey study in the Netherlands. The Netherlands Journal of Medicine. 2016;74(7).

APPENDIX

A. ENGLISH QUESTIONAIRRE

I. Information Sheet

I. Introduction

Dear Respondent:

I am here to collect data for the research entitled assessment of factors affecting knowledge and attitude of cancer patients toward cancer therapy, conducted by Emnet Teklu who is a Masters student in Addis Ababa University, College of Health Sciences, Department of Nursing and Midwifery.

Research Topic: Assessing factors affecting Knowledge and attitude of cancer patients' toward cancer therapy in Tikur Anbessa Specialized Hospital, Ethiopia, 2019

Principal Investigator: Emnet Teklu

I kindheartedly request you to participate in a study that is aimed at examining the factors affecting the knowledge and attitude of cancer patients toward cancer therapy in order to identify the major factors and work on it accordingly.

Privacy and Confidentiality: Participation in this study is volunteer; you can also withdraw at any time from the study if you feel uncomfortable. Refusal for participation will not affect for the healthcare service you received from. Confidentiality will be ensured by not disclosing your name or your address on the questionnaire.

Benefit: The study has no instant benefits to the respondents, but will have benefits later in improving the knowledge of patients in long runs by implementation of study findings at time of cancer treatment and thereby help to reduce death because of delayed cancer therapy.

Risk: There are no risks involved in participating in this study.

Address: I welcome any question if you have any about the study and your participation. Should you have any questions about the research or any related matters, please contact the researcher at +251-904 20-1399. Email:emnetmamush@gmail.com

II. Consent sheet

I comprehend the nature of the study, merits, and my right to voluntary participation, confidentiality and extraction from the study without any repression. I have had the opportunity to ask questions and answered to my satisfaction. To express my agreement I have signed below. I hereby generously consent to take part in this study.

Signature of the participant_____

Date_____

Supervisor Name _____ Signature_____

Date_____/_____/____E.C.

Yours Faithfully,

PART I: DEMOGRAPHIC RELATED QUESTIONS

All questionnaires are fulfilled namelessly. We would appreciate if you answer all the questions and answer as truthfully as possible. Please circle on the number you select that best answers the question. Kindly make only one selection unless otherwise instructed.

1. Age: _____
2. Sex
   - Male
   - Female
3. Area of residence
   - Rural
   - Urban
4. Educational background of patient
   - Illiterate
   - Read and Write
   - Elementary
   - High School
   - College and above
5. Religion
   - Orthodox
   - Protestant
   - Muslim
   - Other
6. Marital Status
   - Single
   - Widowed
   - Married
   - Divorced
   - Other (specify)
7. Monthly Income
   - <1000 birr
   - 1000-2000 birr
   - 2001-4000 birr
   - >4000 birr
8. Occupation:
   - Unemployed
   - Private employed
   - Government employed
   - Merchant
   - Farmer
   - Other(other specify_____)

9. Do you have a previous knowledge of cancer therapy before coming to TASH?

- Yes
- No

10. If yes from whom you acquired

- Health education attending
- Patient
- From health professionals
- Media
- Others

11. What cancer therapy do you know?

- Surgery
- Chemotherapy
- Radiation therapy
- other

12. Rank the following side effect of cancer therapy according to their severity you experienced

- Fatigue
- Nausea and vomiting
- Diarrhea
- Appetite loss
- Hair loss
- Skin change
- Head ache
- Other(other specify_____)

13. Which type of cancer you are diagnosed for _____

14. Which type of cancer therapy does you treated at this hospital?

- Surgery
- Chemotherapy
- Radiation therapy
- Other(other specify_____)

II Please indicate your level of agreement with the following statements so that your answers to these questions will enable the researcher to assess factors influencing the Attitude of +patients toward cancer therapy..

