SLEEP QUALITY AND ASSOCIATED FACTORS AMONG ADULT CANCER PATIENTS ON TREATMENTS AT TIKUR ANBESSA SPECIALIZED HOSPITAL ONCOLOGY UNIT, ADDIS ABABA, ETHIOPIA, 2021.

BY: ESHETU ABEBE (BSC)

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PRINCIPAL INVESTIGATOR: Eshetu Abebe (BSc)

Main Advisor: Mr. Berhanu Wordofa (BSc, MSc, Assistant professor)

Co advisors: Mr. Abdisa Boka (BSc, MSc, Assistant professor)

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EXAMINER:

MR. ZELEKE ARGAW (BSC, MSC ASS'T PROF.) _____ _____

SIGNITURE DATE

RESEARCH ADVISORS:

MR. BERHANU WORDOFA (BSC, MSC ASS'T PROF.) _____ _____

SIGNATURE DATE

MR. ABDISA BOKA (BSC, MSC, ASS'T PROF.) _____ _____

SIGNATURE DATE

DEPARTMENT HEAD

NIGUSE TADELE (BSC, MSC ASS'T PROF.) _____ _____

SIGNITURE DATE

STATEMENTS OF AUTHOR

I confirm by my own signature that this thesis is my own work. I used various sources of information and cited all of them in the thesis. The thesis was not submitted to any other institution for the award of any degree, diploma, or license.

By: Eshetu Abebe _____ _____

Signature **Date**

Advisors:

Mr. Berhanu Wordofa (BSc, MSc Ass't prof) _____ _____

Signature **Date**

Mr. Abdisa Boka (BSc, MSc, Ass't. prof) _____ _____

Signature **Date**

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ACRONYMS AND ABBREVIATIONS

AABC	American Africa Breast Cancer
BMI	Body Mass Index
CIN	Chemotherapy-Induced Nausea
CIV	Chemotherapy-Induced Nausea
EDHS	Ethiopia Demographic and Health Survey
ETB	Ethiopian Birr
Hrs	Hours
LMIC	Low Middle Income Country
NCDs	Non-Communicable disease
PI	Principal Investigator
PSQI	Pittsburgh sleep quality index
QOL	Quality of Life
TASH	Tikur Anbessa Specialized Hospital

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ABSTRACT

Cancer symptoms and treatment side effects disturb sleep quality and most of cancer patients complained of poor sleep quality during their treatments. The objective of the study was to assess the prevalence of sleep quality and associated factors in adult cancer patients in the treatment Oncology unit of TASH, Addis Ababa Ethiopia, 2021. Methods were institutional-based cross-sectional study design. Data was collected by using face-to-face structured interview questionnaires from March 1 to April 1, 2021. A validated Pittsburgh (Cronbach's alpha of .85) Sleep Quality Index (PSQI) consisting of 19 questions; Social support scale (OSS-3) consisting of 3 items, the Hospital Anxiety and Depression Scale (HADS) consisting of 14 items were applied. Data were coded and entered into Epi data manager version 4.6 and exported into SPSS software version 25 for analysis. Descriptive statistic was used to describe the results and logistic regression including bivariate and multivariate analysis was done to examine the association between dependent and independent variables, and $P< 0.05$ was considered as the level of significance for associations. A total of 264 sampled adult cancer patients on treatments were included in this study, with a response rate of 93.61%. About 26.5% of participants' age distribution between 40-49 years, and about 68.6% them were female and about 59.8% of all participants were married. Concerning education about 48.9% of participants attended primary and secondary school and 45% participants were unemployed. Overall, 53.79% of individuals had poor sleep quality. Low income ((AOR =5.36 CI95% (2.23, 12.90), fatigue (AOR=2.89CI 95(1.32, 6.33) pain (AOR 3.82CI95 % (1.84, 7.93), poor of social support (AOR =3.20CI95% (1.43, 6.74) anxiety (AOR =3.48CI95% (1.44, 8.38) and depression (AOR 2.87 CI 95 % (1.05-7.391) were all associated with poor sleep quality. This study revealed that a high prevalence of poor sleep quality, which was significantly associated with factors like low income, fatigue, pain, poor social support, anxiety, and depression among cancer patients on treatments. As recommendation early detection and managing factors that affecting sleep quality. A qualitative study may be needed for further dig out of further problem.

Keywords: sleep quality, cancer patients, Ethiopia

CHAPTER ONE

1. INTRODUCTION

1.1 Background

In 2018, 18.1 million cancer patients were reported globally, around half of them died due to cancer and by 2040, the figures are going to be doubled and it will increase in Low Middle-Income Countries (LMIC), as World Health Organization (WHO) figures shows, two-thirds of the world's cancer will happen at LMIC. The reason for 30% of premature death from Non-communicable Diseases (NCDs) among aged 30-69 was cancer(1, 2).

Cancer is also the leading reason behind cause of death before age of 70 years in ninety-one of 172 countries. In Eastern, Africa cancer was reported as the top incidence and cause of death in 2018(3).

In Ethiopia lack of locally registered cancer is a problem, but estimation in 2015 at the country showed that 21,563 male and 42,722 female cancer patients were reported (4).

Cancer symptoms and treatment side effects disturb sleep quality. Most cancer patients complained of poor sleep quality during chemotherapy, treatments (5, 6).

It is related to cancer disease and its symptoms, as result it decreases the quality of life (QOL) of patients. Prevalence of poor sleeping quality ranged between 24% and 95%. Sleeping is one of the essentially important reasons for cancer patients to achieve a good prognosis in treatment outcomes and to oppose the cancer disease. Factor affecting sleep quality might be preventable, but not focused and it has an effects on treatment outcomes in cancer patients (7, 8).

Chemotherapy, surgical procedure, and radiation therapy lead cancer patients to physical, psychosocially, and economic disturbance, as a result, the sleep quality of the patients is also disturbed (9).

Among cancer symptoms pain due to cancer diseases and treatments suffer the patient, however, research shows less than 27.8% of cancer patients taking analgesics to prevent pain, but the pain is the leading factor that affects sleep quality in cancer patients((10).

In cancer patients, poor sleep quality is associated with cancer symptoms, and treatment side effects like chemotherapy, radiation therapy, and surgery are reported. Pain and fatigue management and aerobic exercise have capable effects to increase sleep quality (11).

1.2 Statement of the problem

Cancer symptoms and its treatments are among factors that affecting sleep quality in cancer patients. Cancer-related sleep problem is commonly reported in cancer patients, but it's under-examined and often attention is given to other medical-related problems than sleep quality (12) and poor sleep quality was the significant challenge in cancer patients that was related with fatigue and symptom burden. Among patients who live with cancer about 79% of them complained of sleep problems while they are on treatment (5, 8).

These problems are frequently reported in late-stage cancer patients, changing between 12 and 96% through the studies (13).

Malignancies, presence of invasive disease; aggravated pain, side effects of cytotoxic treatment, and radiation therapy lead to poor sleep quality in cancer patients (14).

Different studies showed that there is an association between "sleep quality and fatigue" in patients with cancer on treatments (10, 15). Patients undergoing cancer treatment such as cytotoxic treatment and radiation therapy frequently reported poor sleep quality (16).

When the sleep quality of patients has affected their daily activity also affected 57.60% of patients who have developed poor quality and 32.6% of them developed daytime dysfunction due to lack of sleep overnight. The impact of poor sleep quality multi-dimensionally affects cancer patients (17).

Among poor sleep quality in cancer patients, 66%, is significantly associated with advanced age, low socioeconomic status, pain, fatigue, and cognitive complaints. High scores of PSQI present in Pain that are associated with night awakenings and sleep interruptions. The absence of sufficient control of sleep problems in cancer patients leads to negative consequences. Some adjustable factors (like pain, lethargy, cognitive complaints, unhappiness, and lack of hope) can be managed as soon as the first symptoms appear (18).

The impact of poor sleep quality in cancer patients causes a higher chance of cancer recurrence, low daily activity, psychological related indicators like lack of concentration, fatigue, pain, nervousness, unhappiness, which affects the ability of patients to confront the disease (19).

Nurses can independently improve the Environments for patients' sleep by comforting the patients, teaching back massage for cancer patients who are on treatments and unable to self-care, and teaching them self-care those who have support or attendants (15). Morning aerobic physical exercise may increase night-time sleep quality in persons with trouble falling to sleep, finding from this study helps as one evidence, but not supported by other studies; rather it offers for further investigation (20).

A study from different countries shows sleep problems in cancer common but currently, in Ethiopia, I couldn't find published research that reflects sleep quality among cancer patients. Therefore, this study will help to bridge the gap regarding poor sleep quality among cancer patients.

The purpose of this study was to determine factors that affecting the sleep quality and factors that associate with poor sleep quality in cancer patients on treatment at Tikur Anbessa Specialized Hospital (TASH) Oncology unit.

CHAPTER TWO

2. LITERATURE REVIEW

2.1 Prevalence of poor sleep quality

A study enrolled of 2371 participants from all type of cancer in the USA reported sleep trouble as a common problem in patients; around 34% of respondents were suffering from this problem, while they were on treatments follow-up (21)

In the recent study among 98 breast cancer patients from the USA 60% of them stated as their sleep quality was affected (22) and the magnitude of the sleep-related problem in cancer patients was between (45–80%) (23). In another study from here American, the Majority of African –American Breast cancer{AABC) about (57%) of them complained of clinically substantial sleep problem pre-diagnosis, and it didn't change at 10 months after start treatment, it was (53%) and after 2year post-diagnosis during treatment, it was increased to (61%), which shows even poor sleep quality increased after diagnosis and while on the treatment of cancer (24).

Research conducted in Norway shows poor sleep quality was one of the major symptoms and high prevalence in advanced cancer patients on opioid treatments(78%) of them developed poor sleep quality (25).

In the study conducted from New Zealand among patients on treatments of cancer about 30.5% of individuals reported sleep difficulty during their treatments(26).

