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

SLEEP DISTURBANCE AND ASSOCIATED FACTORS AMONG ADULT CANCER PATIENTS ON TREAMENT IN AYDER COMPREHENSIVE SPECIALIZED HOSPITAL, TIGRAY REGION ETHIOPIA,2019.

BY: ATAKLTI BIRHANE, (BSc)

ADVISORS:

1. **BERHANU WORDOFA, (BSc, MSc, ASSISTANT PROFESSOR)**
2. **AKLIL HAILE, (BSc, MSc)**

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

FEBRUARY 2019

ADDIS ABABA, ETHIOPIA

ADDIS ABABA UNIVERSITY

COLLEGE OF HEALTH SCIENCES

SCHOOL OF NURSING & MIDWIFERY

DEPARTMENT OF NURSING AND MIDWIFERY

NAME OF PRINCIPAL INVESTIGATOR	Ataklti Birhane, (BSc)
NAME OF PRIMARY ADVISOR	Berhanu Wordofa, (BSc, MSc, Assistant Professor)
NAME OF CO-SUPERVISORS	Aklil Haile, (BSc, MSc)
FULL TITLE OF THESIS RESEARCH PROPOSAL	Sleep Disturbance and Associated Factors Among Adult Cancer Patients on treatment In Ayder Comprehensive Specialized Hospital Mekelle Ethiopia
DURATION OF RESEARCH	February 25 up to April 15/2019
STUDY AREA	Ayder Comprehensive Specialized Hospital
TOTAL COST OF THE PROJECT (BIRR)	24,830.30
ADDRESS OF INVESTIGATOR (EMAIL, CELL PHONE	atakbir54@gmail.com 0910463419

ACKNOWLEDGEMENT

I gratefully acknowledge school of nursing and midwifery, Addis Ababa University for offering me such an opportunity to undertake this proposal. I would like to express my deepest appreciation and special admiration to my advisor Mr. Berhanu Wordofa, and the second advisor sister Aklil Hailu for the helpful comments, in which this proposal will not come to this existence without your help.

Table of Contents

LIST OF FIGURES

LIST OF TABLES

ACRONYMS & ABBREVATIONS

Table 1: acronyms & abbreviations of the literature

ACSH	Ayder Comprehensive Specialized Hospital
CRF	Cancer Related Fatigue
GLOBOCAN	Global Cancer Incidence, Mortality and Prevalence
PI	Principal Investigator
PROMIS	Patient Reported Outcomes Measurement Information System
QOL	Quality of Life
SPSS	Statistical Package for the Social Sciences
TASH	Tikur Anbesa Specialized Hospital
USA	United States of America
WHO	World Health Organization

SUMMARY

Background: Sleep disturbance are a group of conditions that affect the ability to sleep regularly. Cancer diagnosis and treatment can lead to sleep disturbance worsen pre-existing sleep problem. Sleep disturbance are often associated with the psychological effects of cancer, as well as physical illness, pain, hospitalization, and specific medical treatment. Sleep disturbance are common in cancer patient that have negative health effects; sleep problems are rarely recognized or addressed in cancer practice.

Objective: To assess sleep disturbance and associated factors among adult cancer patients on treatment in Ayder Comprehensive Specialized Hospital Mekelle Ethiopia.2019

Methods: Hospital based quantitative, cross-sectional study design will be conducted among adult cancer patients on treatment in Ayder Comprehensive Specialized Hospital Mekelle Ethiopia. 2019.between February 25 and April 15/2019. Eligible study subjects will be enrolled conveniently. Standardized Patient Reported Outcomes Measurement Information System (PROMIS) will be used to gather information from participants. Data will be cleaned coded and entered into Epi-info data version 3.5.3 and exported into SPSS software version 24 for analysis. Descriptive statistics will be used to describe the socio-demographic characteristic and logistic regression including bivariate and multivariate analysis will be used to examine association between dependent and independent variables, and P-value less than 0.05 will be considered as the level of significance for associations.

Conclusion: Conclusion and recommendation will be drawn based on the study findings.

Budget: A total of **24,830.80** Ethiopian birr will be required to undertake the study

Key words: Sleep disturbance, Cancer, Ayder Comprehensive Specialized Hospital.

1. INTRODUCTION

1.1. Background

Sleep is vital to all human functioning and includes a range of physiological and behavioral processes, the disruption of one or more of these processes can lead to many different symptoms of poor sleep, which may occur alone or in combination (1). Sleep disturbance occur in between 30% and 75% of newly diagnosed or recently treated cancer patients, a frequency twice that of the general population (2). In cancer patients, disturbed sleep is the second most common symptom, based on cancer and treatment status (3).

Sleep disturbances can persist in time, with a significant number of cancer patient reporting them, as one of the most prevalent problems they face (4). The impact of sleep disturbance on the physical, functional, and social quality of life is terrible (5). Sleep disturbance are known to cause “poor healing, increase the chance of recurrence of cancer, reduce cognitive function, reduce labor productivity, poor relationships and rising health care costs” (6).

Bad sleep is a known problem in cancer patients along the treatment path from the time of diagnosis to the end of life (7). Patients with cancer report sleeplessness, poor sleep quality and short sleep duration (8). Although sleep disturbances associated with clusters of symptoms are given some attention during a patient's cancer path (9).

These are associated with pain, hospitalization, medication, recurring thoughts about the disease and cancer-related fears (10). sleeplessness is often prolonging because of the natural tendency of patients to compensate for sleep loss by extending their sleep opportunity, for instance, by napping, going to bed earlier, and getting out of bed later (11). Such behavioral changes are enacted by patients in order to try to “recover what has been lost,” but they lead to a mismatch between sleep opportunity and sleep ability and result in more frequent and longer awakenings (12).

Investigations stated that sleep problems in cancer patients consisted of difficulty falling asleep and difficulty staying asleep as well as frequent and prolonged night-time awakening. Patients reported these complaints both before treatment and during treatment. Sleeplessness is rarely included in routine screening in cancer programs, and patients with cancer are not offered psychological interventions (13).

With rates of chronic cancer increasing, the need to care for the associated symptom burden, including sleep, is critical. Despite the levels of sleep disturbance in advanced cancer patients is high, little advancements have been made to manage these issues(14). More evidence is necessary to guide management of this disturbance.

1.2. Statement of the problem

Sleep-related complaints are extremely common in patients with cancer but often are not recognized, and they are rarely treated (15). These problems are among the major complaints in patients with cancer, before , during, and after the completion of cancer treatment (16). In one-third to one-half of cancer patients, sleep disturbances occurred (6). These were usually associated with pain, hospitalization, medication, recurrent thoughts about the disease, and cancer-related anxiety (17). Changes in the sleep-wake cycle can be the first signs of a restlessness. However, sleeplessness is often under-recognized and under-treated (18).

As in other medically ill patients, disturbed sleep in cancer patients may be an important contributor to poor quality of life, to their tolerance to treatment, and to the development of mood disorders, particularly depression (19). Some studies have also reported that disturbance in circadian rhythms affects sleep (20).

According the world health organization (WHO), Cancer is one of the most common causes of death, with nearly 7 million deaths each year worldwide, and 24.6 million people are living with cancer, by 2020 it is projected that there will be 16 million new cancer cases and 10 million cancer deaths every year and on average, 40% of Americans will at some point in their lifetime develop cancer, and nearly 600,000 American deaths will occur annual from this condition (21). In Africa it is the most common disease, and the leading cause of death (22).However as comprehensive cancer registration and population-based measurement of cancer burden are yet to be done in Ethiopia. Annual incidence and mortality of all cancer types reported by Global Cancer Incidence, Mortality and Prevalence (GLOBOCAN) in 2008 were 51 700 and 41 600, respectively, for people under the age of 75 years (23).

