



**ADDIS ABABA UNIVERSITY  
COLLEGE OF HEALTH SCIENCES  
SCHOOL OF NURSING AND MIDWIFERY  
DEPARTMENT OF CLINICAL ONCOLOGY**

**JOB STRESS, COPING STRATEGY, AND ASSOCIATED  
FACTORS AMONG NURSES WORKING IN CANCER UNITS  
OF SELECTED GOVERNMENTAL HOSPITALS AT ADDIS  
ABABA, ETHIOPIA, 2020.**

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**A Research thesis submitted to the Addis Ababa University, College of Health Sciences, School of Nursing and Midwifery in partial fulfillment of the requirement for the degree of Master of Sciences in Oncology Nursing.**

**Addis Ababa, Ethiopia**

**JUNE, 2020**

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## CONTENTS

ACKNOWLEDGMENT.....	I
ACRONYMS AND ABBREVIATIONS .....	IV
LIST OF TABLES.....	V
LIST OF FIGURES.....	VI
ABSTRACT.....	VII
CHAPTER ONE: INTRODUCTION .....	1
1.1 Background .....	1
1.2 Statement of the Problem .....	3
1.3 SIGNIFICANCE OF THE STUDY .....	5
CHAPTER TWO: LITERATURE REVIEW .....	6
2.1 Factors Associated with Job Stress .....	7
CHAPTER THREE: OBJECTIVES.....	10
3.1 General Objective .....	10
3.2. Specific Objectives .....	10
CHAPTER FOUR: METHODOLOGY AND MATERIALS .....	11
4.1. Study Area.....	11
4.2 Study Design and Study Period .....	11
4.3. Source Population.....	11
4.4. Study population.....	11
4.5 Eligibility Criteria .....	11
4.5.1. Inclusion Criteria .....	11
4.5.2. Exclusion Criteria.....	11
4.6. Sample Size Determination.....	12
4.7. Sampling Procedures .....	12
4.8. Measurement Variables.....	13
4.8.1. Dependent Variables.....	13
4.8.2. Independent Variables.....	13
4.9. Operational Definition .....	13
4.10. Data Collection Method and Tool.....	14
4.11. Data Quality Assurance.....	15
4.12. Data Processing and Analysis.....	15
4.13. Ethical Consideration .....	15
4.14. Data Dissemination Plan .....	15
CHAPTER FIVE RESULTS.....	16

5.1 Socio-demographic characteristics of the respondents .....	16
5.2. 1. Job-related stress with selected demographic .....	21
5.2.3. Factors associated with job-related stress .....	23
5.3 Coping strategy used by respondents in research areas based on a questionnaire of methods of coping with stress for psychiatric nurses. ....	24
5.3. 1. The overall coping strategy used by nurses .....	29
CHAPTER SIX DISCUSSION .....	30
CHAPTER SEVEN STRENGTHS AND LIMITATIONS OF THE STUDY .....	32
7.1. Strengths of the study.....	32
7.2. Limitations of the study .....	32
CHAPTER EIGHT CONCLUSION AND RECOMMENDATIONS .....	33
8.1. Conclusion .....	33
8.2. Recommendations .....	33
REFERENCES .....	35
Annex-I: Consent Form .....	39
Annex II. Questionnaire .....	40

## **ACRONYMS AND ABBREVIATIONS**

AAU Addis Ababa University

AOR Adjusted Odd Ratio

CI Confidence Interval

COD Crude Odd Ratio

DC data collector

ETB Ethiopian birr

NIOSH National Institute for Occupational Safety and Health

NSSR Nursing Stress Scale-Revised

PI Principal Investigator

PNMCQ psychiatric nurse method of coping questionnaire

OR Odds Ratio

SD Standard Deviation

SPSS Statistical package software for social sciences

WPCS workplace coping scale

## LIST OF TABLES

Table 1: Sociodemographic characteristics of the respondents with job stress St.pauls, Zewditu Memorial, and Tikur Anbesa Hospitals, Addis Ababa, Ethiopia, 2020. (n=121) .....	16
Table2: The response of nurses to the social factors of NSSR, St. Pauls, Zewditu Memorial, and Tikur Anbesa Hospitals, Addis Ababa, Ethiopia, 2020. (n=121) .....	17
Table 3: The response of nurses to the physical factors of NSSR, St. Pauls, Zewditu Memorial, and Tikur Anbesa Hospitals, Addis Ababa, Ethiopia, 2020. (n=121) .....	18
Table 4: The response of nurses to the psychological factors of NSSR, St. Pauls, Zewditu Memorial, and Tikur Anbesa Hospitals, Addis Ababa, Ethiopia, 2020. (n=121) .....	19
Table 5: The three most sources of stress subscale by ascending mean stress levelSt. Pauls, Zewditu Memorial, and TikurAnbesa Hospitals, Addis Ababa, Ethiopia, 2020.(n=121) .....	20
Table.6. Bivariate and multivariate binary logistic regression of factors associated with Job-related stress of nurses working in St. Pauls, Zewditu Memorial, and TikurAnbesa Hospitals, AddisAbaba, Ethiopia, 2020. (n=121) .....	24
Table 7: The response of nurses in the distraction area of PNMCQ, St. Pauls, Zewditu Memorial, and Tikur Anbesa Hospitals, Addis Ababa, Ethiopia, 2020. (n=121) .....	25
Table 8: The response of nurses in self- regulation area of PNMCQ, St. Pauls, Zewditu Memorial, and Tikur Anbesa Hospitals, Addis Ababa, Ethiopia, 2020. (n=121) .....	26
Table 9: The response of nurses in Self -protection area of PNMCQ, St. Pauls, Zewditu Memorial, and Tikur Anbesa Hospitals, Addis Ababa, Ethiopia, 2020. (n=121) .....	27
Table 10: The response of nurses in Positive attitude for the profession area of PNMCQ, St. Pauls, Zewditu Memorial, and Tikur Anbesa Hospitals, Addis Ababa, Ethiopia, 2020. (n=121). .....	28
Table 11: The two most coping mechanisms used by respondents by descending mean coping level St. Pauls, Zewditu Memorial, and Tikur Anbesa Hospitals, Addis Ababa, Ethiopia, 2020. (n=121) .....	29

## LIST OF FIGURES

Figure 1: showing the conceptual framework used for the assessment of Job Stress, CopingStrategy, and associated factors among nurses working in cancer units of selected Governmental Hospitals at Addis Ababa, Ethiopia, 2020. ....	8
Figure 2: Schematic presentation of sampling procedure used for the assessment of Job Stress, Coping Strategy, and associated factors among nurses working in cancer units of selected Governmental Hospitals at Addis Ababa, Ethiopia, 2020. ....	12
Figure 3: Percent of job-related stress by gender of nurses working inSt. Pauls, Zewditu Memorial, and Tikur Anbesa Hospitals, Addis Ababa, Ethiopia, 2020. (n=121) .....	21
Figure 4: Percent of job-related stress by marital status and level of education of nurses working inSt. Pauls, Zewditu Memorial, and Tikur Anbesa Hospitals, Addis Ababa, Ethiopia, 2020. (n=121) .....	22
Figure 5: Percent of job-related stress by work experience and of nurses working inSt. Pauls, Zewditu Memorial, and Tikur Anbesa Hospitals, Addis Ababa, Ethiopia, 2020. (n=121).....	23
Figure 6: Overall level of job stress among nurses working in St. Pauls, Zewditu Memorial, and Tikur Anbesa Hospitals, Addis Ababa, Ethiopia, 2020. (n=121) .....	24
Figure 7: Overall coping mechanism among nurses working in St. Pauls, Zewditu Memorial, and Tikur Anbesa Hospitals, Addis Ababa, Ethiopia, 2020. (n=121) .....	30

## ABSTRACT

**Introduction:** Job stress is a prevalent problem among nurses working in cancer units as they deal with a large number of patients with various conditions and work overload. Therefore, if it is not properly managed stress leads to high levels of employee illness, absenteeism, high turnover, and decreased productivity which compromises the provision of quality service to clients. Coping is a cognitive and behavioral effort one uses to face a stressful situation. There is no recorded data on job stress and coping strategies in our country specifically in the cancer unit. **Objective:** To assess job stress, coping strategy, and associated factors among nurses working in cancer units of selected governmental hospitals at Addis Ababa, Ethiopia, 2020. **Method:** the institution-based cross-sectional study was conducted from March-April 2020. Structured self-administered questionnaires were used to collect data from the study participant. The study population was all nurses who are working in cancer units of selected governmental hospitals in Addis Ababa and the sample size was 124 from three hospitals. The data were entered and analyzed by the SPSS window software 25 version. Descriptive statistics such as frequency distribution and measure of central tendency and variability were computed. Bivariate and multiple logistic regressions were used to identify the association between dependent and independent variables. **Result:** A total of 124 nurses working in the cancer unit of public hospitals were given the questionnaire, and the response rate was 97.6 % (121). The study showed that 52% (63) of nurses had job stress whereas 48% (58) were not stressed. Death and dying, workload, and uncertainty concerning treatment are the most sources of stress with average means 2.9, 2.73, and 2.67 respectively. Individual factors like respondents' sex (AOR 0.33,95%, CI: 0.167-.0.882) was significantly associated with job-related stress score. Conclusion and Recommendations, in this cross-sectional study half of the nurses, were occupationally stressful. Individual factors like respondents' sex were significantly associated with overall job-related stress scores. To prevent occupational stress among nurses, policymakers, and different stakeholders should come up with strategies and develop exercise coping mechanisms that will help reduce stress for hospital-based nurses especially in special units like the oncology unit.

**Keywords:** Stress, coping strategy, nurse, Tikur Anbessa hospital, St. Paulos hospital, Zewuditu Memorial hospitals.

# CHAPTER ONE: INTRODUCTION

## 1.1 Background

Nurses play a crucial role in any health care organization and cover the largest employees in any health care organization; they act as direct caregivers who serve a hospital. This gives nurses an exceptional perspective on both patient care and hospital actions. Nurses exert long hours, especially in hospitals, they exposed to a variety of job-related stressors which may lead to stress that may affect their job satisfaction, causes poor work performance, absenteeism, and supposed to leave their position or even the nursing profession (1-3).

