BARRIERS TO THE TIMELY INITIATIION OF BREAST CANCER TREATMENTS AND SOCIAL SUPPORT STATUS AMONG WOMEN WITH BREAST CANCER IN TIKUR ANBESSA SPECIALIZED HOSPITAL ONCOLOGY UNIT, ADDIS ABABA, ETHIOPIA, 2018

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Acronyms/Abbreviations

BC	Breast Cancer
IARC	International Agency for Research on cancer
LRCs	Lower resources countries
LMIC	lower and middle income countries
GLOBOCAN	Global Burden of Cancer
SPSS	Statistical Package of Social Science
TASH	Tikur Anbessa Specialized Hospital
USA	United States of America
WHO	World Health Organization

Abstract

Background: Worldwide breast cancer is a major life threatening and has become the major public health problem of great concern. The higher breast cancer mortality rates in lower and middle income are thought to be due to diagnosis in advanced stages and access barriers to medical care. Identifying barriers to treatment is the main component of breast cancer control programs. However the information on barriers of barriers of breast cancer treatment in Ethiopia is scarce.

Objective: To identify barriers to timely initiation of breast cancer treatments among breast cancer patients at Tikur Anbessa Specialized Hospital.

Methods: A cross sectional study based with both quantitative and qualitative approach was employed at Tikur anbessa specialized Hospital from March 2018 to May 2018. A total of 394 women were involved for quantitative study and simple random sampling method was used to select patients from the follow up list. For qualitative in depth interview was conducted for six health care providers. The data was analyzed using descriptive statistics and logistic regression model was used to identify factors associated with outcome variable and the finding presented using OR with the corresponding 95% CI. The qualitative data was transcribed and translated and coded using open code software. Finally the codes were categorized and described thematically.

Results: from the total of 394 women 220 (55.8%) patients initiated the breast cancer treatment lately. Majority of women were within age group of 40-49. Almost half of participants (48.7%) were on chemotherapy treatment. Patients mentioned different barriers for their late initiation. Place of residency was associated with a higher rate of treatment initiation (AOR = 2.594, CI = 1.610-4.182, P - 0.000). Patients who came from out of Addis Ababa are more likely to initiate the treatment lately compared to those who are living in Addis Ababa. Patients who are taking radiotherapy are more likely initiate the treatment lately as compared to other treatment. Those patients who were appointed was for a long time as a barrier are more likely to initiate the treatment late and lack of money to cover treatment fee was found to be another factor for the late initiation of treatment. Patients' late presentation, lack of equipments and supply and queues in health care facility were major barriers mentioned by care providers.

Conclusion and recommendation: The late initiation of treatment is high. More than half of participants initiated breast cancer treatment lately. Embarrassments, lack of money, place of residence, long waiting, and transportation problem was some barriers mentioned by participants. Provider level barriers were found to be queues in health care facility, patients' late presentation and lack of equipment. There should be an effort in access and availability of treatment service for all patients and attention to be given for those who cannot afford and coming from rural or very distance geographic context.

Key words: Barriers, timely initiation of treatment, breast cancer

1. Introduction

1.1 Background

Worldwide breast cancer is a major life threatening and has become the major public health problem of great concern. According to WHO 2015, it ranks as the fifth cause of death from all cancers and the most common cause of cancer death among women in less developed countries(1, 2). In 2012 Global burden of cancer estimated 1.7 million cases and 521,900 deaths occur due to breast cancer. It accounts for 25% of all cancer cases and 15% of all cancer deaths among females. More-developed countries account for about one-half of all breast cancer cases and 38% of deaths (3).

In developing countries more than 324,300 women die from this cancer every year. In Africa, the total estimated number of new cases were 92,600 and total number of deaths were 50,100 in 2008 and 133, 900 in 2012 (2). In Eastern, Middle, and Southern Africa breast cancer found to be the second leading cause of cancer deaths among women, after cervical cancer (3).

In Ethiopia breast cancer accounts 30.2% of all cancer cases. According to the study conducted in Tikur Anbessa Specialized Hospital, for over a period of sixteen years, 1997-2012, out of more than 50 cancer types, a total of 16,622 new cases which were registered in TASH, 3460 were new cases of breast cancer representing approximately 216 cases per annum (3-5).

The common risk factors of breast cancer includes low parity, early age at menarche, late menopause, higher age at first birth and less breast feeding, obesity increase the risk of breast cancer(6).

There are different treatment options for breast cancer such as surgery which is recommended for most women with early stage combined with other treatments to reduce the risk of recurrence. It includes radiation therapy, chemotherapy, hormonal (endocrine) therapy and targeted therapy. Systemic therapies like chemotherapy, targeted therapy and hormonal therapy are primary treatment options for patients with metastatic diseases. The treatment options are decided by both patients and physician based on the clinical stage and biological characteristics of the cancer, the age of the patient and considering the risks and benefits associated with each option (7).

However, there are barriers to initiate the treatments. The higher breast cancer mortality rates in lower and middle income countries are considered due to diagnosis in advanced stages and access barriers to medical care (8). Hence, it is important to identify barriers of treatment as a main component of program. System related barriers, Financial barriers and environmental or patient barriers are considered to be main challenges to initiate breast cancer treatment(9).

In addition, breast cancer treatment leads to many situations that may threaten the psychosocial integrity of those affected by the disease. For this reason patients with breast cancer have many needs, including a need for strategies to deal with associated stress, both during and after treatment (10). Therefore the creation and utilization of social support have been a strategy to reduce the negative effect of stressful events related to the treatment of breast cancer (11).

The researches on the initiation of breast cancer treatment barriers at patient and provider level as well as the social support status are scarce. Moreover a little is known regarding the social support status of breast cancer and it's relation with the timely initiation of treatment of breast cancer in Ethiopia. So, the primary aim of this study is to provide information on the barriers to initiate treatments like chemotherapy, radiotherapy and hormonal therapy for breast cancer at patients and providers level. The data in return would provide important recommendation that will help to improve the service.

1.2 Statement of problem

In Ethiopia, breast cancer is the most prevalent cancers among adult population which is 30.2% of total cancer cases (3). Breast cancer is among the most commonly leading cancers from a total of 5701 cancer cases registered from September 2011 to August 2014 (12).In developing countries diagnostic and treatment service is limited and the accessibility and availability of care is poor. As the result developing countries accounts for the majority of breast cancer deaths as compared to developed countries. The reason behind is patients present at late stage for treatment, at the time they may require the advanced treatment due to the absence of routine screening scheme (13, 14).

In both developed and developing countries studies shows that both provider and patients contributes to late initiation of breast cancer treatment due to some barriers. One of the major barriers in breast cancer treatment in sub Saharan Africa is the scarcity of health professionals with training in cancer diagnosis and treatment. In addition, Pathologists, high-quality, reliable pathology laboratories and medical oncologists are very limited in number, especially in the poorest countries (15-17).

Another difficulty in developing countries which contributes as barrier of initiation of breast cancer treatment is the lack of equipment which has a major factor for breast cancer treatment. For example some 15 African nations and several countries in Asia lack even one radiation therapy machine. Ethiopia is one of the most populated countries with only one radiotherapy machine. The radiation machine is not widely available and the same is true for most other developing parts of the world(18).

In addition to their barrier to start the treatment cancer patients also face different stressful feelings including fear of pain, fear of death, fear of and feeling of loneliness (19). For breast cancer patients psychological, sexual, social and emotional problem related to treatment and disease is the commonest problem encountered (11, 20).

Studies done on the barriers of breast cancer initiation are more of in developed countries. However it is difficult to generalize the findings of the studies done in developed countries to the developing countries. There is inadequacy of studies regarding the barriers of initiation breast

cancer treatment at patient and provider level as well as the social support status in developing countries, particularly in Ethiopia.

Therefore the main aim of this study is to provide additional data on the barriers of initiating treatments among breast cancer patients both at patients and provider level.

1.3 Significance of the study

Most studies conducted regarding the challenges of the treatment of breast cancer worldwide and in some continents which is not specific to patients and providers. There is a paucity of studies conducted in developing regions particularly in Ethiopia concerning the challenges on the treatment initiation among breast cancer patients.

Therefore, the findings from this study will give information for planners, programmers, policy makers and researchers which target on the enhancement of the service provision.

The results of this study will also be used as base-line information for health care providers and breast cancer patients. In addition, researchers in the field could use the result of this study to design further studies at national level.

2. Literature review

2.1 Concepts and Burden of breast cancer

Breast cancer (BC) is a type of cancer that occurs in breast tissues, particularly in the ducts (tubes that carry milk to the nipples) and lobules (glands that are responsible for making the milk) (21). It is typically detected either during a screening examination, before symptoms have developed, or after a woman notices a lump (7).

There are factors that can be risks for the occurrence of breast cancer, Such as sex, increased age, black race, genetic predisposition, personal history, early age at menarche (<11), late menopause (>54), diet (higher saturated fat), higher BMI, excessive alcohol intake, taking exogenous hormone and exposure to ionizing radiation are some of the factors of breast cancer. Moreover higher socioeconomic background has high impact on the increasing incidence of breast cancer but since there is early diagnosis and good treatment options, it leads to reduced mortality (6, 22, 23).

Breast cancer represents one in four of all cancers in women. It is also a leading cause of cancer death in the less developed countries of the world. Incidence has been increasing in most regions of the world, but there are huge inequalities between rich and poor countries. Incidence rates remain highest in more developed regions, but mortality is relatively much higher in less developed countries due to a lack of early detection and access to treatment facilities(1).

There are several ways to treat breast cancer, depending on its type and stage which includes local treatments and systemic treatments. Local treatments treat the tumor without affecting the rest of the body. It involves surgery and radiation therapy. The other treatment modality is systemic treatment which treats breast cancer using drugs which can be given by mouth or directly into the bloodstream. It includes chemotherapy, hormone therapy and targeted therapy. Many women will get more than one type of treatment for their cancer (24).

However the treatment of cancer is expensive and complex. In the USA, more than US$120 billion per year is spent on cancer care(25). In LICs, the delivery of healthcare is hampered by many socioeconomic factors such as poor nutrition, sanitation, literacy and transport, and is compounded by the lack of medical personnel, poor infrastructure and health policies(17). A number of studies in developed and developing countries have identified socioeconomic, socio

demographic and health system related characteristics as barriers or facilitators to breast cancer screening and treatment. These barriers are mostly due to lower income, lower educational attainment, lack of appropriate health information, distance to services, fear of cancer, lack of health care insurance, and factors related to the healthcare system. Poverty and low income are associated with lack of health insurance and/or lack of access to primary care that in turn lead to low use of mammography screening (26, 27).

2.2 Barriers to breast cancer treatment

A barrier is a wall or limit that prevents people from doing what they want to do(28). As it is used in this study, it restricts patients the use of breast cancer treatment and limits providers from giving treatments for their patients timely. Barriers can be occurred at patient level (age, income, language etc), provider level (skills, knowledge), system level (policy, organizational and structural factors) (28). Those barriers contribute to the late initiation or delay of the breast cancer treatments(29). Treatment delay or late initiation of treatment is the interval between the dates of diagnosis to the first date of definitive treatment. Patients have different perception on the barriers they face to receive treatment on their side. The most common barriers are financial barrier, travelling a long distance to receive care, fear of diagnosis and treatment, language are some of barriers reported by breast cancer patients.(30-33).

