PREVALANCE OF SLEEP DEPRIVATION AND ASSOCIATED FACTORS AMONG JIMMA UNIVERSITY INSTITUTE OF HEALTH STUDENTS IN, SOUTH WEST ETHIOPIA.

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THESIS SUBMITTED TO JIMMA UNIVERSITY INSTITUTE OF HEALTH, SCHOOL OF NURSING AND MIDWIFERY IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE DEGREE OF MASTER SCIENCE IN ADULT HEALTH NURSING.

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JIMMA, ETHIOPIA

JIMMA UNIVERSITY

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Abstract

Background: *Getting sufficient sleep is one of the most important things that we can do to keep our body and mind healthy. However, Sleep deprivation is common among university students. Sleep deprivation has been associated with physical illness, substance use and excessive use of electronic device. There is scarcity of data about sleep deprivation and its associated factor among university student in Ethiopia.*

Objective: *To assess the prevalence of sleep deprivation and associated factors among Jimma university, institute of health student, 2019.*

Methods: *Institution based cross-sectional study was conducted among Jimma University institute of health students. Data was collected from April 10 to April 24/2019. A total of 374 participants were selected through systmatic random sampling method on striatified data were collected using self-administered questionnaire. The collected data was cleaned, coded and entered into Epi data version 4.4.1 and then exported to SPSS version 23 for analysis. Bivariate and multivariate logistic regression analysis was used to identify the associated factors OR with 95% CI. In multivariate logistic regression $P < 0.05$ was considered as statistically significant. Descriptive statistics results was presented by using text, tables and graph.*

Result*: A total of 365 participants were included in the study with a response rate of 97.6%. The prevalence of sleep deprivation was 222(60.8%). Accordingly, (256)56.4% had <7 hours sleep duration 197(54%) have no day time disfunction and 149 (68.2%) had sleep latency. There was a significant association in physical illness than non physical illness (AOR=1.91;95% CI (1.01, 3.58,), CGPA (AOR=0.48; 95% CI (0.27, 0.83), excessive time use of electronic device before bed (AOR=5.26;95% CI (1.78, 15.52), and then alcohol drink, [AOR=0.42 95 % CI in (0.2, 0.89), khat chewing [AOR=0.47; 95% CI (0.12, 0.82,) satastically significantly associated $p < 0.05$.*

Conclusison*: Our study showed that sleep deprivation is common among institute of health students in Jimma university. Generally, institute of health student had, Physical illness, CGPA, alcohol, cigarette smoking, khat chewing and use of electronic device were significant predictors. Education on sleep hygiene techniques and its application would be beneficial in this student population.*

Key words: *sleep deprivation, Pittsburgh sleep quality index, academic performance, Ethiopia.*

Acknowledgement

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List of acronyms

AOR ………………..Adjusted OddsRatio

CGPA………………. Cumulative Grade point Average

CRD ……………….Circadian rhythmdisorder

EDs ………………..Energy drinks

ETB ………………Ethiopian birr

CGPA ……………..commulative grade point average

NREM……………Non-rapid eye movement

NSF……………….National Sleep foundation

OSA ……………….Obstructive sleep apnea

PLMD …………..... Periodic limb movement disorder

PHQ …………….. Patient Health Questionnaire

PSQI……………….Pittsburg sleep quality index

REM………..……..Rapid eye movement

RLS ……………….Restless leg syndrome

SPSS………………Statistical Package for Social Sciences

SQR ………………Self Reporting Questionnaire

WHO……………....World Health Organization
YRBS……………..Youth Risk Behavior Surveillance System

CHAPTER ONE: INTRODUCTION

1.1 Background of the study

Sleep is natural recurring process and important for physiological process of humans life (1). There is no doubt that sleep is crucial for proper brain function, no less than air, water, and food. In addition, sleep is an integral part of human health and life (2). It is crucial for learning, performance, and physical and mental health (3). Sleep deprivation is is known as insufficient sleep or not having enogh sleep. It is common among university students who live in a culture that promotes reduced sleep due to the burden of academic work and social activities (2). Sleep pattern is related to psychological, clinical, and social aspects. The health science student is one of the populations that appear to be at increased risk for sleep deprivation. Sleep deprivation has been found to affect cognitive function in health science students (4).

Sleep deprivation impact is a growing at all ages level in the world (5). Sleep is not homogeneous, and this has been investigated by recording surface electrical activity on the scalp using an electroencephalogram (EEG). In normal sleep, there is a rhythm of cycling has two cycle such as non-rapid eye movement (NREM) and rapid eye movement (REM) cycles. REM alternate every 90 to 110 minutes and is repeated four to six times per night. There are stages of sleep from light sleep (Stages 1 and 2) to deep sleep (Stages 3 and 4) (6).