Today, malignancy is the most significant health problem worldwide. Therefore, cancer is the highest cause of death around the world, accounting for 22% of all chronic disease deaths as well as one of the illnesses that can continually cause tension among nurses and patients. In addition to this, giving care to cancer patients may increase stress, disappointment, isolation from work, and exhaustion in health professionals (4-7).

Stress is the interaction of body organism with the outside environment and its spontaneous response to accept individual differences, psychological processes and a feeling of being overloaded and worried while work-related stress is the response of individuals when existing with work stresses and pressures that are imbalanced to their knowledge and abilities to cope (8, 9). Due to that, stressors, such as higher workloads, death and dying, inadequate preparation, conflict with physicians, uncertainty concerning treatment as well as lack of resources like personal protective equipment which has been leading to job stress (10, 11).

Nurses employed in a cancer unit may develop stress associated with cytotoxic -induced hair loss, headache, depression, and the cytotoxic drug itself. Thus, more than 70 % of nurses working in cancer units develop moderate to high levels of job stress (8).

Coping is cognitive and behavioral challenges to control the internal and external stresses in encountering the surrounding environment. Coping reactions to stress include events in the social and spiritual side of humans and fact, it is considered as a comforting and calming agent that may help individuals in keeping their mental peace during stressful events (12, 13). Overall, the main coping mechanism to reduce job stress used by nurses working in cancer units was situational control of surroundings, seeking support, problem-solving, self-controlling, avoidance and escape, and religious coping (14).

There is limited literature that shows the coping mechanism practiced by nurses working in the cancer unit in Ethiopia. As cancer prevalence is increasingly complex cancer treatment is needed by patients and reducing qualified nursing care in the hospital. Therefore, these need a greater number of oncology nurses. And also working in the oncology unit carries an additional set of workplace issues, such as repetitively dealing with different and sensitive cancer patients, death and dying, controlling patients' pain, and helping patients and family members struggle with patients' illness. Which put nurses working in the oncology unit at a particular risk of work-related stress? Effective stress handling and coping approaches are very important.

## **1.2 Statement of the Problem**

Stress is the interaction of body organisms with the external environment and its intuitive reaction to adopt which is caused by individual differences and psychological processes. It is one of the issues that affect the wellbeing of the body and soul rooted in the psyche, thinking, insight, and people's lifestyle (15).

Oncology nurses and other healthcare professionals that work with cancer patients are at high risk of developing stress due to the grave nature of the patients' conditions. Overall, professionals sense an increase in hindrance and a sense of treatment failure, psychological and physical problems resulting from working with cancer patients which may result in leaving the profession (16, 17). Hence, it is expected that oncology nurses witness all of this suffering and offer necessary nursing care and psychological supports. Moreover, the loss of a patient an emotional shock for the nurses, because a mutually caring relationship is slowly established all these factors can greatly affect oncology nurses (18).

Job stress can be defined as the harmful emotional and physical responses occurring when job requirements not the same as the abilities and requirements of the nurses. In addition to this, it also the interaction between the work atmosphere and employees' characteristics, additional job requirements and subsequently the caused pressures which disables an individual to perform his duties (3)

Job-stress in the nursing has been a worldwide problem with rates of 9.20–68.0 percent of nurses are suffering from stress and the Institute of Health and Safety has estimated more than 13.5 million working days damages due to job-related stress and internationally the costs of work-related stress are estimated to be \$5.4 billion each year and the next to the most common job-related health problem, low back pain (19, 20).

The study conducted in Spain showed the prevalence of job stress was 30% with emotional exhaustion, personal accomplishment 35% and 15% with depersonalization while in Arab country showed that 20.0–81.0% with emotional exhaustion, 9.2–80.0%, depersonalization and 13.3–85.8% personal accomplishment (24, 25). In Ethiopia, one study conducted in Bahir Dar revealed that the prevalence of job stress among general nurses were 48.6% (26).

Coping has a stabilizing factor that may support an individual in psychosocial adaptation during stressful events but insufficient coping is linked with higher levels of psychological distress. Therefore, the types of coping methods that oncology nurses use also influence the distress that accompanies cancer (21, 22).

Some model includes coping strategies such as seeking or using social support, focusing on the positive, distancing cognitive escape avoidance, and behavioral escape avoidance (23). Even if there are many strategies to cope up with stresses in different parts of the world. There is no recorded data on coping strategies in our country therefore we have a plan to evaluate the applicable coping strategies by oncology nurses in our country. However, there is no similar prior study on job stress and coping strategy among oncology nurses. Oncology center found in Addis Ababa, which is one of the areas that gives oncology care services and cancer patients are referred to as Addis Ababa from the region. Given that the physical and psychological safety of oncology nurses is vital, therefore, to identify stressors among the oncology nurses, managing and using appropriate coping strategies to reduce the harmful effects of stress seems essential. Therefore, seeing at the level and various predictors related to stress, it is important to design a more effective way to manage stress and tension. Treatment programs for the management and preventions of its consequences like burn out, chronic disease, and increased persistence year in a cancer ward. Thus, the main purpose of this study is to assess the level of stress, coping strategies, and associated factors among nurses working in the oncology center of selected a governmental hospital at Addis Ababa, Ethiopia, 2020.

### **1.3 SIGNIFICANCE OF THE STUDY**

Job-related stress is one of the major health problems. Even though many studies were conducted in some developed countries. There is no study done in the study area, which shows the prevalence of job-related stress and coping strategies used by nurses working in cancer units. Therefore, this study will address the level of problems and ways of coping in the study area. At the same time, it will give baseline information for different stakeholders about job-related stress and coping mechanisms in nurses working in the cancer unit of public hospitals. The results would also help health care institutions; particularly hospitals to recognize factors related to stress in nursing staff & help them to take corrective measures in an attempt to create a conducive environment and to improve the health status of their employees as well as efficiency and quality of care. Furthermore, the findings from this study benefit researchers interested in the field by providing information regarding job-related stress and coping strategies in nursing staff working in governmental hospitals in the study area.

## CHAPTER TWO: LITERATURE REVIEW

In this chapter, we made a review of different kinds of literature to examine what has been done in the past on stress and tension management to observe the potential gaps. To do this review was made on the assessment of stress and coping strategy among oncology nurses from different available kinds of literature.

The word stress has come from the Latin word stringers which mean to "draw tight. Defined stress as, a syndrome produced by diverse harmful agents or a non-specific response of the body to noxious stimuli. Stress occurs when there are demands on the person, which taxes or exceeds his adjustive resources (27).

Stress is defined as being overloaded, wound-up tight, tense, and worried. Stress can be experienced from four basic sources; environment, social stressors, physiological, and thoughts (28). Cause of stress in oncology section is a high expectation from family, failure to meet needs of the patient, inability to meet needs of the family, high expectations of the patient, unnecessary prolongation of life, frustration when cytotoxic drug Psycho-social risks at work: stress and coping strategies in oncology nurses are ineffective, low salary, death of a patient and Patient prognosis(29, 30).

Stress also disturbs the quality of life and work, including overall well-being, social relations, and family life. Besides, stress can affect work absences, higher turnover, early retirement, lower productivity, and lower quality of services (31). However, coping has any cognitive and/or behavioral efforts to accomplish, minimize, or tolerate events that individuals perceive as potentially threatening to their well-being. It does not imply success in dealing with situations, the responses to stressors can also be maladaptive. It emphasizes subjective perceptions of stressors, and individual differences in ways of coping, viewing problems, experience, personality-type (12, 13, 32)

The study was conducted in India among Pediatric Oncology Nurses, revealed that cognitively appraised experiences or events linked to the work of nurses as highly stressful. Which concluded that pediatric oncology nursing is a stressful specialty, in particular to those nurses providing care to children suffering and dying (33).

A study conducted in Norway shows that the most commonly used coping mechanism was spirituality and relationships with colleagues. From these, spirituality was seen as a main coping strategy, which is not surprising considering that death and, dying are main themes for oncology nurses and can lead to despair and feelings of helplessness so that nurses who worked on pediatric oncology units had significantly lower levels of personal accomplishment than nurses who worked on adult oncology units (20). Literature done in Turkey in 2004 in 109 health professionals working in cancer units revealed that the common cause of job stress was a conflict with colleagues, lack of appreciation of efforts by superiors', problems experienced with patients and their relatives (6).

The study done in Saudi Arabia in 2013 shows that the most common cause job stress in nurses working in oncology unit was the unpredictable workload, dealing with death and dying, and inadequate preparation for their job (34).

## **2.1 Factors Associated with Job Stress**

A study conducted in Brazil showed that the main stressful factors for oncology nurses are patient death (28.6%), emergencies (16.9%), relationship issues with the nursing team (15.5%), and work-process situations (15.5%) While the coping mechanism most used by the nurses were positive reappraisal (10.34%), followed by problem-solving (9.91%), and self-control (9.86%) (34).

A study done in India revealed that 90.1% of participants had job satisfaction from these respondents 93.8% were satisfied with the attitude of doctors. However, 62.96% of participants had a moderate range of stress due to busy professional work while only 1% of respondents had less stress. In addition to these, unmarried staff had more levels of stress when compared to married staff (35). A study done in Saudi Oncology unit showed that the most common job-related stressors practiced by oncology nurses, high job demands, dealing with death, communication issues, emergency situations, interpersonal staff conflicts, lack of recognition, inadequate preparation, and low salaries were recognized as high sources of stress among oncology nurses (4).

Literature conducted in Sanford indicated that among questioners were distributed to 40 oncology nurses, from this 45 % of participants were less stressed, moderately stressed (52%), and highly stressed (2.5%) because of the two most stressful factors identified were workload and patient death and inadequate preparation and lack of support were identified as the least stressful factors. While the three most frequently used coping behaviors were verbalizing (45%), exercising (30%), and taking time for self (17.5%) and the least coping mechanism used by oncology nurses was doing work 2.5% (36).