Sleep quality index (PSQI) >5; which indicates poor sleep quality. Here poor sleep quality is described by prolonged time for falling to sleep and not staying after sleep and more of participants complained of daytime dysfunction due to poor sleep quality. The presence of invasive disease; aggravated pain, the side effect of cytotoxic treatment and radiation therapy are lead to poor sleep quality in cancer patients (14)

Study conducted in Indonesia showed that the majority of participant's sleep quality was poor (90%)(15) and another article from Switzerland about 42.8% of participants of cancer patients on chemotherapy were reported poor sleep quality (27). According to findings

from China among advanced lung cancer patients on follow up of treatments the prevalence of poor sleep quality was reported by 56.1% of participants (28).

Cross-Sectional Study from Turkey which enrolled 264 arbitrarily chosen cancer patients on treatments, who came to the Outpatient Oncology Unity 54.4% of participants reported poor sleep quality (9).

Studies from India (57.60%) of patients have developed poor sleep quality, a total of PSQI score (>5), which shows significant poor sleep quality, and (32.6%) of them developed daytime dysfunction due to lack of sleep overnight (17). Another research conducted in this country shows 61.67% of the cancer survivors were disturbed sleepers, and 45.00% of the cancer survivors were having low fatigue scores (29).

In Africa, there is a limitation of study concerning the title, cohort study from Tunisia, which conducted among lung cancer before and after treatment of chemotherapy states 15.6% and 45.3%, had poor sleep quality respectively. Daytime sleepiness, longtime sleep latency, and nighttime arousals are the major complaints (30).

Another article conducted in Tunisia among 50 study participants showed 66% of breast cancer patients reported poor sleep quality after surgery was done and from these participants, 30% of them suffer moderate to severe depression. PQSI scores have correlated with depression. Among poor sleepers, 10% of them use sleep medication. The daily activity impairment reported in 38% of participants in addition to these socio-demographic (age) and social (habitation), also affect sleep quality. Participants with a low financial status, low learning level, and/or low income (no occupation or intermittent day job) had a significantly poorer sleep quality (18).

2.2 Risk factors for poor sleep quality and its association

As a study from Ohio State University, severe pain, fatigue, and unhappiness are highly associated with having poor sleep quality (31). The incidence of chemotherapy-Induced Nausea (CIN) was 35.4% from 198 participants which mean one-third of participants developed poor sleep quality secondary to chemotherapy. Even with the use of premedication to prevent nausea, 31.3% of participants developed Chemotherapy Induced Vomiting (CIV); among those 82.3% of them also developed CIN. In addition, 11.1% and 13.6% of the patients complained of significant nausea and vomiting respectively before cytotoxic drug treatment. The presence of nausea and vomiting had highly significant associations with poor sleep quality (32). Secondary data analysis from Taxes indicated that patients were stated fatigue and sleep trouble, which was significantly associated with depression and anxiety (33).

Article from Greece among Lung cancer that came to an oncology unit for chemotherapy appointment 119 participants involved in the study and 58.2% were identified as poor sleepers. It was considered as a statistically significant relationship with psychological factors like anxiety and depression among patients on chemotherapy (34)

Cohort Study from China reported that among breast cancer preoperative and post-operative the quality of sleep is different between the two groups. Prevalence of poor sleep quality increases after breast surgery while the prevalence of good sleep quality decreases post-operative study (35) and another study from Hong Kong inferred that social limitations worsen sleep quality among Chinese American Breast cancer survivors (BCS) through growing perceived stress (36). Another article found from China among cervical cancer clients, poor sleep quality was 52.63 % of participants before cancer treatments, and 64.50 % after treatments. It shows cancer treatments increase sleep problems. The factors that related to poor sleep quality were: Psychological distress like depression and anxiety, and treatments like chemotherapy, radiation therapy, and surgery. Others like social support, age, low education level, and fatigue are raised as factor contribute poor sleep quality (37, 38).

Other studies involving 152 participants found that significant sleep disruption in women with breast cancer was associated with cancer-related symptom profiles before and during chemotherapy treatment (39). Census-based research conducted in Iran among 115 participants cancer survivors reported fatigue, pain, and varying poor sleep quality during they were on cancer treatments(10).

Another study involving 101 participants from Iran showed 80.2% of them reported poor sleep quality. The commonest causes related to poor sleep quality were invasive malignancy symptoms(40). Cancer patients on chemotherapy and radiation therapy often complain of decreased sleep quality. From 100 study participants in Iran, hematologic malignancy, around (89%) patients complained about different levels of decreased sleep quality, which had an association with a type of hematologic malignancy. Being female and single is related to poor sleep quality in this study (41).

The multicenter study included 406 acute leukemia participants from Iran 99.5% of them complained about a certain degree of fatigue, 95.5%, and 67.4% had reported certain levels of pain and sleep problems respectively. Fatigue complained in all participants and all fatigue, pain, and sleep problems occur together. According to this article fatigue and pain had shown as associated with poor sleep quality(42). Article from India shows sex has a significant association with sleep quality (43).

According to research conducted in Pakistan 65.9% of participants reported poor sleep quality. Socio-demographic like old age, low family income is raised as significantly correlated with poor sleep quality. In addition to these psychological illnesses and surgical procedures done are mentioned as strongly related to poor sleep quality. Smoking cigarettes and educational status were not reported as related to poor sleep in this study (44).

Research conducted in Egypt indicated that the prevalence of poor sleep quality among cancer patients on chemotherapy was 90%. Fatigue, gender, age, and sleep hygiene were associated with poor sleep quality (45).

The study enrolled 284 participants conducted at Moroccan cancer patients, 39.1% and 32.7% had reported moderate and severe sleep quality respectively. According to clinical

features female, young patients' urinary system, gastrointestinal, neck, and head malignancy were reported to severe poor sleep quality. Pain is significantly correlated with poor sleep quality (46).

2.3 Conceptual framework

This conceptual framework was developed by the principal investigator after reviewing different literatures, variables such as: Socio-demographic, substance use, Environmental factor, social support, clinical factors and psychosocial factors were independent variables affecting sleep quality among cancer patients on treatments (31-44).

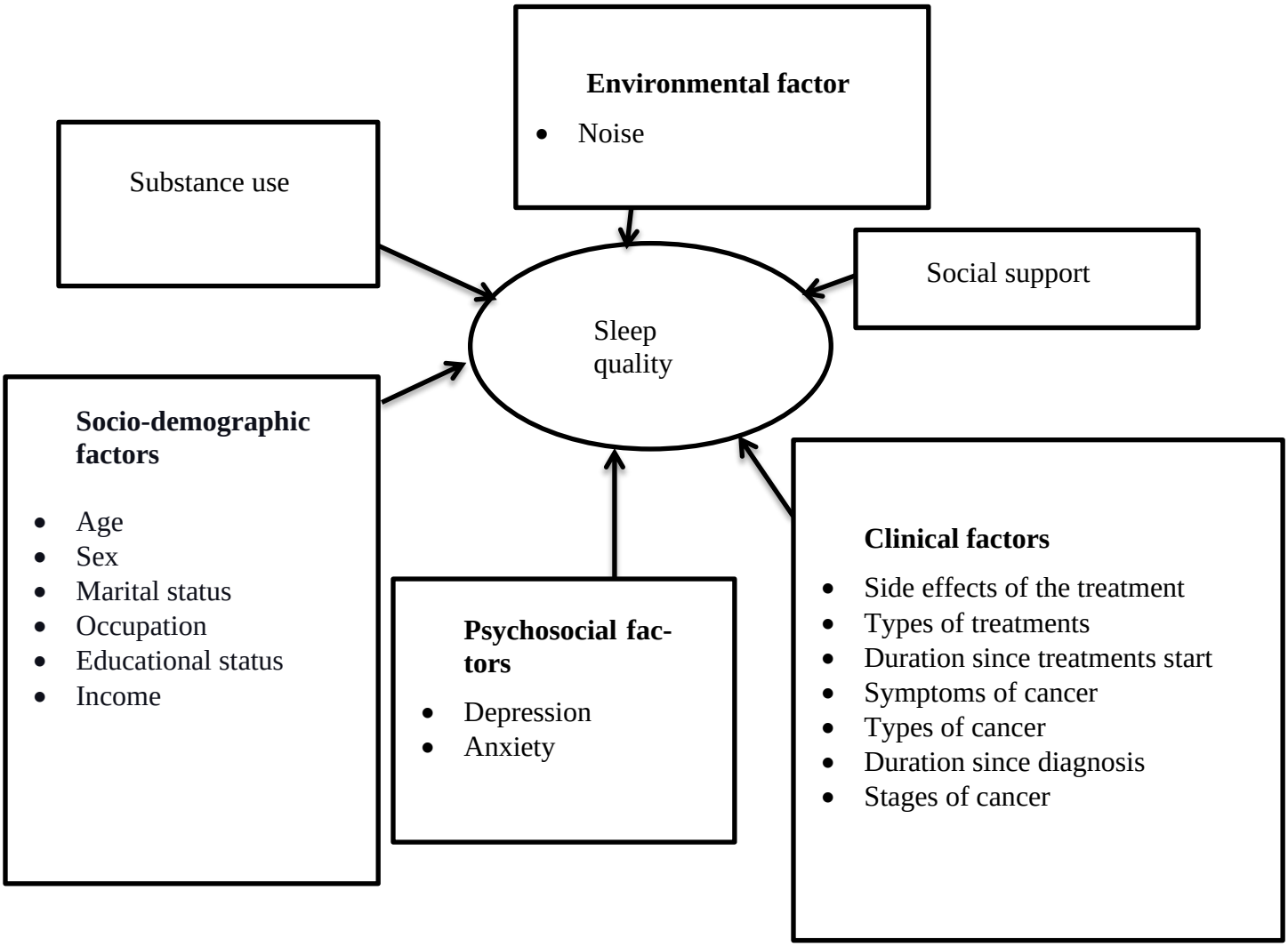

Figure 1: Conceptual framework of sleep quality and associated factors among adult cancer patients on treatments at Tikur Anbessa Specialized Hospital Oncology unit, Addis Ababa, Ethiopia, 2021

2:3. Justification

Most of the time, cancer patients complaining of a lack of sufficient sleep when they come for follow-up treatments. Even, they are sleeping on a chair during intravenous chemo-therapy treatments. On another side majority of them complaining about, irritability, weakness, dysfunction of daily activity, and depression. These are some of the signs related to poor sleep quality. In addition to this during reviewing the research, the magnitude of poor sleep quality was widely seen among cancer patients on treatments; that was why this title selected and initiated to study on sleep quality in adult cancer patients on treatments.