However, different Studies show that adult average duration of sleep is < 7 hours and declining in several developed countries. In the USA, the average number of subjects who slept 8 hours or more per night dropped from 38% in 2001 to 26% in 2005 (7). However, sleep quality, timing of sleep and duration may influence cognitive performance (8).

It is well known that many populations from low-income countries are undergoing a rapid demographic and epidemiologic transition. Sleep habits are multifaceted and result from a complex interplay between genetics, environment, and social factors, as well as the presence of comorbidities (9). The mechanisms underlying sleep disturbance, commonly noted among adolescents and emerging adults are a number of bio behavioral and environmental factors interact to influence sleep patterns (10). Sleep deprivation has been shown to have a detrimental effect on certain aspects of working memory such as filtering efficiency (11). beneficial in restoring low levels of wakefulness and in offsetting the reduced cognitive abilities that result from sleep deprivation (12). Sleep deprivation is common problem among

university students (13). Sleep deprivation lead to declined mood, health and performance (14).

1.2 Statement of the problem

Sleep deprivation affect many different country with different level of economy development (15). Further more, one-third of the adult population have some form of sleep problem (16). sleep schedules are so variable that twice as many students as people in the general population (17). Moreover, literature shows that sleep deprivation has consequences in university student including a wide range of cognitive and performance deficits and increase error (18). The health science student population is one of the populations that appear to be at increased risk for sleep deprivation because they need to be to do their duty in the hospital or under constant study because of their examinations (19). The college student's life is full of new stimuli, live in close proximity in the dormitory, Noise from music, television, video games, and computers can often be heard twenty-four hours a day (20). This lead to an affect and hinder the academic and behavior of a student's life.

Most US college students are sleep deprived 70.6% of students reported that they get less than 8 hours of sleep (21). Among university students around the world from both the East and the West sleep deprivation is common. Different studies have indicated that 24% of university students in the United Kingdom (22), 30% in Korea(16), and 49% in Taiwan reported that they sleep deprived (23). Sleep deprivation are endemic in American society and widely recognized as a significant public health problem (24). The prevalence of insomnia among the nursing students in Italy was 26.7% to 31% of the medical students (25). According to stanford university department for the diagnosis now 68% of college students aren't getting enough sleep (26). Study reveal that young adult commonly use psychoactive substance such as caffeinated beverage, khat and Coca-Cola due to its temporary stimulant effect (27). The student use more substance due to high advertise (28).

The study showed that blue light is emitted from the screens of mobile phones, computers and other devices stops the production of melatonin. The melatonin hormone that controls the sleep-wake cycle of the circadian rhythm. Reducing the amount of melatonin production makes it harder to fall sleep and stay asleep (29). Survey conducted by the national sleep foundation reported that more than half of adult Americans used technology before bed (30).

A study showed that caffeine use is associated with a late-night preference behavior and ultimately a decreased amount of night time sleep and day time dysfunction. Drink caffeine

typically have a much higher preference for staying up late (31). Caffeine drinkers had increase in daytime sleepiness as a result of inadequate sleepat night (32). In the other study a high prevalence of poor sleep quality due to internet addiction and depression in undergraduate students in Nepal (33). Sleep deprivation lead to mood change irritable and decrease concentration (34). Data from the national health and nutrition examination survey indicate that 2.7% of the entire US population use a caffeine-containing product (35). Use of alcohol results in serious cognitive impairment and psychomotor and sleep disturbance(36). Sleep disturbances have been reported to play a role in the development of chronic disease (37) and in which prolonged sleep deficiency is linked to an increased risk of cardiac disease, renal disease, stroke, diabetes, obesity and hypertension (38). It is estimated that 50 to 70 million Americans chronically suffer from a disorder of sleep and wakefulness which affecting their health and longevity. Among serious car crash injuries in the population 20% are associated with driver sleepiness. Hunderds of billions of dollars a year are spent on direct sleep related medical costs (39). Additionally, sleep is a relevant dimension with regards to sleep–wake functioning, and poor sleep quality has been found to be associated with poor academic achievement as well as increased health care costs and absente from class (40).

To best our knowledge, there are limted studies regarding the prevalence of sleep deprivation and associated factor among university students in sab Saharan Africa countries including Ethiopia. Therefore, the aim of this study was to assess the prevalence of sleep deprivation and associated factors among Jimma University institute of health students.

1.3   Significant of the study

Sleep deprivation is one of the most common problem of university student. . Findings from this study will help in developing evidence based optimal sleep promotion programs. For study participant enhance the important and awareness about the consequence of sleep deprivation and evidence based optimal sleep is important for physical and mental health.