Different studies showed that delay or late initiations of treatments are associated with the risk of poor survival (34). Several previous studies showed that the initiation of cancer treatment beyond three months is considered as late initiation or delay and is associated with poor prognosis (34-37)

2.3 Patient level barriers to initiate treatment

(Chemotherapy, radiotherapy and hormonal therapy)

A report that was done in USA, California on the patients' barrier to breast cancer treatment shows that Health system barriers, insurance, high cost, individual and cultural characteristics and language are stated as the major categories of barriers. The major barriers to receive treatments timely and high quality care is under health system barrier including health system, lack of access to treatment, navigation and high cost are reported. The result also shows patient

level barriers involving age, co morbidities, language, financial status, access to transportation; family support has impact on the practice and health system barriers (33).

Another barrier identified by a cross sectional study conducted in USA on breast cancer patients showed that Among the 396 women who underwent breast-conserving surgery, black women were significantly less likely to obtain radiation (73% v 84%; P < .0001). Among the 126 women with greater than stage IA hormone-receptor–negative tumors, black women were less likely to receive chemotherapy (67%v78%; P<.01).Amongthe421women with greater than stage IA hormone-receptor–positive tumors, black and Hispanic women were less likely to receive hormonal therapy (71% and 75%, respectively, v 80%; P < .05). There were 177 episodes of underuse among 145 women. The likelihood of underuse of an efficacious adjuvant therapy in a woman with newly diagnosed early-stage breast cancer was 21% overall; 16% among whites, 23% among Hispanics, and 34% among black women (38). In contrast another prospective study done in USA on forty eligible and evaluable patients shows that the commonly reported barriers by respondents under the category "strongly agree" or "agree" was "patient waited for the previously scheduled standard appointment to get the results instead of requesting an earlier appointment" (47.5%). About 38% of respondents did not seek medical care due to their concern about losing their breast, 25% of patients delayed due to their perception that the symptom is from infection or muscle strain or related to menstrual cycle, the lumps would disappear (28.5%), the lump is not urgent (20.0%), did not want to think about the lump (20.0%). (22.5%) reported that they were worried about the copayment. The other barriers which is reported by less than 20% of the time includes access to transportation, lack of insurance, inconvenient physician office hours, child care problems, lack of family support, other medical and emotional problems, and inability to take time off from work, continued to be present but were not as frequently reported, with each of these barriers being reported less than 20% of the time (39).

On a retrospective cohort study done in Rwanda shows a total of 150 patients fulfilled the inclusion criteria and were received a pathologic diagnosis of breast cancer during the study period. From those, twenty-one patients with early-stage disease (75.0%) and 37 with locally advanced disease (57.8%) underwent breast surgery. Among patients with early stage disease 67% with mean 6.9 cycles, 85% from locally advanced group with mean of 7.1 cycles and twenty five patients (47.2%) from metastatic cancers received chemotherapy. Among HR

positive patients, 95.6% of those with early-stage disease and 86.0% of those with locally advanced disease initiated endocrine therapy. The most common causes for chemotherapy initiation were neutropenia, patients missing appointments, infection, and provider or hospital delays (40). Similarly on the case control study conducted in Netherland on the barriers and delays in accessing breast cancer treatment among three ethnic groups, barriers are categorized to Barriers to primary care (cost, inability to get a suitably timed appointment, fear, and not trusting a health professional were reported women which are 18%. The most commonly reported barriers were fear, cost, and not wanting to make a fuss), Barriers to cancer specialist care (cost and inability to get timely appointment are reported by all groups. Co morbidity and access care (having diabetes reported an over two-fold higher risk of facing such barriers compared to those without diabetes (age- and ethnicity-adjusted OR: 2.06, 95%CI 1.20 to 3.57)), ethnic differences in accessing cancer care (shows the multivariable analysis of the associations between ethnicity and the three barrier domains) and delay in access to care (41).

Unlike to the previous study, a hospital based descriptive study done in Nigeria from Oct 2013 to Nov 2013 at the oncologic clinic on the financial barriers to utilization of screening and treatment services for breast cancer showed, from 270 respondents, all the respondents experienced financial constraints in accessing services. The major constraints was cost of treatment 208 (77.5%) followed by lack of health insurance coverage 194 (71.8%), transport difficulties 183 (66.5%) and lack of funds 166 (61.7%)(42). A systematic review done within developing countries after 1990 on barriers to breast care showed factors which are related to barriers to care in terms of personal characteristics (age, marriage, negative family history of breast cancer and clinical presentation), socio cultural factors including alternative treatment, use of other practitioners and use of prayers and fear of treatment. The other factor is related to economy, residency and lack of access to physician are found to be barriers to care which cause patient to delay (29). Poor knowledge and awareness about breast cancer, wrong perception of breast cancer, searching of another treatment options such as traditional healers and some socio-demographic characteristics, lack of human resource such as oncologists and pathologists, and shortage of radiation machine and cost of treatment are found to be the some barriers that made patients delay from early presentation for diagnosis and treatment according to a research review done in sub Saharan Africa(43, 44).

On a qualitative study done in Ethiopia at black lion hospital on the challenges and opportunities in cancer diagnosis, language, long waiting time, coming from distant areas, seeking treatment options from other sources (church and traditional healers), are some barriers reported by patients(5).

2.4 Provider level barriers to initiate treatment

A pilot study conducted in some states of USA shows that the most commonly reported physician barriers per patient reports were "the physician of initial contact did not believe their breast lump/symptom was related to cancer" (20%) or did not think a biopsy was necessary (15%). Ten percent of the physicians did not refer the patient for further evaluation(39).

In contrast, on another study done in Australia, Melbourne, provider knowledge is found to be a barrier of early detection and management of breast and cervical cancer. Under this category poor understanding of cultural needs, lack of awareness of indigenous cancer data, lack of appropriate health promotional resources, poor identification of aboriginality are reported by GP(27).

2.5 Social support status of Breast cancer patients

Social support is the providing of assistance or comfort to other people to help them cope with a variety of problems. Support comes from interpersonal relationships, family members, neighbors, support groups, religious groups and friends. It has a positive effect in times of stress (45).

A randomized clinical trial conducted in Madison, WI and Chicago showed that, during the period of breast cancer diagnosis, majority (84.0%) of the women received helpful informational support from their providers but didn't get these support from their families and friends. However, family and friends were found to be source of helpful emotional support by more than 80% of the women. A majority (67.1%) also rated emotional support from providers as helpful. More than 70% of the women received helpful support from both health care providers and family in decision making (46).

A study conducted in Wielkopolska in 2010 on 61 cancer patients showed that the 46 respondents confirmed that the need of constant support in the course of the fight against the

disease persons. The patients expect support in disease mostly from their families and medical staff. However, as the physicians and nurses cannot completely satisfy their needs, friends should also be involved (19). Moreover with regards to the treatment, studies showed that women who were socially integrated received radiotherapy and hormonal therapy as compared to socially isolated (47).

Findings from one review indicate that distress and depression related to treatment side effects, as social support is added, it affects a patient's psychosocial adjustment to breast cancer. This situation occurs mostly on patients who are taking chemotherapy in which women under treatment experience significantly greater distress and experience problems regarding psychosocial adjustment. High levels of anxiety and distress and low affability tend to reduce as one's perception of social support due to psychosocial changes are experienced by women undergoing breast cancer treatment (11).

Conceptual framework

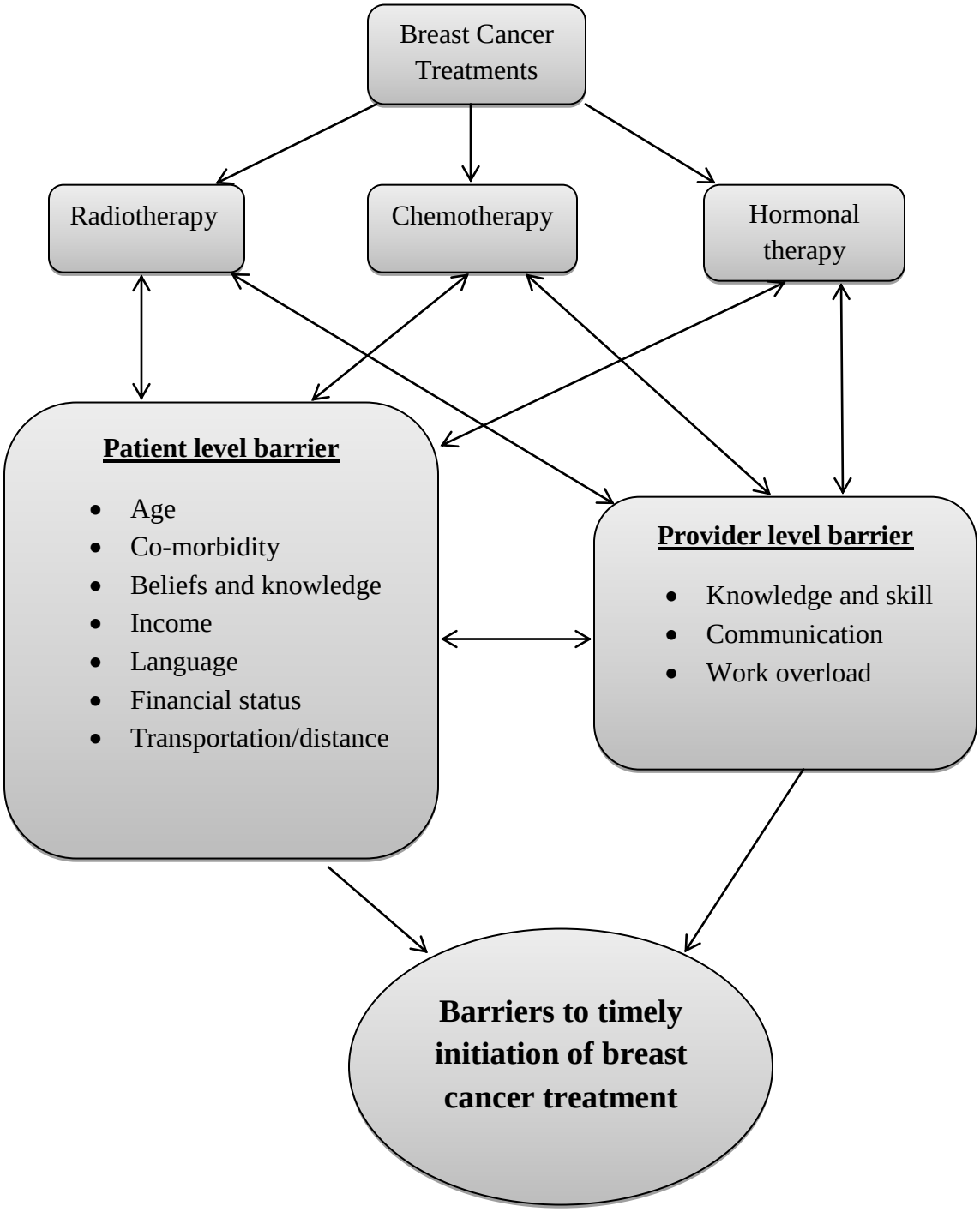

Figure 1- Conceptual framework on barriers of breast cancer treatment initiation and social support status of breast cancer patients at Black Lion General Specialized Hospital, Addis Ababa, Ethiopia

Patient level characteristics, such as age, and co morbidities influence not only what we call patient-level barriers, such as language, financial status, access to transportation but likely also impact the provider/practice and health system barriers. Barriers may contribute to delays between each step along the breast cancer care, complete lack of access to a service, or a premature end to treatment. While some patient level characteristics are unchangeable (e.g., demographics), policies and programs can be used to overcome many barriers. Thus, our discussions below focus on research modifiable barriers that can be used to inform the development of policies and programs to improve access to breast cancer care in Ethiopia. The conceptual framework is adopted from previous studies (20).