2:4. Significance of the study

Sleep quality in cancer patients is influenced by a variety of factors, especially during chemotherapy and the effects of poor sleep quality have a significant impact on treatment prognosis and patient quality of life. This research examined the factors that were associated with poor sleep quality in adult cancer patients who were undergoing cancer treatment.

As an evidence-based practice, the study's findings could motivate nurses to focus on certain factors and assist patients. Nurses play an important role in informing or raising awareness about how to maintain sleep quality in cancer patients, as well as symptom management; through managing the burden of cancer symptoms, nurses may help cancer patients sleep better.

For example, in collaboration with the healthcare staff, clients will be taught the value of sleep and other interventions such as cognitive behavioral therapy will be incorporated into their treatment. The findings of this study will serve as a guide for policymakers such as TASH, the Ministry of Health, and other researchers. Cancer patients will be able to access more effective, stable, and personalized therapies for cancer-related sleep-circadian disturbances as a result of this finding.

CHAPTER THREE

3. OBJECTIVES

3.1 General Objective

- To assess sleep quality and associated factors in adult cancer patients on treatment at Oncology unit of TASH, Addis Ababa Ethiopia, 2021.

3.2 Specific objectives

- To determine the prevalence of sleep quality in adult cancer patients on treatment at TASH, Oncology unit, Addis Ababa Ethiopia, 2021.

- To identify factors associated with sleep quality in adult cancer patients on treatment at TASH, Oncology unit Addis Ababa Ethiopia, 2021.

CHAPTER FOUR

4. METHODS AND MATERIALS

4.1 Study area and period

The study was conducted at Tikur Anbessa Specialized Hospital Oncology unit, in Addis Ababa, the capital city of Ethiopia. There are 13 public hospitals among them Tikur Anbessa Specialized Hospital (TASH) provides multi-dimensional aspects of cancer treatment services for the entire country. TASH of the oncology unit delivers a teaching and provides treatment service for cancer patients. This unit encompasses 8 senior oncologists and 15 oncology nurses in the adult unit. The units have 29 beds including an emergency in an adult cancer center. The study was conducted from March 1to April 1/2021

4.2 Study design

A cross-sectional research design focused on institutions was conducted.

4.3 Populations

4.3.1 Source population

All adult cancer patients who were on treatment follow-up at TASH's oncology unit

4.3.2 Study population

The study population included all adult cancer patients the age of ≥18 who were receiving chemotherapy treatments follow-up at TASH's oncology unit during the study period.

4.4. Eligibility criteria

4.4.1. Inclusion criteria

Cancer patients over the age of 18 who were receiving chemotherapy treatments and available during the data collection period

4.4.2. Exclusion criteria

Patients previously diagnosed with mental health problems and had hearing impairments

4.5 sample size determination

Using the following assumptions and a simple population proportion formula, the sample size was estimated. The sample population proportion formula was used to measure the sample size. As margin of error 5%, a confidence level of 95%, and a Prevalence of 50% was taken because no similar study was found in the country.

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

$$n=\frac{0.5\,(1-0.5)\,(\,1.96\,)2}{(0.05)2}=384$$

Since the population was <10,000, a correction formula was applied.

Where N denotes the total number of cancer patients treated at TASH's oncology unit per month, which was 764.

Source population(N)=764

nf=final sample size

$$nf = {}^{n}/_{1+n/N}$$

$${}^{384}/_{1+\frac{484}{764}}=256$$

nf= 256

When 10% non-respondent rate added to final sample size that means (256*10%=26 so, the sample size was 256+26=282

4.6 Sampling Procedure and technique

4.6.1 Sampling Procedure

Tikur Anbessa Specialized hospital is the largest oncology service center for cancer patients owned by Addis Ababa University and purposely selected for the study area.

4.6.2 Sampling techniques

The study participants were approached using a systematic random sampling process. During average months, 764 cancer patients were receiving treatment at the hospital. The sampling period was calculated by dividing the total study population on treatment follow-up in one month (764) by dividing to total sample size 282.

K=N/n, 764/282= approximately 2

Then first respondent was chosen at random using a lottery method, and the next respondent was chosen by data collectors at the regular every two intervals.

The first respondent was chosen at random using a lottery system, and the next respondent was chosen by data collectors at the regular two intervals.

4.7 study variable

4.7.1 Dependent variable

- Sleep quality

4.7.2 Independent variables

- Socio-demographic
- Clinical factors
  - ✓ Side effects of treatments
  - ✓ Types of treatments
  - ✓ Duration since treatments start
  - ✓ Symptoms of cancer
  - ✓ Types of cancer
  - ✓ Duration since diagnosis

- ✓ Stages of cancer
- ➢ Substance use
- ➢ Psychosocial factors
- ✓ Depression and anxiety
- ➢ Environmental factors (Sound disturbance)

4.8 Operational definitions

- ❖ **Good sleep quality**: The PSQI questionnaire contained 7 components with a possible score of (0–3) each and making score from 0 to 21. A PSQI total score of ≤5 is telling of good quality of sleep (47).
- ❖ **Poor sleep quality:** A PSQI score of greater than five (>5) is telling of poor sleep quality (47).
- ❖ **Sleep efficiency:** the ratio of total sleep time to time in bed (48).
- ❖ **Sleep latency**: the start of the first sleep period (49).
- ❖ **Cancer treatments:** Treatments that are given for cancer patients like chemotherapy, radiation therapy, surgery and other treatments given or done for patients at hospitals are an example of treatments for cancer patients.
- ❖ **Anxiety and Depression:** based on the Hospital Anxiety and Depression Scale (HADS). Total score of 0-7 = Normal 8-10 = Borderline abnormal (borderline case) 11-21 =Anxiety and Depression (50).
- ❖ **Pain**: According Pain assessment numeric scale, No pain (0), Mild (1–4), Moderate pain (5–6), and Severe pain (7–10) (51).
- ❖ **Fatigue:** "Cancer Related Fatigue -specific self-report short form" numeric scale Scoring Respondents rate each item on a (0–10) numeric scale, with 0 meaning "no fatigue" and 10 meaning "fatigue as bad or worst fatigue" (52).
- ❖ **Social Support:** Social support is defined based on the score obtained from measurements, which consists of 3 items which range from 3-14. A score of 3-8 is “poor support”, 9-11 is “moderate support”, and 12-14 is strong support (53).

4.9 Data collection tools and procedures

The total tools are consisting of six parts:

Part one: Patient's socio-demographics questionnaires consisting of 8 items and 1item concerning of Environmental factor(noise)

Part two: Clinical factors or disease-related questionnaires consisting of 9 items.

Part three: Social support scale (OSS-3) consisting of 3 items and arrays from

3-14.score of 3-8 is "poor support", 9-11 is "moderate support", and 12-14 is strong support (53)

Part four: sleep quality assessment tool (PSQI). The "Pittsburgh Sleep Quality Index" questionnaire is used to assess sleep quality and it was reliable with Cronbach's alpha **0.85**. The questionnaire contained 19 self-respond and grouped into 7 components ('subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbances, use of sleeping medication, and daytime dysfunction) with a possible score of (0–3) and each making score 0 to 21. A PSQI total score of ≤5 is indicative of the good quality of sleep and a score of >5is suggestive of poor quality of sleep. The questionnaire is evaluating the quality of sleep over the one month before data collection (47).

Part five: Anxiety and Depression: questionnaires. Hospital Anxiety and Depression Scale (HADS) consisting14 items and adopted from the Hospital Anxiety and Depression Scale (HADS) applied to Ethiopian cancer patients at Gondar 2020. Seven of the items indicate anxiety and the remaining seven items indicate depression. Under each question there is a possible score of (0–3) total score of 0-7 = Normal 8-10 = Borderline abnormal (borderline case) 11-21 = Abnormal (case) (50).

Part six: Substance use: Questionnaire on behavior/Substance use which was adopted from Ethiopia Demographic consisting of 9 items and Health Survey (2016 EDHS) (54).

Before data collection, for each participant an enough information was given to create understand the study's goals and oral informed consent was taken. All of them were told not to participate in the study if they were not willing, and who to contact if they had any questions.

The data was collected by using face-to-face structured interview questionnaires from March 1 to April 1, 2021.

4.10 Quality control

Both supervisor and data collectors received half-day training before data collection. Three BSc Nurses collected data, supervisor and principal investigator supervising the data collectors.

Data quality was ensured by correctly designing questionnaires, and daily questionnaires were reviewed for completeness and necessary feedback was provided to data collectors. The data collection tool was translated into Amharic from the English version.

The questionnaires were pre-tested on 5% of the total sample size participants at Jimma Medical Center (Specialized Hospital) one week before data collection. The pre-testing aimed to ensure that the respondents understood the questions and to check the language, meaning, and order of the questions in a reasonable manner for the respondents, with changes made as needed.

4.11. Data processing and Analysis

After data collection, for each questionnaire unique code was given by the principal investigators; it was checked for completeness. The data entry and cleaning were done by using Epi-data manager version 4.6 and SPSS 25 version was used for data analysis. The strength of an association between dependent and independent variables and its significance is computed by using an odds ratio with a 95% confidence interval. Binary and multiple Logistic regression techniques were employed. All variables that value of $P < 0.25$ by the bivariate analysis were involved in the multivariate analysis. Variables included in the logistic regression model, statistically significant when $p < 0.05$ in multiple logistic regression.