The findings of this study will be provides for policy makers and non-governmental organizations (NGOs) for future planning, interventions to decrease sleep deprivation.

Also the findings used as an input and gives direction for further researches area and valuable recommendations. Students are the direct beneficiary where as communities become the indirect beneficiary part from this study.

1.3   Significant of the study

CHAPTER TWO:LITERATURE REVIEW

2.1 General over view sleep

Sleep deprivation in university student is increasing from time to time in the world due to academic load, technology and environmental factors (20). This section include important information that deal about sleep deprivation and socio-demographic, behavioral. In addition, the section try to describe factors associated with sleep deprivation from different factors (41).

Study by Gauley at a large state university in south Easter united states show that sleep disorder were highly prevalent among college students the most commonly reported disorder were sleep deprivation, narcolepsy and insomnia followed by restless leg syndrome (RLS)/ periodic limb movement disorder (PLMD), circadian rhythm disorder (CRDs), affective disorder, obstructive sleep apnea (OSA) and hypersomnia, sleep walking, nightmare and sleep state misperception(SSM) (42). PSQI commonly used to measure of sleep deprivation in adults (43).

2.2 prevalence of Sleep deprivation

A cross-sectional study conducted in India 2015 from 1,215 participants showed that 33.7% had Poor sleep quality (44).

A cross-sectional study conducted in University of Malaysia 2016 among 105 participants reveal that 51.4% had poor sleep quality. Most of the respondents performed well by getting GPA in the range of 3.0-4.0 which recorded as 62.9%, whereas the remaining, 37.1% got GPA <3.0 in an examination for last Semester (45).

 A Cross-sectional study conducted in Lebanose 2014 shows that from 540 participants 58.7% were reported poor sleep quality and 42.9% smoking cigarettes, 49.3% drinking alcohol and 88.1% consumed caffeinated beverages(46).

A cross-sectional study in Saudi university among 320 participants show that 84% reported poor sleep quality 9% who reported using hypnotic medication (47).and in Iran 62.2% of university student sleep depravtion develop(62).

A cross-sectional study in North west of Iran reveal that 70% of students were poor sleepers 40% were living in dormitory or shared home (P=0.001)(36).

A cross-sectional study in Northern Malaysia among 2,728 participant reveal that 32.9% of poor sleep quality and 59.8% had no bed partner/roommate. There was no association of gender with

sleep quality (χ^2 = 1.736; p = 0.188), as the amount of female students who had good sleep quality 86% was similar to males   87% consistent with the PSQI scores which showed no significant difference p = 0.583) (48).

A cross-sectional study conduct in Egypt 2018 on Quality of sleep among Egyptian medical students reveal that 53.3% of them had poor sleep quality, Of the participants, 51.7% reported sleeping more than 7 h/day, 12.7% reported sleeping 5–6 h, and 7.5% reported sleeping less than 5 h/ day. With regard to the self-rated sleep quality, 25.5% of the participants reported very good sleep quality, 55.7% reported fairly good sleep quality, 10.2% reported fairly bad sleep quality, 93.3% reported sleep efficiency of above 85%, 4.7% reported sleep efficiency of 75–85%. The sleep latency was reported to be 24.8 less than 15 min, 38.1%, 15 - 30 min 24.6%, 30 - 60 min. Sleep disturbance was reported to be mild in 66.2%, moderate in 25.1% of the students, Daytime dysfunction was reported to be fairly bad to very bad in 48.7% of the students. (49).

A cross-sectional study conducted in Ethiopian 2012 among 2,410 participants of 55.8% having poor sleep quality. Day time dysfunction was frequent with 6.1%, while the habitual sleep efficiency 19.4% of the participants. The sleep disturbance score was also reported 26.9% of the participants and use of medication in the last one month was reported by 8.7% of the participants (41).

2.3 Socio demographic factors

A study conducted in USA among university students reveals that 82.4% lived on-campus residential housing, while the remaining participants lived off-campus. According to the PSQI diagnostic criteria, the prevalence of Sleep deprivation is 64.4% in females and 39.6% of males reported poor-quality sleepers (50).

A cross-sectional study in Nigerian 2011 university student reveal that 32.5% reported poor sleep quality   who were married 3.9% (P=0.86), Similarly alcohol drink   (P=0.04), physical illness (P<0.01) were associated with sleep deprivation. However, there were no statistically significant differences between good and poor sleep quality among sex (P=0.53) (51).

