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COLLEGE OF HEALTH SCIENCES

SCHOOL OF NURSING AND MIDWIFERY

ASSESSMENT OF PSYCHOLOGICAL DISTRESS AND ASSOCIATED FACTORS AMONG CANCER PATIENTS IN TIKUR ANBESSA SPECIALIZED HOSPITAL: ADDIS ABABA, ETHIOPIA, 2020

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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 of this thesis; all scholarly matter that is included in the proposal 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 entitled on: **"Assessment of psychological distress and associated factors among cancer patients in Tikur Anbessa Specialized Hospital: A cross- sectional study".**

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ABBREVIATIONS AND ACRONYMS

ACS	American Cancer Society
AJCC	American Joint committee of Cancer
CI	Confidence Interval
HADS	Hospital Anxiety Depression Scale
INCTR	International Network for cancer Treatment and Research
OR	Odd Ratio
NCI	National Cancer Institute
SPSS	Statistical Package for Social Science
SSA	Sub Saharan Africa
TASH	Tikur Anbessa Specialized Hospital
US	United States
WHO	World Health Organization

ABSTRACT

Introduction: Cancer is the major public health problem due to the increasing incidence and mortality rate in low, middle and high-income countries. It has great implications on psychological, social, economic, emotional dimensions. Psychological problems are overwhelming among cancer patients following confirmed diagnosis. However, In Ethiopia, little is known about the prevalence of psychological distress and associated factors among cancer patients.

Objective: The study aimed to assess the prevalence of psychological distress and its associated factors among cancer patients in Tikur Anbessa Specialized Hospital, 2020**.**

Methods: An institution-based cross-sectional study was conducted among adult cancer patients from March 1st to May 30. Data was collected by interview-based questionnaire through Hospital anxiety depression scale, distress thermometer, Oslo-3 social support scale. For categorical and continuous variables descriptive statistics was done. Bivariate and multivariate analysis was done to identify statistically significant variable and their strength of association.

Result: A total of 386 study participants were included in the study with a response rate of 91.4%. The prevalence of psychological distress was found to be 64.5%. The variable that had an association with psychological distress is age (AOR=2.9;CI:2.5-11.1), rural residents (AOR=1.5;CI1.15-5.18), poor social support (AOR=0.06;CI:0.03-0.12), comorbidity (AOR=0.07;CI:0.029-0.17), stage of tumor stage II, stage III and stage IV (AOR=3.9;CI:1.9-15.5) (AOR=3.5;CI:1.45-8.44) (AOR=4.4;CI:1.90-10.1) respectively, were significant factors ($p<0.05$) of psychological distress.

Conclusion and recommendation: The prevalence of psychological distress was 64.5%. Improvement in comprehensive cancer control program including prevention, early detection, treatment & psychotherapy is mandatory and emphasis given to late stage, comorbid and elder patients were recommended.

Keywords: Prevalence, Associated factors, psychological problems, psychological distress, Tikur Anbessa Specialized Hospital

1. INTRODUCTION

1.1. Background

Cancer is a disease condition due to cellular changes basis for the uncontrolled growth and division of cells ,as a result, it causes damage to the immune system, a network of organs, tissues, and specialized cells that protects the body from infections and other psychosocial function impairment(1).WHO estimated that one in 6 women and one in five men develop cancer in their lifetime. This is due to the increased aging population, social and economic development, and linked to lifestyle more typical in industrialized countries (2).

Cancer remains one of the principal causes of death and concern that do not respect geographical, economic, ethnic or social barriers, especially, in Africa remains poorly prepared and gives less priority to cancer epidemics (3). In Sub Saharan Africa, the incidence of cancer still rising next to infectious disease conditions which are related to low attention to non-communicable diseases including cancer, low economic status, scarce diagnostic treatment modalities (4).

In Ethiopia, it is estimated that the incidence of cancer cases was 21,563 and 42,722among males and females respectively predominantly breast cancer in females and colorectal cancer and non-Hodgkin lymphoma in males. The incidence has been increased due to increased number and aging population alongside an increasing adoption of cancer-causing behaviors such as smoking, alcohol, dietary habits cancer is the second leading cause of death among the adult population. Besides, more than 150,000 cancer cases per annum and currently cancer accounts for 4% of all mortality (5, 6).

Being diagnosed with cancer creates broad implication involving psychological, emotional, social, spiritual, supportive care needs, and quality of life dimensions. actually, not only being diagnosed for cancer but also treatment intervention and treatment-related outcomes including recurrence, poor prognosis, and lower survival alter all aspects of life(7).While, physical, psychological, social, and spiritual well-being are distorted the quality of life and meaning of life perceived by the patient decreased(8).Patients can develop psychological distress, anxiety, depressive disorder, Adjustment disorders, cognitive disorders secondary to treatment , personality disorder and psychiatric related disorders(9).

Distress ranges from normal fears, worry, and sadness to disabling problems such as clinical depression, generalized anxiety, panic, isolation, or a spiritual or existential crisis (10). As a result, maladaptive coping and abnormal illness behavior occurs secondary to distress symptoms and psychiatric problems. (7). Psychological distress which occurs due to cancer diagnosis or cancer progression can be expressed as an unpleasant emotional or psychological experience, including depression, anxiety, adjustment disorders, delirium and other/mood disorders (11). Psychological distress is a prevalent problem in cancer patients. Moreover, Health care providers often develop psychological distress when they dealing with advanced cancer patients whose unmeet psychological need identified (12).

Emotional distress, stigma, financial burden, lack of support networks, social exclusion, health impact, and absence of decentralized mental health services experienced among family caregivers for patients who had psychological problems as shown that 46% of had sleep disorders in and 39.3% loss appetite, 30% had Obsession to dying cases of family caregivers. Because family caregivers have a vital role in each step of the treatment interventions including; the patient follow-up, announce the diagnosis, treatment decision and side effects monitoring(13).psychosocial problems faced among patients and their caregivers can be reduced through self-care and interpersonal connections of caregivers and symptom management of patients and musical therapy(14).

Communication, coping and cognitive-behavioral therapy strategies help to understand the nature of the disease and mediate positive adaptation to the disease (15). Psychosocial care for patients may depend on the setting and location of treatment. Although attention has increased on integrated mental health care in subspecialty medical clinics, there have been very few studies on the effectiveness of integrated care for patients with cancer (16). High level of stress and depressive symptoms affect patients' level of decision-making during management, impedes patient's ability to informed consent and impairs the patient's ability to comprehend in the consequence of choice (17). In General, psychological distress is devastating problem among cancer patients that needs the utmost attention.

1.2. Statement of the problem

Globally, Cancer is a major public health problem that causes a significant problem on psychological problems on patients and families due to increasing incidence (7). According to GLOBOCAN 2018, 18.1 million new cancer cases and 9.6 million cancer deaths were estimated (18).It is the second leading cause of death worldwide of which around 70% of death documented from middle- and low-income countries.(19, 20). It causes devastating emotional distress, financial distress, and overall distress (21). Cancer causes a substantial problem to clients so that families or caregivers involved in end of life care results from psychological morbidity (22). Provided that psychological morbidity is higher among patients followed by family care givers and the general population (23).

The mortality rate of cancer patients superimposed with psychiatric problems was 51.1% among male patients and female patients which was 1.29 times the risk to die than non-superimposed condition (24). The incidence of diagnosis of psychological problems rises significantly which accounts for 97.5% among cancer cases who seek help for mental health (25). The mortality and incidence of cancer patients diagnosed with delirium disorder were found to be 12%and 22.9% respectively (26).

Psychological problems are overwhelmed conditions that occur among cancer patients as review evidence showed that delirium the most common diagnosis followed by depression, anxiety and adjustment disorder as shown by 20–65%, 21%, 14%, and 14% respectively (27). A Similar problem in other evidence indicated that major depression, adjustment disorder, anxiety and delirium disorders occur between 10% and 34% of cancer patients (28). By contrast, the prevalence of adjustment disorders (24%), delirium (16%), major depressive disorder (12%), anxiety disorders (3.9%) in which, more than 80% of patients develop major depressive disorders in the outpatient setting (29).

A longitudinal study done in Japan revealed that about 16.5% of cases develop anxiety and depression during follow up among pancreatic cancer patients. On contrast, around 13.6% of patients had anxiety and depression at the beginning of the study (30). A study in Gondar showed that about 51.0% and 58.4% of cancer patients had anxiety and depression respectively (31). Whereas another study revealed anxiety disorders account 9.6% among men and 26.7% among women, MDD about 4.4% among men and 7.2% among women (32), this showed there

is inconsistency in different countries. This showed the burden of psychological problems varies among low income and high-income countries and there is an increase from time to time among cancer patients. About 35% to 40% of cancer patients affected by distress at a certain stage of disease progression (11).

Psychological factors that affect the uptake of screening and investigations, decision-making and adherence to treatment, or those factors that negatively impact trust and relationships with a healthcare team. The impact of cancer and its treatment may at times overwhelm a person's available resources and significantly affect the person's quality of life, lowers future life satisfaction and the lives of their families and careers (33, 34). Psychological distress causes non adherence to treatment interventions, negative survival as well as increases treatment burden for health care providers (35).

Having other chronic medical illnesses, previous psychiatric history, duration of illness, family history of cancer, income level, social support, and marital status are risk factors for psychological distress among cancer patients(25, 36).Patients with psychological problems show psychological distress initially then Dysphoric mood, anxiety, appetite changes, insomnia, or irritability often follows and stay for weeks or months. The intervention had been tried to address the main factors such as medical factors, patient-related factors, societal and cultural factors were considered in oncologic clinics (28).

Despite there is improved cancer screening and diagnostic modalities including different treatment interventions; cancer causes psychological fear and anxiety. Patients feel distressed due to the risk of recurrence after treatment. Consequently, the patient`s level of performance, social interaction and physical fitness to carry out tasks are reduced. The Psychological intervention was very effective related to psychological fear and anxiety (37). Other evidence in Germany bared that special emphasis was given to psychological distress screening as a priority activity among cancer patients (38). However, most patients faced psychological problem due to care giver negligence because care givers had a pivotal role in cancer patients (14).