3. Objective

3.1 General objective

- To assess the barriers to timely initiation of breast cancer treatment and social support status among breast cancer patients at Tikur Anbesa Specialized Hospital

3.2 Specific objective

- To describe the timely initiation of the breast cancer treatment (chemotherapy, radiation therapy or hormonal therapy) after diagnosis and surgery
- To explore provider level barriers to initiate breast cancer treatment (chemotherapy, radiation therapy or hormonal therapy)
- To identify factors associated with barriers to initiation of breast cancer treatments (chemotherapy, radiation therapy or hormonal therapy) after diagnosis
- To determine the level of social support given to breast cancer patients

4. Methods and materials

4.1 Study area and period

The study has been conducted at oncology unit of Tikur Anbessa specialized hospital, Addis Ababa Ethiopia from September 2017 to June 2018. TASH is a large referral teaching hospital, under the administration of Addis Ababa University. It has divisions such as internal medicine, surgery, gynecology and obstetrics, pediatrics, radiotherapy, adult oncology, pediatric oncology /hematology, nuclear medicine, psychiatry, laboratory, orthopedics, pharmacy. The hospital has more than 800 beds, give diagnostic, and treatment service for about 370,000-400,000 patients per year. The oncology unit of TASH is the only oncology unit for the country and has an outpatient department, which gives service to new and follow-up patients and an in-patients department which has 19 beds. There are 201 staff physicians, 627 nurses, 26 dedicated oncology nurses, are more than 10 pathologists, 2 hematologists, there are 4 medical oncologists, 4 radiotherapists, 1 pediatric oncologist, 2 specialized surgical oncologist, greater than 30 general and specialist surgeons, 1 CT scanner, 1 MRI scanner and 2 cobalt radiotherapy unit staffs are the human power resource of the hospital. (48)

4.2 Study design

A descriptive cross sectional study design with both quantitative and qualitative method was conducted to assess the barriers for initiation of breast treatment among breast cancer patients.

4.3 Population

4.3.1 Source population

The source population constitutes all pathologically diagnosed breast cancer patients who were on treatment at TASH and the oncology residents and nurses working on cancer patients in the hospital.

4.3.2 Study population

The study population constitutes pathologically diagnosed breast cancer patients who were on treatment (chemotherapy, radiation therapy or hormonal therapy) at the oncology unit of TASH for during the study period. For qualitative oncology residents and nurses were included.

4.3.3 Inclusion and exclusion criteria

4.3.3.1 Inclusion

- Patients (for quantitative)

- Pathologically diagnosed breast cancer patients
- Age ≥ 18

- Providers (for qualitative)

- Oncology residents and nurses

4.3.3.2 Exclusion

- Patients who are critically sick and unable to communicate

4.4 Sample size and Sampling technique

4.4.2 Sample size

Quantitative: In Ethiopia there is no clear published study on the timely initiation treatment among breast cancer patients. For this reason 50% was taken to obtain the maximum sample size.

To calculate the sample size the single population proportion formula is used:

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

n = Sample size,

Z α/2= significance level at α =0.05

P= expected proportion of breast cancer patients with barriers of treatment initiation (50%)

d = margin of error of 0.05

Therefore, using the formula the calculated sample size is 384. So that with 10%

Non responsive rate the total sample size will be 422 breast cancer patients

Qualitative: Sample size for qualitative method was determined on the basis of theoretical saturation in which that the point in data collection when new data no longer bring additional insights to the research questions. So the discussion stopped when the needed point was obtained. Thus that point was obtained after 6 care provider were interviewed.

4.4.1 Sampling technique

Quantitative: simple random sampling technique was used for the quantitative data and lottery method was used to select patients. Each of the BC patients visiting oncology unit in each day was assigned a unique number. The number has packed in a bowl and thoroughly mixed. Since the flow of patient is low, 70% of patients were selected in each day. Based on the existing Hospital experience, majority of cancer patients are receiving chemotherapy treatment followed by hormonal treatment and then radiation therapy. So, the proportion of study subjects from each treatment type were chosen based on the information obtained from an experienced health care provider working in oncology unit. Therefore 50%, 30% and 20% of population were taken from chemotherapy, hormonal therapy and radiation therapy respectively.

Qualitative: Purposive sampling technique was employed to select respondents for in-depth interview from care providers. The participants were chosen from the oncology unit who are working on follow up. A total of six participants were included, involving four oncology residents and two oncology nurses.

4.5 Measurement and variables

4.5.1Measurement

For the quantitative approach the structured questionnaire is prepared by assembling the result of available literatures and adapting from previous studies and modified in line with the objectives. Literatures define the interval of delay as, *Total delay* defined as the time from identification of the problem (either through symptoms or screening) to the beginning of cancer treatment; *Patient interval* was defined as the time from identification of the problem to the first medical consultations; and *provider interval* was defied as the time from the first presentation (first medical consultation) to the beginning of cancer treatment (49, 50). Since the focus of the study is on the barriers of treatment initiation, the time interval is categorized as the time intervals into monthly intervals from the diagnosis to breast cancer to initiation of treatment (chemotherapy,

radiotherapy and hormonal therapy. To be consistent with other studies, the late initiation of each treatment is defined as the time interval greater than three months. The questionnaire was reviewed by oncologists and pretested on 10% of similar population. The 12-item Multidimensional scale of perceived social support (MSPSS) was designed to measure the perceived adequacy of support from the three sources: family (items 3, 4, 8 and 11), friends (6, 7, 9 and 12), and special person (items 1, 2, 5 and 10). The values for the item were added together for each of the three dimensions. A perceived social support above the median is considered as good social support and perceived social support below the median is considered as low social support. For the qualitative, the interview guide is adapted and modified from the study conducted in Armenia (51).

4.5.2 Variables

4.5.2.1 Independent variable

- Socio demographic characteristics (Age, Marital status, Income, Educational status, language, Place of residence)
- Co morbid conditions
- Patient's perceived barriers to treatment initiation
- Alternative treatment use
- Stage of cancer
- Type of treatment
- Social support status

4.5.2.2 Dependent variable

Timely initiation of treatment (chemotherapy or radiation therapy or hormonal therapy)

4.6 Data collection procedures

Quantitative: Data was collected using a structured interview based standardized questionnaire that is adopted from a tool prepared by CASSAA research division and modified in line with the study objective by investigator. Data was collected by both reviewing the medical records of

breast cancer patients and by interviewing patients. The study consists of women who already started neo-adjuvant and adjuvant treatments in TASH oncology unit. The data was collected by 6 trained oncology nurses using interviewer–administered questionnaires after obtaining informed consent from respondents. The data collectors were trained before the actual data collection regarding the approach, objective of the study and the benefits of the study.

Qualitative: After consent was obtained, face to face in depth individual interview was conducted using a semi structured interviewer guide which addresses the objective. The interview was carried out by the principal investigator. Interview was performed at participants' private office of the study site. All the interviews were noted and recorded using tape recorder with permission of each respondents. The topic guide was prepared using the previous similar study and modified by principal investigator (51).

4.7 Operational definition

Barriers - A barrier is a limit that prevents patients from starting treatment within three months.

Timely treatment initiation – The condition of being starting the treatment (chemotherapy or radiotherapy of hormonal therapy) within three months after the pathological confirmation of the breast cancer

Late treatment initiation - The condition of being starting the treatment (chemotherapy or radiotherapy of hormonal therapy) beyond three months after the pathological confirmation of the breast cancer

Co-morbidity – the presence of one or more additional disease or disorders co-occurring with a primary disease.

Good social support – those respondents who scored above the median score for social support status assessing question

Low social support - those respondents who scored above the median score for social support status assessing question

4.8 Data processing and analysis

Quantitative: The data collection instruments was coded and reviewed before the data entry. The data was entered, using Epi-Info 7.0 and cleaned and exported to SPSS version 20 for further analysis. The analysis was verified using descriptive interpretation, like frequency and percentage, median, and chi square test. Median was used to classify the scores of social support. Those who score above the median perceived social support will be considered as having good social support. Binary logistic regression analysis with odds ratio along with 95% CI was used to assess the association between dependent and independent variables and to test the significance of association. The variables which were found to have association with outcome variable were entered to multivariate analysis to statistically adjust the estimated effect of each variable to control confounders. Level of significance below 0.05 was considered of having association.

Qualitative: all recorded data were transcribed and translated from Amharic to English. The data was coded and categorized using Open code software version 7.1. And thematic analysis was employed to analyze the data. The data in open code was read word by word and labeled by codes and categorized into three categories. Then, formulated in themes that fits with the categories.

4.9 Data quality management

The data collectors were trained one day prior to the data collection regarding the purpose of study, questionnaire, ensuring confidentiality of participants and on how to interview. The English version of the questionnaires was translated to Amharic which is easy to understand. The data was checked for it's the appropriateness and consistency. During data collection, close supervision was made and the questionnaire has been checked for completeness, accuracy and consistency by supervisors to take corrective measures on the right time. Pretest was done on 10% of subjects before the data collection. And the necessary changes were done based on the findings of the pre test. For those who came to TASH by referral, since it was difficult to get information regarding the date of surgery from their clinical profile, so it was traced by asking the patients to remind and respond. Most patients remember the exact date however some patients gave response by reminding some events they had.

4.10 Ethical considerations

Ethical clearance obtained from the Ethical Review committee of School of public health of Addis Ababa University. Before starting the data collection, permission has obtained from oncology unit of TASH and Informed consent was obtained from the participants using the consent form designed for this study. Respondents were told about the objective, the benefit of the study, that their participation is voluntarily and they can withdraw from the study at any time. To ensure confidentiality, name and other identifiers of patients and health care professionals will not be recorded on questionnaires.

4.11 Dissemination of results

The result of this study will be presented and submitted to school of public health and college of Health Sciences, Addis Ababa University. The result will be submitted to oncology unit of Black Lion Specialized Hospital. The summary of the thesis will be submitted to the international or national peer reviewed journal for publication. In addition to this, the result of the study will be considered to publish through peer reviewed journals.

5. Results

5.1 Socio demographic characteristics

From a total of 422 sample size intended to include in the study, complete information was obtained from 394 participants with response rate of 93.3%.

From the total study subjects the age of most respondents 122 (31%) lies between 40 and 49 years old, 92 (23.4%) were between age group of 50 and 59 years old. Two hundred forty two participants (61.4%) were orthodox, 65 (16.5%) were protestants and 64 (16.2%) were Muslims. Majority of respondents 232 (58.9%) were married, 62 (15.7 %) were single. In terms of educational status most participants 163 (41.4) were house wife, 73 (18.5%) were government employed, 38 (9.6%) had private job.

The educational level of most participants 101 (25.6%) were illiterate, 93 (23.6%) were primary school. The language of patients were Amharic for 324 (82.2%), Oromiffa for 115 (29.2%), Guragegna for 22 (5.6%) and Tigregna for 18 (4.6%) respondents. About 213 (54.1%) participants were from out of Addis Ababa town and 181 (45.9%) were coming from Addis Ababa. The house hold income of most patients 127(32.2%) were below 1000 birr, followed by 101 (25.6%).