A study conducted in Ethiopia showed that the most common causes of job stress were in Jimma death (62.94%), uncertainty regarding patient treatment (57.72%) and workload (57.6%) while in Addis Ababa, workload (44.4%), emotional issues related to patient death (40.6%) and conflict with supervisor (37.2%). Besides this, female nurses were twice as likely to suffer from work-related stress as their male and younger, and less experienced nurses had lower stress than older and more experienced nurses (28, 36).

The highest possible risk of stress is a. age, sex, work experience, workload, and patient death. Oncology nurses will be encouraged and supported through tailored interventions at multiple levels to help them find effective coping strategies and develop self-care competencies. the continuing education programs about stress and coping mechanisms of stress including intervention will be helpful for all oncology nursing staff. There is a literature gap about stress and coping mechanisms within oncology nurses. Therefore, the purpose of this study is to assess job stress, coping strategy, and its associated factors among nurses working in cancer units of selected governmental hospitals at Addis Ababa, Ethiopia.

Conceptual Framework used for the assessment of Job Stress, Coping Strategy, and associated factors among nurses working in cancer units of selected Governmental Hospitals at Addis Ababa, Ethiopia, 2020 (20,39).

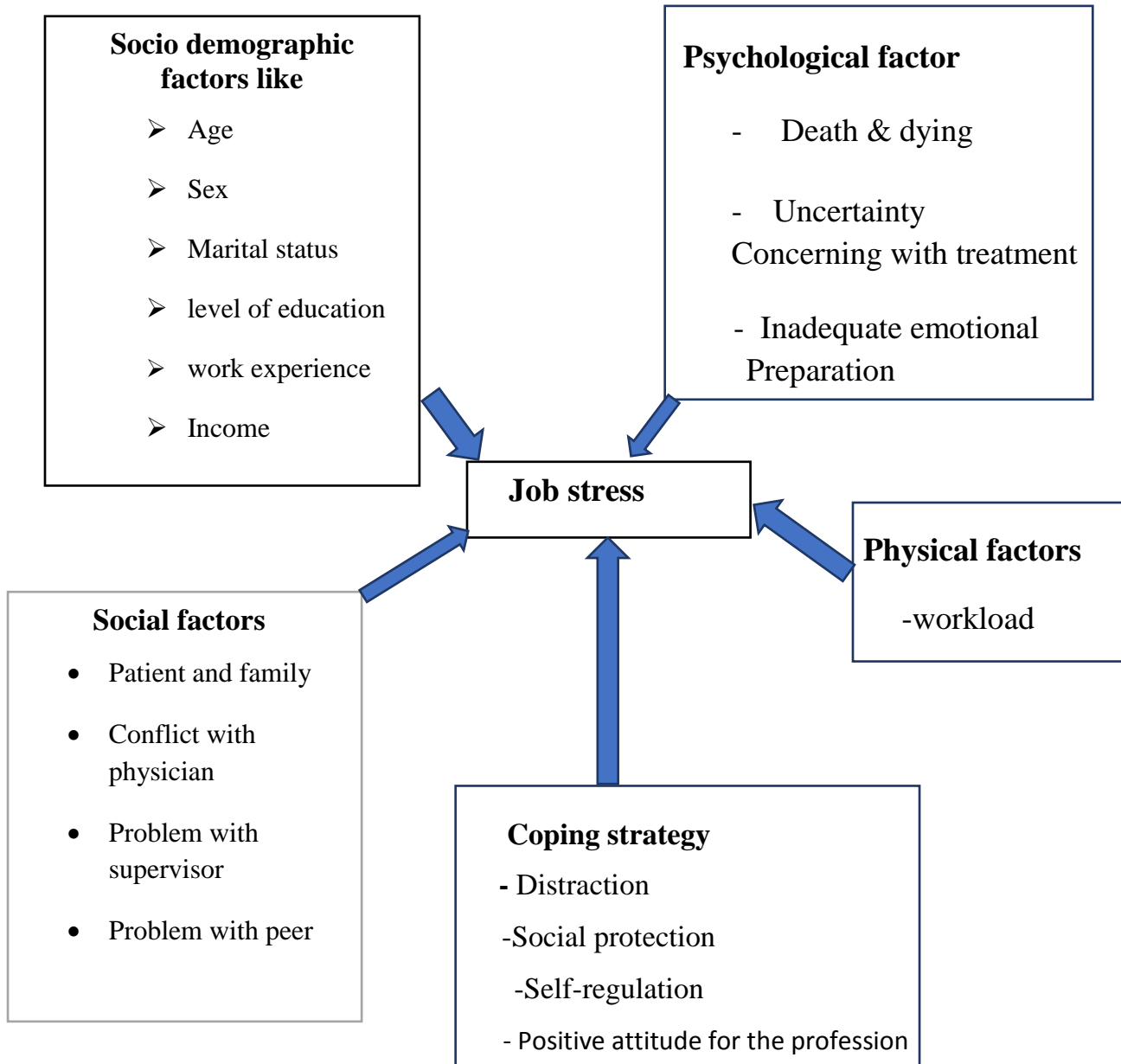


Fig.1conceptual framework about job stress and coping strategy after reviewing different literature.

## **CHAPTER THREE: OBJECTIVES**

### **3.1 General Objective**

- To assess job stresses, coping strategy, and its associated factors among nurses working in cancer units of selected governmental hospitals at Addis Ababa, Ethiopia, 2020.

### **3.2. Specific Objectives**

- I. To determine the level of job stress among nurses who work in the cancer unit.
- II. To identify the coping strategy of nurses used to manage the stress in the cancer unit.
- III. To determine factors associated with job stress.

## **CHAPTER FOUR: METHODOLOGY AND MATERIALS**

### **4.1. Study Area**

The study was conducted in Addis Ababa, which is the capital city of Ethiopia, and the seat of the African Union & Economic Commission for Africa is situated at the heartland of Ethiopia, with a population of 3,384,569 in an area of 540 square kilometers. The population pyramid is broad-based, typical of a developing world and People from different regions of Ethiopia populate in the city (40). The study was conducted at selected governmental hospitals where they provide cancer care services in Addis Ababa.

### **4.2 Study Design and Study Period**

An institution-based cross-sectional study was conducted in selected governmental hospitals giving cancer care service at Addis Ababa, Ethiopia from March – April 2020.

### **4.3. Source Population**

All Nurses working in cancer units of selected governmental hospitals at Addis Ababa, Ethiopia.

### **4.4. Study population**

All Nurses working in cancer units of selected governmental hospitals at Addis Ababa, Ethiopia who fulfill the inclusion criteria.

### **4.5 Eligibility Criteria**

#### **4.5.1. Inclusion Criteria**

- ✚ All nurses who were currently assigned and working in the cancer unit of selected hospitals during the study period.

#### **4.5.2. Exclusion Criteria**

- ✚ Nurses who work in cancer units for less than 3 months.

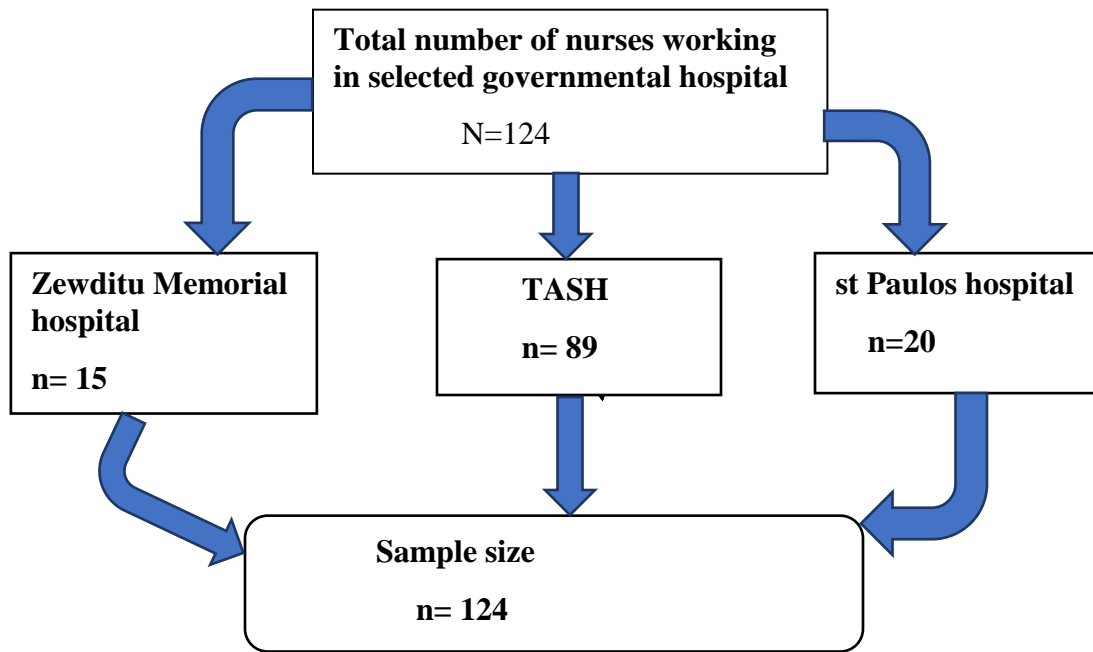
#### 4.6. Sample Size Determination

Census method was used; the sample size of the study participant is equal to the total population of nurses who are working in selected governmental hospitals of cancer units.

#### 4.7. Sampling Procedures

The population includes all nurses working in cancer units of Tikur Anbessa Specialized Teaching, Zewditu Memorial, and St. Paulos hospitals in the city of Addis Ababa.

The study was conducted at TkuireAnbessa specialized, Zewditu Memorial and St. Paulose hospitals in Addis Ababa.



**Fig.2 schematic presentation of sampling procedure used for assessment of job stress, coping strategy, and associated factors among nurses working in cancer units of selected governmental hospitals at Addis Ababa, Ethiopia, 2020.**

## 4.8. Measurement Variables

### 4.8.1. Dependent Variables

- Job stress

### 4.8.2. Independent Variables

- Socio-demographic characteristics (Age, Sex, Educational level, Year of work experience, Income)
- The social factor, physical factor and psychological factor
- Coping mechanism (distraction, self-regulation, social protection and positive attitude to the profession)

## 4.9. Operational Definition

- **Job stress:** - defined as the harmful emotional and physical responses occurring when job necessities don't match with the abilities and requirements of the nurses.
- **Stress.** It is described as an average score of above mean value were classified as stressful in the NSSR
- **Not stressful:** an average score of below mean value were classified as not stressful in the NSSR.
- **Physical factor:** refers to the source of stress which is measured by a variable: workload in NSSR (20).
- **Social factors:** refers to sources of stress which are measured by variables: e.g. conflict with the physician, problems with peers, and problems with supervisors in NSSR (20).
- **Psychological factors:** refers to sources of stress which can measure by variables: as death and dying inadequate emotional preparation, and uncertainty concerning the treatment in NSSR (20).