4.12. Ethical Considerations

Before data collection, approval letter was obtained from the Ethical Committee of Addis Ababa University's School of Nursing and Midwifery. The research respondent's identity

was not disclosed to third parties, and the information given to this study was kept confidential.

4.13. Dissemination of Results

The results of this study will be presented to the Addis Ababa University College of Health Sciences' school of nursing and midwifery, nursing service directors, and the federal ministry of health. Efforts will also be made to publish it in a reputable journal.

CHAPTER FIVE

5. RESULT

5.1 Socio-demographic Characteristics of respondent

A total of 264 sampled adult cancer patients on treatments were included in this study, which make response rate of 93.61%. About 70 (26.5 %) of the participants were 40-49 years old; about 68.6% of them were female, and about 181 (59.8%) participants were married. Concerning educational status about 129 (48.9%) attending primary and secondary school, and about 119(45.1%) of participants were unemployed. The average monthly household income of 97(36.7%) of participants' incomes were ≥4000 Ethiopian birr (ETB), and the residences of 197(74.6%) of participants were in towns **(**

Table 1)

Table 1: Socio-demographic characteristics in adult cancer patients on treatment at Tikur Anbessa Specialized Hospital Oncology Unit, Addis Ababa Ethiopia, 2021

Variables	Categories	Frequency	Percent
Age	18-29	32	12.1
	30-39	68	25.8
	40-49	70	26.5
	50-59	53	20.1
	>=60	41	15.5
Sex	Male	83	31.4
	Female	181	68.6
Marital status	Single	44	16.7
	Married	158	59.8
	Divorced	22	8.3
	Widowed	40	15.2
Educational Level	No formal education	73	27.6
	Primary and secondary	129	48.9
	Certificate and above	62	23.5
Occupation	Non-gov't Employed	11	4.2
	Gov't Employed	55	20.8
	Private	79	29.9
	Jobless	119	45.1
Average income	≤1000	72	27.3
	1001-3999	95	36.0
	≥4000	97	36.7
Residence	Rural	97	25.4

	Urban	197	74.6

5.2 Clinical related characteristics of study participants

From all type of cancers about 117(44.3%) of them were breast cancer, and 103(39.0%) of participants were in stage IV. A pain symptom was reported by 143(54.2%) of the participants.

The majority of the participants had been diagnosed and began therapy found in less than a year 204(77.3%) and212(80.3%), respectively (**Table 2**)

Table 2: Clinical related characteristics in adult cancer patients on treatment at Tikur Anbessa Specialized Hospital Oncology Unit, Addis Ababa Ethiopia, 2021

Variables	Categories	Frequency	Percent
Type of cancer	Breast	117	44.3
	Gynecologic	26	9.8
	GI-related	43	16.3
	Head and Neck	23	8.7
	Lung cancer	15	5.7
	Others*	40	15.2
Stage of cancer	Stage 1	19	7.2
	Stage 2	50	18.9
	Stage 3	55	20.8
	Stage 4	103	39.0
	Unknown 5	37	14.0
Lump/swelling	Yes	138	52.3
	No	126	47.7
Cough	Yes	17	6.4
	No	247	93.6
Bleeding	Yes	36	13.6
	No	228	86.4
GI-related symptoms	Yes	32	12.1
	No	232	87.9
Pain	Yes	143	54.2
	No	121	45.8
Urination difficulty	Yes	7	2.7
	No	257	97.3
Other's symptom**	Yes	30	11.4
	No	234	88.6
Duration of Diagnosis	<1year	204	77.3
	1-5year	50	18.9
	≥5years	10	3.8
Duration of start treatments	<1year	212	80.3
	1-5years	43	16.3
	≥5yaers	9	3.4

*Sarcoma, testicle cancer, pancreatic, gull bladder, gastric, lymphoma, GEJ, bladder, thyroid, parathyroid, Kaposi sarcoma, prostate, penile, and melanoma

**wound, shortness of breath, sweating, urine discolor, wt. loss, fever, and diarrhea

5.3 Types of treatments,treatments side effects and enviromental factor

From all type of treatments only chemotherapy was used by 125(47.3%) of the participants and about 177(67%) of repondants were experienced fatigue(**Table 3**).

Table 3: Type of treatments and side effects of adult cancer patients on treatment at Tikur Anbessa Specialized Hospital Oncology Unit, Addis Ababa Ethiopia, 2021

Variables	Categories	Frequency	Percent
Treatments	Chemotherapy	125	47.3
	Surgery+ chemotherapy	116	43.9
	Chemotherapy+ radiation therapy	21	8.0
	Surge+ chemotherapy+ radiation	2	.8
Types of side effects			
Nausea and Vomiting	Yes	166	62.9
	No	98	37.1
Loss of appetite	Yes	164	62.1
	No	100	37.9
Hair Loss	Yes	156	59.1
	No	108	40.9
Fatigue	Yes	177	67.0
	No	87	33.0
Skin and nail changes	Yes	36	13.6
	No	228	86.4
Constipation or diarrhea	Yes	14	5.3
	No	250	94.7
Sore mouth	Yes	2	.8
	No	262	99.2
Environmental factor			
Noise	Yes	14	5.3
	No	250	94.7

According to the numeric measurements scale about 62(23.5%) of participants' experienced extreme pain (**Figure 2**).

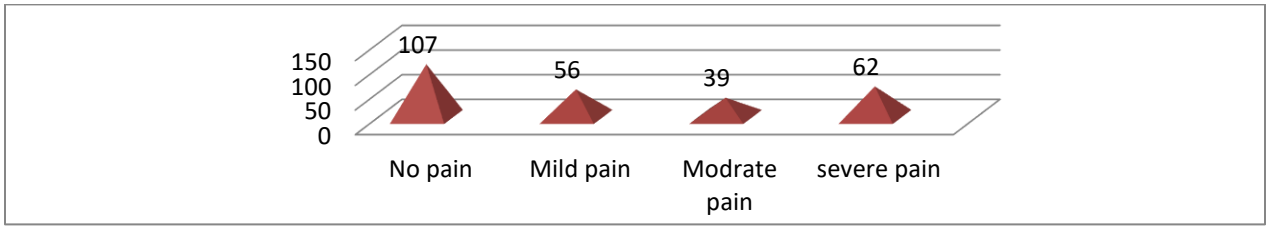

Figure 2: Average level of pain on the scale 0-10 Sleep quality and associated factors among adult cancer patients on treatments at Tikur Anbessa Specialized Hospital Oncology unit, Addis Ababa, Ethiopia, 2021

According to the numeric measurements scale and (78)29% of participants experienced severe fatigue (**Figure 3**).

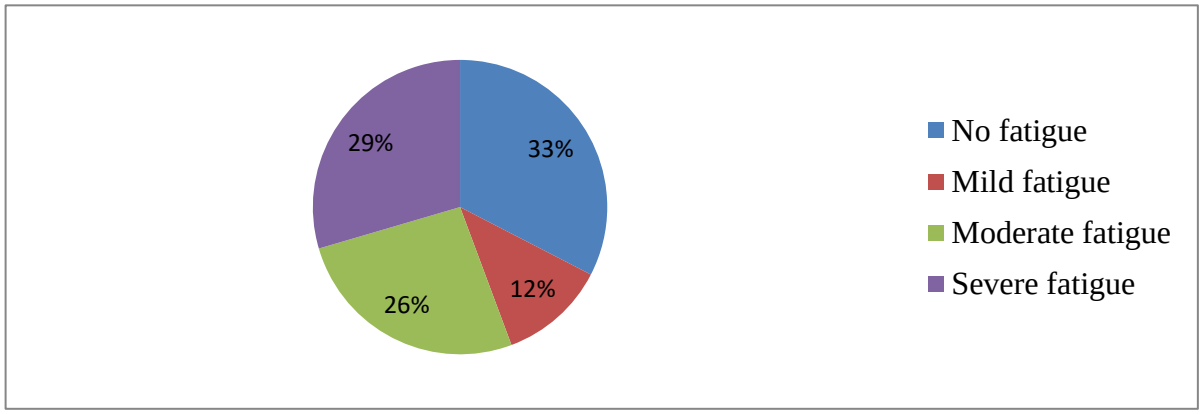

Figure 3: average level of fatigue on a scale of 0-10 Sleep quality and associated factors among adult cancer patients on treatments at Tikur Anbessa Specialized Hospital Oncology unit, Addis Ababa, Ethiopia, 2021

5:4 Psychosocial, social support and substance use of study participants

About 39(14.8%) of all respondents were affected by anxiety while; 37(14.0%) of participants were affected by depression, and all about 77(29.2%) of those who took part in the study stated they didn't have enough social support. Currently, about 206(78.0%) of participants drank coffee or tea, and none of the participants chew khat, smoke cigarettes, and use any other substance currently (**Table 4**).

Table 4: Psychosocial, social support and substance use factors of respondents of adult cancer patients on treatment at Tikur Anbessa Specialized Hospital Oncology Unit, Addis Ababa Ethiopia, 2021

Variables	Response	Frequency	Percent
Psychosocial factors			
Anxiety	Normal	184	69.7
	Borderline	41	15.5
	Anxiety	39	14.8
Depression	Normal	196	74.2
	Border Line	31	11.7
	Depression	37	14.0
Social support	Poor	77	29.2
	Moderate	22	8.3
	Strong	165	62.5
Substance use			
Currently drink coffee/tea	Yes	206	78.0
	No	58	22.0
Amounts of cups drunk	1 to 2	164	62.1
	3 to 4	37	14.0
	≥5	5	1.9
Ever had alcohol	Yes	48	18.2
	No	216	81.8
Drink alcohol last 30 days	Yes	4	1.5
	No	44	16.7
Ever chewed Chat	Yes	27	10.2
	No	237	89.8
Ever smoked cigarette	Yes	10	3.8
	No	254	96.2

5.5 Sleep Quality of study participants

Around 147 (55.7%) of respondents said they had very good subjective sleep quality;about 94(35.6 %) of participants' sleep efficiency was <65 % and their sleep duration was >7 hours, while about 241(91.3 %) of the respondents said they didn't use sleep medication. In total, 142(53.79 %) of respondents suffered from poor sleep quality(**Table 5**).