Sleeplessness can also affect patients after being treated for cancer (24). The lack of attention given to sleep disturbance in these patients leads to a higher probability of recurrence of the disease, lower productivity, more physical, cognitive and psychological symptoms, such as impaired concentration, fatigue, pain, anxiety, irritability, depression, illusions and increased costs of medical care and the patient ability to cope with the disease (25).

Therefore, this study intends to assess the magnitude of sleep disturbance among cancer patients on treatment in Ayder comprehensive specialized hospital in Mekelle, Tigray, Ethiopia.

1.3. Significance of the study

The importance of this study will be to assess the prevalence of sleep disturbances and possible relationships with associated factors in patients with cancer patients in to different care settings. Disturbances in sleep patterns in cancer patients are still a subject given little attention by health professionals, especially in nursing, and so this important event is being neglected. Practitioners do not acquire suitable information for the diagnosis and subsequently for the prophylaxis and treatment of complications associated with this problem.

By understanding the physiology of the sleep cycle, rest and ways to promote relaxation and sleep, nurses can minimize the factors that cause sleep disruption in cancer patients and avoid the possible negative effects caused by sleep deprivation. Promotion of sleep for patients is therefore not only a humanistic intervention but can be a life- sustaining one as well.

Oncology nurses play a vital role in the care of cancer patients since they spend more time beside the patients and they are concerned with human's responses to patient problems.

Studies suggest that assessment of sleep disturbance is important to detect and treat physical or psychological manifestations in order to maintain QoL, and also information about the impact of symptoms and its treatment on physical, functional, social and emotional well-being to the cancer patients.

Moreover, a better understanding of these variables may improve the design and evaluation of interventions, and the integration of assessment of sleep problem during patient care, it is to improve sleep quality, and also gives information for clinicians of the nature and prevalence of sleep disturbance in patients, this will be the basis for the future direction of their health care, since there is no literature done in Ethiopia particularly on this topic, as the result there is a shortage of information about sleep disturbance and its associated factors among cancer patients in Ethiopia, this study will used to improve the patient care, and also can be used to policy-makers and it can guide further research to improve of sleep and treatment outcomes of cancer patient.

2. LITRATURE REVIEW

2.1. Introduction

The American Academy of Hospice and Palliative Medicine reports showed that the prevalence of sleep complaints among cancer patients ranges between 24% and 95% worldwide (26-28).This means a high significance of problem for those patient.

Factors that increase the individual's general vulnerability to develop sleeplessness, such as hyper arousal, being female, aging, and a personal and Factors causing sleep disturbance in cancer patients include in to three categories (16, 24, 29):-

1) precipitating factors that cause the onset of sleep disturbances, such as the cancer itself, the nature and stage of the cancer, cancer-related emotional impact and functional loss, cancer-related treatments and symptoms these are pain, delirium, side effects of the treatment such as, nausea, vomiting, diarrhea (8).

2) predisposing factors a familial history of insomnia, and persistent behavioral factors such as excessive sleep during the day, long-term use of medication or use of inappropriate medications and poorly adjusted perceptions (13).

3) perpetuating factors that contribute to the maintenance of sleep disturbance over time, such as maladaptive sleep behaviors and faulty beliefs and attitudes about sleep. It is likely that sleep disruptions in cancer patients, particularly insomnia, are more likely comorbid with cancer and with other cancer-related symptoms, rather than secondary to cancer treatments and other cancer related symptoms, like fatigue, pain and depression (30).

In addition to taking into account the above risk factors, appropriate sleep patterns, routine bedtime, pre-sleep time and sleep duration (wake-up attacks during the night), the ability to adequately assess sleep disturbances should be evaluated Sleep again and the usual time to wake up) (31). Sleep disturbances (changes after diagnosis, treatment and / or hospitalization), significant people's perception of the amount and quality of the patient's sleep as well as the family history of sleep complaints must be considered(32), as well as the emotional status of physical exercise, activity, and diet, obesity, cancer symptoms, and psychological symptoms are significant factors associated with and contributing to sleep problems in these patients (33).

2.2. Prevalence of sleep disturbance in cancer patients

Sleep disturbances affect between 30% to 75% of newly diagnosed or recently treated cancer patients (27). Surveys had suggested that sleep complaints in cancer patients consisted of difficulty falling asleep and difficulty staying asleep, with frequent and prolonged nighttime awakenings (34). Patients reported these complaints both before treatment and during treatment(35).

There were very few studies investigated sleep disturbances among advanced cancer patients. One study regional cancer center in the United Kingdom reported that 47% of patients with advanced cancers reported sleep disturbances (36). The most common complaints were difficulty falling asleep (40%), difficulty staying asleep (63%), and not feeling rested in the morning (72%). Furthermore, 19% of the cancer patients reported having trouble sleeping before their cancer diagnosis (2).

Similarly, a recent in North American study found a higher prevalence of sleep disorders in female patients received adjuvant chemotherapy for breast cancer: 48.5% to 65.8% of patients had PSQI values ≥ 5, which means poor sleep pattern (7).

In the Middle East, a facility based cross-sectional study of cancer patient in Bahrain reported significant sleep disturbances in 17.6% of women, and the second after exhaustion as the most disturbing symptom (37). Comparable results were obtained in a study from Jordan in which 13.5% of cancer survivors after second exhaustion had clinically significant sleep disturbances(38).

Research in Berlin showed a high prevalence (75%) of clinically relevant in breast cancer patients after their initial chemotherapy and that the severity of nausea, sleep disturbance and pre-treatment, age were significant predictors of symptoms (39) and in Iran had 80.2% of patients poor sleep quality or sleep disturbance (40). In Italy, about 60% of patients participating in various palliative care services have relevant sleep disturbance (41). Research results in China showed that 38.6% of patients had clinically significant sleep disturbances(42).
At Rabat Hospital in Morocco, a cross sectional study was also conducted Seventy-four percent (74%) of patients with cancer reported that their sleep disturbances were decrease the quality of life (43).

2.3. Symptoms that affects sleep in cancer patient

Sleep disturbances were frequently reported by hospitalized and out patients, the majority of patients suffer from insomnia in the first three days of hospitalization and continues with the course of care (44). There were various precipitants for sleep disturbances in inpatients, which include: psychiatric disorders, anticipatory anxiety for surgical or diagnostic procedures, and type of medical and surgical problems (45).

A cross sectional study conducted in Iran showed that the main causes of sleep disturbances in hospital found environmental factors included noise (45.7%), temperature (22.9%) and number of roommates (20.0%). Furthermore, 29% of the inpatients could not sleep, because of their medical condition and 17% became insomnia because of psychological problems (46).
Depression affected sleep disturbance by 50% which was conducted from 400 patients of longitudinal study in USA(47),and Cancer-related fatigue(CRF) it worsen sleep disturbances by 90% (48).

Study showed at University Medical Center Utrecht, the Netherlands, In prostate cancer patients, anxiety symptoms were the greatest risk factors of sleep disturbance by 10%(49, 50).

Pain were one of the most common symptoms reported by patient with cancer over 60% of patient reported to having pain almost 90% of them developed sleep disturbance reviled a multicenter study in cancer hospital at the Norwegian Radium Hospital (51).
Side effects of chemotherapy were other factors in the disturbance of sleep as a prospective study from the University of Rochester, Henry Ford Hospital, Canada, showed in breast cancer patients interferes sleep by 43% (12).