2.4 Substance use factors

 A cross-sectional study in South east Asian from 2,854 participants reveal that Poor sleep and heavy use of caffeinated beverages have been implicated as risk factors of health. Poor sleep quality was found to be 48.1%, used stimulant beverages 58.0% (OR 1.50; 95%CI 1.28-1.77) and associated with poor sleep quality 34.1% Alcohol consumption (OR 3.10; 95% CI 1.72-5.59) and 7% cigarette smoking (OR 1.43; 95% CI 1.02-1.98), 26% of the study samples reported longer sleep latency (≥

30 minutes), and 25.3% reported having daytime dysfunction due to sleepiness at least once per week.(52).

Across-sectional study in Chile 2013 among them 994 participant show that 51.8% was having poor sleep quality, 44.2% current smokers, 22.5% reported consuming alcoholic beverages per month, and 52.0% reported consumption of caffeinated beverage, 9.8% used medications for sleep and 33.5% physical inactivity (27). A cross-sectional study was conducted in 2012 Ethiopian among 2,230 participants in 52.7% having poor sleep quality: Reported show using khat were more likely to be classified as poor sleepers than those who did not consume khat (11.9% versus 9.3%, P value = 0.065)(59).

2.5 Electronic device use factors

A study conducted in Norway 2014 show that 94.7% of the respondents reported using or being exposed to electronic media in bed before going to sleep and the Mean time of media use per night was 46.6 minutes (SD=61.3)(53).

2.6 Academic performance factors

Across sectional study in Iran university 2016 among 240 participants 66.66% were poor sleepers students 14.7% had "high" scores, students 44.06% had "good" scores, students 36.72% had "normal" scores, and students 4.52% had "low" scores.(54)

In a cross sectional study in the United Arab Emirate show that 81.7% had poor sleep quality and between the numbers of classes missed per week and the poor sleep quality. (p = 0.045)(55).

2.6 Depression related factors

A cross-sectional study conducted in Ethiopia 2012among 2,817 participant 55.8% poor sleep quality and 50.8% depression symptom develop and when reduced with increasing numbers of years in university student differences were between second and third year, second year and fourth year and third year and fourth year (p<0.001) (41).

Cross-sectional study conduct In Patagonian Chilean College Student 2013 from ,832 participant 51.8% were poor sleep quality participant physical inactivity (33.5%), 55% of students reported coffee drinking while 50%of them consuming caffeinated cola products , and 22.3% reported having daytime dysfunction due to sleep loss at least once per week. A total of 30.4% were classified as having poor sleep efficiency (<85%), and 3.8% reported using sleep medicine at least once per week(58).

Cross-sectional study was conducted in 27 undergraduate campuses In 2017 Nepal among 984 students 35,4% poor sleep quality and 21.2% depression (PHQ-9 ≥ 10) (33)

In general at different study in different countries sleep deprivation a common problem of university student especially health science student more affected due to academic load, socio-demographic and use of technology.

2.5 Conceptual frame work

This conceptual framework was adapted by reviewing different literatures related to sleep deprivation that done in different countries; Nigeria(51,56,57), Egypt(49) and Ethiopia 41,59).

Medical problem
- Physical illness
- depression

Life style
- Coffee/tea
- Coca-Cola/ Pepsi
- Alcohol
- Khat
- Cigarette smoking
- Physical exercise
- Use electronic media before bed
- pocket money
- Conflict with instructors
- Conflict with

Socio demographic
- Sex
- Age
- Marital status
- Family Residence
- Current residence students

Sleep Deprivation

Academic performance
- Years of study
- GPA
- Interest with field

Figure 1:Conceptual framework   for assessment of sleep deprivation and associated factors among institute of health students at Jimma University, 2019.

CHAPTER THREE: OBJECTIVE

3.1 General objectives:

To assess the prevalence of sleep deprivation and associated factors among Jimma University institute of health students, South West Ethiopia, 2019.

3.2 Specific objectives

- To assess the prevalence of sleep deprivation among institute of health students in Jimma University 2019.
- To identify factor associated with sleep deprivation among institute of health students in Jimma University 2019.

CHAPTER FOUR: METHOD AND MATERIALS

4.1. Study area and period

The study was conducted in Jimma University from April 10 to April 24, 2019. Jimma University is found in Jimma town, Oromia regional state at 352 km south west of Addis Ababa. Jimma University have undergraduate, postgraduate, and PHD programme. Jimma University is one of the oldest public higher education institute in Ethiopia. It established by the amalgamation of Jimma college of agriculture (JCOA) founded in 1952 and Jimma Institute of health science founded in 1983. The study was conducted in the main campus Institute of health in three faculty such as; faculty of medical science, faculty of public health and faculty of health science. Currently 3274 regular undergraduate students attending at Institute of Health in Jimma University.

4.2 Study design

Institutional based cross-sectional study design was conducted.

4.3 Populations

4.3.1 Source population:

Jimma University Institute of Health all regular undergraduate students.