In Ethiopia, national cancer prevention and control program gives emphasis on cancer to achieve the long-term goal of reducing cancer morbidity and mortality through early detection and screening, diagnosis and provision of comprehensive intervention (39). Despite the ministry of health proposes continuous measurement of the progress and impact of cancer control activities

and about 23% of health facilities offer services for cancer cases, the psychological problems faced on cancer patients is not implemented (40). A little is known about psychological issues among cancer patients. Hence, the purpose of this study intended to assess the prevalence and associated factors of psychological distress among cancer patients.

1.3. Significance of the study

This study will provide information about psychological distress among cancer patients. Patients diagnosed as oncologic cases impose emotional, economical social and spiritual problems, creates negative mental picture this collectively results from psychological problems. It has an important implication value for patients, families, and society at large to improve their quality of life, to give meaning for their life, to select the solution and to participate in pharmacologic or non-pharmacologic interventions.

The findings of this study also use as an input for decision maker, program managers and ministry of health to make recommendations, to give more emphasis on psychological distress to the patient who may extend to address the problems on families and social relationships. It will also be important to design prevention modalities and treatment protocols.

This study enables the healthcare professional's willingness and competence to address psychological issues and approach patients actively, offering help and support. This is also helpful for oncologic nurses to provide comprehensive interventions such as pharmacologic intervention with non-pharmacologic interventions to improve the outcome and quality of life. Furthermore, this paper will be used as a baseline for future researchers.

2. LITERATURE REVIEW

2.1. Introduction

This literature review summarizes what has already been existing knowledge base about prevalence and associated factors of psychological distress in developing and developed countries, to discuss the impact of the research findings to clinical practice, and to identify gaps in Ethiopia. As a baseline, literature has been reviewed and collected on socio demographic, socioeconomic, clinical and treatment-related factors, which have an impact on the prevalence of psychological distress.

2.2. Prevalence of psychological distress among cancer patients

A cross-sectional study conducted in South Korea showed that the prevalence of psychological distress was 28.8% with insomnia (26.1%), anxiety (32.9%) and depression (28.5%)(41) which is in line with another study conducted in South Korea among gastric cancer patients was 33.6% (95% CI: 27.5–39.8%) with prevalence of insomnia, anxiety ,and depression 21.8%, 30.1% respectively(42).A study done in Iran indicated that the prevalence of psychological distress was 67.7%. fatigue, pain, difficulty in transportation, anxiety, sadness, anger and depression were the prevalent causes of distress which accounted about 68.8%,59.4%, 59.4%,57.2%, 50.4%, 44.5% and 43.8% respectively (43).

Study in China bared that the prevalence of distress was 39.5% (44); in Taiwan showed that the prevalence of psychological distress was 22.1% (45) which is lower than other prospective study done in Germany which bared that the incidence of psychological distress was 89.3% (46). This difference occurred due to the length of time that the study participants enrolled and the cutoff point for distress thermometer visual analog score, and the presence of other associated factors mainly malnutrition. Another cross-sectional study conducted in Germany indicated that the prevalence of psychological distress was 84.3% and 64 % using distress thermometer and HADS respectively. of those, 51.7% had anxiety and 73% had depression (47) which is higher than the study done in Southern India [38.5%] (48). Study in Australia showed that the prevalence of psychological distress was 7.5% (49).

A cross- sectional study conducted in Pakistan showed that 62.7% of patients were anxious and depressed (50) which is higher than a study done in Michigan bared that depression was 32.4%(51). This is also higher than study done in Athens among breast cancer patients indicated that the prevalence of depression was 38.2% (52). Cross-sectional study conducted in china bared that the prevalence of symptoms of depression among ovarian cancer patients was 47.0% which is higher than studies conducted in China [20.75%] and [34%] among preoperative gastric Cancer patients and cancer patients (45, 53, 54). This is also higher than another cross-sectional study conducted in Malaysia [22.0%] (55). Additionally, another study in China indicated that the prevalence of psychological distress was 43.8% whereas worry was 73.9%, depression was (55.6%), pain (54.2%), economic problems (52.3%)and fear (49.7%)(56).This is due to the recognition of mental health disorders from ovarian cancer patients were low may lead them inactive to seek for mental health treatment and other support services.

A study conducted in South Africa indicated that the prevalence of psychological distress was 17.1%(57) which is lower than another study done in south Africa among breast cancer patients was 34.3%(58).This is due to the rating scale they used to differ and specific to breast cancer due to it higher prevalence, the presence of perceived body changes and social support. A study conducted in Nigeria showed that the prevalence rate of anxiety was 36.9%(59)which is lower than the study done in Ethiopia which showed that the prevalence of anxiety was 51%(31). A study was done in Egypt showed that the prevalence of distress was 62.1%. furthermore, based on problem list evaluation patients reported practical problems physical family problems emotional problems were 74.2%, 93.5%, 29% and 70.9% respectively (60).

2.3. Factors associated with psychological distress among cancer patients

Socio-demographic factors

A study done in Saudi Arabiya revealed that age and marital status of cancer patients found to be significant factors of psychological distress (61). Female gender and low education (middle school and lower level) were found to statistically significant for psychological distress whereas age and marital status were not statistically significant (41). Another study in China revealed that younger age (odds ratio [OR] =1.82) were significant factors of psychological distress(45). However, another study carried out in China verified that old age found to be a significant factor

for distress. This difference occurred due to nutrition related factors and comorbid conditions (44).

A study conducted in Iran revealed that women, rural residents, functional status, drug abusers, and divorced individuals were found to be significant factors for psychological distress (43).Study in India showed that female gender and older patient were a significant factors for distress(48). Another study in Southeast Asia bared that older age and presence of comorbidity was reported as significant factors for psychological distress (62).

A study conducted in Athens revealed that age, area of residence, marital status, education level, religious affiliation, found to be associated with the presence of anxiety and depression, but residence and religion identified as significant predictors of depression and anxiety risk. Because religiosity and spirituality have been known as a source of support that helps the individual to overcome life worries and difficult events. Regarding residence rural residents most likely experience anxiety and depression due to the poor access to health care services that the rural population faces (52).

A Study in South Africa documented that 15.5% of men had psychological distress whereas 19.4% of women had psychological distress. Hence, found to be a significant factor in addition to the presence of other medical conditions. Moreover, older age, gastric ulcer patients, patients having a migraine headache, presence of sexually transmitted infections, diabetes, hypertension and tuberculosis infection were associated with psychological distress (57).

Clinical and treatment factors

Having ahead and neck cancer (OR =2.43)and patients have not received chemotherapy (OR =1.58) were significant factors for psychological distress(45).Study was done in south east Asia also documented that the stage of cancer and type of cancer such as breast, cervical, lung, mouth, colorectal cancer, and lymphomas had a significant association with psychological distress due to the higher prevalence of those specific types of cancers(62). Stage of the tumor especially advanced stage was found to significant factor for distress due to disease related symptom burden and poor prognosis (42). A study in Athens showed that stage IV patients were at high risk for depression and anxiety. This is due to symptom burden and worth physical functioning (52). A study was done in Turkey also bared that the duration of illness which is less than 1 year

found to significant factor for depression and anxiety (25) but it was insignificant in other studies conducted in Southwest Turkey (63). Another cross-sectional study done in India bared that clinical-stage, chemotherapy was a significant factor for psychological problems (64).

Socioeconomic factors

A study in Germany showed that high financial burden and low social support found to be a significant factor for psychological distress (65). Similarly, a study in South Korea and Iran bared that low educational status also found significant factor for distress(42)(43).Studies in Turkey showed that decreased social support with increasing disease stage could relate to decreased relationships within social circles(63).Study in South India revealed that patients with no formal education, unemployment status ,and lower socioeconomic status were significant factors for psychological distress(48). Studies in China showed that lower monthly income and lower educational status found to be significant factors for distress (56). Study in South Africa bared that no income, low educational status was found to be a significant factor for psychological distress (57).

In general, psychological distress found to be common among cancer patients in developed and developing countries. The prevalence of psychological problems was lower in developed countries due to improved recognition of mental health disorders from cancer patients may lead them actively to seek mental health treatment and other support services. In contrast, the recognition of psychological disease from cancer patients in developing countries is still needed to be improved. The presence of the comorbid conditions, older age, male gender, metastatic cancer, economic social support, stage of the tumor, residence, educational status, marital status and clinical setting(inpatient) were found to be significant factors in different research works. To best of my knowledge few studies were done in Africa and no data was found in Ethiopia relative to other continents.

Conceptual framework

This conceptual framework was developed by the researcher based on the review and synthesis of concepts from different works of literature sources (45)(41)(44)(48)(42)(42)(57)(63)(43)(47). It shows the interaction between independent variables (socio-demographic and socio-economic, Clinical and treatment variables) and the outcome variable (psychological distress of cancer client) which was taken from different works of literature operated with proximate (socioeconomic) to distal factors (socio-demographic, Clinical and treatment factors). Socio-demographic and clinical and treatment factors have direct effect on outcome variable. Hence, the outcome variable is the cumulative effect of the independent variables.