Table 1 - Distribution of Socio-Demographic characteristics of Breast cancer patients at Tikur Anbessa Specialized Hospital, oncology unit, Addis Ababa, Ethiopia, June 2018

Variable	Category	Frequency	Percentage (%)
Age (Years)	18-29	22	5.6
	30-39	88	22.3
	40-49	122	31.0
	50-59	92	23.4
	60-69	53	13.5
	>70	17	4.3
Marital status	Single	62	15.7
	Married	232	58.9
	Divorced	48	12.2
	Widowed	45	11.4
	Separated	7	1.8
Educational level	Illiterate	103	26.1
	Read and write only	31	7.9
	Primary school	93	23.6
	Secondary school	81	20.6
	College	66	16.8
	University	20	5.1
Occupation	Student	2	0.5
	Merchant	30	7.6
	Farmer	23	5.8
	Governmental Employed	73	18.5
	Private Job	38	9.6
	Self-Employed	30	7.6
	House Wife	163	41.4
	Day laborer	5	1.3
	Retired	4	1.0
	Other	26	6.6
Language	Amharic	324	82.2
	Oromiffa	115	29.2
	Tigregna	18	4.6
	Guragegna	22	5.6
	Other	19	4.8
Religion	Orthodox	242	61.4
	Protestant	65	16.5
	Catholic	20	5.1
	Muslim	64	16.2
	Others	3	0.8
Residency	At town	183	45.9
	Out of town	211	54.1
Income	<=1000	127	32.2
	1001-2000	101	25.6
	2001-4000	99	25.1
	>=4001	67	17

5.2 Respondent's awareness (variables) about breast cancer

Patients were asked to whether they are aware of the diseases they encountered and all respondents 394 (100%) are found to be aware. Majority of participants 281(71.3%) believed that breast cancer is not curable with medication. Most participants 225 (57.1%) aware that breast cancer is not transmissible, 74 (18.8%) said it is transmissible and 95 (24.1%) doesn't know whether it is transmissible. When patients were asked whether breast cancer can be detected earlier, majority of participants 310 (78.7%) responded that breast cancer cannot be detected earlier, 21 (5.3%) said it can be detected and the remaining 63 (16%) doesn't know.

Table 2 - Awareness of patients toward Breast Cancer at Tikur Anbessa Specialized Hospital, Oncology unit, Addis Ababa, Ethiopia, June 2018

Variable	Category	Frequency	Percentage (%)
Know the disease encountered	Yes	394	100
Breast cancer is transmissible	Yes	74	18.8
	No	225	57.1
	I don't know	95	24.1
BC is curable with medication	Yes	26	6.6
	No	281	71.3
	I don't know	87	22.1
It can be detected earlier	Yes	21	5.3
	No	310	78.7
	I don't know	63	16

5.3 Clinical characteristics of study subjects

The study found that almost half 187 (47.5%) of the patients were diagnosed to have breast cancer with clinical TNM stage III as illustrated in Figure 1.

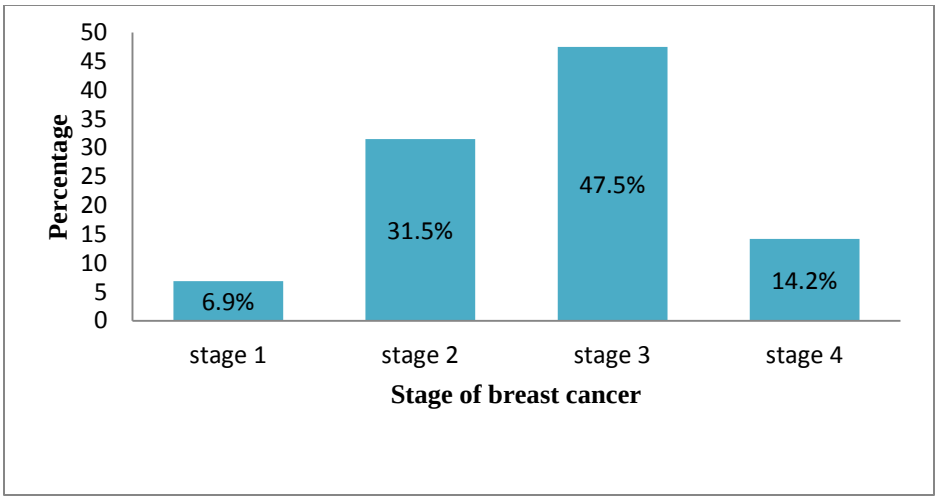

Figure 2 -Clinical stage of breast cancer based on TNM staging at Tikur Anbessa Specialized Hospital, Oncology unit, Addis Ababa, Ethiopia, June 2018

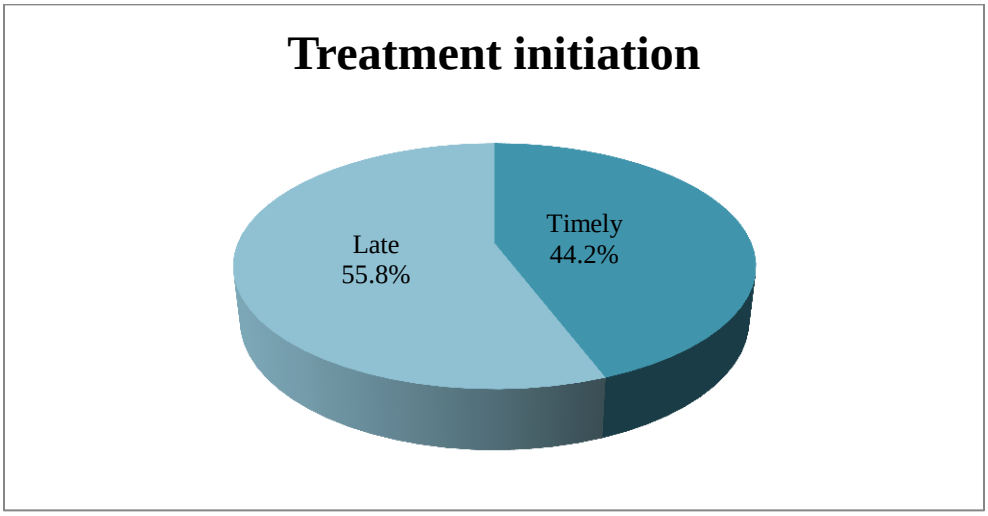

Figure 3 - Initiation of treatment among Breast cancer patients at Tikur Anbessa Specialized Hospital, Oncology unit, Addis Ababa, Ethiopia, June 2018

Among women diagnosed with the cancer, surgical intervention was done for 365 (92.6%) of patients and for the remaining 29 (7.8%) of patients surgery was not done. Concerning the treatment received by patients, almost half of participants 192 (48.7%) were taking chemotherapy, 125 (31.7%) and 111 (28.2%) were on hormonal therapy and Radiotherapy respectively. Among those who are taking radiation therapy 90 (81%) of women initiate the treatment lately. From the total women taking chemotherapy, about 80 (41.7%) initiated the

treatment lately. Out of all participants who were on hormonal treatment 74 (59%) started the treatment lately.

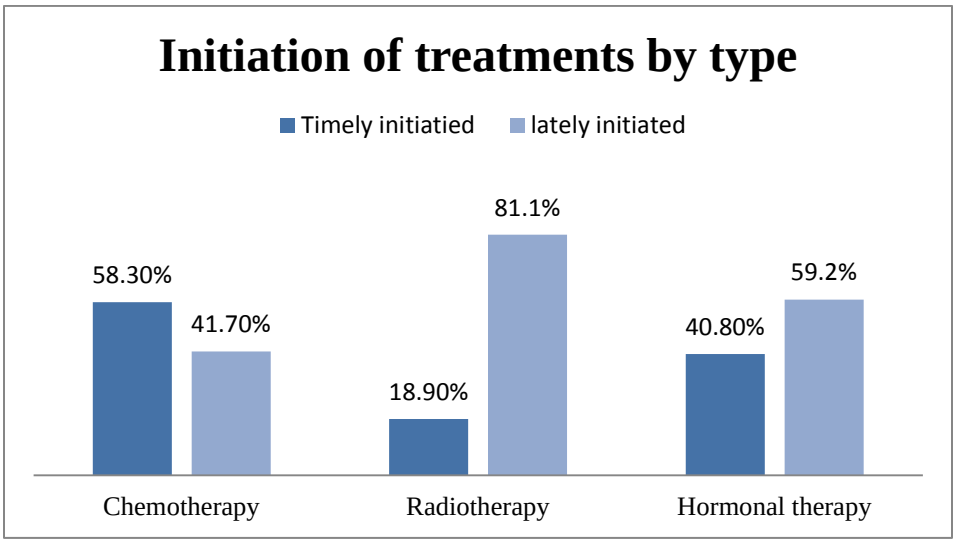

Figure 3 – Initiation of treatments by type by Breast cancer patients at Tikur Anbessa Specialized Hospital, Oncology unit, Addis Ababa, Ethiopia, June 2018

Among all diagnosed women 89 (22.8%) reported to have co morbidity, among those majority 56 (14.2%) were hypertensive, 12 (3%) had heart disease, 11 (2.8%) were Diabetic, 10 (2.5%) RVI, 1 respondent had stroke and the remaining participants did not have any co morbidities.

Concerning the alternative use of treatment, from overall study subjects 186 (47.2%) used alternative treatment before they start the medical treatment. Out of those 120 (30.5%) have used holy water, 45 (11.4%) visited traditional healers and under the others category 19 (4.8%) patients used Prayer, Quran.

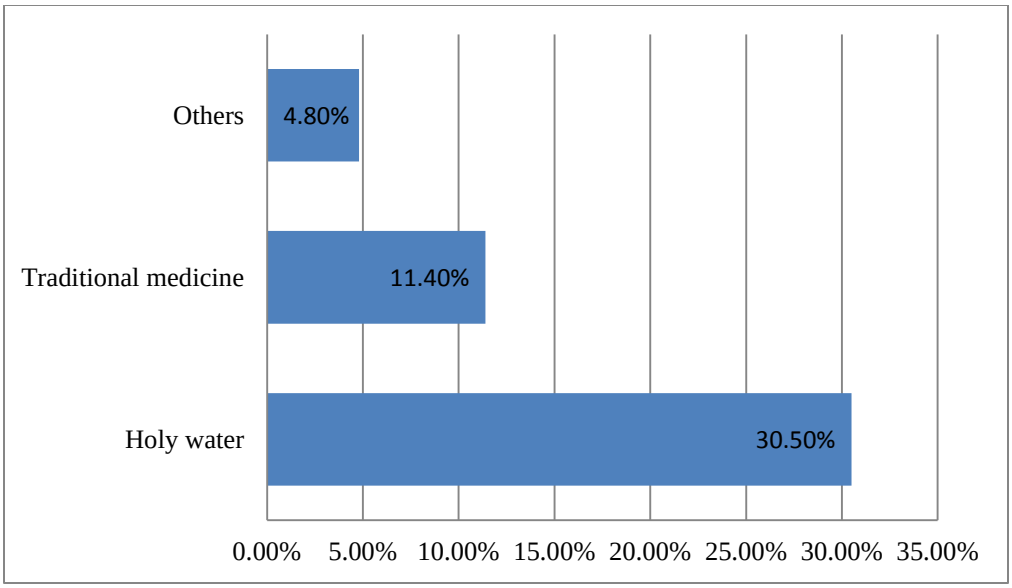

Figure 4 - Alternative use of treatment by Breast cancer patients at Tikur Anbessa Specialized Hospital, Oncology unit, Addis Ababa, Ethiopia, June 2018.