- **Coping Strategies:** “Thoughts and actions individuals use to change the perceived experience of a stressful event to master, reduce, or tolerate the demand created by that event.
- ❖ Respondents having an average score of above mean value were classified as used coping mechanism in PNMCQ.
- ❖ Respondents having an average score of below mean value were classified as not used coping strategy in PNMCQ is (20).

#### **4.10. Data Collection Method and Tool**

A structured self-administered questionnaire was used to collect data from study participants. The questionnaire was adapted from literature with modification to this study setting (20). The questionnaire consists of two parts. Part I deals with a selected socio-demographics and Part II modified Nursing stress scale revised (NSSR) and the questionnaire of methods of coping for a psychiatric nurse (PNMCQ). The nursing stress scale revised (NSSR) is a tool used to measure the level of job stress among nurses in hospital units. NSSR contained 40 items with eight subscales and all the items are related to physical, psychological, and social factors. The subscales are: death and dying 7 items, inadequate emotional preparation 4 items, uncertainty concerning treatment 9 items, workload 4 items, conflict with physician 3 items, problems with peers 4 items, problems with supervisors 4 items, patient and family 5 items and. Therefore, NSSR consists of 40 items with eight subscales with response options in a Likert-like format (1= never stressful, 2 = occasionally stressful, 3 = frequently stressful, 4 = extremely stressful) (20). The reliability of the instrument was established with an overall Cronbach's alpha score of 0.966 for job stress and 0.958 for tension management (20). Two bachelor nurses were recruited. The training was given for one day on the purpose of the study, details of the questionnaire, and ensuring the confidentiality of the respondents. After being written consent the facilitators were administering the questionnaire to the participants, collecting the questionnaire after the participants finished, and submitting the filled questionnaire to the principal investigator timely.

#### **4.11. Data Quality Assurance**

The training was given for data collectors and pre-testing of the questionnaire was made to ensure the quality of data at police hospitals by using 5% of the sample size. The principal investigator was made spot-checking and reviewing all the completed questionnaires to ensure completeness and consistency of the information collected. The data collectors were supervised by the principal investigator. Data entry has done by the principal investigator to keep the accuracy of the data.

#### **4.12. Data Processing and Analysis**

Data were entered, cleaned, and analyzed using IBM SPSS statistical software version 25. Descriptive statistics such as frequencies and measures of central tendency and variability (mean and standard deviation) were computed to describe variables of the study. Bivariate analysis was used to describe the association of dependent and independent variables and result from the bivariate analysis of  $p < 0.2$  will be moved to multivariate analysis and was done through stepwise multiple logistic regression techniques to control the effects of confounding variables and to identify independent predictors of stress. Statistical significance was accepted at the 5 % level ( $p < 0.05$ ). The data were described and presented using narrative text, tables, graphs, and charts.

#### **4.13. Ethical Consideration**

Ethical clearance and official letters were obtained from the Research and Ethics Committee of the Department of Nursing and midwifery of AAU to the Hospitals. After getting permission from the Hospitals to participate in the study. Written consent was obtained for the willingness of respondents to participate in the study. The purpose and procedure of data collection were clearly stated and confidentiality and privacy ensured.

#### **4.14. Data Dissemination Plan**

The result of this research will present to the community of the department of nursing and midwifery of AAU and disseminated to the library and respective Hospitals for the planning process and making intervention. Finally, it will be published in peer-reviewed journals for further utilization.

## CHAPTER FIVE RESULTS

### 5.1 Socio-demographic characteristics of the respondents

The response rate of this study was 97.6% (121). A total of 28.9% (35) male and 71.1% (86) females participated in this study. The minimum age of the respondents was 23years, mean age  $31.8 \pm 7$  years and a maximum of 52 years old. In terms of marital status, most of the participants 73(60.3%) were married, and the most frequency 86 % (104) was observed among nurses with a bachelor degree and the employment history in oncology section 47.1% (57) have belonged to the nurses with 5-10 years. Also, 52.9% (64) of the respondent nurses earned between 6000 to 9000 per month (ETB birr) (table 1).

**Table 1: Sociodemographic characteristics of the respondents with job stress and coping strategy, St.pauls, Zewditu Memorial, and Tikur Anbesa Hospitals, Addis Ababa, Ethiopia, 2020. (n=121)**

Characteristics		Frequency	Percent (%)
Sex	Female	86	71.1
	Male	35	28.9
Age of participant	20-30	77	63.6
	31-40	27	22.3
	>41	17	14.1
Marital status	Single	47	38.8
	Married	73	60.3
	Divorced	1	.8
Educational level	Degree	104	86.0
	masters in nursing	17	14.0
Working Experience	<5 year	39	32.2
	5-10 year	25	20.7
	> 10 year	57	47.1
Income of participants	3000-6000	36	29.8
	6000-9000	64	52.9
	>9000	21	17.4

## 5.2 Job-related stress level of research areas based on finding on nursing stress Scale-Revised

### Psychological factors

This study showed that concerning psychological factors 33.6% (40.6) of the respondents were extremely stressful with death and dying subscale and only 9% (11) of the respondents reported that they were never stressful for death and dying with a mean score of 2.9 out of four. About 31.4% (38) of respondents were frequently stressful with inadequate emotional preparation subscales. Of the respondents, 30.7% (37.1) was occasionally stressful with uncertainty concerning treatment. Among psychological factors, death and dying were the first sources of stress with the mean scales of 2.9 (Table 2).

**Table 2: The response of nurses to the psychological factors of NSSR, St. Pauls, Zewditu Memorial, and Tikur Anbesa Hospitals, Addis Ababa, Ethiopia, 2020. (n=121)**

Subscale	Never Stressful 1	Occasionally Stressful 2	Frequently stressful 3	Extremely stressful 4	Mean
<b>Dealing with Death and dying</b>	11(9%)	30.4(25.2%)	39(32.2%)	40.6(33.6%)	2.9
<b>inadequate emotional preparation</b>	13.5(11.2%)	44(36.4%)	38(31.4%)	25.5(21%)	2.6
<b>uncertainty concerning treatment</b>	17.1(14.2%)	37.1(30.7%)	32.7(25.1%)	33(27.3%)	2.67

## Social factors

In this study, 40.8% (49) of study participants reported that occasionally had job-related stress and 30.7% (37.2) of study participants were work-related stress frequently from the patient and their family subscale. About 27.9% (33.3) was extremely stressful in job-related stress from problems with the physician subscale. Among social factors, problems with the physician subscale were the first source of stress with the mean stress level of 2.63 and the least subscale concerning with peer and supervisor with the mean stress level of 2.5 (Table 3).

**Table 3: The response of nurses to the social factors of NSSR, St. Pauls, Zewditu Memorial, and Tikur Anbesa Hospitals, Addis Ababa, Ethiopia, 2020. (n=121)**

<b>Subscale</b>	<b>Never Stressful 1</b>	<b>Occasionally Stressful 2</b>	<b>Frequently stressful 3</b>	<b>Extremely stressful 4</b>	<b>Mean</b>
<b>Problem with physician</b>	17(13.7%)	41.3(34.1%)	29.3(24.3%)	33.3(27.9%)	2.63
<b>Problem with supervisor</b>	25.5(20.8%)	35(29.3%)	32.5(26.8%)	27.7(23.1%)	2.5
<b>Problem with peer</b>	28(23.2%)	32.7(27.1%)	30(24.8%)	30.3(24.9%)	2.5
<b>Patient and their family</b>	13.4(11.1%)	49.4(40.8%)	37.2(30.7%)	21(17.4%)	2.54

### **Physical factor**

The study showed workload was considered as a physical factor in which 17.4% (21) respondents were never stressful, 23.4% (28.3) were Occasionally stressful, 28.5% (34.5) were frequently stressful and 30.7% (37.3) were extremely stressful for workload subscales with a mean score of 2.73 (Table 4).

**Table 4: The response of nurses to the physical factors of NSSR, St. Pauls, Zewditu Memorial, and Tikur Anbesa Hospitals, Addis Ababa, Ethiopia, 2020. (n=121)**

<b>Subscale</b>	<b>Never Stressful 1</b>	<b>Occasionally Stressful 2</b>	<b>Frequently stressful 3</b>	<b>Extremely Stressful 4</b>	<b>Mean</b>
<b>Workload</b>	21(17.4%)	28.3(23.4%)	34.5(28.5%)	37.3(30.7%)	2.73

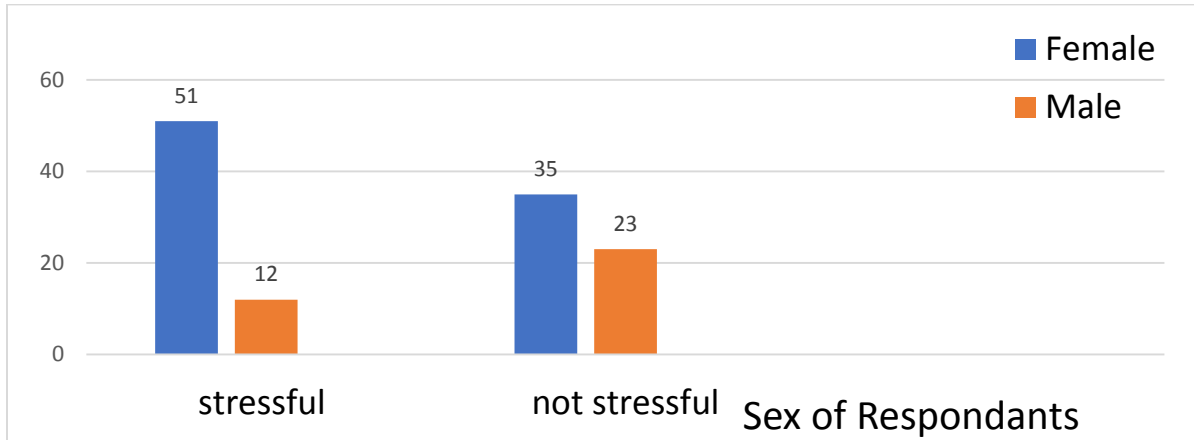
Generally, from the ascending mean stress level of each subscale, the least sources of stress were a problem with the supervisor and patient and their family with an average means 2.5 and 2.54 respectively out of five. The three most sources of stress in this study were death and dying, workload, and uncertainty concerning treatment with average means 2.9, 2.73, and 2.67 respectively out of five (Table 5).