Table 5:sleep quality of adult cancer patients on treatment at Tikur Anbessa Specialized Hospital Oncology Unit, Addis Ababa Ethiopia, 2021

Components		**Frequency**	**Percent**
Subjective Sleep Quality	Very good	147	55.7
	fairly good	68	25.8
	fairly bad	21	8.0
	Very bad	28	10.6
Sleep latency	0	100	37.9
	1	61	23.1
	2	42	15.9
	3	61	23.1
Sleep Duration	>7 hours	137	51.9
	6-7 hours	46	17.4
	5-6 hours	37	14.0
	<5 hours	44	16.7
Sleep efficiency	>85%	89	33.7
	75-84%	48	18.2
	65-74%	33	12.5
	<65%	94	35.6
Sleep Disturbance	0	77	29.2
	1	74	28.0
	2	90	34.1
Use sleep Medication	Not during past month	241	91.3
	Less than once a week	13	4.9
	Once or twice a week	4	1.5
	Three or more times a week	6	2.3
Daytime dysfunction	0	62	23.5
	1	91	34.5
	2	85	32.2
	3	26	9.8
Sleep quality	Good sleep quality	122	46.2
	Poor sleep quality	142	53.8

5.6 Factors associated with sleep quality of study participants

Bivariate and multivariate logistic regression was used to find variables that were associated with sleep quality. According to bivariate logistic regression analysis, variables at p-values less than 0.25, such as sex, educational status, income, type of cancer, duration of diagnosis, fatigue, nausea, and vomiting, loss of appetite, pain, bleeding, social support, anxiety, and depression were candidates for multivariate analysis.

As a result, six variables (income, fatigue, pain, poor social support, anxiety, and depression) have a $p<0.05$ value in the multivariate logistic regression analysis.

Participants with income ≤1000 were 5.36 times more likely to have poor sleep quality than those ≥4000 (AOR =5.36 CI95% (2.23,12.90) p=0.000, and those with fatigue were 2.89 times more likely to have poor sleep quality than those without fatigue, (AOR=2.89CI 95(1.32, 6.33) p=.008; those who had pain were 3.82 times higher likelihood to experience poor sleep quality than those who did not have pain (AOR 3.82CI95 %(1.84, 7.93) p=.000; respondents with poor social support sleep 3.20 times worse than those with strong social support (AOR =3.20CI95% (1.43, 6.74) P=0.004; respondents those with anxiety slept poorly 3.48 times more than those without anxiety ,(AOR =3.48CI95%(1.44,8.38)p=.005and those with depression slept poorly 2.87 times more than those without no depression(AOR 2.87 CI 95%(1.05-7.391)p=.040 (**Table 6**)

Table 6: Factor association with sleep quality and related factors in adult patients with cancer patients on treatment at Tikur Anbessa Specialized Hospital Oncology Unit, Addis Ababa Ethiopia, 2021

Characteristics	Sleep Quality		COR 95%, CI	AOR 95%, CI
	Poor	Good		
Income				
≤1000	51	21	4.30(2.23,8.29)	5.36(2.23,12.90) *
1001-3999	56	39	2.54(1.42,4.55)	2.43(1.11-5.29) *
≥4000	35	62	1.00	1.00
Fatigue				
Yes	121	56	6.79(3.79,12.18)	2.89(1.32,6.33) *
No	21	66	100	1.00
Pain				
Yes	107	36	7.30(4.24,12.60)	3.82(1.84,7.93) *
No	35	86	1.00	1.00
Social support				
Poor	58	19	3.94(2.16,7.20)	3.20(1.43,6.74) *
Moderate	12	10	1.55(.63,3.79)	1.04(. 33,3.28)
Strong	72	93	1.00	1.00
Anxiety				
Yes	69	11	9.54(4.73,19.24)	3.48(1.44,8.38) *
No	73	111	1.00	1.00
Depression				
Yes	60	8	10.43(4.73,22.98)	2.87(1.05,7.39) *
No	82	114	1.00	1.00

*P. value<0.05; AOR=Adjusted odd ratio, COR=Crude odd ratio and CI= Confidence Interval

CHAPTER SIX

6. DISCUSSION

The quality of sleep and associated factors in adult cancer patients undergoing treatment were investigated in this study. It showed that the majority of participants had poor sleep quality. According to this result, 53.79% of respondents had reported poor sleep quality.

But study enrolled of 2371 participants from all types of cancer in the USA reported about 34% sleep trouble as a common problem in cancer patients; while they were on treatment follow-up (21).Which showed lower than the current study result, the disparity might be the fact that the study conducted in USA showed more participants found in high in-come status, higher educational status, and about 4% also used sleep aid medication, but in the current study, only about 1.5% of participants used once or twice a week sleep aid medication.

The same to that study conducted in New Zealand among patients on treatments of cancer about 30.5% of individuals reported sleep difficulty during their treatments(26). Which also lower than current study results, in consistence might be due to the previous study participants educational status, even their income and life status of participants might have different from the current study.

However, in a recent study conducted of 98 breast cancer patients in the United States, 60% of them were reported poor sleep quality and other study done here in North America among African Americans breast cancer reported 61%, deprived sleep quality when they were treatments (21)(23).

Study done in Greece, 58.2 % of breast cancer reported poor sleep quality during undergoing chemotherapy treatments and the results were from specific breast cancer(34). The disparity might be being a woman is related with biological and burden of family responsibility stress might be high among female.

An article conducted in Switzerland 42.85% (27), also showed lower than the current study, the difference might be about (31%) of participants were in stage two, while about

39% of the current finding participants were in stage four; when the stage of cancer increasing pain due to metastasis increasing and as the results sleep quality decreased.

Study conducted in China 56.1 % (28), in Turkey 54.4 %,(9), two study found in India 57.6%,and 61.67 %, (17),(29) were nearly comparable with current finding. The similarity might be participants in China, India and the current were found similarly in stage four (IV) metastatic disease. Both Study in Turkey and the current study were used a similar study design that might be had the effect on results.

Research conducted in Tunisia found that 66% of breast cancer patients indicated poor sleep quality after surgery(18). This disparity might be attributed to the fact that the article was unique to breast cancer and all participants had undergone surgical treatments in addition to chemotherapy, while current study would include patients undergoing all cancer types & all types of treatments.

Using multivariate logistic regression analysis, the current research revealed that six variables, including $p<0.05$:(income $\leq$1000, fatigue, pain, poor social support, anxiety, and depression) were associated with poor sleep quality.

As listed above (income $\leq$1000) was significantly associated with poor sleep quality. In previous study done in Tunisian (18),and in a Pakistanistan (44), found that low financial status was significantly associated with poor sleep quality, similar to the current study.

The similarity might be more cancer patients terminated their job due to disease characteristics; in the current study all about 45.1% of respondents were jobless; about 65.9% of participants of research conducted in Pakistan were also jobless and about 54% of participants of research conducted in Tunisia no had a job.

Fatigue was associated with poor sleep quality, according to research conducted in the USA, China, Egypt, and Iran((33),(38),(10, 43) (39); which were consistent with current findings, the similarity might be the fact that fatigue due to cancer treatment is due to hormonal disturbance, reduction of red blood cells(hemoglobin), and shortage of oxygen due to treatments side effects(37).

In previous study in Ohio and Morocco having pian was significantly associated with poor sleep quality((31),(46),which were similar with current study. The similarity might

be due to cancer pain is common in patients with cancer, especially during cancer metastasis in all cancer patients.

Poor social support were also significantly related to poor sleep quality in previous study of(36),(38)); which has also similarity with the current finding. The similarity might be due to the patients living with the disease for long periods of time and disease characteristics they may isolated themselves from others and others may also separate them from social relation due to disease burden.

Study enrolled of 2371 participants from all types of cancer in the USA reported Anxiety and depression had significantly associated with sleep quality, according to a different previous study ((31), (33), (38),(45)) which were also similar with this finding. The fact that anxiety and depression were similar in cancer patients everywhere; the reason might be, due to patients' fear of death, poor prognosis of treatment and due to complications of cancer itself.

CHAPTER SEVEN

7. STRENGTHS AND LIMITATION OF THE STUDY

7.1 Strengths

Different validated tool was used for assessment variables related to the sleep quality (depression, anxiety, and social support). Substance use was added to the study as new variables

7.2 Limitations

Being the study cross-sectional based design, even if PSQI tool is validated and can measure general sleep situations while extents focus only on particular variables which might not measurements all pattern of sleep-related problem. Why the current study didn't qualitative study was due to lack of enough time, the current situation covid 19 also another barrier to deeply interview the patients. Another issue limitation was the lack of literature locally and the study that existed were specific to a single type of cancer.

CHAPTER EIGHT

8. CONCLUSIONS AND RECOMMENDATIONS

8.1. Conclusion

This study revealed that a high prevalence of poor sleep quality (53.79%), which was significantly associated with modifiable risk factors like: low income, fatigue, pain, poor social support, anxiety, and depression were among cancer patients on treatments.

8.2. Recommendations

For ministry of Health

Creating the opportunity for a cancer patient to be supported. Such as creating opportunities for patients to get drugs at a low price and creating holistic care programs for cancer patients beyond chemotherapy and other treatments. Symptomatic or palliative management program is very important to treat cancer-related symptoms. An early screening program for psychosocial problems and sleep problems should be involved in a program for cancer patients.