In California, found a descriptive, correlational study were noted in a study of 24 women and men with early stage cancer undergoing radiation therapy with approximately 60% of patient reported significant sleep problem (52), whereas other study 80 breast cancer patients were enrolled on a prospective, longitudinal study's PTSQI score was >5, Before, during, and after RT, 61%, 56%, and 59% of subjects were poor sleepers, respectively (53).

3. CONCEPTUAL FRAMEWORK

By considering the above review on sleep disturbance and associated factor among adult cancer patients on treatment are summarized on the conceptual frame work presented below. This shows how the particular variables in study connect with each other and identifies the variables required in the research investigation. This conceptual frame work is developed by assuming sleep disturbance and associated factor among adult cancer patients on treatment also be related to those factors as reviewed from different literature majorly from the articles.

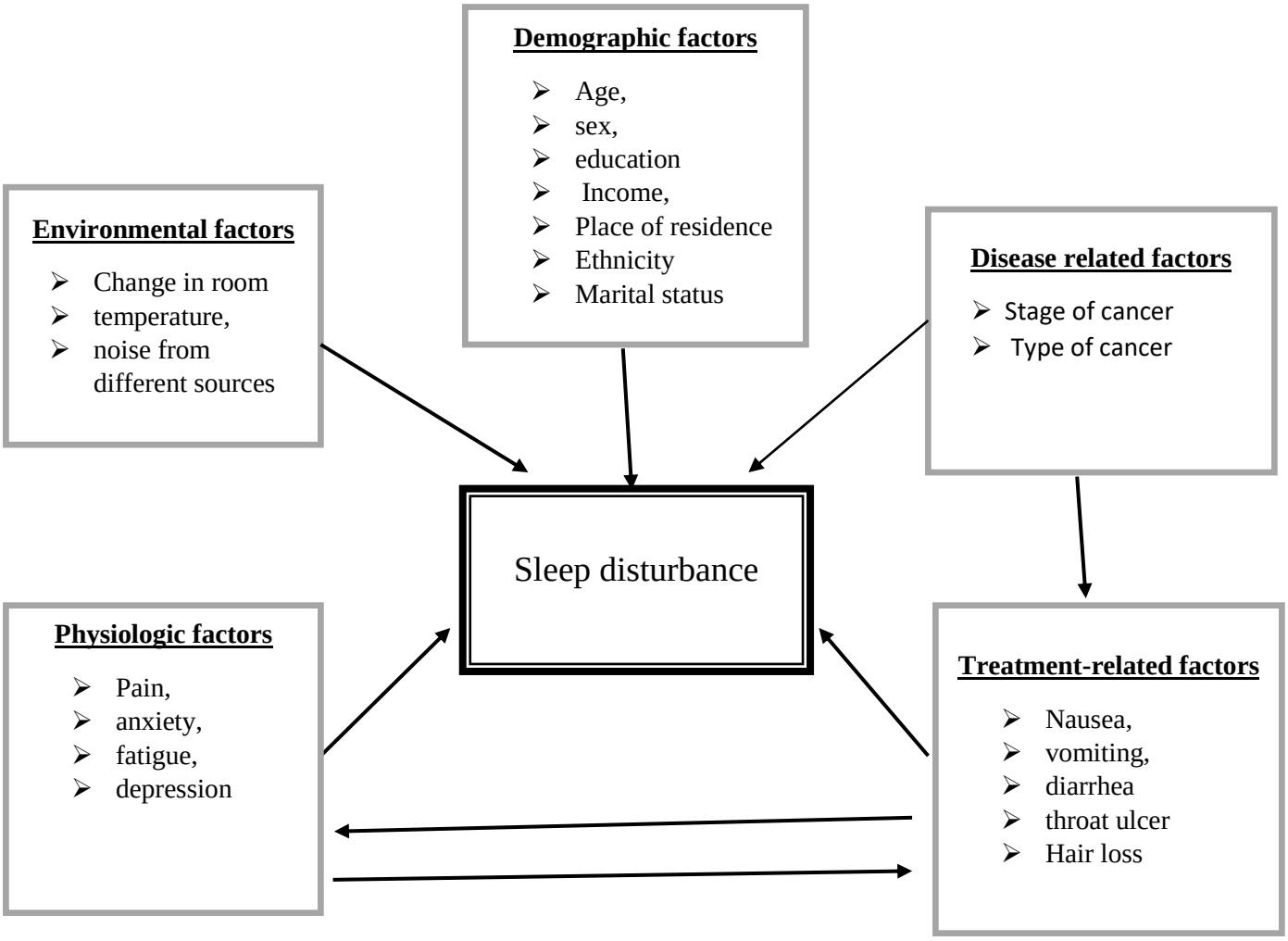

Figure 1: Conceptual framework on determinants of sleep disturbance in cancer patient developed from different literatures(46-51).

4. OBJECTIVES

4.1. General objective

To assess prevalence sleep disturbance and identify associated factors among adult cancer patients on treatment in Ayder comprehensive specialized hospital mekelle Ethiopia,2019.

4.2. Specific objectives

1. To determine prevalence of sleep disturbance among adult cancer patients on treatment in Ayder comprehensive specialized hospital Mekelle Ethiopia.

2. To identify factors associated with sleep disturbance among adult cancer patients on treatment in Ayder comprehensive specialized hospital Mekelle Ethiopia.

5. METHODS

5.1. Study area and period

The study will be conducted from February 25 and April 15/2019 in the oncology unit at Ayder comprehensive specialized hospital in Mekelle, Tigray, Ethiopia. Ayder comprehensive specialized hospital is a teaching hospital with 500 beds and give service for about 200,000 patients per year. Mekelle is the capital city of Tigray Regional State, located 783 Km from Addis Ababa to the North of Ethiopia. There is oncology unit in the facility which is unique in Tigray region it giving service for more than 2000 cancer patients annually and has inpatient (8 beds), There are one adult, and two pediatric oncologists, and 11 nurses working in the unit(54).

5.2. Study design

A Hospital based cross sectional design will be conducted between February 25 and April 15/2019.

5.3. Source population

The study participants will be all cancer patients attending care and treatment at Ayder comprehensive specialized hospital.

5.4. Study population

Cancer patients visiting the hospital and being evaluated or treated in the unit during the data collection period from February 25 up to April 15/2019 and those who are met the eligibly criteria.

5.5. Eligible criteria

5.5.1. Inclusion criteria

All adult Cancer patients aged greater than 18yrs, diagnosed prior to one week who are under cancer chemotherapy or completed treatment and mentally competent.

5.5.2. Exclusion criteria

Severely sick patients during data collection period.

5.6. Sample size calculation

The study sample size is determined by using single population proportion formula, to calculate sample size for this study,0.5 proportion will be used. Since there was no similar study found in the area during literature search. Therefore, the sample size will be calculated assuming at 95% confidence level and 5% margin of error as follows

$$n = \frac{z^2 p(1-p)}{d^2}$$

Whereas: -

n= sample size

p= the proportion of 50% is considered for this study, because not done in Ethiopia.