4.3.2 The study population:
- ➢ Selected regular undergraduate Jimma University Institute of Health students.

4.4 Eligible criteria

4.4.1 Inclusion criteria

- ✓ Jimma University Institute of Health regular undergraduate students.
- ✓ 4.4 .2 Exclusion criteria
- ✓ Critical illness during the data collection..

4.5 Sample size determination and sampling techniques

4.5.1 Sample size determination

Sample size was computed based on a single population proportion formula. To get the desired sample size ,the following assumptions were considered proportion of problem (p) of 55.8 % taken from previous study in 2012 (Gondar and haromiya University) (41). z-value of 1.96 and marginal

error of 5%. The sample size calculated using the following single population proportion formula as follow:

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

$$n = \frac{(1.96)^2 \times 0.558\,(1-0.558)}{(0.05)^2} = 379$$

Since the source of population ;the number of students who actively attending their education was less than 10,000. It was necessary to use finite population correction formula to get the desire sample size as follow:

$$nf = \frac{n}{1+n/N} = \frac{379}{1+379/3274} = 340$$

Because the previous study response rate was 94% and to maximize the sample size. we added 10% of the final sample size for non response yields the final sample size was 374.

Where, n = sample size

$Z(\alpha/2)$ = 1.96 at 95% of CI

P = prevalence of 55.8% poor sleep from previous study

d = degree of accuracy desired setting at 5% (0.05)

N= the number of health science student actively attending

4.5.2 Sampling Technique :

Systematic random sampling techniques was used to select the study participants among Jimma University institute of health in three faculties. These are stratified into eleven strata based on their respective departmentsand and year of study. Then calculate Population size N, desired sample size n k=N/n. Then the sample size was calculated for each stratum based on probability of proportion population size in each department 3274/374=9. Every nine student select in the sample based on their ID Number. The respective sample size from each study year of the department was calculated using proportionate allocation formula. By using lottery method 5 was selected From 1 – 9 numbers, then starting from 5 every $9th$ respondent was taken. Finally, the study units were selected

from each study year of the departments using systematic random sampling techniquebased on ID number.

	Medicine	Dentistry	Comprehensive nursing	Health officer	Pharmacy	Environmental health	Anesthesia	Laboratory	Neonatal nursing	OR Nursing	midwifery	
1st	141(16)	36(4)	58(7)	52(6)	62(7)	46(5)	29(3)	63(7)			50(6)	
2nd	147(17)	31(4)	75(8)	62(7)	58(7)	48(5)	29(3)	59(7)	12(1)	15(2)	41(5)	
3rd	242(28)	26(3)	91(10)	47(5)	68(7)	44(5)	27(3)	75(8)	8(1)	11(1)	55(6)	
4th	383(44)	30(3)	115(13)		71(8)	43(5)	24(3)	66(8)			55(6)	
5th	265(30)	22(2)			59(7)							
6th	333(38)											
Total sample	1511 (173)	145 (17)	339 (39)	161 (18)	318 (36)	181 (21)	109 (12)	263 (30)	20 (2)	26 (3)	201 (23)	3274 **374**

Figure 2: Schematic Presentation of Sampling procedure to assess the Prevalence of sleep deprivation and Associated Factors in institute of health Jimma university, 2019

4.6 variable of the study

4. 6.1 Dependent variable
 ➤ Sleep deprivation

4.6.2 Independent variable

A. **socio-demographic factors**

➢ Age, Sex, Marital status, current Residences, family residence,

B. Mediacl problem; Physical illness and depression

C. **Academic performance**

> Year of study, subjective interest of field and Achievement of CGPA

D. **Life style related factors**

➢ Physical exercise Conflict with instructors, electronic device, Conflict with friendsand Pocket money)

➢ Cigarette smoking, coffee/tea, alcohol,khat, coca cola and pepsi

4.7 Operational definition

➢ **Academic performance**: subjective response using final Cumulative GPA of students at the end of their previous academic semester (as it was reported by the students).

➢ **Adult**; All individuals that are 18years of age or older.

➢ **Sleep latency:** time it take in minute to fall asleep after the light turn off.

➢ **CGPA** = high (3.5 or higher), good (3 - 3.49), normal (2 - 2.99), and low (less than 2)(54)

➢ **Electronic device use:** which they watched television or used a computer, tablet mobile phone, or audio player in bed before going to sleep.

➢ *Rapid Eye Movement (REM)* - The normal stage in sleep characterized by the fast-paced and random movement of the eyes. About twenty percent of an average adult's sleep takes place in this stage (6).

➢ *Physical illness –* subjective report of participant illness that can be a type of feeling; asthma diabetes gastritis epilepsy,head ache, kidney disease …

➢ **Regular exercise**; any movement that makes your muscles work and requires your body to burn calories. Greater than 30 min per week.