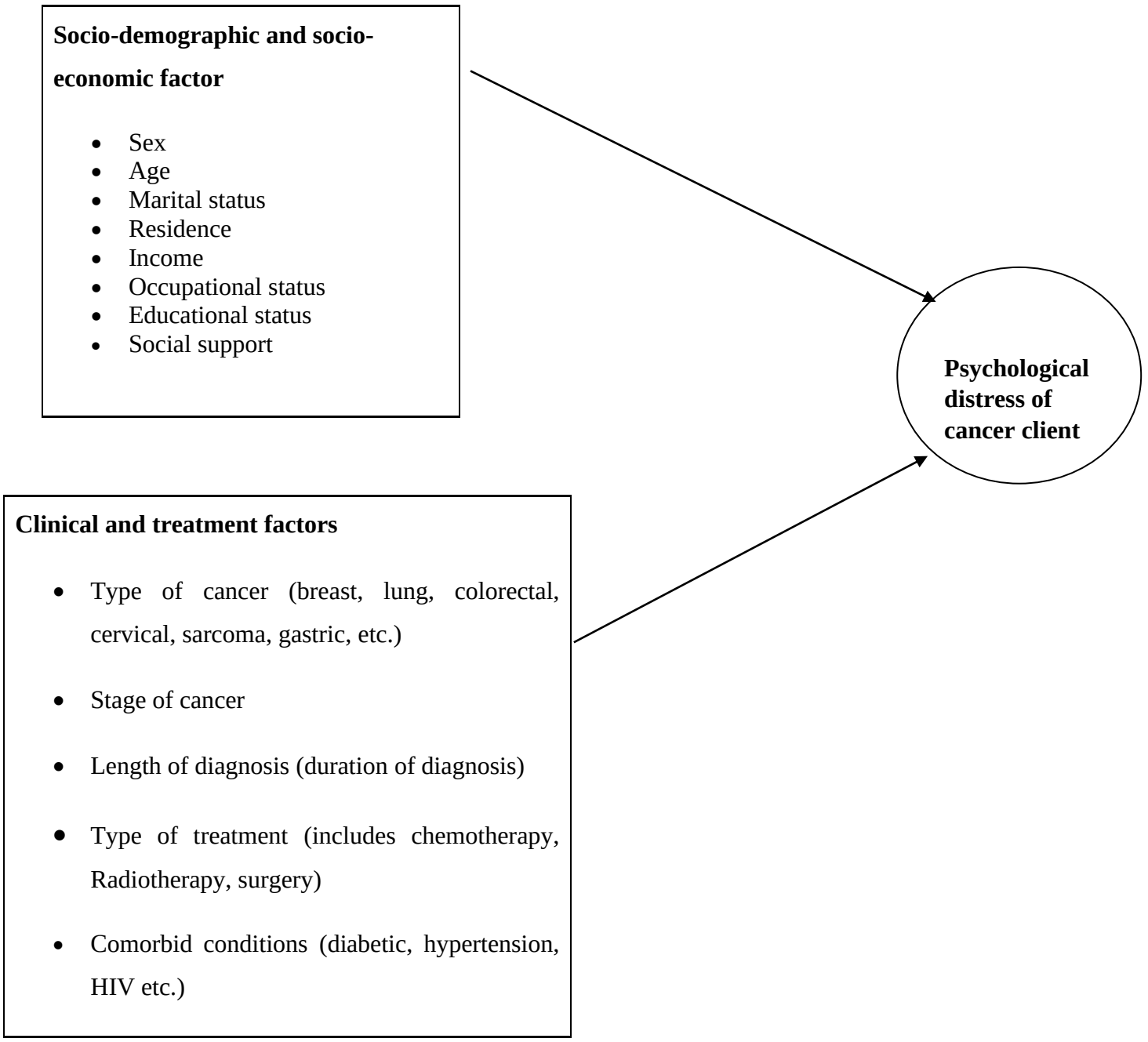

Figure 1: Conceptual framework for the assessment of prevalence and associated factors of psychological distress among cancer patients in TASH, Addis Ababa, Ethiopia, 2020

3. OBJECTIVES

3.1. General objective

To assess the prevalence and associated factors of psychological distress among cancer patients in Tikur Anbessa specialized hospital, Addis Ababa, Ethiopia, 2020.

3.2. Specific objectives

To determine the prevalence of psychological distress among cancer patients in Tikur Anbessa specialized hospital, Addis Ababa, Ethiopia, 2020.

To identify the associated factors of psychological distress among cancer patients in Tikur Anbessa specialized hospital, Addis Ababa, Ethiopia, 2020.

4. METHODS AND MATERIALS

4.1. Study area and study period

This study was conducted in the oncology unit of Tikur Anbessa Specialized Hospital in Addis Ababa, Ethiopia. Tikur Anbessa Specialized Hospital is a teaching, central tertiary specialized referral hospital with approximately 800 inpatients beds**.** It is the well-known public hospital that was built in the early 1960s. The oncology unit is housed in a separate building on hospital grounds and consists of three floors: the clinic with three examination rooms, physicians' offices, waiting room, pharmacy, and radiation vaults; a floor for the inpatient ward; and a floor for meeting rooms. A newer building built in Lideta Kifle Ketema reserved for inpatient and outpatient oncology services. It has 16 more inpatient beds for adult oncology. TASH is the only oncology center in Ethiopia that gives comprehensive services for clients which include chemotherapy, surgery, and radiation. There are currently 5 clinical oncologists, 7 radiotherapists, 9 oncology nurse and 18 nurses working at the oncology units. TASH aspires to become a center of excellence in the diagnosis, treatment and care of patients with cancer. This study was conducted from March 1st to May 30 2020.

4.2. Study design

Institution-based cross-sectional study was employed.

4.3. Population

4.3.1. Source population

All cancer patients in the oncology unit of Tikur Anbessa specialized hospital

4.3.2. Study population

All Adult cancer patient in the oncology unit of Tikur Anbessa specialized hospital during the study period

4.3.3. Sample population

Each adult cancer patients in oncology unit of Tikur Anbessa specialized hospital who has fulfill the inclusive criteria.

4.4. Exclusion and inclusion criteria

4.4.1. Inclusion criteria

All cancer patient whose follow up in patient, out patients, and day care.

whose age was greater than or equal to 18 years

4.4.2. Exclusion criteria

Those patients who were critically ill

4.5. Sample size determination

The sample size of this study was determined using a single population proportion formula by considering the following statistical assumptions: P = proportion of prevalence rate of psychological distress among cancer patients, (Z α/2 = Z score of 95% CI, d= Margin of error (5%) (67). There was no study done in Ethiopia regarding psychological distress among cancer patients. Thus, the proportion P took as 50%.

p=50%: $n = \frac{(Z\frac{\alpha}{2})^2 \times p(1-p)}{(d)^2}$, n= $(1.96)^2$ *0.5*0.5/ $(0.05)^2$ = 384.

Then after adding 10 % contingency for non-response rate the final sample size was 422.

4.6. Sampling procedure

To select the eligible study subjects, the number of patients were followed per week were determined. Hence, there are 465 patients attend in oncology department per week. On average a total of 1,860 cancer patients attend oncology unit within one month. Even if the calculated sample size for the study was 422 study participants with simple Random sampling technique were employed.

4.7. Study variables

4.7.1. Dependent variables

Psychological distress

4.7.1. Independent variables

Socio-demographic and Socioeconomic factors: age, sex, residence, marital status, income, social support, educational status, occupation.

Clinical and treatment factors: type of cancer, stage, duration of illness, comorbidity, treatment

4.8. Operational definitions

Psychological distress: A visual analog scale runs from 0(no distress) to 10(extreme distress) with a score $\geq$ 5 considered as psychological distress and score< 5 no psychological distress.

Anxiety and depression scale

HADS is a fourteen-item scale with seven items each for anxiety and depression subscales. **Scoring** for each item ranges from zero to three. A subscale **scores** greater than 8 denotes anxiety or depression

Depression: A HADS score greater than 8 was considered as depression

Anxiety: A HADS score greater than 8 was considered as anxiety.

Oslo 3 social support scale: A OSS-3 the sum ranging from 3 – 14. Patients with poor social support had a 3–8 score, moderate social support had 9–11 score and strong social support had 12–14 score.

Comorbid conditions: The presence of additional non-communicable and co-infectious disease co-occurring with cancer labeled as "yes" response includes Diabetic, Hypertension, Cardiac, HIV, etc.)

Stages: Based on the American Joint Committee of Cancer (AJCC)

Stage 0: Carcinoma in situ, no lymph node, and no metastasis

Stage I: Tumor invades muscularis propria, submucosa, no lymph node, and no metastasis

Stage II: Tumor invades muscularis propria, penetrates to the surface of the visceral peritoneum, adherent to other organs or structure, no lymph node and no metastasis

Stage III: Tumor metastasis in 7 or more regional lymph nodes

Stage IV: Tumor metastasis into different organs (68).

4.9. Data collection tool and procedure

The Data were collected from primary and secondary source by using structured and semi-structured interview questionnaires. The questionnaire consisted of 4 parts. The first part contains socio-demographic, socioeconomic and clinical-treatment characteristics of the participant. The 2nd part includes, Distress thermometer scale and problem list. The 3rd and the 4th part contain Oslo3 social support scale and HADS. Patients charts were assessed if patients did not know some variables like a stage, site of cancer and receipt treatment. Distress thermometer and problem list is an effective distress screening instrument in cancer patients. The problem checklist has five categories such as: practical, physical, family, emotional, and spiritual categories (69). It is less time consuming, accepted and validated tool with a specificity rate from 0.68 to 0.78 and the sensitivity rate ranges from 0.65 to 0.77 as compared to HADS.

The Hospital anxiety and depression scale (HADS) found a reliable instrument for detecting the state of depression and anxiety in the medical hospital setting (70). HADS had anxiety and depression sub scales to screen the frequency of depression and anxiety symptoms. It is a 4-point scale that ranges from 0 to 3. The total score takes values 0 to 21. The higher score refers to depression and anxiety (71). The cutoff point for each subscale for depression and anxiety will be rating as scores 0 to 7 and 8 to 21 considered as presence and absence of symptoms respectively. This cutoff point had 93.2% sensitivity and 90.8% specificity for depression and 90.0% sensitivity and 86.2% specificity for Anxiety (55).

Oslo 3-items Social Support Scale (OSS-3) is an important instrument to screen social and social related problems. OSS-3 cover different fields of social support and put together into a composite index of social support by summarizing the standardized Z scores for each item. A sum index made by summarizing the raw scores, the sum ranging from 3 – 14. Patients with poor support had a 3–8 score, moderate support had 9–11 score and strong support had 12–14 score(72).