5.4 Patients' perceived barriers to initiate of breast cancer treatment

Patients had different perception on their barriers to initiate the treatment. From those majority of patients (65.5%) mentioned that they had fear of side effects of treatment. About 62.9% of respondents said that they couldn't afford for help. Followed by 56.9% of participants barrier was lack of transportation due to the long distance from their home to health facility and about 54.1% of patients' barrier was the waiting time for treatment schedule.

Table 3 - Barriers for the timely initiation of treatment by Breast cancer patients at Tikur Anbessa Specialized Hospital, Oncology unit, Addis Ababa, Ethiopia, June 2018

Variable	Category	Frequency	Percent (%)
I thought I could handle it on my own.	Yes	212	53.8
	No	182	46.2
I was concerned about what other people would think of me if I went for help.	Yes	186	47.2
	No	208	52.8
I was too embarrassed or ashamed.	Yes	186	47.2
	No	208	52.8

Couldn't afford to pay for help.	Yes	248	62.9
	No	146	37.1
I had no transportation, no way to get there.	Yes	224	56.9
	No	170	43.1
I thought my troubles would just go away without any help.	Yes	187	47.5
	No	207	52.5
I've had a bad experience with treatment before.	Yes	104	26.4
	No	290	73.6
I didn't have the time.	Yes	139	35.3
	No	255	64.7
I needed someone to take care of my children while I Was getting help.	Yes	127	32.2
	No	267	67.8
I was appointed for long time	Yes	213	54.1
	No	181	45.9
I had fear of side effects	Yes	258	65.5
	No	136	34.5

5.5 Perceived social support status of breast cancer patients

Data from perceived social support status showed, patients' perception regarding family support and special support is similar in which majority 259 (65.7%) were above the median score or had low social support. Participants perception regarding friends' support shows that majority 305 (77.7%) perceived as having low level of social support.

Table 4 - Social support status of Breast cancer patients at Tikur Anbessa Specialized Hospital, Oncology unit, Addis Ababa, Ethiopia, June 2018

	Median	Category	Frequency	Percentage
Special person support	20	Good	135	34.3
		low	259	65.7
Family support	25	Good	135	34.3

		low	259	65.7
Friends support	15	Good	89	22.6
		low	305	77.4
Total social support	60	Good	107	27.2
		low	287	72.8

5.6 Factors associated with the late initiation of breast cancer treatment

The association between dependent and independent variables was done using both Bivariate and multivariate logistic regression technique. In bivariate logistic regression; place of residency, Income and patients' barriers such as lack of money to get help, lack of transportation, perception that the problem would go without help, appointed for long time, and patient's fear for side effect, family support, special person support and friends showed association with the late initiation of treatment and were used in multivariate analysis.

Based on the multivariate analysis information place of residency, mode of treatment (radiotherapy), time of appointment was significantly associated with the late initiation of treatment. Place of residency was associated with treatment initiation (AOR = 2.594, CI = 1.610-4.182, P - 0.000). Patients who came from out of Addis Ababa are more likely to initiate the treatment lately compared to those who are living in Addis Ababa. Lack of money for treatment is another associated factor with initiation of treatment (AOR =1.797, 95% CI=1.016-3.179 P=0.044). Those patients who were appointed was for a long time as a barrier are more likely to initiate the treatment late (AOR = 2.595; 95% CI = 1.537, 4.383, P= <0.001).

Table 5 - Bivariate and multivariate logistic regression analysis of factors associated with the initiation of breast cancer, at Tikur Anbessa Specialized Hospital, Oncology unit, Addis Ababa, Ethiopia, June 2018

Characteristics			Initiation of treatment		COR (95%CI)	AOR (95% CI)
			Timely	Late		
	Place of residence	At town	102 (55.7)	81 (44.3)	2.431(1.617-3.654)	**2.543(1.624-3.983) ***
		Out of town	72 (34.1)	139 (65.9)		
Patients' perceived barriers	**Embarrassment**	Yes	61 (32.8)	125 (67.2)	2.437 (1.618-3.673)	1.605(0.962-2.677)
		No	113 (54.3)	95 (45.7)		
	Lack of money for treatment	Yes	88 (35.5)	160 (64.5)	2.606(1.712-3.966)	**1.706 (0.991-2.940)***
		No	86 (58.9)	60 (41.1)		
	Transportation Problem	Yes	84 (37.5)	140 (62.5)	1.875 (1.251-2.811)	0.907 (0.533-1.543)
		No	90 (52.9)	80 (47.1)		
	Feel that the problem would go without help	Yes	64 (34.2)	123 (65.8)	2.179 (1.451-3.275)	1.276(0.767-2.124)
		No	110 (53.1)	97 (46.9)		
	Long appointment	Yes	63 (29.6)	150 (70.4)	3.776 (2.482-5.744)	**3.163 (1.923-5.203)***
		No	111 (61.3)	70 (38.7)		
	Fear of side effect	Yes	100 (38.8)	158 (61.2)	1.886 (1.239-2.871)	0.867(0.521-1.442)
		No	74 (54.4)	62 (45.6)		
Social support	**Special person support**	Good	75 (55.6)	60 (44.4)	2.020 (1.325-3.081)	1.666 (0.539-5.148)
		Low	99 (38.2)	160(61.8)		
	Family support	Good	74 (54.8)	61 (45.2)	0.518 (0.340-0.790)	1.316 (0.483-3.586)
		Low	100 (38.6)	159(61.4)		
	Friends' support	Good	51 (57.3)	38 (42.7)	0.504 (0.312-0.812)	1.596 (0.589-4.328)
		Low	123 (40.3)	182 (59.7)		
	Total support	Good	60 (56.1)	47 (43.9)	1.937 (1.236-3.035)	0.486(0.145-1.634)
		Low	114(39.7)	173(60.3)		

5.2. Providers' perceived barriers

A total of 6 in depth interviews were carried out for health care providers working in the oncology unit of TASH on their barriers to initiate breast cancer treatment for breast cancer patients. The duration of interviews ranged from 7-10 minutes. Six interviews were conducted, 4 with oncology residents and 2 with oncology nurses. A total of 4 males and 2 females were included. There were two refusals in the study. The reason for refusal was being busy by work.

Breast cancer treatment arrangement in TASH

All respondents were asked about their roles in the treatment of breast cancer and the training taken specific to breast cancer. All participants mentioned their role is visiting patients who came to oncology unit, doing further investigation and start the breast cancer therapies.

"We explain patients about ether disease then we give appoint them to present with doctor in addition we give nursing assistance"

Participant 1 (nurse)

"Our responsibility is to visit patients, sending them for investigation to know their status, explaining them about their condition and giving them medical treatment and following them"

Participant 2 (oncology resident yr. 2)

However all participants did not take a special training which is specific to breast cancer. Instead the oncology residents mentioned that they are doing their specialty on oncology which is applied on all cancer conditions, not only for breast cancer.

"No….I didn't take a specific training for breast cancer, I didn't get the opportunity….."

(Participant 4- nurse)

"I'm specializing in oncology which is general training for all cancer cases, but I didn't get training which is specific to breast cancer"

(Participant 2- oncology resident yr 2)

When participants were asked about the time period and the phases of treatment given for breast cancer patients, some participants mentioned that even though it is better to start the treatment not longer than one month, the time that treatment given depends on the type of treatment. However all participants mentioned similar timeline regarding the time and the phase of chemotherapy, has 6-8 cycles and the interval between is 21 days. Most participants mentioned that they initiate the chemotherapy treatment 2-3 month's interval. But in the case of radiotherapy treatment the appointment may extend to one year.

"….it depends on the stage; if they come early they will consult for surgery then start chemotherapy"

(Participant 1- nurse)

"They start chemotherapy 6-8 weeks surgery for 6-8 cycles, then after they start radiotherapy and after they complete radiation therapy hormonal therapy will be started, but patients do not get radiation therapy timely, they may need to wait till a year "

(Participant 3- oncology resident yr 1)

"For most patients it may take 3 weeks to bring their investigation result then we appoint them to start chemotherapy after a month. Then they will be followed up throughout the course of treatment for in every 21 days till they reach their turn for radiotherapy. Once they start radiation therapy, it takes 15 days to complete."

(Participant 5-oncology resident yr 2)

Existing barriers to initiate breast cancer treatment

1. Lack of equipments and supplies

   Most care providers mentioned that one of their barriers that contribute for the late initiation of breast cancer treatment is that shortage of equipments and unavailability of necessary drugs as needed. Some participants also complained that the place available to practice in the hospital is not adequate.

"…first of all, the place available to admit patients is very limited. It is not adequate to give the service needed"

(Participant 1-nurse)

"One of the challenges is there is shortage of rooms or spaces to practice"

(Participant 3- oncology resident yr 1)

"There are times that patients do not get the drugs we prescribed them even if they have letter to get free medical treatments, so when they are recommended to buy the drug from outside pharmacy some patients refuse. So the availability of chemotherapy is limited"

(Participant 6- oncology resident yr 2)

In addition to shortage of equipments and drugs, participants mentioned that there is lack of human resource in a needed amount which can be comparative with the number of patients. They explained that this limits them that they cannot give adequate service for all patients as needed. However one care provider mentioned that there is adequate human resource, but the problem is the amount of patients being treated is very large which is not proportional with the number of professionals.

".....the other challenges we face is lack of human resource, there are few health personnel like physicians and nurses to bring the needed outcome"

(Participant 3- oncology resident yr 1)

".....in my opinion there are adequate health care providers in this hospital. But since the number of patients coming here is overloaded, it could not be balanced. I think that could be the problem to the late initiation of treatment"

(Participant-4 nurse)

2. **Queues in health care facility**

Other barrier to treatment that was discussed by majority of participants was a long queue. All health care providers complained the existence of a long queue in the hospital. One care provider mentioned that when patients may die within a time when they are waiting for their treatment schedule especially for radiotherapy. According to participants the flow of patients and the capacity of the facility to give the needed service are not comparable. As some participants explained the late initiation of the treatment cause a negative impact on the outcome as it leads the stage to be advanced.

" the other thing is there are patients who have started the treatment on 1st and 2nd cycle. So we don't appoint another new patient by superimposing on old patients before they finish their cycle. In the case of radiotherapy, their waiting list extends to more than a year. So there is waiting in both cases. There are times patients died when they are on waiting list to wait their turn otherwise their stage become advanced and reach to the level that they don't show any progress".

(Participant1- nurse)

"Frankly speaking the loads of patients and the capacity of the hospital to give the service needed is not proportional. Because there is a delay between the time patient seen by physician and the time they initiate treatment. In addition patients should get radiation therapy, however the appointment given for this therapy is very long since the hospital's capacity and the patients load is incomparable".

(Participant 2- oncology resident yr 2)

"As I told you earlier since there is patient overload, the capacity of the hospital to serve this amount of patients is very poor"

(Participant 4- nurse)

3. Patients late presentation

Other barrier mentioned by participants to initiate breast cancer treatment was that patients do not present at the exact time of their appointment due to several reasons as a

greater contributing factor for the late initiation of treatment. Some participants mentioned that since most patients coming from distant areas, they have no place here to stay, so patients prefer to extend their schedule.