Z= α /2=1.96(Z=score corresponds to 95% confidence level)

d= 0.05(Margin of error)

The calculated sample size based on the above assumption is indicated in the following table.

n= 1.96^2* 0.5(1-0.5) = 3.8416*0.25/0.05^2

n= 384.16

Since flow of patients during data collection period is less than 10,000 then correction formulas will be applied. NF= $\frac{n}{1+\frac{n}{N}}$= $\frac{\mathbf{384.16}}{\mathbf{1+\frac{384.16}{300}}}$ = 168 NF= desired sample size

Considering 10% non-response rate, the sample size will be; n=168+ (168x10%) = 184

5.7. Operational definition

Sleep disturbance measurement tool of PROMIS: Each item on the measure is rated on a 5-point scale (1=never; 2=rarely; 3=sometimes; 4=often; and 5=always) with a range in score from 8 to 40 with higher scores indicating greater severity of sleep disturbance. The T-score table should be used to identify the T-score associated with the individual's total raw score and the information entered in the T-score row on the measure.

T-score: patients who have T-score of >60 indicating greater severity of sleep disturbance (55).

Fatigue measurement tool: Study of cancer patients and survivors provides evidence that the best model fit for categorizing fatigue severity on the MDASI's(MD. Anderson Symptom Inventory) is (0–10) scale is mild (1–3), moderate (4–6), and severe (7–10) (56).

Pain measurement tool: From 0–10 scale is, mild (1–3), moderate (4–6), and severe (7–10) (57).

Depression and anxiety: will be identified by using hospital anxiety and depression scoring (HADS) patient who have >10 points indicating anxiety and depression disorder (58).

5.8. Data collection tools and procedures

A structured questionnaire adopted from the review of different literatures[reference] and an existing adopted standardized Patient Reported Outcomes Measurement Information System (PROMIS) will be used to gather information from participants. The Data collection tool have two parts, part one contains socio demographic information such as age, gender, education, occupation, marital status, monthly income, and cancer specific information such as type of cancer, stage of cancer, treatment history, and the second part is a structured questionnaire about sleep disturbance using PROMIS tool (55).

The questionnaire will be originally prepared in English and then translated to Tigrigna and back to English in order to obtain constancy. Finally, the questionnaire will be administered in Tigrigna.

Training will be given for interviewers about techniques and the concept of questionnaire before data collection and the data collectors are BSc Nurses. Moreover, the instrument will be pretested in 5% of the total sample size and pretested subjects will be excluded from the actual data collection. During the process of data collection, the supervisor will oversee the overall activity and check completeness and consistency of the data.

6. DATA COLLECTION TECHNIQUE AND PROCEDURE

Eligible study participants will be enrolled conveniently. Participants will be provided with information about the objective of the study, then informed consent will be obtained to assure their willingness to participate in the study and the interview follows

6.1. Study variables

6.1.1. Dependent variable

Sleep disturbance

6.1.2. Independent variables

Socio-demographic variables (Age, marital status, and level of education)
Socio-economic variables (level of income, working hours per day, working time)
Type of cancer
Stage of cancer
Cancer symptom (pain, anxiety, fatigue, psychology, depression).
Treatment side effect (nausea, vomiting, diarrhea)
Environmental factor (noise, roommates, temperature)

6.2. Data quality control methods

A cross sectional study design and conveniently sampling technique will be used and an existing standardized structured data collection tools will be used. One week prior to the actual data collection period pre-test will be done in 5% of the total sample size at ACSH. During the pre-test data collectors and investigators will participated in the evaluation of the tool. Based on the finding, necessary modifications will be made on the wording, phrases and time required to interview respondent and then the questionnaire will be prepared for data collection.

The questionnaire will be also translated to local language (Tigrigna) and back translated to English to ensure the consistency. One day training will be given to the data collectors. During the data collection time, a clear introduction that explains the purpose and objective of the study will provide to the respondents. A close supervision, honest communication on spot decision will be conducted during data collection on daily bases. There will be regular supervision, spot checking and reviewing the completed questionnaire daily to maintain data quality. Feedback on previous day activities will be given for data collectors before the next day data collection.

6.3. Data processing and management

Each questionnaire collected from the patient will be checked for completeness, missing value and unlikely responses and then manually clean upon such indication. Then data will be coded and entered to a computer using EPI INFO version3.5.3 software package for its customizing and then it will be exported to SPSS version 24 computer software package for analysis.

6.4. Data analysis

Descriptive statistics will be done for variables in the study using frequency tables, graphs, percentages, and median values. Bivariate analysis will be conducted primarily to check which variable have association with the dependent variable individually. Variable found to have association with the dependent variable at P-value of 0.2 will be then entered to the multi variate analysis for controlling the possible effect of cofounder and finally the variable which have significant association will be identified on the basis of odds ratio (OR) with 95% CI & p-values less than or equal to 0.05 to fit into the final model.

6.5. Ethical considerations

Ethical approval sheet will be obtained from School of Nursing and Midwifery. Formal letter will be written to Ayder comprehensive specialized hospital and this official written letter will be distributed to the oncology unit. The principal investigator will communicate these units. The information sheet and consent will be provided for respondents to read for those who can read and the interviewer will read the paper for those respondents who cannot read. Finally, the respondents will be asked for their agreement to participant in the study. Confidentiality will be maintained by omitting names and personal identification of participants and it will not be revealed to anyone except the principal investigator and assistants and it will be kept locked with key. Privacy will be maintained by arranging quite place for interviewer and study participant to protect them exposing other parties.

6.6. Study finding dissemination

After completion of the study the study finding will be submitted to Addis Ababa university college of Health Sciences and Ayder comprehensive specialized hospital. In addition, the finding will be presented on appropriate seminars, conferences and workshops. Furthermore, the investigator will prepare the manuscript and send for publication on reputable and peer review journals.

7. RESEARCH WORK PLAN

Table 2: Tentative work plan schedule for the dissertation of sleep disturbance and associated factor among adult cancer patient on treatment in Ayder comprehensive specialized hospital 2019.

Activities	2019											
	1st Quarter			2nd Quarter			3rdQuarter			4th Quarter		
	September	October	November	December	January	February	March	April	may	Jun	Juley	August
Topic Selection	■	■										
Proposal develops.			■	■	■							
Proposal defense						■						
Ethical clearance						■						
Data collection						■	■	■				
Data Entry								■				
Data analysis								■	■			
Manuscript Writing-up									■			
Thesis submission										■		
Thesis defend										■		

8. BUDGET BREAKDOWN

Table 3: Budget for the dissertation work plan of sleep disturbance and associated factor among adult cancer patient on treatment in Ayder comprehensive specialized hospital 2019

S/No	Budget Category	Unit	Days	No. of persons	Per diem	Total Cost
1	Personnel Cost					
1.1	Training Cost:					
	Principal Investigator (PI)	Days	2	1	250	500.00
	Supervisors	Days	2	2	250	1000.00
	Data collectors	Days	2	4	220	17,60.00
	Sub-Total					**3,260.00**
1,2	Per-diem					
	Principal Investigator (PI)	Days	10	1	220	2,200
	Supervisors	Days	10	2	220	4,400
	Data collector	Days	10	4	220	8,800
	Sub-Total					**15,400**
2	Supplies	Unit	Quantity	Unit cost		Total Cost
	Stationary materials and duplication					
	Duplication paper	Rim	8	130.00		1040.00
	Pencil	Pieces	7	1.50		10.50
	Pen	Piece	7	7		49.00
	Eraser	Pieces	7	3.00		21.00
	Sharpener	Pieces	7	5.00		35.00
	Photo copy service	Pages	3380	0.50		1,690,00
	Sub-Total					**2,845.50**
3	Transportations	Unit	Quantity	Unit cost		**Total Cost**
	Addis Ababa to Mekelle (Round trip) *	Trip				1,300.00
	Sub-total					**1,300.00**
4	Cell-phone card for Communication	Unit	Quantity	Unit cost		**Total cost**
	For data collectors	Number	4	100.00		400.00
	For supervisors	number	2	100.00		200.00
	For principal investigator	Number	3	100.00		300.00
	Sub-total					900.00
	Summary of Budget					
	Total budget					**22,705.50**
	5% contingency					**1,135.30**
	GRAND TOTAL					**24,830.80**