4.10. Data quality assurance

Data quality were assured by designing appropriate data collection tool and evaluated by experienced researchers. Pretest on 5% of follow up patients with a non-communicable disease

(Diabetic, hypertension, cardiac, etc.) was done two weeks before actual data collection time at St. Paul's hospital. Training was given to data collectors and supervisors for a couple of days before the data collection task and training guide was prepared to facilitate the training. The principal investigator has supervised both data collectors and supervisors (MSc student and data clerk). Close monitoring and evaluation were carried out by the supervisors and principal investigator. The collected data was recorded by the principal investigator. A review of the data extraction tool filled was gathered and checked for completeness by the principal investigator and supervisors on a daily basis.

4.11. Data processing and analysis

The collected data was cleaned, edited, coded and then entered using epi data 4.2 and then exported into SPSS version 25 for analysis. Basic descriptive analyses were done in terms of central tendency and dispersion value for continuous data and frequency distribution for categorical data based on the natural distribution. A chi-square test was used to determine the association between independent categorical variables.

Bivariate regression was done at 0.25 and those independent variables fitted on bivariate logistic regression less than or equal to 0.25 and which become significant variables done for those variables fitted at <0.25 will be included in multivariable. Multivariable logistic regression was done at 0.05 level of significance to determine the net effect of each explanatory variable on the prevalence of psychological distress. The P -value < 0.05 in the multivariable analysis was considered as statistically significant. The results were expressed as odds ratio (OR) with 95% confidence interval and p-values are used to measure the strength of association and to identify statistically significant association.

4.12. Ethical consideration consent

Ethical clearance was obtained from ethical research committee in department of nursing, School of Nursing and Midwifery, Addis Ababa University. A letter of cooperation was written to the TASH and concerned bodies. Approval was obtained for data collection from the medical director and cancer treatment center focal person of Tikur Anbessa Specialized Hospital. Objective and purpose of the study was explained and written consent was obtained from patients before the interview. The Privacy of the participants was kept during the interview.

Confidentiality of the information was maintained throughout the study by anonymously excluding patient names as identification from data collection form. To keep the confidentiality all collected data were coded and locked in a separate room before entered into the computer. After entering the computer, the data were locked by password, and the data have not been disclosed to any person other than the principal investigator.

4.13. Dissemination of the study

The result of the study will be presented and submitted to the School of Nursing and Midwifery College of Health Science, Addis Ababa University in partial fulfillment of the requirements for the degree of masters in clinical oncology nursing. The result will be also submitted to TASH, oncology department. The result will also be presented on a scientific workshops and conferences; the final effort will be made to publish on a peer-reviewed scientific journal.

5. RESULT

5.1. Socio-demographic and socio-economic characteristics of participants

A Total of 386 respondents were participated in the study with a response rate of 91.4%. From the study participants 72.8% were females. The mean age of the study participants found to be 45.0± 13.6 SD years old, about 153(39.7%) were exist within 45-64 years range. 131(33.9%) of participants were from rural residents. About 185(47.9%) of study participants educational status was from secondary and higher institution program. Nearly 37.1% were employed. The average monthly income was 2960.8±4459.8 SD ETB, of which 26.9% had less than or equal to 500-birr monthly income. About 45.3% of the study participant had poor social support (**Table 1).**

Table 1: Socio-demography and socio-economic characteristics of study participant in TASH, oncology center, Addis Ababa, Ethiopia 2020(n=386)

Variable	Category	Frequency (n)	Percentage (%)
Sex	Male	105	27.2
	Female	281	72.8
Age	15-24	26	6.7
	25-44	168	43.5
	45-64	153	39.7
	>=65	39	10.1
Marital status	Single	69	17.8
	Married	223	57.8
	Divorced	44	11.4
	Widowed	50	13.0
Residence	Urban	255	66.1
	Rural	131	33.9
Monthly income(birr)	≤500	104	26.9
	501-1000	64	16.6
	≥1001	218	56.5
Educational status	Can`t read and write	66	17.1
	Primary	135	35.0
	Secondary	100	25.9
	College and university	85	22.0
0ccupation	Unemployed	19	4.9
	Employed	143	37.1
	House wife	100	25.9
	Farming	48	12.5
	Daily laborer	43	11.1
	Other	33	8.5
Social support	Poor social support	175	45.3
	Moderate social support	132	34.2
	Strong social support	79	20.5

N.B: Other: -Merchant, Student, Retire

5.2. Clinical and therapeutic characteristics of the study participants

Out of total participants of 386, about 162 (42%),71(18.4%),42(10.8%),28(7.3%) and 28(7.3%) of study participants were breast, colorectal, cervical, sarcoma and lung cancer diagnosed respectively. Regarding the stage of diagnosis around (69.9%) of the patients were diagnosed at late stage, of those131(33.9%) and 139(36.0%) were at stage III and IV, respectively. The average length of diagnosis was 17.3±19.2SD months. Regarding to treatment received, almost nearly half (47.7) of the patients has received chemotherapy (**table 2).**

Table 2: Clinical and therapeutic characteristics of study participants in TASH oncology center, Addis Ababa Ethiopia, 2020(n=386).

Variable	Category	Frequency(n)	Percent(%)
Cancer type	1. lung cancer	28	7.3
	2. breast cancer	162	42.0
	3. colorectal cancer	71	18.4
	4. cervical cancer	42	10.8
	5. sarcoma	28	7.3
	6. esophageal cancer	23	6.0
	7. gastric cancer	11	2.8
	8. others	21	5.4
Stage	stage I	45	11.7
	stage II	71	18.4
	stage III	131	33.9
	stage IV	139	36.0
Length of diagnosis	< 12 months	193	50.0
	≥12 months	193	50.0
Comorbidity	Yes	135	35.0
	No	251	65.0
Treatment received	**Radiation**	**7**	**1.8**
	Surgery	**9**	**2.3**
	Chemotherapy	**184**	**47.7**
	surgery plus chemo	**118**	**30.6**
	radiation plus surgery plus chemo	**34**	**8.8**
	Surgery plus radiation	**34**	**8.8**

N.B: **Others**: - lymphoma Ca, prostate Ca, Testicular Ca, leukemia Ca, endometrial Ca, vulvar Ca, skin ca, laryngeal Ca, nasopharyngeal Ca, orbital Ca, oral Ca, pancreatic Ca, squamous cell carcinoma

5.3. Prevalence of psychological distress

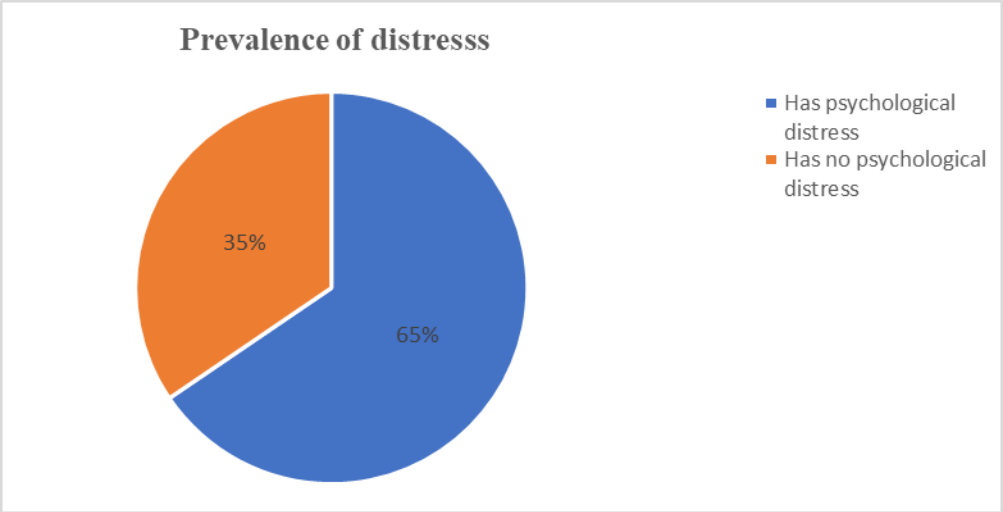

Figure 2: prevalence of psychological distress among cancer patients in TASH center, Addis Ababa, Ethiopia, 2020(n=386)

The prevalence of psychological distress, the scores greater than and equal to 5, among cancer patients found to be 64.5% (**fig 2).** The mean score of psychological distress was 5.44±2.0SD.

Practical problems: -Child (45.6%),Housing(27.5%),Insurance(58.8%),Transportation (36.0%), Work/ school (40.4%), Treatment decision (67.1%);

Family problems: - dealing with children (28.8%), dealing with partner (37.8%) ability to have children (17.4%), family health issues (14.2%);

Emotional problems: -anxiety (63.2%), depression (51.3%), fear (65.8%), nervousness (56.5%), sadness (55.2%), worry (73.1%), loss of interest (49.5%);

Religious concern: - regarding God (99%), loss of faith (99%),

Physical problems:- appearance (53.6%), bathing (6.7%), breathing (24.1), change in urination (14.2%) constipation (22.5%), diarrhea (17.6%), feeling swollen (11.9%), fever (32.9%), getting around (12.2%), indigestion (17.1%), nausea (56.0%), nose dry/congested (14.0%), pain

(60.6%), sexual (25.4%), skin dry/itchy (17.9%), sleep (56.0%), eating (35.0%), fatigue (71.0%), memory/concentration, (19.4%), mouth sores (6.2%), substance use (3.4%), tingling in hands/feet (22.0%).**table (3)**

Table (3): -Psychological distress problem list of study participant in TASH oncology center Addis Ababa, Ethiopia 2020 (n=386)

	Frequency(n)	%		(n)	%
Practical Problems			**Physical Problems**		
Child care	176	45.6	Appearance	207	53.6
Housing	106	27.5	Bathing/dressing	26	67.0
Insurance/financial	227	58.8	Breathing	93	24.1
Transportation	139	36.0	Changes in urination	55	14.2
Work/school	156	40.4	Constipation	87	22.5
Treatment decisions	259	67.1	Diarrhea	68	17.6
Family Problems			Feeling swollen	46	11.9
Dealing with children	111	28.8	Fevers	127	32.9
Dealing with partner	146	37.8	Getting around	47	12.2
Ability to have children	67	17.4	Indigestion	66	17.1
Family health issues	55	14.2	Nausea	216	56.0
Emotional Problems			Nose dry/congested	54	14.0
Depression	126	51.3	Pain	234	60.6
Fears	254	65.8	Sexual	98	25.4
Nervousness	218	56.5	Skin dry/itchy	69	17.9
Sadness	213	55.2	Sleep	216	56.0
Worry	282	73.1	Eating	135	35.0
Loss of interest in usual activities	191	49.5	Fatigue	274	71.1
			Memory/concentration	75	19.4
Spiritual concerns			Mouth sores	24	6.2
			Substance use	13	3.4
Regarding God	382	99	Tingling in hand/feet	85	22.0
Loss of faith	382	99			

5.4. Association of psychological distress among determinant factors

The prevalence of psychological distress among females was 67.6%. About 133(34.5%) of participants who were married had psychological distress. About 61.4%of the psychological distress was rural residents. Greater number of psychological distress was found from primary and secondary school. Among study participants, 20.4% of psychological distress was found from employed participants. Regarding to Clinical and therapeutic condition, large number study participant was diagnosed at stage three and four, among those 69.6% had psychological distress.