**Table 5: The three most sources of stress subscale by ascending mean stress level St. Pauls, Zewditu Memorial, and Tikur Anbesa Hospitals, Addis Ababa, Ethiopia, 2020. (n=121)**

<b>Subscale</b>	<b>Never Stressful 1</b>	<b>Occasionally Stressful 2</b>	<b>Frequently Stressful 3</b>	<b>Extremely stressful 4</b>	<b>Mean</b>
<b>Problem with supervisor</b>	25.5(20.8%)	35(29.3%)	32.5(26.8%)	27.7(23.1%)	2.5
<b>Patient and their family</b>	13.4(11.1%)	49.4(40.8%)	37.2(30.7%)	21(17.4%)	2.54
<b>uncertainty concerning treatment</b>	17.1(14.2%)	37.1(30.7%)	32.7(25.1%)	33(27.3%)	2.67
<b>Workload</b>	21(17.4%)	28.3(23.4%)	34.5(28.5%)	37.3(30.7%)	2.73
<b>Dealing with Death and dying</b>	11(9%)	30.4(25.2%)	39(32.2%)	40.6(33.6%)	2.9

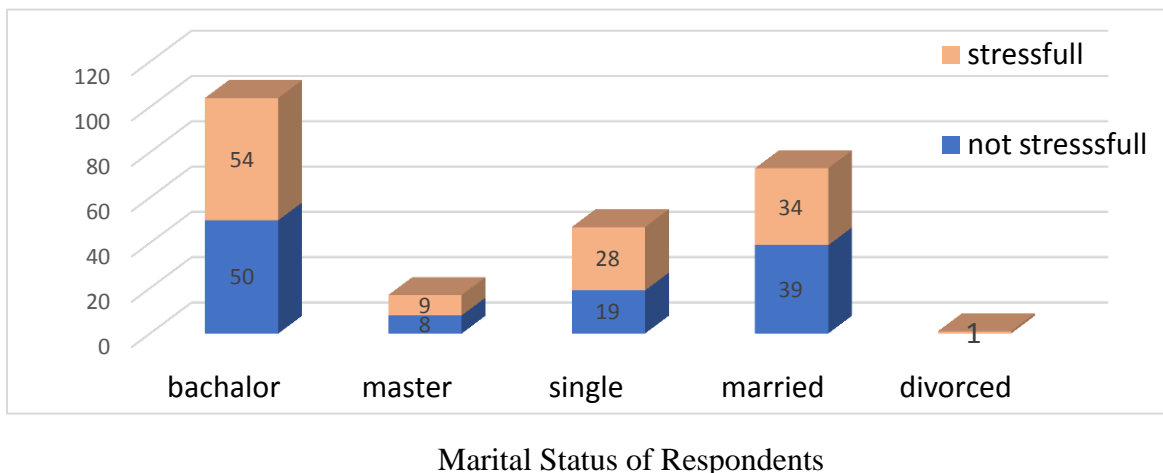
### 5.2. 1. Job-related stress with selected demographic

Concerning the gender of respondents, about 42.1% (51) of females were stressful and 9.9% (12) of males were stressful (figure3).



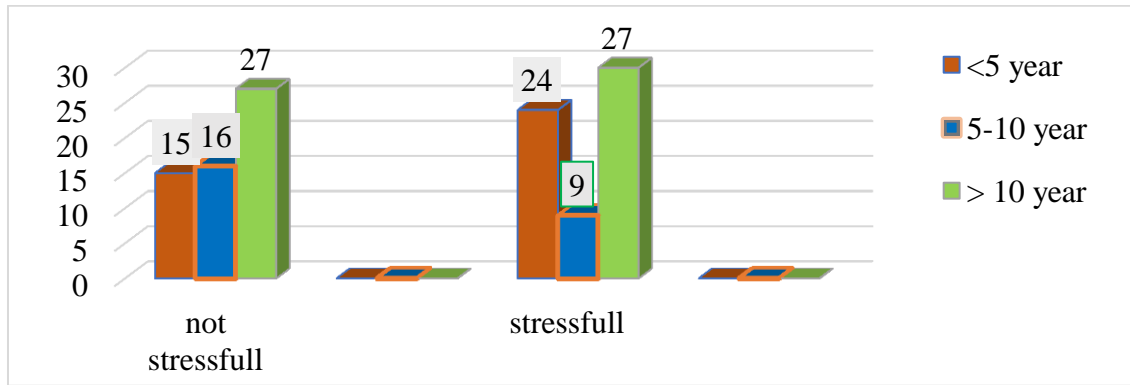
**Figure 3: Percent of job-related stress by gender of nurses working in St. Pauls, Zewditu Memorial, and Tikur Anbesa Hospitals, Addis Ababa, Ethiopia, 2020. (n=121)**

Concerning the educational level of the respondent, about 46.6% (54) of bachelor holders were stressful and 7% (9) of masters were stressful. Regarding marital status about 28.1% (34) of married participants were stressful and 23.1% (28) of single participants were stressful (figure4).



**Figure 4: Percent of job-related stress by marital status and level of education of nurses working in St. Pauls, Zewditu Memorial, and Tikur Anbesa Hospitals, Addis Ababa, Ethiopia, 2020. (n=121)**

Related with work experience of respondents from those nurses who had more than 10 years of work experience about 24.8% (30) of study participants were stressful and about 22.3% (27) of study participants were not stressful (Figure 5)

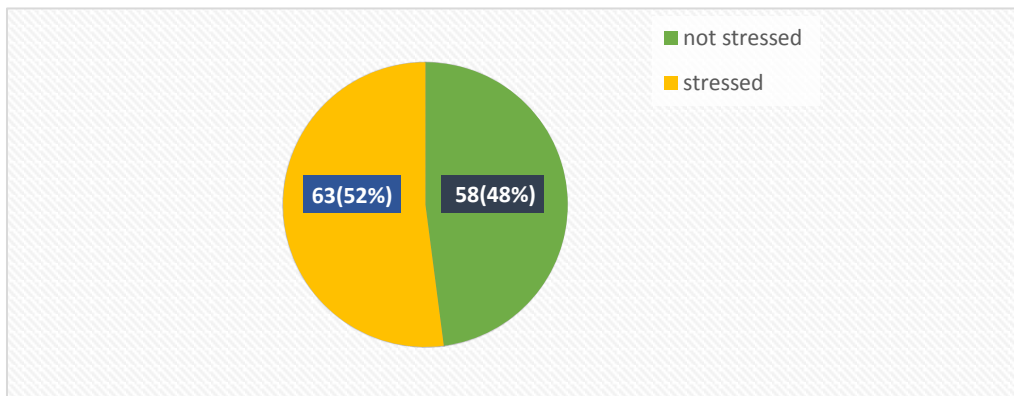


**Woke Experience**

**Figure 5: Percent of job-related stress by work experience and of nurses working in St. Pauls, Zewditu Memorial, and Tikur Anbesa Hospitals, Addis Ababa, Ethiopia, 2020. (n=121)**

### 5.2. 2. The overall level of job-related stress among nurses

To determine the general overall level of job stress and to dichotomize the response, respondents having an average score of below mean value were classified as not stressful and those with an average score of mean value and above were considered as stressful. Accordingly, 52% (63) of nurses had occupational stress whereas 48% (58) were not stressed (Figure 6).



**Figure 6: Overall level of job stress among nurses working in St. Pauls, Zewditu Memorial, and Tikur Anbesa Hospitals, Addis Ababa, Ethiopia, 2020. (n=121)**

### 5.2.3. Factors associated with job-related stress

Binary Logistic regression was performed to assess the association of each independent variable with job-related stress. The factors that showed a p-value of 0.25 and less were added to the multivariate regression model. The model contained one independent variable. The result showed that the sex of respondents was among the variables that were found to be associated with job-related stress. Participants who were female had 67% often less stressed as compared with those males.(AOR= 0.384, 95 % CI: 0.167-0.882).

**Table.6.Bivariate and multivariate binary logistic regression of factors associated with Job-related stress of nurses working in St. Pauls, Zewditu Memorial, and Tikur Anbesa Hospitals, Addis Ababa, Ethiopia, 2020. (n=121)**

Variable	Job stress		COR [95%, CI]	AOR [95%, CI]	P-value
	Yes N (%)	No N (%)			
Sex					
Female	51(42.1%)	35(29%)	<b>2.793[1.230-6.340]</b>	<b>0.33[0.167-0.882]</b>	<b>0.013</b>
Male	12(9.9%)	23(19%)	1	1	
Age					
20-30	36(29.7%)	41(33.9%)	0.479[0.161-1.426]	1.528[0.408-5.718]	0.53
31-40	16(13.2%)	11(9.1%)	0.793[0.226-2.787]	0.774[0.174-3.453]	0.74
>41	11(9.1%)	6(5%)	1	1	
Working experience					
< 5 year	24(19.8%)	15(12.4%)	1.440[0.629-3.299]	1.475[0.514-4.231]	0.64
5-10 year	9(7.4%)	16(13.2%)	0.506[0.192-1.333]	1.475[0.514-4.231]	0.47
> 10 year	30(24.8%)	27(22.3%)	1	1	
Coping mechanism					
Used	39(32.2%)	30(24.8%)	1.517[0.735-3.128]	0.634[0.295-1.362]	0.24
Not used	24(19.8%)	28(23.2%)	1	1	

**COR= Crude Odds Ratio, AOD=Adjusted odds ratio, 1=Reference, significant at p –value <0.05, C.I- confidence interval.**

### 5.3 Coping strategy used by respondents in research areas based on a questionnaire of methods of coping with stress for psychiatric nurses.