9. REFERENCE

1. Medic G, Wille M, Hemels ME. Short-and long-term health consequences of sleep disruption. Nature and science of sleep. 2017;9:151.
2. Fiorentino L, Ancoli-Israel S. Sleep dysfunction in patients with cancer. Current treatment options in neurology. 2007;9(5):337-46.
3. Otte JL, Carpenter JS, Manchanda S, Rand KL, Skaar TC, Weaver M, et al. Systematic review of sleep disorders in cancer patients: can the prevalence of sleep disorders be ascertained? Cancer medicine. 2015;4(2):183-200.
4. Stenberg U, Ruland CM, Miaskowski C. Review of the literature on the effects of caring for a patient with cancer. Psycho-oncology. 2010;19(10):1013-25.
5. Dickerson SS, Connors LM, Fayad A, Dean GE. Sleep–wake disturbances in cancer patients: narrative review of literature focusing on improving quality of life outcomes. Nature and science of sleep. 2014;6:85.
6. Trill MD. Anxiety and sleep disorders in cancer patients. EJC Supplements. 2013;11(2):216.
7. Otte JL, Davis L, Carpenter JS, Krier C, Skaar TC, Rand KL, et al. Sleep disorders in breast cancer survivors. Supportive Care in Cancer. 2016;24(10):4197-205.
8. Roscoe JA, Kaufman ME, Matteson-Rusby SE, Palesh OG, Ryan JL, Kohli S, et al. Cancer-related fatigue and sleep disorders. The oncologist. 2007;12(Supplement 1):35-42.
9. Dong ST, Costa DS, Butow PN, Lovell MR, Agar M, Velikova G, et al. Symptom clusters in advanced cancer patients: an empirical comparison of statistical methods and the impact on quality of life. Journal of pain and symptom management. 2016;51(1):88-98.
10. de Vries M, Stiefel F. Psycho-oncological interventions and psychotherapy in the oncology setting. Psycho-Oncology: Springer; 2014. p. 121-35.
11. Edinger JD, Carney CE. Overcoming insomnia: A cognitive-behavioral therapy approach, therapist guide: Oxford University Press; 2014.
12. Palesh OG, Roscoe JA, Mustian KM, Roth T, Savard J, Ancoli-Israel S, et al. Prevalence, demographics, and psychological associations of sleep disruption in patients with cancer: University of Rochester Cancer Center–Community Clinical Oncology Program. Journal of clinical oncology. 2010;28(2):292.
13. Howell D, Oliver T, Keller-Olaman S, Davidson J, Garland S, Samuels C, et al. Sleep disturbance in adults with cancer: a systematic review of evidence for best practices in assessment and management for clinical practice. Annals of oncology. 2013;25(4):791-800.
14. Frooman A. Sleep Disturbance in Patients with Advanced Cancer: The Ohio State University; 2018.
15. Dahiya S, Ahluwalia MS, Walia HK. Sleep disturbances in cancer patients: underrecognized and undertreated. Cleve Clin J Med. 2013;80(11):722-32.
16. Ancoli-Israel S. Sleep disturbances in cancer: a review. Sleep Medicine Research. 2015;6(2):45-9.
17. Thorpy MJ. Classification of sleep disorders. Neurotherapeutics. 2012;9(4):687-701.
18. Neikrug AB, Ancoli-Israel S. Sleep disorders in the older adult–a mini-review. Gerontology. 2010;56(2):181-9.
19. Mehta RD, Roth AJ. Psychiatric considerations in the oncology setting. CA: a cancer journal for clinicians. 2015;65(4):299-314.

20. LeGates TA, Fernandez DC, Hattar S. Light as a central modulator of circadian rhythms, sleep and affect. Nature Reviews Neuroscience. 2014;15(7):443.
21. May P, Garrido MM, Cassel JB, Kelley AS, Meier DE, Normand C, et al. Palliative care teams' cost-saving effect is larger for cancer patients with higher numbers of comorbidities. Health Affairs. 2016;35(1):44-53.
22. Parkin DM, Bray F, Ferlay J, Jemal A. Cancer in africa 2012. Cancer Epidemiology and Prevention Biomarkers. 2014:cebp. 0281.2014.
23. Woldeamanuel YW, Girma B, Teklu AM. Cancer in Ethiopia. The Lancet Oncology. 2013;14(4):289-90.
24. Savard J, Morin CM. Insomnia in the context of cancer: a review of a neglected problem. Journal of clinical oncology. 2001;19(3):895-908.
25. Mystakidou K, Parpa E, Tsilika E, Pathiaki M, Patiraki E, Galanos A, et al. Sleep quality in advanced cancer patients. Journal of psychosomatic research. 2007;62(5):527-33.
26. Özbas AA, Gurhan N, Kabatas E. sleep Quality and Related Factors in Cancer Patients: p2-3. Pscyho-oncology. 2011;20:198.
27. Puts M, Papoutsis A, Springall E, Tourangeau A. A systematic review of unmet needs of newly diagnosed older cancer patients undergoing active cancer treatment. Supportive Care in Cancer. 2012;20(7):1377-94.
28. Mercadante S, Aielli F, Adile C, Ferrera P, Valle A, Cartoni C, et al. Sleep disturbances in patients with advanced cancer in different palliative care settings. Journal of pain and symptom management. 2015;50(6):786-92.
29. Venables HE. Sleep Problems in Cancer: Effective Psychological Interventions.
30. Savard J, Simard S, Blanchet J, Ivers H, Morin CM. Prevalence, clinical characteristics, and risk factors for insomnia in the context of breast cancer. Sleep. 2001;24(5):583-90.
31. George GC, Iwuanyanwu EC, Anderson KO, Yusuf A, Zinner RG, Piha-Paul SA, et al. Sleep quality and its association with fatigue, symptom burden, and mood in patients with advanced cancer in a clinic for early-phase oncology clinical trials. Cancer. 2016;122(21):3401-9.
32. Akman T, Yavuzsen T, Sevgen Z, Ellidokuz H, Yilmaz AU. Evaluation of sleep disorders in cancer patients based on Pittsburgh Sleep Quality Index. European journal of cancer care. 2015;24(4):553-9.
33. Matthews EE, Tanner JM, Dumont NA. Sleep Disturbances in Acutely Ill Patients with Cancer. Critical Care Nursing Clinics. 2016;28(2):253-68.
34. Marita P, Pandey RA. Prevalence of sleep–wake cycle disturbance among cancer patients of Bhaktapur cancer hospital, Nepal. Journal of Chitwan Medical College. 2016;6(2):6-13.
35. Cimprich B, Visovatti M, Ronis DL. The Attentional Function Index—a self-report cognitive measure. Psycho-oncology. 2011;20(2):194-202.
36. Gibbins J, McCoubrie R, Kendrick AH, Senior-Smith G, Davies AN, Hanks GW. Sleep-wake disturbances in patients with advanced cancer and their family carers. Journal of Pain and Symptom Management. 2009;38(6):860-70.
37. El Saghir NS, Khalil MK, Eid T, El Kinge AR, Charafeddine M, Geara F, et al. Trends in epidemiology and management of breast cancer in developing Arab countries: a literature and registry analysis. International journal of surgery. 2007;5(4):225-33.