In bivariable analysis sex, marital status, residents, educational status, occupational status, tumor type, stage, comorbidity, treatment received, social support, income and age of study participants were fitted. Those variables fitted in the bivariable logistic regression were entered into multi variable analysis. In multivariable analysis age, married and divorced marital status, rural resident, secondary educational status, stage of tumor, comorbidity and social support were found to be statically significant.

Those study participants whose divorced marital status were 3.3 times more likely to develop psychological distress than single marital status (AOR: 3.3: CI: 1.23-8.7) with p value 0.017. Those married was 3.2 times more likely to have psychological distress than single (AOR=3.2; CI: 1.03-10.4). Rural residents were 1.5 times more likely to have psychological distress than urban residents (AOR=1.5; CI: 1.15-5.18). The study revealed that cancer patients diagnosed at stage II, stage III and stage IV were 3.9,3.5 and 3.4 times more likely to develop psychological distress than patients diagnosed at stage I (AOR=3.9; CI:1.9-15.5) ;(AOR=3.5;CI:1.45-8.44);(AOR=4.4;CI:1.90-10.1) respectively. About 93.0% of study participants who had no comorbid condition were more likely to have psychological distress than patients with comorbid conditions (AOR=0.07; CI: 0.029-0.17). Those study participants who had mild social support were 6.0% less likely to have psychological distress than those patients who had poor social support (AOR=0.06; CI: 0.03-0.12). The study showed that those study participants whose age ranges from 45-64 years were 2.9 time more likely to develop psychological distress than age ranges 15-24(AOR= 2.9; CI: 2.5-11.1). (**Table 4**).

Table 4: Bivariate and multivariable analysis of psychological distress among cancer patients in TASH oncology center, Addis Ababa, Ethiopia, 2020.

Variable	Category	Psychological distress			Bivariate COR (95%CI)	P-value	Multivariable AOR (95%CI)	p- value
		Yes	no	Chi-square				
Marital status	Single	37	32		1		1	
	Married	133	90	0.00	5.3(2.1-13.4)	0.000	3.2(1.03-10.4)	0.045
	Divorced	36	8		4.1(1.7-9.6)	0.001	3.3(1.23-8.71)	**0.017**
	Widowed	43	7		1.3(0.45-4.1)	0.58	1.2(0.44-5.32)	**0.503**
Residence	Urban	153	102	0.010	1	0.010	1	
	Rural	96	35		1.8(1.15-2.9)		1.5(1.15-5.18)	**0.031**
Educational status	Can`t read and write	43	23	0.013	0.57(0.29- 1.12)	0.100	0.82(0.31-2.15)	0.698
	Primary	87	48		0.59(0.34- 1.02)	0.063	0.7(0.30-1.55)	0.368
	Secondary	75	25		0.35(0.19- 0.66)	0.001	0.15(0.16-0.77)	**0.010**
	College and university	44	41		1			
Stage	Stage I	21	24	0.000	1		1	
	Stage II	40	31		5.4(2.6.0-11.3)	0.000	3.9(1.9-15.5)	**0.002**
	Stage III	73	58		3.7(1.9-7.06)	0.000	3.5(1.45-8.44)	**0.005**
	Stage IV	115	24		3.8(2.2-6.6)	0.000	3.4(1.90-10.1)	**0.001**
Comorbidity	Yes	117	18	0.000	1	0.000	1	
	No	132	119		0.17(3.09-0.29)		0.07(0.029-0.17)	**0.000**
Social support	Mild	148	21		1			
	Moderate	73	59	0.000	0.12(0.05-0.18)	0.000	0.06(0.03-0.12)	0.000
	Strong	28	51		0.4(0.25-0.78)	0.006	0.36(0.14-0.60)	**0.001**
Age	15-24	15	11		1		1	
	25-44	101	67	0.031	4.0(1.3-12.9)	0.019	3.6(1.6-17.4)	**0.012**
	45-64	100	53		3.6(1.45-9.2)	0.006	2.9(2.5-11.1)	**0.001**
	>=65	36	6		2.9(1.15-7.4)	0.024	1.9(1.79-9.5)	**0.004**

6. DISCUSSION

This cross- sectional study aimed to assess the prevalence and associated factors of psychological distress among cancer patients in Tikur Anbessa specialized hospital oncology center with a prevalence of 64.5%. The current finding was higher than the study done in South Korea [28.5%] (41), China [39.5] (44), Taiwan [22.1%] (45), Southern India [38.5] (48), Australia [7.5] (49), China [43.8%] (56). Whereas it was lower than the studies conducted in Germany [89.3%,84.3%] (46)(47). However, it was also in line with study done in Iran [67.7%] (43).

This discrepancy perhaps might be due to difference in the scale either distress thermometer or HADS, the length of time that the study participants enrolled and the cutoff point for distress thermometer visual analog score, and the presence of different associated factors which precipitates psychological distress. The recognition of mental health disorders from cancer patients was low which might lead them inactive to seek for mental health treatment and other support services. Other possible reason might due to the COVID-19 disease pandemicity imposes psychological burden. Moreover, different sample sizes, various situations (social and cultural differences), and different cancer types might be the causes for differences between the results of those studies and the present study

The finding of this study is higher than the studies done in South Africa [17.1%] (57). Regarding to specific cancer type, psychological distress among breast cancer patients in this study was 23.2% which is lower than study done in south Africa [34.3] (58). This is due to the rating scale they used to differ and specific to breast cancer due to its higher prevalence, the presence of perceived body changes and social support. The prevalence of anxiety and depression symptoms were higher than the studies done in Nigeria [36.9%] (59) and previous study done in Ethiopia [51%] (31). This is also in line with study done in Egypt [62.1%] (60).

The difference might due to large proportion of study participants at advanced stage. Thus, symptom burden experience distress, anxiety and depression problems and impair physiological, emotional and spiritual functioning. In addition, health policy priorities are much more directed towards the accessibility of patients to anticancer treatments, while the psychological component of care is often overlooked in management strategies.

The current studies showed that age and marital status were found to be significant factors for psychological distress. This finding goes together with study done in Saudi Arabiya (61) and in China (44) Southeast Asia (62) and in India (48). Divorced and widowed marital status lucks stimulator, social support, health related behavior. Concerning to age, elders face comorbid conditions related to physiological changes, unfavorable effect of medications. Probably the current information regarding to COVID-19 as the disease is sever in the elder and those people with comorbid condition.

Study revealed those rural residents were found a significant factor for psychological distress. This finding is similar with previous study conducted in Iran (43), Athens (52). Due to the poor access to health care services that the rural population experiences symptoms. Social support also found to be a significant factor for psychological distress. This concept goes together with study done in Germany (65), Turkey (63), South India (48), China (56), South Africa (57). Decreased social support with increasing disease stage could relate to decreased relationships within social circles decreased coping mechanisms. Secondary educational status was found to be significant factor for distress. This is owing to large number of participants whose educational status was secondary.

The presence of comorbid condition and social support found to be significant factors for psychological distress which is similar study done in Germany (65), south Korea, Iran (42)(43), bu. This is due to symptom burden, multiple medications, and the current pandemicity of COVID-19 might causes distress all over the people regardless of the social support, income, socioeconomic, clinicopathological and socio-demographic factors.

Stage of cancer found to be significant factor for psychological distress which is similar with other previous study done in South East Asia (62), Athens (52), India (64). As stage of the disease advances the symptom burden such as depression, anxiety and physical functioning worsen.

7. STRENGTH AND LIMITATION OF THE STUDY

Strength

The study has used of validated standardized questionnaire and reasonable sample size.

Limitation

The study was cross-sectional, which cannot determine the causation or temporality of the association between associated factors among cancer patients.

The study was quantitative nature (it didn`t incorporate the parameters addressed qualitatively).

8. CONCLUSION

The objective of this study is to assess the prevalence and associated factor of psychological distress among cancer patient in TASH. Through distress thermometer scale the prevalence of psychological distress found to be 64.5%. The participant was found with 63.2% anxiety and 51.3% depression through HADS.

Multivariable logistic regression analysis shows that; age, rural residents, marital status (married and widowed), comorbidity, social support and stage of cancer were found to be associated factors for prevalence of psychological distress for cancer patient.

9. RECOMMENDATIONS

According the study findings, the following recommendations should be forwarded to:

Federal ministry of health

- Improvement in comprehensive cancer control program including prevention, early detection, treatment & psychotherapy is mandatory.
- Carried out project on the psychological effect of COVID-19 among cancer patients
- Emphasis given for psychological problems
- Should build collaboration among psychology, psychiatric with oncology department on psychological distress
- Should address psychological distress health information to rural residents

Black lion hospital

- The need to improve public and professional awareness, early detection and Prompt treatment using feasible and effective regimens and consider integrate psychotherapy.
- Prepare screening tool for psychological distress especially for advanced stage cancer
- Quick psychiatric consultation and management
- Especial attention should be given for rural residents, comorbid conditions
- Should deal with client about social related problems

Future researchers

- Further studies on prevalence and associated factors of psychological distress among cancer patients that can address the limitations of this study and devise strategies to improve completeness by use of complementary active methods.