No	**Knowledge Associated Factors**	**Strong**	**Disagree**	**Neutra-**	**Agree**	**Strongly Agree**
1	You have adequate information about cancer therapy and its conditions					
2	You have enough knowledge about side effects of cancer therapy					
3	Health care workers informed you on conditions of cancer therapy					
4	You know what to expect physically and emotionally during cancer therapy					
5	You know the duration you take cancer therapy					
	Attitude Associated Factors	**Strongly**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
1	You observed the bad effect of cancer therapy on patients					
2	Cancer therapy causes family problems					
4	There is no other alternative to cure cancer than cancer therapy					
3	Religious factors hinders you from starting cancer therapy early					
4	Cultural factors hinders from starting cancer therapy early					
5	Cancer therapy interrupted you from continue working					
6	You feel fear anxiety and distress when coming for cancer therapy					
7	You feel severe pain during cancer therapy					
8	Health care workers inadequately assess your pain					
9	There is long waiting time to start cancer therapy at the hospital					
10	The cancer therapy treatment cost is expensive					
11	The duration of treatment period is longer					
12	You experienced bad side effect of cancer therapy					

ANNEX II. AMHARIC QUESTIONNAIRRE

□□□□ □□

1. □□□□

□□ □□□□□

□□ □□□□ □□□ □□□□ □□□□□ □□□□ □□□ □□□□□□ □□□ □□□□ □□□□□□□ □□□□□□ □□□□□□□ □□□□ □□□ □□□ □□□□□ □□□□□ □□□□□ □□□□□ □□□□ □□ □□□□ □□□□□ □□□□□□ □□ □□□□ □□□□□□ □□□□ □□□ □□□□ □□□ □□□ □□□□□□ □□□□

□□□□ □□□□ □□□□ □□□□ □□□□□□□ □□□□□ □□□□□ □□□□□ □□□□□ □□□□□ □□□□ □□ □□□□ □□□□□ □□□□□□ □□ □□□□ □□□□□□ □□□□ □□□ 2010

□□□□ □□□□ □□□

□□ □□ □□□□□ □□□□□□ □□□ □□□□ □□□ □□□□□ □□□ □□□□□ □□□□□ □□□□□ □□□□ □□ □□□□ □□□□□ □□□□□□ □□ □□□□ □□□□□□ □□□□□ □□□□□ □□□□□□ □□□ □□ □□□□□□ □□□□□ □□□□□□□□ □□□ □□□ □□ □□□□□ □□□□□□□ □□ □□□□□□ □□□□ □□□□□□□□ □□□□□□□ □□ □□□□ □□□ □□□□ □□□□□□ □□□□□□ □□□□ □□□ □□□ □□□□ □□ □□□□ □□□□□□□□ □□□□□ □□ □□□□ □□ □□□□□□ □□□□□□ □□□□□□□□ □□□□□□□□ □□□ □□□ □□□ □□□□ □□□ □□□□ □□□ □□□□□□□□□ □□□ □□□□□□□ □□□□□ □□□□□□ □□□□□ □□□ □□ □□□□□ □□□□ □□□□□ □□□□ □□□□□□□ □□ □□□□□ □□□□ □□□□□ □□□□□ □□□□□ □□□□ □□□□□ □□□□□□□□ □□ □□□□□ □□□□□□

□□□□□□ □□□□□□□□ □□□ □□□□ □□□ □□□□ □□□□□□□□ □□□□ □□ □□ □□□ □□ □□□□□ □□□ □□□ □□□□ □□□□□ □□□□□ □□□□ □□□ +251-904-20-1399 □□□□□ firewmamush@gmail.com □□□□□□□□

□□□□□□□ □□

□□□□□ □□□□ □□□□□ □□ □□□□□□□ □□ □□□□□□ □□□□ □□□□□ □□□□ □□□□□□□□□□ □□□□□ □□ □□□□□□ □□ □□□□ □□□□□□ □□□□□□□□ □□□□□□ □□□□□ □□□ □□□□□ □□□□□□ □□□ □□□□□□□□ □□□□□□ □□□□□□ □□□ □□□ □□□□□□□□□ □□□□ □□□ □□□□□ □□□□ □□□□