#### Distraction area

In this study, 38.8% (47) of respondents reported that they can use the coping method some extent, and 48.8% (59) very often to minimize job-related stress. In addition to this 29.8% (36) of respondents were using a great extent from the distraction subscale. In the distraction area, the least method used by respondents was handling the emergency situation with a mean of 1.8(table 7).

**Table 7: The response of nurses in distraction area of PNMCQ, St. Pauls, Zewditu Memorial, and Tikur Anbesa Hospitals, Addis Ababa, Ethiopia, 2020. (n=121)**

Subscale	Used somewhat 1	Used Very often 2	Used to Great extent 3	Mean
<b>Distraction area</b>				
Prepare myself to handle emergencies	42(34.7%)	58(47.9%)	21(17.4%)	1.8
Talk with my colleagues about the problems of the section?	32(26.6%)	57(47.1%)	32(26.4%)	2
Provide the ability to apply knowledge and experience for caring for patients for myself?	36(29.1%)	49(40.5%)	36(29.8%)	2
At the end of the shift, I go back home eagerly?	44(36.4%)	42(34.7%)	35(28.9%)	1.9
Remind myself that my colleagues trust me?	34(28.1%)	58(47.9%)	29(24%)	2
Need help I use my colleagues' support and advice?	37(30.6%)	59(48.8%)	25(20.7%)	2
Leave work sometimes to contemplate?	47(38.8%)	39(32.2%)	35(28.9%)	2
Mean	38.8(32%)	52(43%)	30.4(25%)	1.9

### Self- regulation area

In this study, 33.9% (41) of respondents reported that they can use a coping method great extent while 49.6% (60) very often to minimize job-related stress. On the other hand, 34.7% (42) of respondents were using some extent from self- regulation subscale. In the self-regulation area, the most method used by respondents discussed the problem with colleagues with mean 2.1(table 8).

**Table 8: The response of nurses in self- regulation area of PNMCO, St. Pauls, Zewditu Memorial, and Tikur Anbesa Hospitals, Addis Ababa, Ethiopia, 2020. (n=121)**

Self-regulation	Used somewhat 1	Used Very often 2	Used to Great extent 3	Mean
Take advantage of having a satisfactory life?	31(25.6%)	49(40.5%)	41(33.9%)	2.1
Draw support of the head nurse?	34(28.1%)	48(39.7%)	39(32.2%)	2
Try to view issues from different aspects?	32(26.4%)	53(43.8%)	36(29.8%)	2
Talk with my close colleagues?	32(26.4%)	51(42.1%)	38(31.4%)	2.1
Get benefited from a good friend when I need help?	28(23.1%)	60(49.6%)	33(27.3%)	2
Use relaxation techniques?	42(34.7%)	45(37.2%)	34(28.1%)	1.9
Mean	33.2(27.4%)	51(42.2%)	36.8(30.4%)	2

### Self -protection area

This study revealed that 39.7% (48)of respondents were used coping methods very often and 34.7% (42) great extent to minimize job-related stress. Accordingly, 43.8% (53) of respondents were used some extent from self- protection subscale (Table 1).

**Table 9: The response of nurses in Self -protection area of PNMCQ, St. Pauls, Zewditu Memorial, and Tikur Anbessa Hospitals, Addis Ababa, Ethiopia, 2020. (n=121)**

<b>Social Protection in the work- place area</b>	<b>Used somewhat 1</b>	<b>Used Very often 2</b>	<b>Used to Great extent 3</b>	<b>Mean</b>
Use efficient management of time for caring for oncology patients?	36(29.8%)	48(39.7%)	37(30.6%)	2
Make myself believe that I can be dependent on other colleagues?	40(33.1%)	42(34.7%)	39(32.2%)	2
Make the feeling of being useful and purposeful in myself while doing nursing.	21(17.4%)	58(47.9%)	42(34.7%)	2.2
Make myself believe that regardless of working life, my life is healthy, enjoyable, and worthwhile?	44(36.4%)	51(42.1%)	26(21.5%)	1.8
Remind me that the nursing profession is worthwhile?	19(15.7%)	67(55.3%)	35(29%)	2.2
I can be separated from my business problems?	53(43.8%)	48(39.7%)	20(16.5%)	1.7
Mean	35.5(29.4%)	52.3(43.2%)	33.2(27.4%)	1.9

### Self -protection area

This study showed that 49.6% (60) used a coping method very often with mean 2.2 whereas 32.2% (39) of respondents were used some extent with mean 2.1 to minimize job-related stress. From a Positive attitude for the profession, 56.2% (68) of respondents were used great extent (table 10).

**Table 10: The response of nurses in Positive attitude for the profession area of PNMCQ, St. Pauls, Zewditu Memorial, and Tikur Anbesa Hospitals, Addis Ababa, Ethiopia, 2020. (n=121)**

<b>Positive attitude for the profession</b>	<b>Used somewhat 1</b>	<b>Used Very often 2</b>	<b>Used to Great extent 3</b>	<b>Mean</b>
Try to calm during stress	36(29.8%)	58(47.9%)	27(22.3%)	1.9
Create positive atmosphere	17(14.1%%)	54(44.6%)	50(41.3%)	2.3
Provide hobbies outside work area	31(25.6%)	46(38%)	44(36.4%)	2.1
After hard work we can sleep more	37(30.6%)	37(30.6%)	47(38.8%)	2.1
Express my opinion	39(32.2%)	44(36.4%)	38(31.4%)	1.9
Follow other methods to overcome tension	38(31.4%)	60(49.6%)	23(19%)	1.8
Feel satisfaction through successful	30(24.8%)	52(43%)	39(32.2%)	2.1
Remind myself to do best	21(17.4%)	60(49.6%)	40(33.1%)	2.2
Positive aspect for problem	22(18.2%)	59(48.8%)	40(33.1%)	2.1
Everything will be ok by God	14(11.6%)	41(33.9%)	66(54.5%)	2.4
Resort to prayer to overcome stress	8(6.6%)	45(37.2%)	68(56.2%)	2.5
Mean	23.3(22%)	50.5(42%)	44.7(36%)	2.1

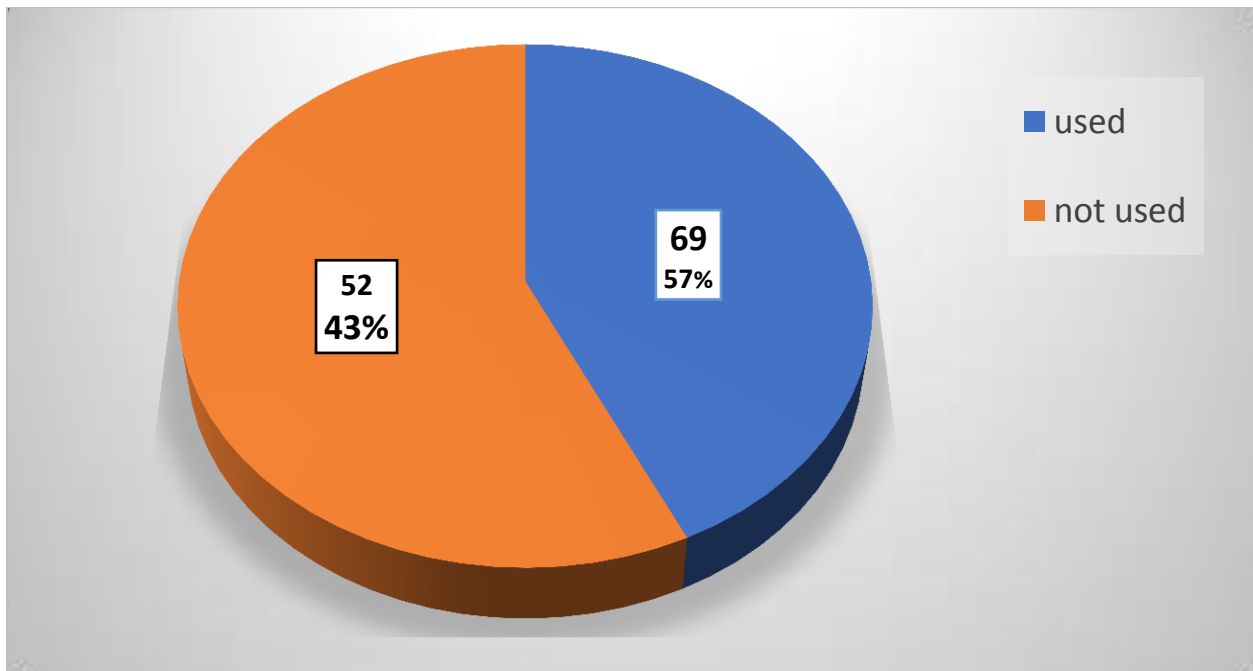
Generally, from the descending mean coping level of each subscale, the most used methods by respondents were Positive attitude for the profession and Self-regulation with average mean 2.1 and 2 respectively out of four. The least methods used in this study were a distraction and social protection with average means 1.9 for each out of four (table 11).

**Table 11: The two most coping mechanisms used by respondents by descending mean coping level St. Pauls, Zewditu Memorial, and Tikur Anbesa Hospitals, Addis Ababa, Ethiopia, 2020. (n=121)**

<b>Subscale</b>	<b>Used somewhat 1</b>	<b>Used Very often 2</b>	<b>Used to Great extent 3</b>	<b>Mean</b>
<b>Positive attitude for the profession</b>	23.3(22%)	50.5(42%)	44.7(36%)	2.1
<b>Self-regulation</b>	33.2(27.4%)	51(42.2%)	36.8(30.4%)	2
<b>Distraction area</b>	38.8(32%)	52(43%)	30.4(25%)	1.9
<b>Social protection in workplace area</b>	35.5(29.4%)	52.3(43.2%)	33.2(27.4%)	1.9

### 5.3. 1. The overall coping strategy used by nurses

To determine the general coping strategy and to dichotomize the response, respondents having an average score of below mean value were classified as not used, and those with an average score of mean value and above were considered as used coping mechanism. Accordingly, 57% (69) of nurses had used coping strategy whereas 43% (57) were not used.