For nursing and other health professionals

In clinical settings health profession should give attention and regularly screening for poor sleep quality and managing cancer symptoms. Early detection of depression and anxiety, as well as providing patients with sufficient information, can help to reduce anxiety and depression.

For researchers

A qualitative study may be needed for further dig out of other variables.

For health institution:

Encouraging health professions to give attention to problems that affect the sleep quality of patients. An early screening program for psychosocial problems and sleep problems should be involved in a program for cancer patients.

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Annex A: Information sheet

Objective: To assess the prevalence of poor sleep quality and associated factors in adult cancer patients on treatment at Oncology Unit of TASH Ethiopia, 2021

Procedures to be carried out: answering this questionnaire that takes 20 minutes.

Risks associated with the study: There are no risks associated with the study.

Benefits of the study: No direct benefit as a result of participating in this study.

Confidentiality of your information: Any secret will not transfer to third parties.

The right to refuse or withdraw: Fully guaranteed.

I would also like to inform you that this study will be approved and ethically cleared by Addis Ababa University, College of Health Sciences, School of Nursing and Midwifery, Department of Nursing Research Committee.

The address is Addis Ababa University, College of Health Sciences, School of Nursing and Midwifery, Department of Nursing.

Principal investigator

- Name: **Eshetu Abebe**
- Main Advisors: **Mr. Berhanu Wordofa, (BSc, MSc, Assistant professor)**
- Coad visors: **Mr. Abdisa Boka (BSc, MSc, Assistant professor)**

If you have any questions regarding this study, please feel free to contact the principal investigator. Tel: 0917114721 Email: esheabee@gmail.com

Annex B: Consent form

Hello, how are you, my name is **Eshetu Abebe.** I am going to be graduating this year from oncology nursing from Addis Ababa University. To assess sleep quality and associated factors among adult cancer patients on treatment at Tikur Anbessa Specialized Hospital, Oncology Unit, for the partial fulfillment of my Master's degree, in Oncology Nursing; the aim of this study is an assessment of the quality of sleep and associated factors among adult cancer patients on treatment. The results of the study will be used as baseline information to design appropriate interventional strategies to provide comprehensive care for cancer patients.

The information you provide is confidential and is used only for the purpose of this study. Your cooperation and participation until the answering of the question is very necessary for the successful completion of the assessment. You will neither get harmed nor will you get benefit as a result of participating in this study. I, therefore, ask for your genuine willingness. However, you have the right to decline if you don't volunteer to participate at any time.

If you have any questions and confusion regarding the questions, you have the right to ask me at any point or you can contact me at the following address.

Email address: esheabee@gmail.com and phone number +251917114721

Are you willing to participate? Yes ☐ No ☐

Data collector: Name_____ Signature: _____ Date: _____

Annex C. Questionnaires

Part one: - Background information/socio-demographics

Now I would like to ask you about your socio-demographic and economic characteristics

No	Questions	Circles / fills the space___
1	How old are you?	_____years old
2	Sex	Male……1 Female……2
3	What is your marital status?	Single……1 Divorced…...3 Married…..2 Widowed…...4
4	What is your education level?	No formal education……...…...1 Primary and secondary ……2 Certificate and above…….....3
5	What is your occupation?	Gov't Employed……. …...……1 Non-gov't Employed……...2 Private……..……...….3 Jobless……...……4
6	How much is your average monthly household income?	……Ethiopian birr/month
7	Where is your Residence?	Rural…..1 Urban ……2
8	Is there a noise disturbing your bed-room?	Yes …...1 No……..2

Part two: Disease or clinical factors related questionnaires:

9	Type of cancer (Check from card) ……..		
10	Cancer stage (from card)	I…….1 II……2 III...…3	IV...……4 unknown.5
11	Type of treatment (from card)		_____
12	Treatment-related side effects: after you started treat-ments, what types of side effects where you faced?		_____
13	What is the duration since you have been diagnosed?		_____
14	What is the duration since you have been started treat-ments?		_____
15	Cancer symptoms: what were the symptoms you have been seen on to you?		_____

16	Circle the number that shows the level of your usual pain. No pain (0), Mild (1–4), Moderate (5–6), and Severe pain (7–10)											
		0	1	2	3	4	5	6	7	8	9	10
17	In, the past 7 days, what has been your average level of fatigue on a scale of 0-10, with zero being no fatigue and 10 being the worst.											
		0	1	2	3	4	5	6	7	8	9	10

Part three Perceived social support (Oslo scale) Score

18. How many people are so close to you that you can count on them if you have serious personal problems?	
None	1
1 or 2	2
3 to 5	3
6 or more	4
19. How much concern do people show in what you are doing?	
A lot of concern and interest	5
Some concern and interest	4
Uncertain	3
Little concern and interest	2
No concern and interest	1
20. How easy is it to get practical help from neighbors if you should need it?	
Very easy	5
Easy	4
Possible	3
Difficult	2
Very difficult	1

Part four: sleep quality assessment tool /Pittsburgh sleep quality index (PSQI)

Instruction: The following questions relate to your usual sleep habits during the past months only. Your answers should indicate the most accurate replay for the majority of days and nights in the past month. Please answer all questions.

During the past month,

21. What time have you usually gone to bed at night? _____hrs.
22. How long (in minutes) has it usually taken to fall asleep each night _____minutes
23. What time have you usually gate up in the morning? Getting up time ____hrs.

24. A How many hours were you in bed? _____ Hrs.

B. How many hours of actual sleep did you get at night? _____ hrs

For each of the remaining questions, check one best response. Please answer all questions

25. During the past month, how often have you had trouble sleeping because you:	Not during the past month (0)	Less than once a week (1)	Once or twice a week (2)	Three/ more times a week (3)
A. Cannot get to sleep Within 30 minutes?				
B. wake up in the middle of the night or early morning?				
C. Have to get up to use the bathroom?				
D. Cannot breathe comfortably?				
E. Cough or snore loudly?				
F. Feel too cold				
G. Feel too hot				
H. Have bad dreams				
I. Have Had pain				
J. Other reason(s), please describe, including how often you have had trouble sleeping because of this reason (s):_____				
26. During the past month, how would you rate your sleep quality overall?	Very good (0)	fairly good (1)	fairly bad (2)	Very bad (3)
27. During the past month, how often have you taken medicine to help you sleep (prescribed or "over the counter") use instruction 5				

28. During the past month, how often have you had trouble staying awake while driving, eating meals, or engaging in the social activity? (Use instruction NO 5)				
29. During the past month, how much a problem has it been for you to keep up enough enthusiasm to get things done? Choose	No problem at all (0)	Only very slight problem (1)	Somewhat of the prob-lem (2)	The very big prob-lem (3)

Part five: Hospital Anxiety and Depression Scale (HADS) questions:

Instruction: Tick the box beside the reply that is closest to how you have been feeling in the past week. Don't take too long over your replies: your immediate is best.

D	A		D	A	
30		I feel tense or 'wound up':	31		I feel as if I am slowed down:
	3	Most of the time	3		Nearly all the time
	2	A lot of the time	2		Very often
	1	From time to time, occasionally	1		Sometimes
	0	Not at all	0		Not at all
32		I still enjoy the things I used to en-joy:	33		I get a sort of frightened feeling like 'butterflies in the stomach:
0		Definitely as much		0	Not at all
1		Not quite so much		1	Occasionally
2		Only a little		2	Quite Often
3		Hardly at all		3	Very Often
34		I get a sort of frightened feeling as if something awful is about to hap-pen:	35		I have lost interest in my appearance:

	3	Very definitely and quite badly	3		Definitely
	2	Yes, but not too badly	2		I don't take as much care as I should
	1	A little, but it doesn't worry me	1		I may not take quite as much care
	0	Not at all	0		I take just as much care as ever
36		I can laugh and see the funny side of things:	37		I feel restless as I have to be on the move:
0		As much as I always could		3	Very much indeed
1		Not quite so much now		2	Quite a lot
2		Definitely not so much now		1	Not very much
3		Not at all		0	Not at all
38		Worrying thoughts go through my mind:	39		I look forward with enjoyment to things:
	3	A great deal of the time	0		As much as I ever did
	2	A lot of the time	1		Rather less than I used to
	1	From time to time, but not too often	2		Definitely less than I used to
	0	Only occasionally	3		Hardly at all
40		I feel cheerful:	41		I get sudden feelings of panic:
3		Not at all		3	Very often indeed
2		Not often		2	Quite often
1		Sometimes		1	Not very often
0		Most of the time		0	Not at all
42		I can sit at ease and feel relaxed:	43		I can enjoy a good book or radio or TV program:
	0	Definitely	0		Often
	1	Usually	1		Sometimes

	2	Not Often	2		Not often
	3	Not at all	3		Very seldom

Please check you have answered all the questions

Part six: Questionnaire about Substance use

Instructions: - Now I would like to ask you about alcohol drinking, cigarette smoking, and chat chewing

44	Do you currently drink coffee/tea?	Yes-----1 No------2
45	If Q 44 yes How many cups do you drink per day on average?	_____cups/day
46	Have you ever had alcohol (Tela / Tej / Areke / Beer / Wine)?	Yes-----1 No------2
47	If Q46 yes During the last 30 days, did you have drink alcohol?	Yes-----1 No------2
48	Have you ever chewed Chat?	Yes-----1 No------2
49	If Q49yes During the last 30 days, did you have chewed Chat?	Yes-----1 No------2
50	Have you ever smoked cigarette?	Yes-----1 No------2
51	If Q52 yes during the last 30 days, did you have smoked a cigarette?	Yes—1 No--2
52	Do you use other substances?	Yes--1 No --2 If yes specify__