➢ **Sleep deprivation;** using Pittsburgh sleep Quality index (PSQI).score range the seven componont was(0-21).finally dichotomies >5 were sleep deprived .

➢ **Good sleep :**- using Pittsburgh sleep Quality index (PSQI).score range the seven componont was(0-21).finally dichotomies <5 were good sleep.

> ➢ <u>Depression status</u>   sevirty
> 1. 1 – 4   minimal depression
> 2. 5 – 9   mild depression
> 3. 10 – 14   modrate depression

4. 15 – 19   modrate sever depression
5. 20 – 27   sever depression

4.8 Data collection tools and procedures

4.8.1 Data collection tool

The questionnaire was adapted through review of related literatures. Data was collected using structured self administered questionnaire having four parts. The first part contains socio-demographic characteristics (41,59). The second part of the questionnaire was a self reporting substance use questionnaire. The third part previously validated PSQI standardized questionnaire having 7 component and 19 item questions developed by PSQI (61) and the fourth (PHQ-9)(25). The PSQI instrument has been validated among college students in sub-Saharan Africa (61). A validation study on sleep conducted in Africa revealed that the PSQI scale sensitivity was 72% and specificity was 54.5% with a threshold of global sum score >5[62]. The PSQI is a 19-item self-reported questionnaire that evaluates sleep over the past month. The score for each component ranges from 0-3; with 3 indicating the greatest dysfunction. The sleep component scores are summeried to yield a total score ranging from(0 to 21). PHQ-9 which contain nine questionnaires each has four option final result which minimum 0 and maximum 27 (25).

4.8.2 Data collection procedure

Data was collected using pre-tested structured self-administered questionnaire. The pre-tested questionnaire was prepared in three language; English, Amharic and AfanOromo. Data collectors and supervisors recruited based on previous experience in data collection and supervision. 6 BSC Nurse data collector and supervisor were trained. During data collection, the data collector follow the student filled each data based on the questionnaire. Questions and their sensitiveness as well as, pre-testing of the instrument was done, in wolkite university other than the main study area before one week.

4.9 Data quality management

The questionnaire prepared with English language then translated into Amharic language and Afan oromo; translate back to English by language expert in order to ensure its consistency. One day training was given for data collectors and supervisors how to conduct data collection supervision and ethical issue. The training was given for 5% (18) students before one weeks data collection, in Wolkite university. After pre-testing make for relevant amendment. The internal consistence of the item was checked by computing Cronbach's alpha value 0.81 for

the tool. Double entry of data was implemented to reduce data entry error. Every questionnaire was cross checked daily by the supervisors and the principal investigator.

4.10 Data processing and analysis

First the data was checked for its completeness and consistency. Then it was coded and entered in Epi data version 4.4.1 statistical software and exported to SPSS version 23 for analysis. Bivariate logistic regression analysis was done to explore the crude association each dependent and independent variable. at $p < 0.25$ on bivariate analysis was considered as candidates for multivariate analysis. The statistical association between the independent variables in relation to dependent variables was measured using OR, and 95% of CI and at P-values < 0.05 was considered statistically significance. Finally, Descriptive analysis using text frequencies and graphs.

4.11 Ethical consideration

The study was conducted after ethical clearance and official letter was obtaine and written to each department head from the institutional review board (IRB). All completed questionnaires were anonymous, and no personal identifiers were used. An honest explanation of the study purpose, description of the benefits and offer to answer all inquiries was made to the respondents. The average time taken to complete questionnaire was 20-30 minute. Also, affirmation that they are free to withdraw consent and to discontinue participation without any form of prejudice was made. Privacy and confidentiality of collected information was ensured throughout the procedure.

4.12 Dissemination of the result

The findings of this study will be disseminated to Jimma University, institute of health and school of Nursing and Midwifery. The findings will be also disseminated to different stakeholders those who have a contribution to improve students sleep deprivation. The result of the finding will be also presented in different conferences. Finally, Efforts will be made to present the results on scientific conferences and to publish it in high reputable journal.

CHAPTER FIVE: RESULTS

5.1 Socio-demographic characteristics of study participants

From 374 desired students to participate in the study 365 participants fully respond to the questionnaire, making a response rate of 97.6%. According to the current study 303(83%) participants were single and 204 (55.9%) participants were males.