**Figure 7: Overall coping mechanism among nurses working in St. Pauls, Zewditu Memorial, and Tikur Anbesa Hospitals, Addis Ababa, Ethiopia, 2020. (n=121)**

## CHAPTER SIX DISCUSSION

This study aimed to assess the level of job-related stress, and coping strategy among nurses working in cancer units in selected governmental hospitals in Addis Ababa, Ethiopia.

The prevalence of job stress in this study is 52%. This finding is low compared to the study done in India which revealed that 62.9% of respondents had a moderate range of stress (33) and study done in Jimma, Ethiopia showed that an average overall job-related stress level of  $58.46 \pm 12.62$  (28). The possible reason for the difference may be study setting or sample size. It was also high compared with a study conducted in Addis Ababa Ethiopia where the prevalence of stress among nurses was 37.8 % (19). This might be because in this study the sample size was relatively small. This finding also consistent with studies done in Sanford that showed were 54.5% of nurses reported that moderate extreme stress (36) and with studies done in Ahvaz, Iran revealed that 55.3% of study units develop job stress (8).

This study indicated that “death and dying”, workload, uncertainty regarding patient treatment, a problem with the patient and their family, and conflict with the supervisor was the major source of stress for nurses. Death and dying were perceived as the first greatest source of stress. The current study revealed that death and dying is a major source of stress which is consistent with studies done in, Brazil that showed the scores of NSSR of dealing with death and dying situations had the highest stress score, mean 28.6% and in Jima, again the highest stressful condition that nurses rated as extremely stressful were the death and dying of a patient with a mean score of 62.94 % followed by uncertainty regarding patient treatment 57.72 % (28,34).

The second source of job-related stress in this study was workload subscale. It is similar with the study done among 189 oncology nurses in Istanbul (Turkey) that showed that work overload (37). It is contrasted with another study done in North Dakota State University and Sanford (USA) revealed that the main cause of job-stress was workload, uncertainty concerning with treatment, death and dying, and lack of support (38). This might be due to a lack of experience/skill or ability to handle unexpected and difficult problems.

In the current study, many of the socio-demographic variables were not significantly associated with overall occupational stress. However, the sex of participants was significantly associated with overall job stress in multivariate logistic regression. Accordingly, Participants who were

female had 67% often less stressed as compared with those males.(AOR= 0.384, 95 % CI: 0.167-0.882). This result inconsistent with the study done in Addis Ababa (Ethiopia) which revealed that female nurses were two times more stressed than males [AOR =2.47,95% CI:1.28-4.77] (19).

This study indicated that “death and dying”, workload, uncertainty regarding patient treatment, a problem with the patient and their family, and conflict with supervisor was the major source of stress for nurses. Death and dying were perceived as the first greatest source of stress.

This study indicated that Positive attitude for the profession, Self-regulation,Distraction area, and Social protection in the workplace area were the main coping strategy used by participants. Positive attitude toward the profession's greatest coping mechanism out four. This result is consistent with the study done in Ahvaz (Iran) showed that main coping mechanism used by the nurse were Positive attitude for the profession, self-regulation, Distraction and social support (8) and literature conducted in Brazil revealed that the coping strategy most used by the nurses were positive reappraisal (34), followed by problem-solving and self-control. On other hand, this study is inconsistent with the study done in Sanford (USA) which showed that main coping mechanism used by nurses were verbalization, exercise, and relaxation and taking time for self (38) and A study was done in Norway showed that the most frequently used coping strategies were spirituality and relationships with coworkers (20). The difference is maybe the tool used or study setting.

## **CHAPTER SEVEN STRENGTHS AND LIMITATIONS OF THE STUDY**

### **7.1. Strengths of the study**

- The respondent's rate of the study was good
- The use of a standard tool to measure the level of stress and coping strategy and content validation and reliability were done before actual data collection by expert judgments.

### **7.2. Limitations of the study**

- lack of literature on the topic
- Since the cross-sectional study design didn't tell us about the cause and effect relationship between the various factor and stress level
- I am not included private hospital which gives cancer care service

## **CHAPTER EIGHT CONCLUSION AND RECOMMENDATIONS**

### **8.1. Conclusion**

In the current study half of nurses were shown job-related stressful conditions. factors like respondents. Gender was significantly associated with the overall job- related stress score Death and dying, workload, uncertainty concerning treatment were major sources of job -related stress among nurses' conflict with supervisors, and patient and family had the least.

### **8.2. Recommendations**

#### **For policymakers and government**

To prevent job-related stress among nurses, policymakers and different stakeholders come up with strategies and programs that will help to develop stress-reduction management programs for hospital-based nurses.

#### **For hospitals**

- ✓ The organization should consider increasing the nursing staff to create a better balance between the number of patients and nurses.
- ✓ Supervisors have a mutual understanding and collaboration relationship with Nurses and discuss together if they have any problems to reduce stress level.
- ✓ It should be clearly defined as workers' roles and responsibilities.

#### **Training programs should be arranged:**

- ❖ To develop employees and update their professional knowledge and skill to reduce stress among nurses.
- ❖ To dealing with stressful situations before involvement in a critical care setting is recommended to increases skills“ of supervisors in the field of administration.

**For further research**

- It is good if more studies are conducted on a larger scale especially in countrywide to identify sources of job-related stress for hospital nurses who working in oncology units and other specialties.
- Furthermore, longitudinal research will be done to draw a causal relationship between job-related and its coping mechanism.

## REFERENCES

1. Dagget T, Molla A, Belachew T. Job related stress among nurses working in Jimma Zone public hospitals, South West Ethiopia: a cross-sectional study. *BMC nursing*. 2016;15(1):39.
2. Alabd AMA, Elsayed WA, Elattar NFM. Effect of work stressors coping strategies program on nurse-physician collaboration. *American Journal of Nursing*. 2018;6(4):183-90.
3. Najimi A, Goudarzi AM, Sharifirad G. Causes of job stress in nurses: A cross-sectional study. *Iranian journal of nursing and midwifery research*. 2012;17(4):301.
4. Wazqar DY. Job Strain, Coping Strategies, and Work Performance among Oncology Nurses Working in Saudi Oncology Care Settings. 2015.
5. Hamzei-Moghaddam A, Syfaldiny R, FarhadIranmanesh, Hamid Bakhsgi, Abbas Akbaripoor. *Journal of conservative dentistry*. 2013;16(2):126-30.
6. Isikhan V, Gomez T, Danis MZ. Job stress and coping strategies in health care professionals working with cancer patients. *Eur J OncolNurs*. 2004;8(3):234-44.
7. Malvezzi M, Carioli G, Bertuccio P, Boffetta P, Levi F, La Vecchia C, et al. European cancer mortality predictions for the year 2018 with focus on colorectal cancer. *Annals of Oncology*. 2018;29(4):1016-22.
8. AbdaliBarddeh M, Naji S, Zarea K. The study of job stress and tension management among oncology nurses of Ahvaz Hospitals in 2015. *Health Sciences*. 2016;5(5):189-99.
9. Khamisa N, Peltzer K, Ilic D, Oldenburg B. Work-related stress, burnout, job satisfaction, and general health of nurses: A follow- up study. *International journal of nursing practice*. 2016;22(6):538-45.
10. Khamisa N, Oldenburg B, Peltzer K, Ilic D. Work-related stress, burnout, job satisfaction, and general health of nurses. *Int J Environ Res Public Health*. 2015;12(1):652-66.
11. Mohammed Naholi R, Nosek CL, Somayaji D. Stress among new oncology nurses. *Clin J OncolNurs*. 2015;19(1):115-7.
12. Eslami Akbar R, Elahi N, Mohammadi E, FallahiKhoshknab M. What Strategies Do the Nurses Apply to Cope With Job Stress?: A Qualitative Study. *Glob J Health Sci*. 2015;8(6):55-64.

13. Chirita V, Untu I. Kaplan, and Sadock's synopsis of psychiatry: Behavioural Sciences/Clinical Psychiatry. *Bulletin of Integrative Psychiatry*. 2016;22(1):119-23.
14. Fernandes WN, Nirmala R. Workplace stress and coping strategies among Indian nurses: A literature review. *Asia-Pacific journal of oncology nursing*. 2017.
15. Domagała PM, Gaworska-Krzemińska A. Stress and burnout among oncology nurses: a review study. *Polish Psychological Bulletin*. 2018.
16. Gomez-Urquiza JL, Aneas-Lopez AB, Fuente-Solana EI, Albendin-Garcia L, Diaz-Rodriguez L, Fuente GA. Prevalence, Risk Factors, and Levels of Burnout Among Oncology Nurses: A Systematic Review. *OncolNurs Forum*. 2016;43(3):E104-20.
17. Repka I, Szwed A, Puto G, Zurzycka P, Padykuła M, Kowal-Skałka J. Stress in a nursing profession and its influence on health behavior. *JOURNAL OF PUBLIC HEALTH, NURSING, AND MEDICAL RESCUE*. 2018;267(2018\_3):51-5.
18. Zajac LM, Moran KJ, Groh CJ. Confronting Compassion Fatigue: Assessment and intervention in inpatient oncology. *Clinical journal of oncology nursing*. 2017;21(4).
19. Salilih SZ, Abajobir AA. Work-related stress and associated factors among nurses working in public hospitals of Addis Ababa, Ethiopia: a cross-sectional study. *Workplace health & safety*. 2014;62(8):326-32.
20. Davis S, Lind BK, Sorensen C, editors. A comparison of burnout among oncology nurses working in adult and pediatric inpatient and outpatient settings. *Oncology Nursing Forum*; 2013.
21. Yulitasari BI, Amatayakul A, Karuncharerernpanit S. The relationship between perceived health status, activity of daily living, coping strategies, religiosity, and stress in the elderly at a public nursing home in Yogyakarta, Indonesia. *Journal of Health Research*. 2015;29(Suppl. 1):S97-S101.
22. Bamuhair SS, Al Farhan AI, Althubaiti A, Agha S, Ibrahim NO. Sources of stress and coping strategies among undergraduate medical students enrolled in a problem-based learning curriculum. *Journal of Biomedical Education*. 2015;2015.
23. Yoo GJ, Levine EG, Pasick R. Breast cancer and coping among women of color: a systematic review of the literature. *Supportive Care in Cancer*. 2014;22(3):811-24.