Annex D. Amharic version of questionnaire

የመረጃ ወረቀት፡

<u>የጥናቱ ዓላማ:-</u> በአዋቂዎች ካንሰር ሕመምተኞች ላይ የእንቅልፍ ጥራት እና ተዛማጅ ምክንያቶች ጥናት እያከሄድኩኝ እገኛለሁ፣ (በጥቁር አንበሳ ስፐሻላይዝድ ሆሽፕታል፣, ኢትዩጲያ 2021)

የሚከናወኑ ሂደቶች-20 ደቂቃ የሚወስድ ጥያቀ መመልስ ነው ::

ከጥናቱ ጋር ተያይዘው የሚመጡ አደጋዎች:-ከጥናቱ ጋር ተያይዘው የሚከሰቱ አደጋዎች የሉም ::

የጥናቱ ጥቅሞች-በዚህ ጥናት ውስጥ በመሳተፋቸው ቀጥተኛ ጥቅም የለም ::

የመረጃዎ ምስጢራዊነት:-ማንኛውም ምስጢር ለሶስተኛ ወገኖች አይተላለፍም ::

እምቢ የማለት ወይም የመውጣት መብት ሙሉ ዋስትና ተሰጥቶታል ::

በተጨማሪም ይህ ጥናት በአዲስ አበባ ዩኒቨርስቲ ፣ በጤና ሳይንስ ኮሌጅ ፣ በነርሶች ትምህርት ቤት እና በአዋላጅ ነርስ ጥናት ክፍል በነርሲንግ ጥናት መምሪያ ፀድቆ በሥነ ምግባር የፀዳ መሆኑን ለማሳወቅ እፈልጋለሁ ::

አድራሻው አዲስ አበባ ዩኒቨርስቲ ፣ የጤና ሳይንስ ኮሌጅ ፣ የነርሶች እና የአዋላጅ ትምህርት ቤት፣የነርሶች ትምህርት ክፍል ነው ::

የጥናቱ ባላበት፡ አቶ እሸቱ፣አበበ

አማካሪዎች

አቶ ብርሃኑ፡ ዎርዶፋ ፣ (ቢ.ኤስ.ሲ ፣ ኤም.ኤስ.ሲ ፣ ረዳት ፕሮፌሰር)

አቶ. አብዲሳ ቦካ (ቢ.ኤስ.ሲ. ፣ ኤም.ኤስ.ሲ ፣ ረዳት ፕሮፌሰር)

የፍቃድ ቅጽ፡

ሰላም እንዴት ናችሁ? ስሜ እሸቱ አበበ እባላለሁ :: በኦንኮሎጂ ነርሲንግ ውስጥ የእኔን ማስተርስ ዲግሪ በከፊል ለመፈፀም በጥቁር አንበሳ ስፔሻላይዝድ ሆስፒታል ፣ አንኮሎጂ ዩኒት ህክምና ላይ በአዋቂ ካንሰር ህመምተኞች መካከል የእንቅልፍ ጥራት እና ተጓዳኝ ምክንያቶች መገምገም; የዚህ ጥናት ዓላማ የእንቅልፍ ጥራት እና በአዋቂ የካንሰር ህመምተኞች መካከል ተዛማጅ ምክንያቶች በሕክምና ላይ ነው :: የጥናቱ ውጤት ለካንሰር ህመምተኞች ሁሉን አቀፍ እንክብካቤ ለመስጠት ተገቢውን ጣልቃ ገብነት ስልቶችን ለመንደፍ እንደ መነሻ መረጃ ጥቅም ላይ ይውላል ::

ያቀረቡት መረጃ ሚስጥራዊ ነው እናም ጥቅም ላይ የሚውለው ለዚህ ጥናት ዓላማ ብቻ ነው :: ምዘናውን በተሳካ ሁኔታ ለማጠናቀቅ የጥያቄው መልስ እስኪያገኝ ድረስ የእርስዎ ትብብር እና ተሳትፎ በጣም አስፈላጊ ነው :: በዚህ ጥናት ውስጥ በመሳተፋችሁ ምንም ጉዳት አይደርስብዎትም እንዲሁም ጥቅም አያገኙም :: ስለዚህ እውነተኛ

ፈቃደኝነትዎን እጠይቃለሁ ። ሆኖም በማንኛውም ጊዜ ለመሳተፍ ፈቃደኛ ካልሆኑ ውድቅ የማድረግ መብት አለዎት። ጥያቄዎቹን በተመለከተ ማንኛውም ጥያቄ እና ግራ መጋባት ካለዎት በማንኛውም ጊዜ እኔን የመጠየቅ መብት አለዎት ወይም በሚከተለው አድራሻ።

የኢሜል አድራሻ esheabee@gmail.com **፣በስልክ ቁጥር** +251917114721

ለመሳተፍ ፈቃደኛ ነዎት? አዎ _____አይ_____መረጃ አሰባሳቢ-ስም_____ፊርማ _____ ቀን _____

<u>ክፍል አንድ</u>: መስረታዊ መረጃዎችን የተመለከቱ ጥያቄዎች
<u>መመሪያ</u>:- በቀጣይነት ስለእርሶ መስረታዊ መረጃዎችን የተመለከቱ አንዳንድ ጥያቄዎች እጠይቆታለሁ:

ተ. ቁ	ጥያቄ	መልስ
1	እድሜዎ ስንት ነዉ?	_____አመት
2	ጾታ?	ወንድ.....1 ሴት.....2
3	የጋብቻ ሁኔታዎ ምንድ ነው?	ያላገባ/ች.....1 የፈታ/ች.....3 ያገባ/ች.....2 የሞተበ/ባት.....4
4	ከፍተኛ የትምህርት ደረጃዎ ሰንት ነው/ እስከ ስንት ተምረዋል?	መደበኛ ትምህርት የለውም ----------1 የመጀመሪያ እና ሁለተኛ ትምህርት----------2 የምስክር ወረቀት እና ከዚያ በላይ----------3
5	የስራ ሁኔታዎ (በዋናነት የሚሰሩትስራ)ምንድነ?	የመንግስት ተቀጠረ---------1 የግል-----3 መንግስታዊያልሆነተቀጣሪ. -2 ሥራ-አጥ-4
6	አማካይ ወርሃዊ የቤተሰቡ ገቢ	_____ብር
7	መኖሪያዎ የት ነበር?	ገጠር--------1 ከተማ -------2
8	የመኝታዎን ሁኔታ የሚረብሽ ድምጽ አለ?	አዎ ------1 አይ --------2

ክፍል ሁለት: ከበሽታ ጋር የተያያዙ ጥያቄዎች

9	የካንሰር ዓይነት (ከካርድ ይፈትሹ)	_____
10	የካንሰር ደረጀ (ከካርድ ይፈትሹ)	I----1 II---2 III–3IV–4 አይታወቅም....5
11	የሕክምና ዓይነት(ከካርድ ይፈትሹ)	_____

12	ከህክምና ጋር የተዛመዱ የጎንዮሽ ጉዳቶች፡ሕክምና ከጀመሩ በኋላ ምን ዓይነት የጎንዮሽ ጉዳቶች አጋጥመውዎታል?	_____ _____
13	ምርመራ ከተደረገበት ጊዜ አንስቶ ምን ያህል ጊዜ ነው?	_____
14	ሕክምና ከጀመሩበት ጊዜ አንስቶ ምን ያህል ጊዜ ነው?	_____
15	ከካንሰር ጋር የተዛመዱ ምልክቶች፡ በእርሶ ላይ የታዩ የካንሰር ምልክቶች ምን ምን ነበሩ?	_____ _____

16. ባለፉት 7 ቀናት ውስጥ 0-10 በሆነ ሚዛን አማካይ የድካም ደረጃዎ ምንያህል ነበር? (0) ምንም ድካም የሌለው እና (10) የከፋ ድካም ነው?

0	1	2	3	4	5	6	7	8	9	10

የውጤት አሰጣጥ ደረጃ) ምንም ድካም የሌለው (0) ፣መለስተኛ (1-4) ፣መካከለኛ (5-6) እና ከባድ ህመም (7-10)

17. ባለፉት 7 ቀናት ውስጥ ፣ በ 0 - 10 ልኬት ላይ የእርስዎ አማካይ የሕመም ደረጃ ምን ነበር?

0	1	2	3	4	5	6		8	9	10

የውጤት አሰጣጥ ደረጃ ፡-ህመም የለም (0) ፣ መለስተኛ ህመም (1-4) ፣ መካከለኛ ህመም (5-6) እና ከባድ ህመም (7-10)

<u>ክፍልሶስት:-</u>የተገነዘበ ማህበራዊ ድጋፍ (አስሉ ልኬት) ውጤት

18.ከባድ የግል ችግሮች ካጋጠሙዎት በእነሱ ላይ እምነት የሚጥሉ ስንት ሰዎች ለእርስዎ ቅርብ ናቸው?	
የለም	1
1 ወይም 2	2
ከ 3 እስከ 5	3
6 ወይም ከዚያ በላይ	4
19. ሰዎች እርስዎ በሚያደርጉት ነገር ምን ያህል አሳቢነት ያሳያሉ?	
ብዙ አሳሳቢ እና ፍላጎት	5
አንዳንድ አሳሳቢ እና ፍላጎት	4
እርግጠኛ ያልሆነ	3
ትንሽ ጭንቀት እና ፍላጎት	2

ምንም ስጋት እና ፍላጎት የለም	1
20. ከፈለጉ ተግባራዊ እርዳታ ለማግኘት ምን ያህል ቀላል ነው?	
በጣም ቀላል	5
ቀላል	4
የሚቻል	3
አስቸጋሪ	2
በጣም ከባድ	1

ክፍል አራት: የእንቅል ፍ ጥራትጥያቄዎች መመሪያ፡-

አሁን ደግሞ እንቅልፍን የተመለከቱ ጥያቄዎችን እጠይቆታለው። ጥያቄዎች ያለፈውን አንድ ወር የእንቅልፍ ተለምዶ/ሁኔታ ይመለከታል። ምለሶዎ ያለፈውን ወር የአብዚኛውን ቀን እና ላሊት የተመለከተ የእንቅልፍ ልማዶ መሆን አለበት።