"For instance, the place patients came from to start the treatment is so far. When we give them an appointment to start the treatment after their investigation result was seen, patients get so sad. Because, most patients have no place to stay here, so they challenge us. So it's difficult to convince them to start the treatment on the day they appointed"

(Participant 2- oncology resident yr 2)

Participants' recommendation for improvement

Majority participants recommended that the need of financial support, especially to the facility in order to fulfill the necessary equipments and treatment materials also support for those patients who are unable to cover their investigation and treatment costs. Some participants reported that the need for building more cancer centers to reduce the current load of TASH. One health care provider mentioned that the importance of training to produce more health professionals to reduce the current burden of the existing physicians and nurses.

"In my opinion there should be financial support or fund for this hospital to provide additional inputs that would reduce problems related to shortage of treatment materials and at the same time additional support should be provided for low income patients that would cover their fee related to their treatments".

(Participant 3- oncology resident yr 1)

".....It's think it's better to build other cancer centers so that patients do not need to come to Addis Ababa every time, it also reduce the number of patients treating in Tikur Anbessa"

(Participant 5 oncology resident yr 1)

6. Discussion

The result of our study showed that majority of patients was from out of Addis Ababa. This might be because of TASH is the only cancer center is Ethiopia. So, most patients referred from other parts the country.

Out of the total participants in our study, more than half of respondents 55.8% initiated the treatment late which is 3 months or above after breast cancer was confirmed. This finding slightly higher as compared to the study conducted in Turkish in which the breast cancer therapy was started late (>3 months) in almost half (42%) of the patients. However it contrasts with other similar studies conducted in Los Angeles, San Bernardino Country in Brazil in which only 27.5% of patients were found to initiate the treatment late 10.4% participants initiated the therapy late respectively (52, 53). This difference might be related to the difference in socioeconomic status, availability and accessibility of services provided.

In our study, treatment initiation is not influenced by age, income, stage at diagnosis, marital status and the use of alternative treatments. This is consistent with the finding of study done in Brazil in which age and stage of diagnosis is not significantly associated with treatment initiation (53). However it contradicts with a study conducted in USA which showed that delayed treatment initiation higher is among advanced age (above 70) also the Delay in developing countries was related to age >65 years. Unlike to our study it showed significant association with age, those who are not married and lower income patients. (54) This can be explained due to the fact that the number of participants in this study under the age category of >70 are very few, <5% as compared to the study done in USA which is 83%. Concerning the income, the difference might be due to the difference in time period and the availability of free medical treatments for low income patients. The alternative use of treatments in our study doesn't affect the initiation of treatment; similar finding was obtained on the study conducted in three states of USA which showed that there is no significant association between the use of alternative treatment and chemotherapy treatment initiation (55).

In our study the mode of treatments taken by patients was contributing to the late initiation of treatment. Radiotherapy is initiated lately among 81.1% of participants which is found to be more likely initiated late as compared to other treatments (chemotherapy and hormonal therapy)

which is similar finding with the previous study conducted in British showed that patients receiving radiotherapy treatment received longer care interval in relative to patients taking chemotherapy and hormonal therapy (123 vs. 88 and 88 days respectively, $P < 0.001$) (56). However it is contradicted with the study conducted in USA showing that the radiotherapy is initiated late after surgery in only 3% of breast cancer patients (57). A different result is also founded at Brazil which showed that there is no relation between late treatment initiation and radiotherapy. This difference might be due to as a result of a difference in socio economic status, health seeking behavior between the study populations.

Another barrier reported by 64.5% of participant was lack of finance for medical treatment that is associated with the treatment initiation in our study. This finding is consistent with the study finding conducted in Nigeria in which 77.5% respondents agreed on financial constraints which is higher than our finding (58). The higher finding compared with the Nigerian study might be due to the difference in time period which was conducted on 2015.

The other contributing factor in this study reported by 70.4% of patients for their late initiation of the treatment was inability to get the appointment soon enough it has significantly associated with the late initiation of treatment. This finding is higher as compared to a study done Sergipe and Netherlands which shows that patients' perceived barrier on waiting list for scheduling for treatment reported by 38.6% and 14% of study subjects respectively (59, 60). This gap might be explained by the fact that availability of adequate medical equipments and better service gives developed countries an opportunity to get treatment earlier in relative to our study stetting.

According to this study, 65.9% of patients coming from out of Addis Ababa have initiated the treatment late and showed a significant association with treatment initiation. It has a higher difference with the similar study done in state of segipe, in which only 7.7 % patients reported that, the place of their residence as a barrier. Unlikely the residential area did not show differences in proportion of late initiation of therapy according to the study done in Taiwan (59, 61). This gap might be due to the setting difference between the two studies. However our result is supported by the systematic review on different studies found that as the travel distance increased to the health facility, the likelihood of starting treatment decrease (62).

The social support status of patients in this study showed that patients get higher support from their families and a special person and next by their friends. This finding is in line with a study done in Slovakia that showed family support is higher and friends and special person support was equal. However the mean of support from each item is higher. This might be due to the level of awareness between the relatives of study populations. In addition, this study showed that the social support has no effect on the treatment initiation. However this finding somewhat similar with the study conducted in US among female nurses showed that breast cancer-specific factors (i.e., severity, treatment) were unrelated to social networks, though women who were socially integrated were more likely to receive radiation and tamoxifen treatment than were women who were socially isolated (47). The difference might be due to the level of support provided among countries is different.

According to our finding regarding provider level barrier on the initiation of breast cancer treatment, all care providers did not take any oncologic training specific to breast cancer. Participants mentioned that treatment initiation in after diagnosis is better to be within one month however due to some barriers there are times that treatment is initiated after two or three months. Majority of participants explained that their barrier is lack of equipment and supplies in the hospital. The other barrier explained by care providers in our study is, queues in the health facility. Care providers also mentioned the late presentation of patients for their appointment as a barrier to treatment initiation. Similar study done in Armenia showed that providers' barriers on breast cancer treatment were cost and availability of drugs, lack of equipment and supplies, awareness toward breast cancer are some of barriers (63). Another study done in Canada found that the physicians' barriers were identifying patients for preventive therapy, inadequate training and confidence in counseling, insufficient knowledge of risk-reducing medications, and lack of time (64).

This is consistent with the study done in Armenia that most care providers mentioned that there is shortage of resources especially there is a highest need in public hospital.

7. Strength and Limitation of study

7.1. Strength

This study used both qualitative and quantitative methods

7.2. Limitation

There was a difficulty of getting complete clinical data for patients who are referred from other place like status of hormone receptor and status of human epidermal receptor. In addition, the documentation of chart on information about exact time of treatment initiation for each type of treatment was poor. This made it difficult to get some detail information about each treatment. There is no an organized cancer registry data in TASH that address the total number of patients visiting the hospital. This made it difficult to calculate sample size based on the prevalence. Some patients may under report their income which somewhat miss justification of the study.

8. Conclusion and recommendation

8.1 Conclusion

Out study conclude that the late initiation of breast cancer treatment found to be high. The odds of late treatment were increased among those patients coming from out of town, patients who are taking radiotherapy, patients who cannot afford the cost of treatment and patients who are appointed for long time. The major perceived of patients' barriers for the late initiation of breast cancer treatment were Embarrassment, lack of money for help, transportation problem, feeling that the problem would go without help, fear of side effect of treatment and long waiting for treatment schedule appointment.

The major barriers mentioned by providers to initiate treatment includes lack of equipments and supplies provided by hospital, long queues in the health facility and late presentation of patients for their treatment appointments. .

8.2 Recommendation

Based on this study finding, the recommendation can be given as follows;

- Improving the communication and information sharing between patients and physicians for educational interventions.
- Arrangement by the government to make breast cancer beneficiary form health insurance to cover full costs of BC treatment
- Establishing a national fund for additional medical equipments and breast cancer treatments to give free medical service for low income patients who are currently not getting treatment in free
- Designing population based health education and awareness creation about breast cancer early detection, treatment and importance of social support
- Expand the breast cancer treatment service given throughout regional hospital to reduce the flow of patient's to TASH and patients to get service in nearby facility.

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Annex

Questionnaire in English version

Addis Ababa University College of Health Science, school of public health

Information sheet

The aim of this study is to assess the barriers to initiate treatment among breast cancer patients at patients and provider level. The first part of questionnaire assesses socio-demographic variables of patients and the second part assesses the clinical profile of patients which will be recorded from their medical sheet. The third and fourth part will assess the factor associated with initiation of treatment and patients' barriers to initiate breast cancer treatment. There is also an in-depth interview guide provided both for patients and care providers. The respondents will informed that their inclusion in the study will voluntary and they are free to withdraw from the study if they are not willing to participate. If any question they do not want to answer they have the right to do so.

Name –Bethel Teshome

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Phone- 0912001756

8. Consent form

An interviewer guide questionnaire consent format to obtain respondent's permission before the data collection is performed.

Dear participant,

My name is _____. I am a data collector for the study conducted by Bethel Teshome from Addis Ababa University College of health science and school of public health. The aim of the interview is to assess the barriers to initiate treatment among breast cancer patients in Tikur Anbessa Oncology unit. You are selected to be a part of the study as a sample population to complete the questionnaire prepared by researcher. The information obtained from the study is will only be used for research purpose. Your name will not be included in the questionnaire and all the information you will provide will be kept strictly confidential. There is no financial or other benefit for your participation and there is no any damage because of your participation is this study. Your participation is voluntarily. You can skip any question that you don't want to answer. But in order to come up with important findings, your honest participation is important. The interview will take 20-25 minutes.

Do you agree?

Yes ____
No ____

Interviewer: Name_____ Signature: _____ Date: _____

Part –I. Socio-demographic characteristics of patients participating in the study

Q. No.	Questionnaire	Responses	Skip
Q1	Where do you live in?	At the town.....1 Out of the town.....2	
Q2	How long is your house from this facility?	_____in Meter or KM _____in Hour	
Q3	How old are you?(last celebrated birthday)	_____years old	
Q4	What is your Religion?	Orthodox……..…..…....1 Protestant…….…....2 Catholic…….…..…...3 Muslim…….....…..…...4 Others…….…..….5	
Q5	What is your current educational level?	Illiterate…..…….…....1 Read and write only...…….2 Primary school.……....3 Secondary school……...…..4 College…….5 University…...…….6	
Q6	Language	Amharic ……..1 Oromiffa…….….2 Tigregna……...…3 Guragaegna...……...4 Other (specify)…….6	
Q7	What is your current marital status?	Single……..……1 Married …….……..…....2 Divorced…..…….....……...3 Widowed…….4 Separated…….5	

Q8	What is your current occupational status?	Student.....……....1 Merchant……..2 Government Employed…....3 private job…..…….....4 Self-employed ……..…5 House wife……..…..6 day laborer……...7 Others……...…….……..…8 Specify_____	
Q9	What is your monthly income?	_____	

Part II. Awareness of breast cancer

Q. No.	Questionnaire	Response	Skip
Q10	Do you know the disease you encountered?	Yes…….1 No……..2	
Q11	What is the name of the disease you had?	Breast cancer ……1 Breast infection……..2 Other……...3	
Q12	Is breast cancer transmittable disease?	Yes…….1 No……2	
Q13	Can it be detected earlier?	Yes……..……..…...1 No ……..…..2 I do not know.....….3	
Q14	Is breast cancer curable?	Yes……..……..…...1 No ……..…..2 I do not know.....….3	

Part III. Clinical profile assessment questions

Q. No	Description	Response category
Q15	Date of the diagnosis confirmed pathologically?	Day…….. Month……. Year……..
Q16	Date of first visit at cancer hospital	Day…….. Month……. Year……..