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11. ANNEXES

Annex 1: Information Sheet English Version

Title of the Research proposal: Assessment of psychological distress and associated factors among cancer patients in Tikur Anbessa Specialized Hospital: cross-sectional study**.**

Name of Investigator: Frehiwot Negussie, BSc

Name of the Organization: Addis Ababa University, College of Health Science, School of Nursing and Midwifery, Department of clinical oncology nursing

Name of the Sponsor: Addis Ababa University

Purpose of the Research Project: To determine the prevalence and associated factors of psychological distress among cancer patients in Tikur Anbessa Specialized Hospital, 2020

Procedure: In order to achieve the above objective, information that is necessary for the study will be taken from cancer patients and medical record forms by the aid of the data collection tool.

Risk and /or Discomfort: Since the study will not inflict any harm on the patients. The name or any other identifying information will not be recorded on the questionnaire and information will be kept strictly confidential and in a safe place. The information collected will only be used for the study purpose.

Benefits: The research the indirect benefit of the research for the participant and other clients. This is because if program planners are preparing a predicted plan, there is a benefit for clients in the program of getting appropriate care and treatment services for cancer patients. Of all, the research work has a paramount direct benefit for health care planners and managers, especially for those on cancer program planning and management**.**

Confidentiality: To reassure confidentiality the data will be collected without the name of the clients and the information collected from this research project will be kept confidential and will be stored in a file cabinet. In addition, it will not be exposed to anyone except the investigator and it will be kept in a key and locked system with a computer pass ward.

Person to contact: This research project will be reviewed and approved by the institutional review board of the school of nursing and midwifery, college of health sciences, Addis Ababa University. If you have any question you can contact any of the following individuals (Investigator and Advisors) and you may ask at any the time you want.

Berhanu Wordofa, (MSc, Assistant. Professor) Addis Ababa University, College of Health Sciences, School of Nursing and Midwifery

Nete Tewfik (MSc Addis Ababa university) Addis Ababa University, College of health science, School of Nursing and midwifery

Frehiwot Negussie (BSc) Addis Ababa University, College of Health Sciences, School of Nursing and Midwifery

Cell phone: -0911369140, E-mail: frenegussie@gmail.com

Voluntary Participation: It is up to you to decide whether to takes part in this study or refuse to participate. Research has no penalty or loss of benefits to which you otherwise entitled. This will not affect your relationship with the investigators. If you are voluntary give information for the study, you can show your willingness by saying “yes”.

1. If yes, proceed to the next page 2. If no, thank you, and skip to the next participant

Name of data collector _____Signature of interviewer: -------Date: ----------/--------/---

Annex 2: Consent form (English version)

In undersigning this document, I am giving my consent to participate in the study entitled as "Prevalence and associated factors of psychological distress among cancer patients in Tikur Anbessa Specialized Hospital, 2020" I have been informed that the purpose of this study is to determine the prevalence and associated factors of psychological distress among cancer patients in Tikur Anbessa Specialized Hospital, 2020.

Understood that participation in this study is entirely voluntary. I have been told that my answers to the questions will not be given to anyone else and no reports of this study ever identify me in anyway. I have also been informed that my participation or non-participation or my refusal to answer questions will have no effect on me. I understood that participation in this study does not involve risks. I understood that Frehiwot Negussie is the contact person if I have questions about the study or about my rights as a study participant.

Respondent's signature_____

Interviewer

Name_____Signature_____Date_____

Annex 3: Data Extraction Tool

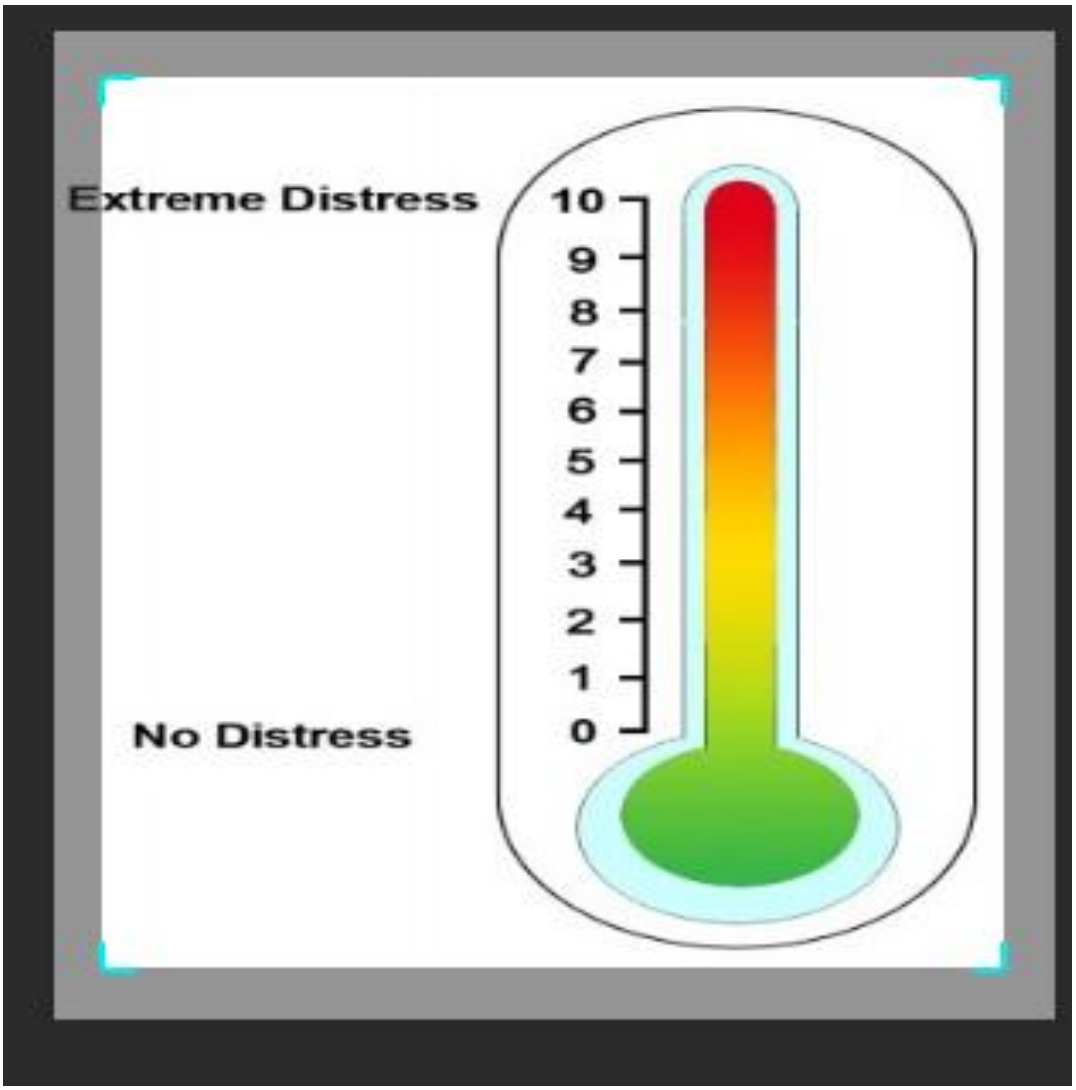
Part 1 Socio-demographic, socio-economic, clinical and treatment characteristics of participant

S. no	Variable	Category
Socio-demographic characteristics		
	Sex	Male □ Female □
	Age in years	-----
	Marital status	Single □ Married □ Divorced □ Widowed □
	Residence	Urban □ rural □
Socio-economic status		
	Monthly income (in birr)	
	Educational status	Can`t read and write □ Primary □ Secondary □ College and university □
	Occupation	Unemployed □ employed □ House wife □ Farming □ Daily laborer □ Other □
Clinical and treatment factors		

	Cancer type	-----
	Stage	stage I □ stage II □ stage III □ stage IV □
	Length of diagnosis	
	Treatment received	Radiation □ Surgery □ Chemotherapy □ surgery plus chemo □ radiation+surgery+chemo□ didn`t receive treatment □
	Comorbidity	Yes □ No □

Part 2 Distress Thermometer and problem list of the patient

A, please indicate the number (0-10) that best describes how much distress you have been experiencing in the past week including today



B, please indicate if any of the following has been a problem for you in the past week including today

	YES	NO		YES	NO
Practical Problems	○	○	**Physical Problems**	○	○
Child care	○	○	Appearance	○	○
Housing	○	○	Bathing/dressing	○	○
Insurance/financial	○	○	Breathing	○	○
Transportation	○	○	Changes in urination	○	○
Work/school	○	○	Constipation	○	○
Treatment decisions	○	○	Diarrhea	○	○
Family Problems			Feeling swollen		
Dealing with children	○	○	Fevers	○	○
Dealing with partner	○	○	Getting around	○	○
Ability to have children	○	○	Indigestion	○	○
Family health issues	○	○	Nausea	○	○
Emotional Problems			Nose dry/congested		
Depression	○	○	Pain	○	○
Fears	○	○	Sexual	○	○
Nervousness	○	○	Skin dry/itchy	○	○
Sadness	○	○	Sleep	○	○
Worry	○	○	Eating	○	○
Loss of interest in usual activities	○	○	Fatigue	○	○
Spiritual/religious concerns			Memory/concentration	○	
Regarding God			Mouth sores	○	○
Loss of faith			Substance use	○	○
			Tingling in hands/feet	○	○

Part 3 Oslo 3 social support scale

s.no		
1	How easy can you get help from neighbors if you should need it?	
	Very easy	5 □
	Easy	4 □
	Possible	3 □
	Difficult	2 □
	Very difficult	1 □
2	How many people are so close to you that you can count on them if you have serious problems?	
	None	1 □
	1-2	2 □
	3-5	3 □
	5+	4 □
3	**How much concern do people show in what you are doing?**	
	A lot	5 □
	Some	4 □
	Uncertain	3 □
	Little	2 □
	No	1 □