The mean age of participant 22 (SD± 3.23) years and last semester result 100 (27.4%) participants had GPA ≥ 3.5, 105(28.8%) participants had GPA 3-3.99 and 160(43.8%) had GPA 2-299. Regarding to exercise 151 (41.4%) were participated in regular exercise. The average monthly pocket money was 1029 but 299 (81.5%) participants monthly poket money was below average

Table 1Socio-demographic,CGPA,and medical problem characteristics in Jimma university, student,2019..

variable	Category	Frequency	(%)
Sex	Male	204	55.9
	Female	161	44.1
Age	18-19	73	20
	20-23	215	58.9
	>23	77	21.1
Marital status	Single	303	83.0
	Married	30	8.2
	Divorce	11	3.0
	Separated	21	5.8
Conflict with friends	Yes	77	21.1
	No	288	78.9
physical Exercise	Yes	151	41.4
	No	214	58.6
Current residence	On campus	320	87.7
	Off campus	45	12.3
Physical illness	Yes	65	17.8
	No	300	82.2
Conflict with instructors	yes	36	9.9
	No	329	90.1
Year of study	1st year	62	17.0
	2nd year	72	19.7
	3rd year	70	19.2
	4th year	70	19.2
	5th year	60	16.4
	6th year	31	8.5
Current GPA	>3.5	100	27.4
	3-3.49	105	28.8
	2-2.99	160	43.8
Depression of participant	Minimal	161	58.5
	Mild	84	30.5
	Moderate	24	8.7
	Moderate sever	6	1.8

5.2 Prevalence of Sleep deprivation

The participants went to bed on average at 11:25 pm (SD±3.27) and their average night sleep duration was 6.29 hours (SD±0.854). 159(43.6%) reported sleeping more than 7 hours/day, 146 (40%) reported sleep 6–7 h/day. The sleep latency 116(31.8%) < 15 minute of

participants, 206(56.4%) 15 - 30 minute participants, 42(11.5%) 30 - 60 min of the participants.

Subjective sleep quality 116(31.8%) participants have good, 104(28.5%) fairly good and 145(39.7%) reported fairly bad. 205(56.2%) reported sleep efficiency of above 85%, 87(23.8%) reported sleep efficiency 75–85%.

197(54%) participants who had no day time dysfunction, 161(46.%) participants who had mild day time dysfunction. The Study finding showed that 222(60.8%) of respondents were classified as they had sleep deprivation where as 145(39.2%) of participants classified as they had good sleep quality.

Table 2 Sleep deprivation and its components scores among Jimma university institute of health student,2019

Variables(n=365)	Category	Number (%)
Sleep duration	≥ 7 Hours	159(43.6)
	6-7 Hours	146(40.0)
	5-6 Hours	45(12.3)
	< 5 Hours	15(4.1)
Sleep latency	<15 min	116(31.8)
	15 – 30 min	206(56.4)
	30 - 60 min	42(11.5)
	>60 min	1(0.3)
Day time dysfunction	0	197(54)
	1	161(44.1)
	2	6(1.6)
	3	1(0.3)
Habitual Sleep efficiency	>85%	205(56.2)
	75-84%	87(23.8)
	65-74%	35(9.6)
	<65%	38(10.4)
Subjective Sleep quality	Very good	116(31.8)
	Fairly good	104(28.5)
	Fairly bad	145(39.7)
Sleep disturbance	0	67(18.4)
	1	279(76.4)
	2	19(5.2)
	3	0
Use of sleep medication	Not during the past month	313(85.8)
	Less than once a week	51(14.0)
	Once or twice a week	1(0.3)
	Three or more times a week	0
Sleep quality score	Good sleep	**143(39.2)**
	Sleep deprived	**222(60.8)**

5.3 Charactrstic of Substances use
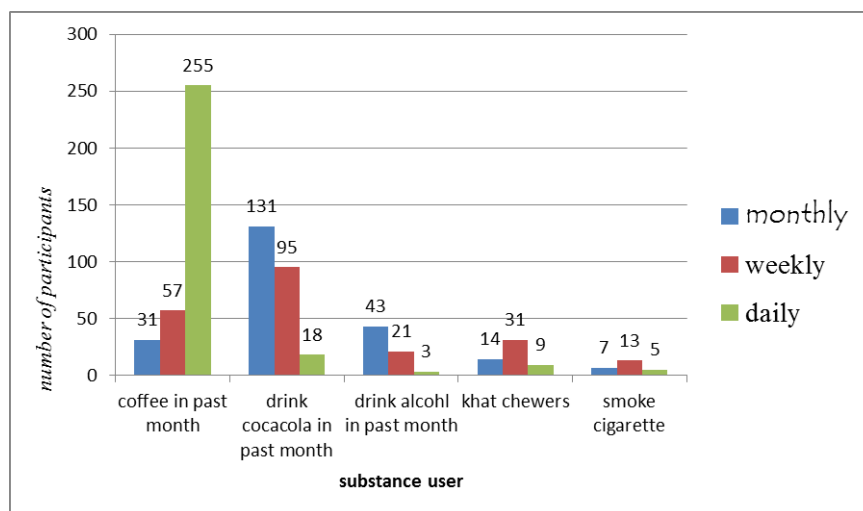
Figure 3   substance user in the past month in JUinstitute of health student, 2019