Q17	Were patient advised to go any other place for any test?	Yes……...1 No……2
Q18	Stage of breast cancer at presentation?	Stage I ……..1 Stage II……..……2 Stage III…….3 Stage IV…….4
Q19	Was surgery performed? If so When is the initial surgical treatment done?	_____ Date/month/year
Q20	What treatment is being taken? (more than one answer is possible)	Chemotherapy……..1 Radiotherapy……2 Hormonal therapy…….3
Q21	When was the treatment started?	Date/month/year
Q22	What was the tumor size?	T1m-T1b ……1 T1c……..2 T2……3 T3 and T4……4 Unknown ……5
Q23	What was the nodal status?	N0 ……1 N1…….2 N2 ……3 N3…….4 Unknown……..5
Q24	What co morbidities illness encountered?	Diabetes mellitus……1 Stroke …….2

		Hypertension……...3 Heart disease ……..4 No known systemic disease……5

Part IV. Alternative use of of breast cancer treatment

25. Did you receive enough information about the importance, side effect and procedure of treatment?

1. yes

2. no

26. Did you try other treatment alternatives other than treatment given in the hospital(before you start treatment)?

1. yes

2. no

27. If yes, which one have you tried?

1. Traditional medicine

2. Holy water

3. Other (specify) _____

Part VI. Multi-dimensional scale of perceived social support items questions

Q. No	MSPSS Items	Very strongly disagree	Disagree	Undecided	Neutral	Don't know	Agree	Very strongly agree
Q 28	There is a special person who is around when I am in need							
29	There is special person with whom I can share my joys and sorrow							
30	My family really tries to help me							
31	I get the emotional help and support I need from my family							
32	I have a special person who is a real source of comfort to me							
33	My friends really try to help me							
34	I can count on my problems with my family							
35	I can talk about my problem with my family							
36	I have friends with whom I can share my joys and sorrow							
37	There is a special person in my life who cares about my feelings							
38	My family is willing to help me make decisions							
39	I can talk about my problems with my friends							

8. Topic guide for in-depth interview

In-depth-interview guide for Health care provider

General information on treatment process

1. What are your responsibilities and role in providing care to BC patients?
2. What is your qualification for treating BC patients? Have you specialized for BC treatment? Have you got the opportunity to take more training regarding BC treatments? What is your experience in treating BC patients in years?
3. How many times does a BC patient receive treatment over the course of their entire treatment? What is the average duration of each round of treatment and the intervals between them
4. How much time, on average, does a single BC patient spend in your facility when receiving treatment? Approximately how many BC patients a day can get the treatment based on the capacity of health care facility such as cabinets, available drugs, and available specialists? Why is there a limit on the number of BC patients that can be managed at this facility? What can you say about the current load of the patients compared to the capacity of your health care facility?
5. For how long do you appoint patients after they are diagnosed for breast cancer? What is the right time to start treatment (chemotherapy, radiotherapy and hormonal therapy) after surgery? What is your reason to appoint them for such a long time? How many patients do you serve per day? What are your barriers to initiate the treatment on the right time?
6. What do you recommend to improve the treatment gaps you mentioned?

የመረጃ ወረቀት

የአዲስ አበባ ዩኒቨርሲቲ የጤና ሳይንስ ኮሌጅ, የህብረተሠብ ጤና ትምህርት ቤት

የዚህ ጥናት ዓላማ ለጡት ሕክምና ለመጀመር ለታካሚዎችና ለጤና ባለሙያዎች መሠናክል የሚሆኑትን ሁኔታዎች መገምገም ነው፡፡ የመጀመሪያው የጥያቄ ክፍል የሚዳስሠው የታካሚዎችን ማኅበራዊና ስናሕዝብ ሁኔታ ሲሆን ሁለተኛው ክፍል ደግሞ የታማሚዎች የሕክምና መግለጫዎችን ከታካሚዎች የሕክምና መዝገብ ላይይዳሥሣል፡፡የሶስተኛውና የአራተኛው የጥያቄ ክፍል የጡት ካንሠር ሕክምናን ከመጀመር ጋር ተያያዥነት ያላቸውን ነገሮችና ሕክምናውን ለመጀመር ለታካሚዎች መሠናክል የሚሆኑባቸውን ነገሮች ይዳስሣል፡፡ ከዚህም በተጨማሪ ለታካሚዎችና ለጤና ባለሙያዎች ጥልቀት ያላቸው ጥያቄዎች መመሪያም ቀርበዋል፡፡ ለጥናቱ ተሣታፊዎች በዚህ ጥናት ላይ የሚካተቱት በፈቃዳኝነት እንደሆነና በዚህ ጥናት ላይ ለመሣተፍ ፈቃደኛ ካልሆኑ መተው እንደሚችሉ መረጃ ይሠጣቸዋል፡፡ እንዲሁም መመለስ የማይፈልጉት ጥያቄ ካለ የመተው መብት አላቸው

ስም-ቤቱልተሾመ

ኢሜል - betty.tesh@gmail.com

ስልክ-0912001756

Amharic version Questionnaire

የውል ስምምነት

1. ውድ ተሣታፊ

ስሜ-------- ይባለል አዲስ አበባ ዩኒቨርስቲ የጤና ሣይንስ ኮሌጅ ውስጥ ተማሪ የሆነችው ቤቱል ተሾመ በምታካሂዳው ጥናት መረጃ ሠብሣቢ ነኝ፡፡ የዚህ ቀለ መጠይቅ ዓላማ በጥቁር አንበሣ ካንሠር ሕክምና መስጫ ውስጥ የሚገኙ የጡት ካንሠር ታካሚዎች ሕክምናውን ለመጀመር መሠናክል የሚሆኑባቸውን ነገሮች መዳሠስ ነው፡፡ በተመራማሪው የተዘጋጃውን ጥያቄ እንዲመልሱ እርስዎ እንደ አንዱ ናሙና ሆነው ተመርጠዋል፡፡ ከዚህ ጥናት ላይ የሚገኘው ውጤት ለምርምር ዓላማ ብቻ ይውላል፡፡ የእርስዎ ስም በጥያቄ ወረቀቱ ላይ አይሞላም እንዲሁም እርስም የሚሠጡት መረጃ በጥንቃቄ በሚስጢር ይያዛል፡፡ በዚህ ጥናት ላይ በመሣተፍ የሚደርስና ምንም አይነት ጉዳት አይኖርም፡፡ እንዲሁም የሚያገኙት ሌላ የተለያ የገንዘብም ሆነ ሌላ ጥቅማ ጥቅም አይኖርም እርስም የሚያደርጉት ተሣትፎ በፈቃዳኝነት ላይ የተመሠረተ ነው፡፡ መመለስ የማይፈልጉት ማንኛውም ጥያቄ ማለፍ ይችላሉ፡፡ ሆኖም ትክክለኛ ውጤት ለማግኘት የእርስዎ እውነተኛ መረጃ መስጠትዎ አስፈላጊ ነው፡፡ ቃለ መጠይቁ ከ20-25 ደቂቃ ይወስዳል፡፡

ይስማማሉ?

አዎ----------

አይ ----------

ክፍል 1- በጥናቱ ውስጥ የማሣተፉ ተካሚዎች ማኅበራዊና ስነ ሕዝብ ሁኔታ

Card no. _____

ጥያቄ ቁጥር	ጥያቄ	መልስ	
1	የሚኖሩት የት ነው	1. ከተማ 2. ክ/ከተማ ውጪ	
2	የመኖሪያ ቤትዎ ከሕክምና መስጫ ተቋሙ ምን ያህል ይርቃል?	1. በሜትር /ኪ.ሜ 2. በሠዓት	
3	ዕድሜዎ ስንት ነው?	----------	
4	ሀይማኖትዎ ምንድ ነው?	1. ኦርቶዶክስ 2. ፕሮቴስታንት 3. ካቶሊክ 4. ሙስሊም 5. ሌላ /ግለጽ	
5	አሁን ያሉበት የትምህርት ደረጃ ምንድ ነው?	1. ያልተማረ 2. ማንበብና መፃፍ የሚችሉ 3. የመጀመሪያ ደረጃ ት/ርት 4. ሁለተኛ ደረጃ ትምህርት ያጠናቀቀ 5. ኮሌጅ 6. ዩኒቨርሲቲ	
6	መናገር የሚችሉት ቋንቋ ምንድ ነው?	1. አማርኛ 2. ኦሮምኛ 3. ትግርኛ 4. ጉራጊኛ 5. ሌላ /ግለጽ/	
7	አሁን ያሉበት የጋብቻ ሁኔታ ምንድ ነው?	1. ያላገባ 2. ያገባ 3. የተፋታ 4. የሞተበት 5. የተለያየ	

8	አሁን ያሉበት የሥራ ሁኔታ ምንድ ነው?	1. ተማሪ 2. ነጋዴ 3. የመንግስት ሠራተኛ 4. የግል ሥራ 5. የግል ሥራ ተቀጣሪ 6. የቤት እመቤት 7. የቀን ሠራተኛ 8. ገበሬ 9. ሌላ /ግለጽ	
9	የባለቤትዎ የሥራ ሁኔታ ምንድ ነው?	1. ተማሪ 2. ነጋዴ 3. የመንግስት ሠራተኛ 4. የግል ሥራ 5. የግል ሥራ ተቀጣሪ 6. የቀን ሠራተኛ 7. ገበሬ 8. ሌላ /ግለጽ	
10	ወርሃዊ ገቢም ምን ያህል ነው?	----------	
11	ዓመታዊ ወይም ወርሃዊ የቤት ውጪዎ በአማካይ ምን ያህል ይሆናል	ዓመታዊ ---------- ወርሃዊ ----------	

ክፍል ሁለት ታካሚዎች ስለጡት ካንሠር ያላቸው ዕውቀት

ጥያቄ ቁ.	ጥያቄ	መልስ	
12	እርስዎ ያለብዎት ሕመም ምን እንደሆነ ያውቃሉ?	1. አዎ 2. አይ	
13	የሕመምዎ/ የበሽታዎ ስም ምን ይጣለል	1. የማህፀን ጫፍ ካንሠር 2. የጡት ካንሠር 3. የጡት ኢንፌክሽን 4. ሌላ	
14	የጡት ካንሠር ተላለፊ በሽታ ነው	1. አይ 2. አዎ 3. አላውቅም	

15	በሕክምና የሚድን ይመስሎታል?	1. አይ 2. አዎ 3. አላውቅም	
16	ለጡት ካንሠር ተጋላጭ የሚያደርጉ ሁኔታዎች ውስጥ የሚያውቁት አለ?	1. ፆታ 2. ዕድሜ 3. ከቤተሰብ ይወረሣል 4. ሲጋራ በማጨስ 5. የታሸጉ ምግቦች መመገብ 6. የወር አበባ በቶሎ ሲጀምር 7. የወር አበባ ዘግይቶ ሲቆም 8. ሌላ /ግለፅ/	
17	በሽታውን ቀደም ብሎ በምርመራ ማግኘት ይቻላል	1. አይ 2. አዎ 3. አላውቅም	
18	የጡት ካንሠርን መከላከል የምንችልባቸውን የሚያውቁት አለ? ከአንድ በላይ መልስ ይቻላል	1. አልኮል ባለመውሰድ 2. የአካል ብቃት እንቅስቃሴ 3. ጡት በማጥባት 4. ከልክያለፈ ክብደት በመቀነስ 5. በሀኪም ያልታዘዙ የሆርሞን ሕክምና ባለመውሠድ 6. ቋሚ የሆነ የጡት ምርመራ ማካሄድ 7. ሌላ /ግለጽ/	
19	የጡት ካንሠርን በሕክምና መዳን ይቻላል	1. አይ 2. አዎ 3. አላውቅም	
20	ከጡት ካንሠር ምልክቶች ውስጥ የሚያውቁት አሉ?	1. የጡት ሕመም 2. ሕመም የሌላው እህጢ 3. ሕመም የሌላው እህጢ 4. ከወተት ውጪ ከጡት የሚወጣ ፈሣሽ 5. የጡት መቅለት መወፈር 6. ሌላ /ግለጽ/	