ባለፈው ወር ውስጥ:-

21. **በአብዚኛው ስንት ሰአት ወደ አልጋህ/ሽ ትሄዳህ/ሽ?** _____**ሰአት**
22. **በእየንደንዱ ለሊት እንቅልፍ ለመውሰድ ምን ያህል ደቂቃ ይፈጅብሀል/ሻል?**_____**ደቂቃ**
23. **በአብዚኛው ጠዋትጠዋት ስንት ሰአት ትነሳለህ/ሽ?** _____**ሰአት**
24. A.**ለስንት ሰአት አልጋህ/ሽ ላይ ነበርክ/ሽ?** _____**ሰአት**
    B.**በለሊት ውስጥ ምን ያህል፣ ሰአት እንቅልፍ አግኝተሀል/ሻል?**___**ሰአት**

25. **ባለፈው ወር ውስጥ ምን ያህል ጊዘ እንቅልፍ ለመተኛት በእነዚ ምክንያቶች ተቸግረሀል/ሻል? ለመረጃ ሰብሳቢው፡- በቅንፍ ውስጥ ያሉትን ኮዶች ያስቀምጡ፡**	**ባለፈው ወር ውስጥ ምንም የለም** (0)	**በሳምንት ውስጥ ከአንድጊዘ በታች** (1)	**በሳምንት ውስጥ አንዴ ወይም ሁለቴ** (2)	**በሳምንት ውስጥ ሶስቴ እና ከዚያ በለይ** (3)
A. በ30 ደቂቃ ውስጥ እንቅልፍ አልመውሰድ?				
B. በለሊት መሀል ወይም ሳይነጋ መነሳት?				
C. የመታጠቢያ ቤቱን ለመጠቀም መነሳት አለብዎት?				
D. በምቾት መተንፈስ አለመቸል?				

E. ጮክ ብሎ ማሳል ወይም ማንኮራፋት				
F. በቅዚቃዘ/በብርድስሜት/ በጣም መብረድ				
G. በሙቀት ስሜት/ በጣም መሞቅ				
H. መጥፎ ህልም በማየት				
I. በህመም ምክንያት/ ህመም መኖር				
J. ለላ ምክንያት ከለ…… በዙህ ምክንያት ለምን ያህል ጊዛ እንቅልፍ ለመተኛት አስቸግሮህል/ሻል				
26. ባለፈው ወር ውስጥ እንዴት እንቅልፍዎን ይመዝኑ ነበር ከሁሉም በላይ ጥራት	በጣም ጥሩ(0)	በትክክል ጥሩ (1)	በትክክልመጥፎ (2)	በጣም መጥፎ (3)
27. ባለፈው ወር ውስጥ ምን ያህል ጊዘ እንቅልፍ ለመተኛት የሚረዳ መድሃኒት ወስደህል/ሻል (የታዘዘ ወይም ያልታዘዘ) **(መመሪያን 25 ይጠቀሙ)**				
28. ባለፈው ወር ውስጥ ምን ያህል ጊዘ መኪና ስትነዳ ፡ ምግብ ስትበላ ወይም ደግሞ በማህበራዊ እንቅስቃሴ ውስጥ ንቁ ሆኖ ለመፈጸምተቸግረህል/ሻል?**(መመሪያን 25 ይጠቀሙ)**				

29. ባለፈው ወር ውስጥ ነገሮችን በትጋት/በጉጉት ለማድረግ ምን ያህል ተቸግረሀል/ሻል?	በጭራሽ ምንም ችግር የለም (0)	በጣምትንሽ ችግር ብቻ(1)	በተወሰ ነደረጃ ችግር(2)	በጣም ትልቅ ችግር (3)

ክፍል አሚስት: የሆስፒታል ጭንቀት እና ድብርት ሚዛን (HADS) ጥያቄዎች

መመሪያ-ባለፈው ሳምንት ውስጥ ከተሰማዎት ስሜት ጋር በጣም ቅርበት ካለው መልስ አጠገብ ሳጥኑን ምልክትያድርጉበት ።።

በምላሶችዎ ላይ ብዙ ጊዜ አይወስዱ-አፋጣኝዎ ምርጥ ነው።

D	A		D	A	
30		ውጥረት ይሰማኛል ወይም ‘ቆስሎብኛል’	31		እንደዘገየሁ ይሰማኛል
	3	አብዛኛውን ጊዜ	3		በሁሉም ጊዜ ማለት ይቻላል
	2	ብዙ ጊዜ	2		በአብዛኛው ጊዜ
	1	ከጊዜ ወደ ጊዜ አልፎ አልፎ	1		አንዳንድ ጊዜ
	0	በፍፁም	0		በፍፁም
32		ከዚህ በፊት ያስደሰትዎቸውን ነገሮች አሁንም እጠቀማለሁ	33		በሆድ ውስጥ እንደ ‹ቢራቢሮዎች› ዓይነት የሚያስፈራ ስሜት ይሰማኛል ።።
0		በእርግጠኝነት እንደዚያው		0	በፍፁም
1		በጣም ብዙ አይደለም		1	አልፎ አልፎ
2		ትንሽ ብቻ		2	በጣም ብዙ ጊዜ
3		በጭራሽ በጭራሽ		3	በአብዛኛው ጊዜ
34		አንድ የሚያስፈራ ነገር የሚከሰት ይመስል አንድ ዓይነት የፍርሃት ስሜት ይሰማኛል ።።	35		ስለ ቁመናዬ ፍላጎት አጣሁ
	3	በጣም በእርግጠኝነት እና በጣም መጥፎ	3		በእርግጠኝነት

	2	አዎ ፣ ግን በጣም መጥፎ አይደለም	2		የሚገባኝን ያህል ጥንቃቄአላደርግም
	1	ትንሽ ፣ ግን አያስጨንቀኝም	1		እኔ ያን ያህል ጥንቃቄ ላይወስድ ይችላል
	0	በፍፁም	0		እንደበፊቱ ሁሉ ጥንቃቄ እወስዳለሁ
36		እኔ መሳቅ እና የነገሮችን አስቂኝ ጎን ማየት እችላለሁ:	37		እረፍት እንደሌለኝ ይሰማኛል
0		ሁሌም እንደምችለው		3	በጣም በእውነት
1		አሁን በጣም ብዙ አይደለም		2	በጣም ብዙ
2		በእርግጠኝነት አሁን በጣም ብዙ አይደለም		1	በጣም ብዙ አይደለም
3		አይደለም		0	በፍፁም
38		የሚያስጨንቁ ሀሳቦች በአእምሮዬ ውስጥ ይሄዳሉ-	39		ነገሮችን በደስታ እጠብቃለሁ-
	3	አብዘኛዉን ጊዜ	0		ከዚህ በፊት እንደማደርገው ሁሉ
	2	ብዙ ጊዜ	1		ከዚህ በፊት ከነበረኝ ያነሰ
	1	ከጊዜ ወደ ጊዜ ግን ብዙ ጊዜ አይደለም	2		እኔ ከዚህ በፊት ከነበረኝ በእርግጠኝነት ያነሰ ነው
	0	አልፎ አልፎ ብቻ	3		በጭራሽ በጭራሽ
40		ደስታ ይሰማኛል	41		ድንገተኛ የፍርሃት ስሜት ይሰማኛል
3		በፍፁም		3	በጣም ብዙ ጊዜ በእውነት
2		ብዙ ጊዜ አይደለም		2	በጣም ብዙ ጊዜ

1		አንዳንድ ጊዜ		1	በጣም ብዙ ጊዜ አይደለም
0		አብዛኛውን ጊዜ		0	በፍፁም
42		ዘና ብዬ መቀመጥ እና ዘና ማለት እችላለሁ:	43		በጥሩ መጽሐፍ/ በሬዲዮ/ በቴሌቪዥን ፕሮግራም መደሰት እችላለሁ
	0	በእርግጠኝነት	0		ብዙ ጊዜ
	1	ብዙውን ጊዜ	1		አንዳንድ ጊዜ
	2	ብዙ ጊዜ አይደለም	2		ብዙ ጊዜ አይደለም
	3	በፍፁም	3		በጣም አልፎ አልፎ

<u>ክፍል አሚስት፡</u> አሁን ስለ አልኮል መጠጥ ፣ ስለ ሲጋራ ማጨስ እና ስለ ጫት መቃም ፣ልጠይቅዎት እወዳለሁ

44	በአሁኑ ጊዜ ቡና / ሻይ ይጠጣሉ?	አዎ --- 1 አይ-----2
45	ቁ.ጥ.44 አዎ፣ ከሆነ በአማካይ በቀን ስንት ሲኒ ይጠጣሉ?	_____ ሲኒ/በቀን
46	አልኮል ጠጥተው ያውቃሉ (ጠላ / ተጅ / አረኬ / ቢራ / ወይን)?	አዎ ----1 አይ ----2
47	ቁ.ጥ.46 አዎ፣ ከሆነ ባለፉት 30 ቀናት ውስጥ አልኮል ጠጥተዋል?	አዎ ---- 1 አይ----2
48	ጫት ቅሞው ያውቃሉ?	አዎ --1 አይ----2
49	ቁ.ጥ. 49 አዎ ከሆ ባለፉት 30 ቀናት ውስጥ ጫትን ቅሞው ነበር?	አዎ ---- 1 አይ--2
50	ሲጋራ አጨሶ ያውቃሉን?	አዎ------1 አይ---2
51	ቁ.ጥ. 52 አዎ ከሆነ ባለፉት 30 ቀናት ውስጥ ሲጋራ አጨሶ ያውቃሉን?	አዎ---1 አይ------2
52	ሌሎች ንጥረ ነገሮችን ይጠቀማሉ?	አዎ ---1 አይ---- 2 አዎ ከሆነ ይግለጹ___