Part 4 Hospital anxiety and depression scale (HADS)questionnaire

1	I feel tense or wound up	Not at all From time to time(occasionally) A lot of time most of the time	□ □ □ □
2	I get a sort of frightened feeling as if something bad is about to happen.	Not at all A little but it doesn't worry me Yes, but not too badly Very definitely and quite badly	□ □ □ □
3	Worrying thoughts go through	Only occasionally	□

	my mind.	From time to time, but not too often A lot of the time A great deal of time	□ □ □
4	I can sit at ease and feel relaxed	Definitely Usually Not often Not at all	□ □ □ □
5	I get a sort of frightened feeling like butterflies in the stomach	Not at all Occasionally Quite often Very often	□ □ □ □
6	I feel restless and have to be on the move	Not at all Not very much Quite a lot Very much indeed	□ □ □ □
7	I get sudden feelings of panic	Not at all Not very often Quite often Very Often indeed	□ □ □ □
1	I still enjoy the things I used to enjoy.	Definitely as much Not quite so much Only a little Hardily at all	□ □ □ □
2	I can laugh and see the funny side of things.	As much as I always could Not quite so much now Definitely not so much now Not at all	□ □ □ □
3	I feel cheerful.	Most of the time Sometimes Not often Not at all	□ □ □ □

4	I feel as if I am slowed down.	Not at all Sometimes Very often Nearly all the time	□ □ □ □
5	I have lost interest in my appearance.	I take just as much care as ever I may not take quite as much care I don't take as much care I should Definitely	□ □ □ □
6	I look forward with enjoyment to things.	As much as I ever did Rather less than I used to Definitely less than I used to Hardly at all	□ □ □ □
7	I can enjoy a good book or radio or TV program	often Sometimes Not often Very seldom	□ □ □ □

Annex 4: Information Sheet Amharic Version

አባሪ 1 : የመረጃ ወረቀት አማረኛ ትርጉም

የጥናቱ ርዕስ: በጥቁር አንበሳ ስፔሻሊስት ሆስፒታል በካንሰር ህመምተኞች መካከል የስነልቦ ና ጭንቀት እና ተያያዥ ምክንያቶች

የመርማሪ ስም: - ፍሬህይት ንጉሴ ቢ.ኤስ.ሲ

የድርጅቱ ስም : የአዲስ አበባ ዩኒቨርሲቲ የጤና ሳይንስ ኮሌጅ ፣የነርሶች እና አዋላጅ ትምህርት ቤት ፣ የክሊኒካል አንኮሎጂ ነርስ ክፍል

የስፖንሰር ሰጪው ስም : የአዲስ አበባ ዩኒቨርስቲ

የምርምር ፕሮጀክቱ ዓላማ : በ 2020 ጥቁር አንበሳ ስፔሻላይዝድ ሆስፒታል ካንሰር ህመምተኞች መካከል የስነ ልቦና ጭንቀት እና ተያያዥ ሁኔታዎችን ለማወቅ ::

ሂደት: ከላይ የተጠቀሰውን ዓላማ ለማሳካት ለጥናቱ አስፈላጊ የሆነ መረጃ ከካንሰር ህመምተኞች እና ከህክምና መዝገብ በመረጃ ይወሰዳል::

ጥቅሞች : ለተሳታፊው እና ለሌሎች ደንበኞች የምርምር ቀጥተኛ ያልሆነ ጥቅም አለዉ :: ይህ የሆነበት ምክንያት የፕሮግራም እቅድ አውጪዎች አስቀድሞ የተተነበ የዕቅድ ካዘጋጁ ለካንሰር ህመምተኞች ተገቢውን እንክብካቤ እና ህክምና አገልግሎቶችን ለማግኘት ፣ከሁሉም በላይ የምርምር ሥራው ለጤና እንክብካቤ እቅድ አውጪዎች እና አስተዳዳሪዎች በተለይም በካንሰር መርሃ ግብር እቅድ እና አስተዳደር ላይ ላሉት ቀጥተኛ ፋይዳ አለው::

ምስጢራዊነት : ምስጢራዊነቱን ለማረጋገጥ መረጃው የደንበኞች ስም በማይገልጽ መልኩ ይሰበሰባል እና ከዚህ የምርምር ፕሮጀክት የተሰበሰበው መረጃ በሚስጥር ይቀመጣል እና በፋይል ካቢኔት ውስጥ ይቀመጣል :: በተጨማሪም ፣ከተመረማሪው በስተቀር ለማንም አይጋለጥም እና በኮምፒተር ማለፊያ ክፍል ቁልፍ እና ቁልፍ ተቆልፎ ይቆያል የተሰበሰበው መረጃ ለጥናቱ ዓላማ ብቻ ጥቅም ላይ ይውላል ::

የሚያነጋግረውሰው : ይህ የምርምር ፕሮጀክት በአዲስ አበባ ዩኒቨርሲቲ የጤና ሳይንስ ኮሌጅ ፣ ነርሶች እና አዋላጅ ተቋማት በተቋሙ የግምገማ ቦርድ ይገመገም ናይፀድቃል::ማንኛውም ጥያቄ ካለዎት ከሚከተሉት ግለሰቦች (መርማሪ እና አማካሪዎች) ጋር መገናኘት ይችላሉ

ብርሀኑ ወርዶፋ ኤምኤስሲ፣ ረዳት ፕሮፌሰር : የአዲስ አበባ ዩኒቨርሲቲ የጤና ሳይንስ ኮሌጅ ፣የነርሶች እና አዋላጅ ትምህርት ቤት

ኔቱ ተውፊቅ ኤምኤስሲ የአዲስ አበባ ዩኒቨርሲቲ የጤና ሳይንስ ኮሌጅ ፣የነርሶች እና አዋላጅ ትምህርት ቤት
ፍሬህይወት ንጉሴ ቢ.ኤስ.ሲ: አዲስ አበባ ዩኒቨርሲቲ፣የጤና ሳይንስ ኮሌጅ ፣የነርሶች ትምህርት ቤት እና አዋላጅ
ሞባይልስልክ: 0911369140 ኢሜል:

በፈቃደኝነት መሳተፍ:

በዚህጥናትለመሳተፍወይምላለመሳተፍመወሰንየእርስዎምርጫነው።ምርምርእርስዎያገኙትንመብትየሚያገኙበትቅጣትወይምኪሳራየለውም::ይህከመርማሪዎቹጋርያለዎትንግንኙነትአይጎዳውም::ለጥናቱመረጃለመስጠትፈቃደኛከሆኑ ‘‘አዎ’’ በማለትፈቃደኛነትዎንማሳየትይችላሉ::

1. አዎከሆነ፣ወደሚቀጥለውገጽይቀጥሉ 2. የለምከሆነ፣አመሰግናለሁእናወደሚቀጥለውተሳታፊይሂዱ

የውሂብሰብሳቢውስም _____ የቃለመጠይቅፊርማ: ------- ቀን: ---------- / -------- / ---

አባሪ 2 የስምምነትቅፅ (የአማረኛሥሪት)