38. Sanford SD, Wagner LI, Beaumont JL, Butt Z, Sweet JJ, Cella D. Longitudinal prospective assessment of sleep quality: before, during, and after adjuvant chemotherapy for breast cancer. Supportive care in cancer. 2013;21(4):959-67.
39. Jassim GA, Whitford DL. Quality of life of Bahraini women with breast cancer: a cross sectional study. BMC cancer. 2013;13(1):212.
40. Abu-Helalah M, Al-Hanaqta M, Alshraideh H, Abdulbaqi N, Hijazeen J. Quality of life and psychological well-being of breast cancer survivors in Jordan. Asian Pac J Cancer Prev. 2014;15(14):5927-36.
41. Peoples AR, Roscoe JA, Block RC, Heckler CE, Ryan JL, Mustian KM, et al. Nausea and disturbed sleep as predictors of cancer-related fatigue in breast cancer patients: a multicenter NCORP study. Supportive Care in Cancer. 2017;25(4):1271-8.
42. Armstrong TS, Vera-Bolanos E, Acquaye AA, Gilbert MR, Ladha H, Mendoza T. The symptom burden of primary brain tumors: evidence for a core set of tumor-and treatment-related symptoms. Neuro-oncology. 2015;18(2):252-60.
43. Echchikhi Y, El-Abbassi S, Touil A, Kacemi H, El-Majjaoui S, Kebdani T, et al. Sleep Disorders and Sleep Quality in Moroccan Adult Patients with Cancer during Treatment. Journal of Cancer Science & Therapy. 2017;9:9.
44. Tranmer JE, Minard J, Fox LA, Rebelo L. The sleep experience of medical and surgical patients. Clinical Nursing Research. 2003;12(2):159-73.
45. Maryam SS, Shaiju B, John N. Assessment of Quality of Sleep and Perceived Sleep Distracters among Hospitalised Patients.
46. Jolfaei AG, Makvandi A, Pazouki A. Quality of sleep for hospitalized patients in Rasoul-Akram hospital. Medical journal of the Islamic Republic of Iran. 2014;28:73.
47. Fann JR, Thomas-Rich AM, Katon WJ, Cowley D, Pepping M, McGregor BA, et al. Major depression after breast cancer: a review of epidemiology and treatment. General hospital psychiatry. 2008;30(2):112-26.
48. Berger AM, Gerber LH, Mayer DK. Cancer-related fatigue: implications for breast cancer survivors. Cancer. 2012;118(S8):2261-9.
49. Sengul Y, Sengul HS, Yucekaya SK, Yucel S, Bakim B, Pazarcı NK, et al. Cognitive functions, fatigue, depression, anxiety, and sleep disturbances: assessment of nonmotor features in young patients with essential tremor. Acta Neurologica Belgica. 2015;115(3):281-7.
50. Teunissen S, De Graeff A, Voest E, De Haes J. Are anxiety and depressed mood related to physical symptom burden? A study in hospitalized advanced cancer patients. Palliative medicine. 2007;21(4):341-6.
51. Utne I, Miaskowski C, Bjordal K, Paul SM, Rustoen T. The relationships between mood disturbances and pain, hope, and quality of life in hospitalized cancer patients with pain on regularly scheduled opioid analgesic. Journal of Palliative Medicine. 2010;13(3):311-8.
52. Miaskowski C, Lee KA. Pain, fatigue, and sleep disturbances in oncology outpatients receiving radiation therapy for bone metastasis: a pilot study. Journal of pain and symptom management. 1999;17(5):320-32.
53. Hanasoge S, Wang X, Chen Z, Mister D, Miller AH, Torres MA. The influence of radiotherapy on sleep disturbances in breast cancer patients. American Society of Clinical Oncology; 2014.
54. Gebretsadik Z, Gebrehans M, Getnet D, Gebrie D, Alema T, Belay YB. Assessment of Drug-Drug Interaction in Ayder Comprehensive Specialized Hospital, Mekelle, Northern Ethiopia: A Retrospective Study. BioMed research international. 2017;2017.

55. van Kooten JA, van Litsenburg RR, Yoder WR, Kaspers GJ, Terwee CB. Validation of the PROMIS Sleep Disturbance and Sleep-Related Impairment item banks in Dutch adolescents. Quality of Life Research. 2018;27(7):1911-20.
56. Wang XS, Zhao F, Fisch MJ, O'mara AM, Cella D, Mendoza TR, et al. Prevalence and characteristics of moderate to severe fatigue: a multicenter study in cancer patients and survivors. Cancer. 2014;120(3):425-32.
57. Woo A, Lechner B, Fu T, Wong CS, Chiu N, Lam H, et al. Cut points for mild, moderate, and severe pain among cancer and non-cancer patients: a literature review. Annals of palliative medicine. 2015;4(4):176-83.
58. Villoria E, Lara L. Assessment of a hospital anxiety and depression scale for cancer patients. Revista medica de Chile. 2018;146(3).

10. APPENDIX

Annex I: English version questionnaire structured questionnaire to assess sleep disturbance and associated factor among adult cancer patient.

Subject: Information Sheet

Good morning/Good afternoon. My name is_____ and I am a member of a team conducting research to assess sleep disturbance and associated factor among adult cancer patient on treatment. The study is conducted one of the master students in collaboration with Addis Ababa University, college of health science department of nursing and mid wifely.

The purpose of my visit today is to take information from you to assess sleep disturbance and associated factor among admitted adult patient diagnosed with cancer. If you are willing to participate, I will ask you few questions. In the study if you are found to have a certain health problems, appropriate educational counselling and education will be given to you. However, no financial payment will be made for your participation.

Your name will not be written on this form and will never be used with any information you may tell me. You do not have to answer any questions that you do not want to answer and you may end this interview at any time you want. However, your honest answer to these questions and your continuous interest to participate in study will help as for better understanding of the contributing factors of sleep disturbance symptoms eventually help in designing and implementing appropriate intervention programme to alleviate the problem.

We would very much appreciate your participation in this research by genuinely responding to the interviews. It would take 30-40 minutes to complete the questionnaire. If you have any question during my interview you can ask me at any time so that I can elaborate it.

If you want more information and check about this project you can contact the following people

Addis Ababa University, College of health science Office Tel. _____

Principal Investigator Name and Address: Ataklti Birhane Tel: 0910463419

Advisor's Name and Address: _____

School of nursing and midwifery, college of health science, Addis Ababa University

Annex II: Informed consent form

Title of the project: Assess sleep disturbance and associated factor among adult cancer patient on treatment. I have been well aware of that this research undertaking is for a partial fulfilment of MSC in oncology nursing which is fully supported and coordinated by the school of nursing and midwifery, College of health science, the designate principal investigator is Ataklti Birhane. I have been fully informed in the language I understand about the research project objectives that are to understand to determine prevalence of sleep disturbance in cancer patient.

I have been informed that all the information I shall provide to the interviewer will be kept confidential. I understood that the research has no any risk and no composition. I also knew that I have the right to withhold information, skip questions to answer or to withdraw from the study any time I have acquainted nobody will impose me to explain the reason of withdrawal. It is also enlightened there would have no effect at all in my health benefit or other administrative effect that I get from the refuge.