□□□□□□ □□□□ _____

□□□ _____

□□□□□□□□ □□□ _____ □□□□ _____

□□□ _____

□□□□□□□ □□□□ □□□ _____

□□□ _____

□□□□ _____

□□□□

□□□ 1□ □□□-□□□ □□ □□□□□ □□□□□

□□□ □□□□□ □□ □□ □□□□□ □□□□□ □□□□ □□□□□ □□□□□ □□□□□□ □□□□□□□□□□□

□□□□□ □□□□□□ □□□□ □□□ □□□□□□ □□□ □□□□□□

□□□□□ □□□□□ □□□ □□□ □□ □□ □□□□□□ □□□□□ □□□□□□□□□□

1. □□□□ _____

2. □□

   □□□
   □ □□

3. □□□□□ □□□□
   □ □□□□
   □ □□□□
4. □□□□□ □□□□□□ □□□
   □ □□□□□ □ □□□□ □□□
   □ □□□□ □□□□ □ □□□□ □□□ □□□
   □ □□□□□□ □□□
5. □□□□□
   □ □□□□□□ □ □□□□
   □ □□□□□□□ □ □□
6. □□□□ □□□
   □ □□□□ □ □□□
   □ □□/□□□ □□□□□ □ □□
   □ □□□
7. □□□□ □□
   □ <1000 □□ □ >4000 □□
   □ 1000-3000 □□
   □ 3001-4000 □□
8. □□:
   □ □□ □□□□
   □ □□□ □□□□
   □ □□□□□□ □□□□
   □ □□

10. □□ □□□ □□□□ □□□□□□□□ □□□□□ □□□□□□ □□□ □□□□□□□□ □□ □□□□□ □□□ □□□?

- □ □□
- □ □□□□□

11. □□ □□ □□□ □□□

- □ □□□ □□□□□ □□□□□□□
- □ □□□□□
- □ □□□ □□□□
- □ □□□□□ □□□□
- □ □□□

18. □□□?

(□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□)

- □ □□□
- □ □□□□□□□□□□□□□□□□□□□□□□□□□□
- □ □□□□
- □ □□□□□□□□□□□
- □ □□□□□□□□□□
- □ □□□□□□□
- □ □□□□□□
- □ □□

23. □□ □□□□ □□□□□ □□□ □□□□□_______________

24. □□□ □□□□□ □□□ □□□□ □□□□ □□□□□ □□□□ □□□□ □□□□□?

- □ □□ □□□
- □ □□□ □□□□
- □ □□□□ □□□□
- □ □□

III

□□□ □□□□□□□□□□□□□□ □□□□□□□ □□□ □□ □□□□□□

□.	□□□□□ □□ □□□□□□□ □□ □□□□□ □□□	□□□	□□□□□□	□□□□□	□□□□□□	□□□
□□□□ □□□□□□						

1	□□ □□□□ □□ □□□ □□□□					
2	□□ □□□□ □□□□ □□□□□ □□□ □□□□□□□□□ □□□ □□ □□□□ □□□□					
3	□□□ □□□ □□□□□ □□ □□□□ □□□□□□ □□□□□ □□□□□□□					
4	□□□□□ □□□ □□□ □□□□□ □□□□□ □□□ □□ □□□□□□□□□ □□□□□□□ □□ □□□ □□□□					
5	□□□□ □□□□ □□□□□ □□□□ □□□□□□ □□□ □□□□ □□□ □□□□□ □□□□					
□□□ □□□□□						
1	□□□□□ □□□ □□□□□□□ □□ □□□ □□□□ □□ □□□□ □□ □□□ □□□□□□□					
2	□□□□□ □□□□ □□□□□ □□□□ □□□□□□					
3	□□□□□ □□□□ □□□ □□ □□□□□ □□ □□□□ □□□					
4	□□□□□ □□□□□ □□□ □□□□□□□ □□□□□□ □□□□ □□ □□□□ □□□□ □□□□□□□					
5	□□□□□ □□□□□ □□□□□ □□□ □□□□□□□ □□□□□□□					
6	□□□□ □□□□ □□□□□ □□□□□ □□□ □□□□□□□ □□□□□□□					
7	□□□□□ □□□□ □□□□ □□□□□□ □□□□□□					
8	□□□□□ □□□□ □□□ □□□□ □□□□□					
9	□□□□□ □□□□ □□□ □□□□ □□ □□□□ □□□□□□					
10	□□□□□ □□□□ □□□□□ □□□ □□					
11	□□□□□ □□□□ □□□□□ □□□ □□□□					
12	□□□□□ □□□ □□ □□□ □□					

C. Interview questions

1. What are the problems you experienced to cover cost of cancer therapy and its effects on your life and family?

……
……..……
……

2. What do you know to recommend cancer patients to cure from cancer on cancer therapy conditions like side effects concerning dietary, infection and pain management?

……
……
……

3. would you mention and explain any experiences that makes your positive or negative attitude during cancer diagnosis at TikurAnbessa specialized hospital associated to health care workers patient management, if there can you brief your opinion and experience?

……
……

4. Would you discuss how your family, friends, relatives and the society you came from affected your knowledge and attitude toward cancer therapy?

……
……

5. What are your reasons to continue taking cancer therapy or if to quit

……
……
……