ይህንንሰነድበማመለከተበትጊዜእንደ

በ 2020

ጥቁርአንበሳስፔሻላይዝድሆስፒታልበካንሰርህመምተኞችመካከልየስነልቦናጭንቀትእናተጓዳኝምክንያቶችየዚህጥናትዓላማበጥቁ

ርአንበሳስፔሻላይዝሆስፒታልበ 2020

በካንሰርህመምተኞችመካከልያለውየስነልቦናጭንቀትእናየስነልቦናሁኔታዎችንመወሰንመሆኑንተረድቻለሁ፡፡በዚህጥናትውስጥተ

ሳትፎሙሉበሙሉበፈቃደኝነትመሆኑንተረድቻለሁ፡፡ለጥያቄዎቹመልሴለሌላለማንምእንደማይሰጥተነግሮኛልእናምየዚህየጥናት

ዘገባበምንምሳይነትበጭራሽአይለይኝም፡፡በተጨማሪምየእኔተሳትፎወይምተሳትፎአለማድረግወይምለጥያቄዎቼመልስለመስጠ

ትፈቃደኛአለመሆኔበእኔላይምንምተጽዕኖእንደማይኖርተነግሮኛል፡፡በዚህጥናትመሳተፍአደጋዎችንእንደማያስከትሉተረድቻለሁ

፡፡ስለጥናቱጥያቄካለኝወይምእንደየጥናቱተሳታፊስሆንመብቶቼካሉኝፍሬህይወትንጉሴየእውቂያሰውእንደሆኑተረዳሁ፡፡

የተሳታፊፊርማ _____ቀን_____

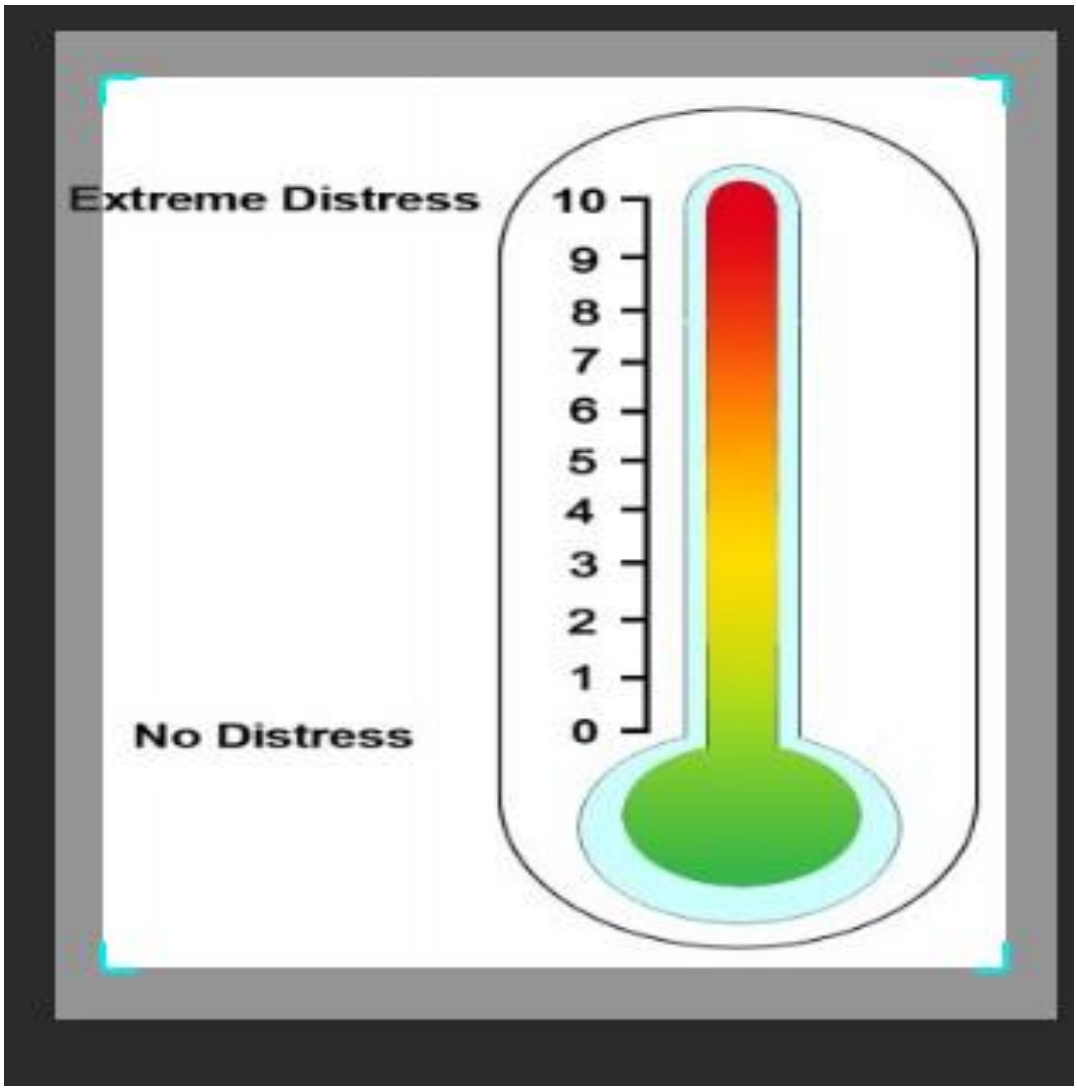
ክፍል ፣ ፡ የተሳታፊዎች የስነ-ልቦና ባህሪዎች ፣ክሊኒካዊ እና ህክምና ምክንያቶች ባህርያት

ተራቁጥር	ተለዋዋጭምድብ	ምድብ
	የስነ-ልቦናባህሪዎች	
	ጾታ	1 ወንድ 2 ሴት
	ዕድሜበዓመትሲገለጽ	-----
	የጋብቻሁኔታ	1 ያላገባ 2.ያገባች 3.የፈታ/ች 4. ባሏ/ሚስቱየሞተባት/የሞተችበት
	መኖሪያቦታ	1 ከተማ 2ገጠር
	ክሊኒካዊእናህክምናምክንያቶች	
	የካንሰርዓይነት	
	ደረጃ	1 ደረጃ I 2. ደረጃ II 3. ደረጃ III 4. ደረጃ IV
	የምርመራውርዝመት	
	ተያያዥበሽታ	1. አለ 2. የለም
	እየወሰደያለዉህክምና	1. ጨረር 2. የቀዶጥገና 3. ኬሞቴራፒ 4. ከቀዶጥገናእናከኬሞጋር 5. ጨረርእናከቀዶጥገናእናከኬሞጋር 6. ህክምናአልደረሰም
ማህበራዊናኢኮኖሚያዊሁኔታ		

	የወርገቢ	-----
	የትምህርትሁኔታ	ማንበብእናመጻፍየማይችል/ትችል 2.የመጀመሪያደረጃ 3. ሁለተኛደረጃ 4. ኮሌጅእናዩኒቨርሲቲ
	የስራሁኔታ	1ሥራአጥነት 2. ተቀጣሪ 3. የቤትእመቤት 4. እርሻ 5. ዕለታዊሰራተኛ 6. ሌላ

ክፍል 2 የጭንቀት መጠንን በቁጥር መለኪያ እና ለታካሚዎች የጭንቀት መንስኤዎች ዝርዝር

ሀ,የጭንቀት መጠንን በቁጥር መለኪያ



ለ,ለታካሚዎች የችግሮች ዝርዝር

	አለ	የለም		አለ	የለም
ተግባራዊችግሮች			**የአካልችግሮች**		
የልጆችእንክብካቤ			መልክ		
መኖሪያቤት			ገላመታጠብ / መልበስ		
ኢንሹራንስ / የገንዘብ			መተንፈስ		
መጓጓዣ			በሽንትውስጥለውጦች		
ሥራ / ትምህርትቤት			ሆድድርቀት		
ሕክምናውሳኔዎች			ተቅማጥ		
የቤተሰብችግሮች			እብጠት		
ከልጆችጋርመገናኘት			ትኩሳት		
ከአጋርጋርየሚደረግግንኙነት			አካባቢማግኘት		
ልጆችየመውለድችሎታ			የምግብመፍጨትችግር		
የቤተሰብጤናጉዳዮች			ማቅለሽለሽ		
ስሜታዊችግሮች			አፍንጫደረቅ / መጨናነቅ		
ጭንቀት			ህመም		
ፍርሃት			ወሲባዊ		
ፍርሃት			የቆዳደረቅ / ማሳከክ		
ሀዘን			እንቅልፍ		
መጨነቅ			መብላት		
በተለመዱእንቅስቃሴዎችላይፍላጎት			ድካም		
ማጣት			ማህደረትውስታ / ትኩረት		
መንፈሳዊ / ሃይማኖታዊጉዳዮች			አፍህመም		
ስለእግዚአብሔር			ንጥረነገርአጠቃቀም		
የእምነትማጣት			በእጆች / እግሮችላይመታጠፍ		

አባሪ 3 ： የአስሎ -3 ማህበራዊድጋፍልኬት

s.no		
1	1 ከጎረቤቶችዎእገዛንእንዴትማግኘትይችላሉ?	
	በጣምቀላል	5
	ቀላል	4
	ይቻላል	3
	አስቸጋሪ	2
	በጣምከባድ	1
2	ከባድችግርካለብዎበእነሱላይመተማመንየሚችሉትስንትሰዎችለእርስዎምንያህልናቸው? ችግሮች?	
	የለም	1
	1-2	2
	3-5	3
	5+	4
3	እርስዎበሚያደርጉትነገርሰዎችምንያህልግድየለሽነትያሳያሉ?	
	ብዙ	5
	የተወሰኑ	4
	ያልተረጋገጠ	3
	ትንሽ	2
	የለም	1

አባሪ 4-የሆስፒታል ጭንቀት እና ድብርት (ሚዛን) መጠይቅ

1	ውጥረትወይምቁስለትይሰማዎታል	በጭራሽ ከጊዜወደጊዜ (አልፎአልፎ) ብዙጊዜ አብዛኛውንጊዜ	□ □ □ □
2	አንድመጥፎነገርሊከሰትእንደሆነየሚሰማውዓይነትየፍርሃትስሜትይሰማዎታል	በፍፁም ትንሽግንአይስጨንቀኝም አዎ፣ግንበጣምመጥፎአይደለም በጣምበእርግጠኝነትእናበጣምመጥፎ	□ □ □ □
3	የሚያስጨንቁሀሳቦችበአዕምሮዎውስጥያልፋሉ	አልፎአልፎብቻ	□

		ከጊዜወደጊዜ፣ግንብዙጊዜአይደለም ብዙጊዜ በጣምብዙጊዜ	□ □ □
4	በእርጋታየመቀመጥእናዘናየማለትስሜትይሰማዎታል	በእርግጠኝነት አብዛኛውንጊዜ ብዙጊዜአይደለም በጭራሽ	□ □ □ □
5	ሆድዎአካባቢየመደንገጥወይምየመሸበርስሜትይሰማዎታል	በፍፁም አልፎአልፎ በጣምብዙጊዜ በጣምብዙጊዜ	□ □ □ □
6	እረፍትየለኝምእናምበእንቅስቃሴላይመሆንእንዳለብዎትይሰማዎታል	በፍፁም በጣምብዙአይደለም በጣምብዙ በጣምበእውነቱ	□ □ □ □
7	ድንገተኛየፍርሃትስሜትይሰማዎታል	በፍፁም ብዙጊዜአይደለም በጣምብዙጊዜ ብዙውንጊዜበእውነቱ	□ □ □ □
1	ቀደምሲልበነበሩበትነገሮችአሁንምደስይለዎታል	በእርግጠኝነትያህል በጣምብዙአይደለም ትንሽ በጭራሽ	□ □ □ □
2	የነገሮችንአስቂኝነገሳቅእናማየትይችላሉ	ሁልጊዜእንደቻልኩት አሁንበጣምብዙምአይደለም በእርግጥአሁንብዙምአይደለም በፍፁም	□ □ □ □
3	ደስታይሰማዎታል	አብዛኛውንጊዜ አንዳንድጊዜ ብዙጊዜአይደለም በፍፁም	□ □ □ □

4	እንደዘገዩሆኖይሰማኛል	በፍፁም አንዳንድጊዜ በተደጋጋሚ ሁልጊዜማለትይቻላል	□ □ □ □
5	ለአለባበስዎትኩረትንመስጠትአቁመዋል	እኔምልክእንደዛውጥንቃቄእወስዳለሁ እኔያንያህልያህልእንክብካቤአላደርግም እኔየቻልኩትንያህልእንክብካቤአልወስ ድም በእርግጠኝነት	□ □ □ □
6	መጭነገሮችንበደስታይጠብቃሉ	እኔእንደማደርገውያህል እኔከቀድሞውበታችነበር እኔበእርግጥከቀድሞውያንሳል በጭራሽ	□ □ □ □
7	በሬዲዮ/ቴሌቪዥንፕሮግራሞችራሰዎንያስደስታሉ?	ብዙጊዜ አንዳንድጊዜ ብዙጊዜአይደለም በጣምአልፎአልፎ	□ □ □ □