I have assured that the right to ask information that is not clear about the research before and or during the research work and to contact

Addis Ababa University, College of health science Office

Tel. _____

Principal Investigator's Name: Ataklti Birhane

Tel: 0910463419

Advisor's Name and Address: _____

I have read this form, or it has been read to me in the language I comprehend and understood the condition stated above, therefore, I am willing and confirm my participation by signing the consent.

Name of the participant _____

Agreed to participate in the study: Yes /No (mark one of them for verbal consent)

Signature _____ (if written consent)

Annex III: Data extraction form

Table 4: Data extraction form for the sleep disturbance and associated factors among adult cancer patient on treatment in ayder Comprehensive Specialized Hospital, 2019.

Name_____ **Date**_____

Part I: Socio-demographic and socio-economic characteristics

1. Age (years)_____
2. Sex 1. Male_____ 2. Female _____
3. Marital status: 1. Married _____ 2. Single ____ 3. Divorced _____
   4. widowed _____
4. Monthly income_____
5. Place of residence 1. rural_____ 2. urban _____
6. Level of Education 1. No education _____ 2. primary ____ 3. Secondary ____
   3. More than secondary_____

Pathological and clinical characteristics

1. Type of cancer_____
2. Stage of cancer _____
3. Duration of diagnosed cancer _____
4. Receiving chemotherapy Yes_____ No _____

Is your sleep interrupted by those factors?

1. Environmental factor: 1) noise____ 2) temperature____ 3) change in room____
2. Treatment related factor: 1) Nausea____ 2) vomiting____ 3) diarrhea___
   4) throat ulcer ____ 5) Hair loss_____
3. Physiological factor

   1) Please rate your fatigue (weariness, tiredness) by circling the one number that best describes your USUAL level of fatigue during the past 24 hours.

0	1	2	3	4	5	6	7	8	9	10
No fatigue										As bad as you can imagine

2) Please rate your pain

0	1	2	3	4	5	6	7	8	9	10
No pain										As bad as you can imagine

3) Anxiety and Depression Scale

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 you replies: your immediate is best.

D	A		D	A	
		I feel tense or 'wound up':			**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
		I still enjoy the things I used to enjoy:			**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
		I get a sort of frightened feeling as if something awful is about to happen:			**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

		I can laugh and see the funny side of things:			**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

		Worrying thoughts go through my mind:			**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

		I feel cheerful:			**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

		I can sit at ease and feel relaxed:			**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

Scoring:

Total score: Depression (D) _____ Anxiety (A) _____

0-7 = Normal

8-10 = Borderline abnormal (borderline case)

11-21 = Abnormal (case)

Sleep Disturbance—Adult

Part II: PROMIS—Sleep Disturbance—Short Form

Instructions to patient: On the questionnaire that you just completed, you indicated that during the past 2 weeks you (the individual receiving care) have been bothered by "problems with sleep that affected your sleep quality over all" at a mild or greater level of severity. The questions below ask about these feelings in more detail and especially how often you (the individual receiving care) have been bothered by a list of symptoms **during the past 7 days.**
Please respond to each item by marking (□ or x) one box per row.

								Clinician Use
In the past SEVEN (7) DAYS....								
			Not at all	**A little bit**	**Somewhat**	**Quite a bit**	**Very much**	
1.	My sleep was restless.		□ 1	□ 2	□ 3	□ 4	□ 5	
2.	I was satisfied with my sleep.		□ 5	□ 4	□ 3	□ 2	□ 1	
3.	My sleep was refreshing.		□ 5	□ 4	□ 3	□ 2	□ 1	
4.	I had difficulty falling asleep.		□ 1	□ 2	□ 3	□ 4	□ 5	
In the past SEVEN (7) DAYS....								
			Never	**Rarely**	**Sometimes**	**Often**	**Always**	
5.	I had trouble staying asleep.		□ 1	□ 2	□ 3	□ 4	□ 5	
6.	I had trouble sleeping.		□ 1	□ 2	□ 3	□ 4	□ 5	
7.	I got enough sleep.		□ 5	□ 4	□ 3	□ 2	□ 1	
	In the past SEVEN (7) DAYS....							
			Very Poor	**Poor**	**Fair**	**Good**	**Very good**	
8.	My sleep quality was...		□ 5	□ 4	□ 3	□ 2	□ 1	
						Total/Partial Raw Score:		
					Prorated Total Raw Score:			
							T-Score:	

APPROVAL SHEET

Annex IV: Tigrigna version questioner

ክፍሊ I ኩነታት ስነ-ህዝብን ማሕበረ-ኢኮኖሚያዊ

1. ዕድመ (ብዓመታት)_____
2. ፆታ፡- 1. ተባዕታይ _____ 2. ኣንስታይ_____
3. ኩነታት ሓዳር፡- 1. ባዓልቲ)ሓዳር_____2. ዘይተመርዐወ(ት)_____
   3. ዝፈትሐ(ት)____ 4. ዝሞተ-ዱ (ዝሞታ)_____
4. ወርሓዊ እቶት_____
5. መንበሪ ኣካባቢ፡- 1. ገጠር_____ 2. ከተማ_____
6. ኩነታት ትምህርቲ 1. ዘይ ተምሃረ 2. 1ይ ብርኪ _____ 3. 2ይ ብርኪ _____
   3. ልዕሊ ካልኣይ ብርኪ ----------

ኩነታት ሕክምና

1. ዓይነት ካንሰር----------
2. ደረጃታት ካንሰር ----------
3. ካብ ተሓሙ (ማ) ክንደይ እዋን ገይርኩም (ክን)? ----------
4. ኬሞትራፒ ወሲድኩም (ኪን)'ዶ?
   1. እወ ---------- 2. ኣይወስድን ----------

ካብዞም ዝስዕቡ ድቃሶም ይርብቐኒ ዶ

1. ኩነታት ከባቢ 1. ፀጥታ ዘይብሉ ---------- 2. ሙቐት ---------
   3. ለውጢ ክፍሊ----
2. ምስ መድሓኒት ዝተዛመዱ ምኽንያታት 1. ስምዒት ዕውልውል----------
   2. ተምላስ -------- 3. ተቅማጥ ---------- 4. ቁስለት ጉሮሮ----------
   5. ምግፋፍ ጨጉሪ ----------

3. ኩነታት አካላት

1. ንዝሓለፉ 24 ስዓታት ናይ ውሽጢ ድኻም ደረጃ ብዝሓሸ ኩነታት ዝገልፅ ካብ ቁፅሪ 0-10 ሓደ ይምረፁ፣

0	1	2	3	4	5	6	7	8	9	10
ዝነአሰ										ዝለዓለ

2. ቃንዘኦም (ኦን) ይግለፁ (ፃ)