ክፍል ሶስት - የታካሚዎች የክሊኒክ መገለጫዎች የሚገመግም ጥያቄዎች

ጥያቄ ቁጥር	መግለጫ	ምላሽ	
21	የበሽታው መኖር በሕክምና የተረጋገጠበት ቀን	ቀን /ወር/ዓ.ም	
22	ለጡት ባዮፕሲ ናሙና እንዲሠጥ የታዘዘበት ቀን	ቀን /ወር/ዓ.ም	
23	የካንሠር ሕክምናን መጀመሪያ የሄዱበት /የታዩበት ቀን	ቀን /ወር/ዓ.ም	
24	በሽታው በሕክምና እስኪረጋገጥ ድረስ አጠቃላይ ወደሕክምና ቦታ ምን ያህል ጊዜ ጎብኝተዋል፡		
25	ታካሚው ለምርመራ ሌላ ቦታ እንዲሄድ ተደርጎ ነበር?	1. አይ 2. አዎ	
26	ለመጀመሪያ ጊዜ ለሕክምና በቀረቡበት ጊዜ የነበረው የጡት ካንሠር ደረጃ	1. ደረጃ I 2. ደረጃ II 3. ደረጃ III 4. ደረጃ IV	
27	የ FNA ምርመራ ተደርጎ ነበር? ከሆነ ውጤቱ ምን ነበር?	1. አይ 2. አዎ ውጤቱን መዝግብ	
28	ቀዶ ጥገና ተደርጎ ነበር? ተደርጎ ከሆነ ቀዶ ጥገናው የተካሄደው መቼ ነበር?	1. አይ 2. አዎ ---------- ቀን /ወር /ዓ.ም	

29	ምን አይነት ሕክምና እየወሠዱ ነው? ከአንድ በላይ መልስ ሊኖር ይችላል	1. ኬሞቴራፒ 2. ራዲዮቴራፒ 3. ሆርሞናል ቴራፒ	
30	ሕክምናው የተጀመረው መቼ ነበር?	ቀን /ወር /ዓ.ም	
31	የእህጢው መጠን ምን ነበር?	1. Tim-T,b 2. T,C 3. T2 4. T3 T4 5. አይታወቅም	
	የሆርሞን ተቀባዩ ሁኔታ ምን ነበር (HR)?	1. ፖዘቲቭ ER እና PR 2. ፖዘቲቭ ER ግን ኔጋቲቭ PR 3. ኔጋቲቭ ER ግን ፖዘቲቭ PR 4. አይታወቅም	
	የኤፒደርማልተቀባይ-2 (HER2) Receptor-2	1. ፖዘቲቭ HER2 2. ኔጋቲቭ HER2 3. አይታወቅም	
32	የእጢው ሁኔታ ምን ነበር?	1. No 2. N1 3. N2 4. N3 5. አይታወቅም	
33	የሂስቶሎጂ ደረጃው ምን ነበር?	1. ደረጃ 1 2. ደረጃ 2 3. ደረጃ 3 4. አይታወቅም	
34	ታካሚው ያለበት ተጨማሪ በሽታዎች	1. የስኳር በሽታ 2. ስትሮክ 3. የደም ግፊት 4. የልብ በሽታ 5. የታወቀ ሕመም የለም	

ክፍል አራት -የጡት ካንሠር ሕክምናን በጊዜ ከመጀመር ጋር ተያያዥነት ያላቸው ሁኔታዎች

35- ከሐኪምዎ ስለ ሕክምናው አስፈላጊነት፣ የጎንዮሽ ጉዳትና የአወሣሠድ ሁኔታውን በተመለከተ መረጃ አግኝተዋል?

1. አይ
2. አዎ

36. ሕክምናውን ከመጀመርዎ በፊት ሕክምና ተቋሙ ውጪ ሌላ የሕክምና አማራጮችን ተጠቅመዋል?

1. አይ
2. አዎ

37. ከሆነ የትኛውን ሞክረዋል?

1. የባህል ሕክምና
2. ፀበል
3. ሌላ /ግለጽ/ ----------

ክፍል አምስት፡- ታካሚዎች ሕክምናውን ለመጀመር መሠናክር የሚሆኑባቸው ነገሮች

ተ.ቁ	ሕክምናውን በሰዓቱ እንዳይወስዱ ያደረቀቸው ምክንያቶች /ኬምቴሪፒ፣ ራዲዮቴራፒ፣ ሆርሞናል ቴራፒ	አይ በጭራሽ	በተወሰነ ደረጃ	አስፈላጊ ምክንያት	በጣም አስፈላጊ
38	በራሴ መቆጣጠር እንዳምችል አስቤ ስለነበር	0	1	2	3
39	የሕክምና እርዳታ በማግኘት ከሄድኩ ሰዎች ስለእኔ የሚኖራቸው አስተያየት ያሳስባኝ ስለነበር	0	1	2	3
40	በጣም የኃፍረት ስሜት ይሠማኝ ስለነበር	0	1	2	3
41	የሕክምና እርዳታውን ለማግኘት የሚያስችል የገንዘብ አቅም አልነበረኝም	0	1	2	3
42	ወደ ሕክምና ቦታ ለመሄድ የመጓጓጉ ችግር ነበረብኝ	0	1	2	3
43	ያለ ሕክምና እርዳታ በሽታው በራሱ ጊዜ የሚታወኝ መስሎኝ ነበር	0	1	2	3
44	ከዚህ በፊት ከሕክምና ጋር በተያየዘ መጥፎ ሁኔታ አጋጥሞ ነበር	0	1	2	3
45	ምንም ጊዜ አልነበረኝም	0	1	2	3
46	ልጆቼን የሚንከበከብልኝ ሰው አልነበረም	0	1	2	3
47	ቀጠሮ የተሠጠኝ በጣም ለረዥም ጊዜ ነበር	0	1	2	3

ክፍል 6. የማህበራዊ ድጋፍ ላይ ያለ ግንዛቤ የዘርፈ-ብዙ ዕይታ መለኪያ

ተ.ቁ	MSPSS ጉዳዮች	እጅግበጣም አልስማማም	አልስማማም	እርግጠኛአይደለሁም	አይመለከተኝም	አላውቅም	እስማማለሁ	እጅግበጣምእስማማለሁ
1	በምፈልገው ጊዜ የሚደርስልኝ ልዩ የሆነ በጣም ጥሩ ሰው አለ፡፡							
2	ደስታዬንና ሐዘኔን ሊጋራኝ የሚችል ልዩ የሆነ በጣም ጥሩ ሰው አለ፡፡							
3	ቤተሰቤ እኔን ለመርዳት በጣም ይጥራሉ፡፡							
4	የስሜት እርዳታና ድጋፍ በምፈልግበት ጊዜ ከቤተሰቤ አገኛለሁ፡፡							
5	ጥሩ የሆነና የተደላደ ለምኞት እንዲሰማኝ የሚያደርገኝ ልዩ የሆነ በጣም ጥሩ ሰው አለ፡፡							
6	ጓደኞቼ እኔን ለመርዳት በጣም ይጥራሉ፡፡							
7	ችግሮቼን ከቤተሰቤ ጋር ሆኜ ልወጣቸው እችላለሁ፡፡							
8	ከቤተሰቤ ጋር ስለ ችግሮቼ መነጋገር እችላለሁ፡፡							
9	ደስታዬንና ሐዘኔን ላጋራቸው የምችላቸው ጓደኞች አሉኝ፡፡							
10	ስሜቴን የሚረዳኝን ልዩ የሆነ በጣም ጥሩ ሰው በሕይወቴ ውስጥ አለ፡፡							
11	ውሳኔዎችን በምወስንበት							

	ጊዜ ቤተሰቤ ከጎኔ ሆኖ እኔን ለመርዳት ፈቃደኛ ነው።							
12	ከጓደኞቼ ጋር ስለ ችግሮቼ መነጋገር እችላለሁ።							

1. ጥልቀት ያለው ቃለመጠይቅ ለጤና ባሉሙያ

አጠቃላይ ስለ ግል ሁኔታ መረ--

1. ለጡት ካንሠር ሕመምተኞች እንክብካቤ በመስጠት የእርስም ኃላፊነት ወይም ሚና ምንድ ነው
2. ለጡት ካንሠር ሕመምተኞች ሕክምና ለመስጠት የእርስሞ የብቃት ደረጃ ምን ያህል ነው? በጡት ካንሠር ሕክምና ስፔሻላይዝ አርገዋል፣ በጡት ካንሠር ዙሪያ ሌሎች ተጨማሪ ስልጣናዎች የመውሠድ አጋጣሚ አግኝተዋል? የጡት ካንሠር ሕክምና ላይ ምን ያህል ልምድ አልዎት
3. አንድ የጡት ካንሠር ሕመምተኛ በአጠቃላይ የሕክምና ሂደት ውስጥ ስንት ጊዜ ሕክምናውን መውሰድ አለበት? በእያንዳንዱ የሕክምና ዙር እንዲሁም በመካከል ባለው ርዝማኔ በአማካይ ምን ያህል ጊዜ ይፈጃል?
4. አንድ የጡት ካንሠር ታካሚ እርሶ ባሉበት ተቋም ውስጥ በአማካይ ምን ያህል ጊዜ ለሕክምና ይወስደል? በሕክምናው ተቋም ውስጥ ያሉትን የተቋሙን አቅም ግምት ውስጥ በማስገባት፣ በቀን ውስጥ ምን ያህል የጡት ካንሠር ታካሚዎችን ማስተናገድ ይቻላል? ይህን የቁጥር ገደብ እንዴት/ለምን ሊዳር ቻለ? በሆስፒታሉ የሚታከሙ ሕመምተኞች ከተቋሙ አቅም ጋር ሲነፃፀር ምን ማለት ይቻላል? ይበዛሉ ወይስ ያንሣሉ?
5. የጡት ካንሠር መኖሩ በምርመራ ከታወቀ በኋላ ለሕክምና ምን ያህል ጊዜ ቀጠሮ ይሠጣሉ? ይህን ያህል ጊዜ የቆዩበት ምክንያት ምንድ ነው? ሕክምናው በሠዓት እንዲያስጀምሩ የሚያግድም/ መሠናክል የሚሆንበት ነገሮች ምንድ ናቸው? እርሶም በግልም በቀን ውስጥ በግምት ምን ያህል ታካሚ ያስተናግዳሉ፣
6. ከጡት ካንሠር ታካሚዎች ጋር በሰዎች ግንኙነት ወይም የሐኅብ ልውውጥ ያጋጠማቸው ችግር አለ?