24. Cañadas- De la Fuente GA, Gómez- Urquiza JL, Ortega- Campos EM, Cañadas GR, Albendín- García L, De la Fuente- Solana EI. Prevalence of burnout syndrome in oncology nursing: A meta- analytic study. *Psycho- oncology*. 2018;27(5):1426-33.
25. Guo Q, Zheng R. Assessing oncology nurses' attitudes towards death and the prevalence of burnout: A cross-sectional study. *European Journal of Oncology Nursing*. 2019;42:69-75.
26. Gebeyehu S, Zeleke B. Workplace stress and associated factors among healthcare professionals working in public health care facilities in Bahir Dar City, Northwest Ethiopia, 2017. *BMC research notes*. 2019;12(1):249.
27. LaMontagne AD, Keegel T, Louie AM, Ostry A, Landsbergis PA. A systematic review of the job-stress intervention evaluation literature, 1990–2005. *International Journal of occupational and environmental health*. 2007;13(3):268-80.
28. Dagget T, Molla A, Belachew T. Job related stress among nurses working in Jimma Zone public hospitals, South West Ethiopia: a cross-sectional study. *BMC Nurs*. 2016;15:39.
29. Fountain DB. Job stress on an oncology nursing unit: an attitudinal survey. *Hosp Top*. 1984;62(1):26-8.
30. Gomes SdFS, Santos MMMCC, CarolinoETdMA. Psycho-social risks at work: stress and coping strategies in oncology nurses. *RevistaLatino-Americana de enfermagem*. 2013;21(6):1282-9.
31. Escot C, Artero S, Gandubert C, Boulenger JP, Ritchie K. Stress levels in nursing staff working in oncology. *Stress and Health*. 2001;17(5):273-9.
32. Folkman S, Lazarus RS. An analysis of coping in a middle-aged community sample. *Journal of health and social behavior*. 1980:219-39.
33. Fernandes WN. *Workplace Stress and Coping Strategies in the Nursing Profession: Goa University*; 2016.
34. Rodrigues AB, Chaves EC. Stressing factors and coping strategies used by oncology nurses. *RevistaLatino-Americana de enfermagem*. 2008;16(1):24-8.
35. Sharma N, Takkar P, Purkayastha A, Jaiswal P, Taneja S, Lohia N, et al. Occupational Stress in the Indian Army Oncology Nursing Workforce: A Cross-sectional Study. *Asia Pac J OncolNurs*. 2018;5(2):237-43.

36. Ko W, Kiser-Larson N. Stress Levels of Nurses in Oncology Outpatient Units. *Clin J Oncol Nurs*. 2016; 20(2):158-64.
37. Tuna R, Baykal Ü. The relationship between job stress and burnout levels of oncology nurses. *Asia-Pacific journal of oncology nursing*. 2014;1(1):33.
38. Ko W, Kiser-Larson N. Stress Levels of Nurses in Oncology Outpatient Units. *Clin J Oncol Nurs*. 2016;20(2):158-64.
39. Chegini Z. Occupational Stress among Critical Care Nurses: A Comparative Study of Public and PrivateSector. *Iran J Nurs Midwifery Res*. 2019;24(4):306-9.
40. Census Conducted by Central Statistical Agency of Ethiopia 2015.

## **Annex-I: Consent Form**

This questionnaire is prepared to assess job stress and coping strategy in Tikur Anbessa, Zewditu Memorial, and St. Paulos Hospitals; Addis Ababa, Ethiopia.” This study is very helpful to assess job stress, coping strategies, and associated factors among nurses working cancer units in Tikur Anbessa, Zewditu Memorial, and ST.paulos hospitals.The assessment is made for the partial fulfillment of a Master’s Degree in Oncology Nursing. The information you provide is confidential and is used only for this study. If you have any questions, do not hesitate to ask the data collector. Your cooperation and participation until the completion of the questionnaire is very necessary for the successful completion of the assessment. We, therefore, ask your genuine willingness.

### **Risk and Benefits**

By participating in this research project, you may feel that it has some discomfort especially on wasting time. But we hope you will participate in the study by considering the benefit of the research result. There is no risk or hazard in participating in this research project. If you participate in this research project, there may not be a direct benefit to you. But the findings of this study will help us to identify the gap and take the appropriate intervention by the authorized stakeholder. Those participants with moderate to severe stress will be managed early.

### **Incentives and Right to refuse or withdraw**

You will not be provided any incentives or payment to take part in this project you have the full right to refuse from participating in this research. You can choose not to respond to some or all questions if you do not want to give your response. You have also the full right to withdraw from this study at any time you wish, without losing any of your rights.

**Persons to contact:** If you have any question to ask, please contact

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Thank you in advance for your cooperation

## Annex II. Questionnaire

### Part I. Socio-Demographic Characteristics

s.no	Questions	Possible answers and coding	Skip
1	Sex	1.male 2.femal	
2	How old are you?	1. _____ years	
3	What is your current marital status?	1. Single 2. Married 3. Divorced	
4	What is your educational status?	1.Diploma 2. BSC 3 MSc in nursing	
5	What is your Clinical experience (year)	_____ year	
6	What is your monthly income?	1. _____ Birr	

## Part II. Questions to Assess Job Stress

**Instruction:** Below is the list of situations that commonly occur in a hospital. For each situation encountered in your present work-setting, kindly indicate how stressful it has been for you. Encircle the number in the column to the right that best applies to you.

s.no	Variables	Never Stressful 1	Occasionally Stressful 2	Frequently stressful 3	Extremely stressful 4
	<b>Workload</b>				
1	I don't have enough time to accomplish all my nursing duties?				
2	Lots of non-nursing tasks such as office work are asked me to be done?				
3	The number of employees is not sufficient for effective administration of the section?				
4	At rest, I am forced to work?				
	<b>Problem with peer</b>				
5	I can't talk openly to other employees at work?				
6	I don't have enough time to share my feelings about patients with other colleagues?				
7	I am in trouble in my current position for working with a special nurse?				
8	I work with nurses from the opposite sex?				
	<b>Physician factor</b>				
9	The doctor gives the patient a treatment that I think is inappropriate?				
10	In a case that I get conflicted with my doctor?				

11	Deciding on the patient's status when the doctor is not available?				
	<b>uncertainty concerning treatment</b>				
12	The doctor hasn't provided enough information to me about the patient's health status?				
13	I am worried that the family will report my inadequate care?				
14	The doctor is not present in an emergency situation?				
15	My health and safety are at risk?				
16	I am responsible for something despite the lack of experience?				
17	I don't know what to say to the patient or his family about his health condition?				
18	I feel some need for enough training to do something that I must do.				
19	Fearing of making mistakes in my patient care.				
20	I feel uncertainty for using chemotherapy drugs or using special equipment?				
	<b>inadequate emotional preparation</b>				
21	Feeling inadequate when helping the patients' emotional needs				
22	I don't have enough time to support the patient emotionally.				
23	I don't have enough time to respond to the needs of patients' families?				

24	I try to help mental needs of my patient's family?				
	<b>Problem with supervisor</b>				
25	I conflict with the head nurse?				
26	There is not enough support from my current head nurse?				
27	Get punished by the head nurse?				
28	Get blamed by nursing management?				
	<b>Dealing with Death and dying</b>				
29	Doing something painful for the patient.				
30	Talking to a cancer patient about his attitude towards death.				
31	A physician is not present at the patient resuscitation				
32	I see patients suffering and I am not able to control it.				
33	When the patient dies.				
34	I have to deal with misbehaving of the patients' families?				
35	Feeling powerless in the process of recovery?				
	<b>Patient and family</b>				
36	Patients have unreasonable requests				
37	I try to help mental needs of my patient's family?				
38	Patients' family have unreasonable demands?				
39	Get blamed for any inaccuracies that may occur.				
40	I am forced to deal with tempered patients.				

### Part III. Questions Assess Workplace Coping Strategies

Instructions: To respond to the statements in this questionnaire, you must have a specific stressful situation in mind. Take a few moments and think about the stressful situation at your workplace/hospital. Read each statement carefully and indicate, by circling 1, 2, or 3, to what extent you used it in the hospital work situation.

s.no	Variables	Used somewhat 1	Used Very often 2	Used to Great extent 3
	<b>Distraction area</b>			
1	Prepare me to handle emergencies			
2	Talk with my colleagues about the problems of the section?			
3	Provide the ability to apply knowledge and experience for caring for patients for myself?			
4	At the end of the shift, I go back home eagerly?			
5	Remind myself that my colleagues trust me?			
6	Need help I use my colleagues' support and advice?			
7	Leave work sometimes to contemplate?			
	<b>Self-regulation</b>			
8	Take advantage of having a satisfactory life?			
9	Draw support of the head nurse?			
10	Try to view issues from different aspects?			
11	Talk with my close colleagues?			
12	Get benefited from a good friend when I need help?			
13	Use relaxation techniques?			
	<b>Social Protection in the workplace area</b>			
14	Use efficient management of time for caring for oncology patients?			
15	Make myself believe that I can be dependent to other colleagues?			
16	Make the feeling of being useful and purposeful in myself while doing nursing.			
17	Make myself believe that regardless of working life, my life is healthy, enjoyable, and worthwhile?			
18	Remind me that the nursing profession is			

	worthwhile?			
19	I can be separated from my business problems?			
	<b>Positive attitude for the profession</b>			
20	Try to calm during stress			
21	Create a positive atmosphere			
22	Provide hobbies outside the work area			
23	After hard work, we can sleep more			
24	Express my opinion			
25	Follow other methods to overcome tension			
26	Feel satisfaction through successful			
27	Remind me to do best			
28	A positive aspect of problem			
29	Everything will be ok by God			
30	Resort to prayer to overcome stress			