0	1	2	3	4	5	6	7	8	9	10
ዝነአሰ										ዝለዓለ

3. መዐቀኒ ጭንቀትን ናይ መንፈስ ጭንቀትን

D	A		D	A	
		ተጨኒቐ ዲፈልጥ			**ዘገምተኛ ከምዝኾንኩ ይስመዐኒ**
	3	መብዛሕቲኡ እዋን		3	ኣብ መብዛሕቲኡ እዋን
	2	ብጣዕሚ ብዙሕ እዋን		2	ብተደጋጋሚ
	1	ሓሊፉ-ሓሊፉ		1	ሓድ ሓደ እዋን
	0	ፍፁም		0	ፍፁም
		ሐዚ እውን እንተኾነ ብቶም ነገራት ሕጉስ(ቲ) እየ			ሓደ ዓይነት ስምዒት ይስመዐኒ
0		ኣብ እዋን ጥንሲ		0	ኣይኮነን
1		ብጣዕሚ ንእሽተይ እዩ		1	ሓሊፉ ሓሊፉ
2		ውሕዳት ጥራይ		2	ውሕዳት ሓሊፉ ሓሊፉ
3		ብፍፁም ኣዘይኮነን		3	ብተጋጋሚ
		መፍርሒ ዝኾነ ስሚዒት ይስመዐኒ			**ብዛዕባ ኣከዳድናይ ኣይጭነቐን**
	3	ብእርግፅ ብጣዕሚ ሕማቕ እዮም		3	ብእርግፅ
	2	እወ ግን ብጣዕሚ ሕማቕ እዮም		2	ኣነ ብዙሕ ምሕብሓብ ኣይፈትውን
	1	ንእሽተይ እዩ ግና እይጭነቐን		1	ብቑዕ ጥንቃቐ ኣይገብርን
	0	ብፍፁም ኣይኮነን		0	ካብ ካሊእ እዋን ዝበለፀ ምንክብኻብ ይፈቱ
		ምፅዋትን ዘሐጉስ ምርኣይን ደስ ይብለኒ			**ድኻም ይስመዐኒ**
0		ዝኽኣልኩዎ ኹሉ ዝኣክል	3		ዝበለፀ
1		ሐዚ ብዙሕ ኣይኮነን	2		ብጣዕሚ ብዙሕ
2		ብእርግፅ ብዙሕ እዋን ኣይኮነን	1		እምብዛ ኣይኮነን
3		ኣረ ብፍፁም	0		ኣረ ብፍፁም
		ዘጨናንቁ ሓሳባት ኣብ ናተይ ኣእምሮ ኣለዉ			ንመፃኢ ሕጉስ ክኸውን እየ
	3	ብጣዕሚ ብዙሕ እዋን		0	ኣነ እስካብ ሐዚ ከምዘለኹ ዝኣክል
	2	ብጣዕሚ ብዙሕ እዋን		1	ካብዚ ዝበለፀ እንተዘይኾውን
	1	ካብ እዋን ናብ እዋን፣ ኾይኑ ግና ብዙሕ ኣይኮነን		2	ብትክክል ይጥቀመሉ እየ
	0	ሓሊፉ ሓሊፉ ጥራይ		3	ብፍፁም
		ሕጉስ(ቲ) እየ			**ሃንደበት ዝርብሸኒ ስሚዒት**
3		ብፍፁም ኣይኮነን		3	ብእርግፅ ብዙሕ እዋን

2		መብዛሕቲኡ እዋን (ብተደጋጋሚ እዋን)		2	ሓሊፉ ሓሊፉ
1		ሓደ ሓደ እዋን		1	ብዙሕ እዋን ኣይኮነን
0		መብዛሕቲኡ እዋን		0	ፍፁም ኣይኮነን
		ተቐሚጠ ዘና ክብል ይደሊ			ፅቡቕ መፅሓፍ ወይ ሬድዮ ወይ ቴሌቭዢን ክርኢ ይኽእል እየ
	0	ብእርግፅ		0	ብዙሕ እዋን
	1	መብዛሕቲኡ እዋን		1	ሓድ ሓደ እዋን
	2	ብዙሕ እዋን ኣይኮነን		2	ብዙሕ እዋን ኣይኮነን
	3	ኣረ ብፍፁም		3	ብጣዕሚ ሓሊፉ ሓሊፉ እዩ

Please check you have answered all the questions

Scoring:

Total score: Depression (D) _____ Anxiety (A) _____

0-7 = Normal

8-10 = Borderline abnormal (borderline case)

11-21 = Abnormal (case)

ክፍሊ II ሰደቓ ምስኣን ድቃስ

<u>መምርሒ፡-</u> ንዝሓለፉ ክልተ (2ተ) ሰሙናት ዝነበሮም (ዝነበረን) ኩነታት ድቃስ ካብ ዝተለመደ ወፃኢ ማለት ካብዚ ንላዕሊ ወይ ንታሕቲ እንተኾይኑ ትሕት ኢሎም ንዘለዉ ሕቶታት ብዛዕባ ስሚዒታት እዚኦም ዝበለፀ ዝርዝር የቕርቡ እዮም፡፡ ኣብቲ ዝርዝር ውሽጢ ንዘለዉ ሕቶታት ክንደይ ዝኣክል ድቃሶም ይርብሾም? በይዘኦም ኣብ ሕድ ሕድ መደዳ (X) ኢሎም መልሲ ይሃቡ፡፡

ንዝሓለፉ ሸውዓቲ (7ተ) መዓልቲታት

	ብፍፁም	ብጣዕሚ ንእሽተይ	ብዉሕዱ	ብጣዕሚ	ብጣዕሚ ዝበለፀ	ጠቅላላ
1. ናይ ድቃስ ዕረፍቲ ኣይነበረንን	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	
2. ብድቃስ ይዓግብ ነይረ	☐ 5	☐ 4	☐ 3	☐ 2	☐ 1	
3. ናይ ድቃስ ዕረፍቲ የብለኒ ነይሩ	☐ 5	☐ 4	☐ 3	☐ 2	☐ 1	
4. ድቃስ ሒዙኒ ነይሩ	☐ 5	☐ 4	☐ 3	☐ 2	☐ 1	
	ብፍፁም	**ሓሊፉ ሓሊፉ**	**ሓድሓደ እዋን**	**ብዙሕ እዋን**	**ኹሉ እዋን**	
5. ድቃስ ደቂሰ ነይረ	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	
6. ናይ ምድቃስ ፀገም ነይሩኒ	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	
7. እኹል ድቃስ ረኺበ ነይረ	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	
ዝሓለፉ ሸውዓተ (7ተ) መዓልቲታት						
	ሕማቅ	**ደካማ**	**ዳሕና**	**ፅቡቕ**	**ብጣዕሚ ፅቡቕ**	
8. ዕርየት ድቃስ	☐ 5	☐ 4	☐ 3	☐ 2	☐ 1	
					ጠቕላላ /ብክፉል ጥራዝ ውዕኢት	
					ዝተፃረየ ጠቕላላ ድሕሪ ነጥቢ ውዕኢት	
					T-score	

ADDIS ABABA UNIVERSITY

COLLEGE OF HEALTH SCIENCE

SCHOOL OF NURSING AND MIDWIFERY

I, the undersigned MSc student, declare that I have submitted my original work on a title _ assessment of sleep disturbance and associated factors among adult cancer patients on treatment in Ayder comprehensive specialized hospital Mekelle Ethiopia for the examination.

Submitted by:

_____	_____	_____
Name of student	Signature	Date

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

Approved by:

1. _____	_____	_____
Name of Major Advisor	Signature	Date
2. _____	_____	_____
Name of Co-Advisor	Signature	Date
3._____	_____	_____
Name of Examiner	Signature	Date

APPROVAL BY THE BOARD OF EXAMINATION

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

INTERNAL EXAMINER:

_____	_____	_____	_____
NAME	RANK	SIGNITURE	DATE

External EXAMINER:

_____	_____	_____	_____
NAME	RANK	SIGNITURE	DATE

RESEARCH ADVISORS:

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

DEPARTMENT HEAD

_____	_____	_____	_____
NAME	RANK	SIGNITURE	DATE

STATEMENT OF DECLARATION

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

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

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

STUDENT

Name: _____Signature: _____Date: _____

RESEARCH ADVISORS:

_____	_____	_____	_____
NAME	RANK	SIGNITURE	DATE