Substance use and its sleep deprived .
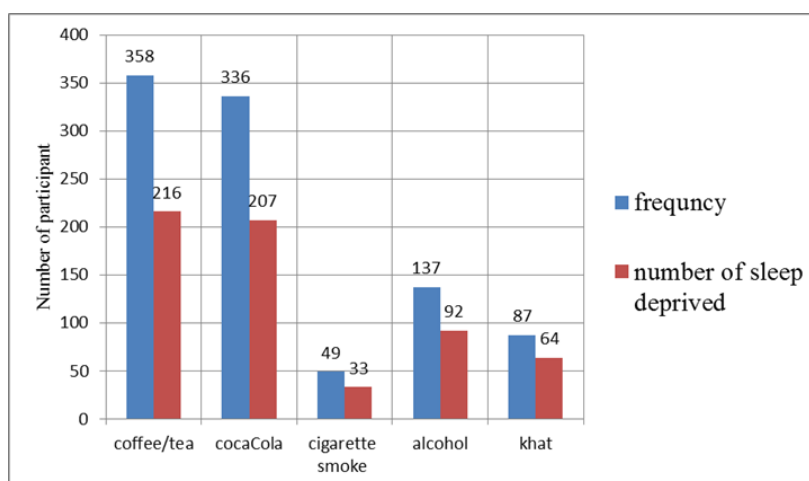
Figure 4 Substance use and sleep deprived among JU institute health students 2019

5.4 bi-variate logistic regression analysis associated factors with sleep deprivation

In the bi-variate logistic regression analysis,sex, last semester GPA, marital status, year of study, physical illness, depression and physical exercise were associated with sleep deprivation at P value < 0.25 and entered into multivariate logistic regression. Sex [COR=0.72, 95% CI (0.47, 10), p=0.135], last semester GPA [COR=0.53,95% CI 0.32, 0.89 (p=0.01), depression [COR= 0.25 95% CI 0.08, 0.775, (p=0.016),year of study [COR=2.44;95% CI(0.96, 6.17) (p=0.05) physical illness (COR= 0.53, 95% CI 0.29, 0.97 (p value=0.039) regular exercise [COR= 1.48; 95% CI (0.75, 2.93) (p =0,25) were bivariate logistic regression associated with sleep deprivation.

Table 3 biviariate analysis socio-demographic factors in Jimma university Institute of health student, 2019

Variable	category	Frequency (%)	Global PSQI score		COR (95% CI.)	P- valve
			Sleep deprived	good sleeper		
Sex	male	204(55.9)	131(64.2)	73(35.8)	0.72(0.47, 10)	0.135*
	female	161(44.1)	91(56.5)	70(43.5)	1.00	
Age	18-19	73(20)	42(57.5)	31(42.5)	1.00	
	20-23	215(58.9)	134(62.3)	81(37.7)	0.81(0.47,1.40)	0.46
	>23	77(21)	46(59.7)	31(40.3)	0.91(0.47,1.74)	0.78
Family Residence	Urban	248(67.9)	147(59.3)	101(40.7)	1.00	
	Rural	117(32.1)	75(64.1)	42(35.9)	1.22(0.77,1.93)	0.37
Conflict with friends	yes	77(21.1)	45(58.4)	32(41.6)	1.00	
	No	288(78.9)	177(61.5)	111(38.5)	1.13(0.68,1.89)	0.63
Marital status	Single	303(83.0)	178(58.7)	125(41.3)	1.00	
	Married	30(8.2)	19(63.3)	11(36.7)	0.82(0.37,1.79)	0.62
	Divorce	11(3.0)	8(72.7)	3(27.3)	0.53(0.13,2.05)	0.36
	separated	21(5.8)	17(81)	4(19)	0.33(0.11,1.02)	0.05*
Pocket income	<1000	299(81.5)	184(61.5)	115(38.5)	0.82(0.48, 1.42)	0.49
	>1000	65(17.7)	37(56.9)	28(43.1)	1.00	
physical Exercise	Yes	151(41.4)	91(60.3)	6039.7)	0.74(0.48, 1.14)	0.18*
	No	214(58.6)	131(61.2)	83(38.8)	1.00	
R.exercise In minute	>30 min	75(52.1)	43(57.3)	32(42.7)	1.00	
	<30min	69(47.9)	46(66.7)	23(33.3)	1.48(0.75,2.93)	0.25*
Physical illness	Yes	65(17.8)	47(72.3)	18(27.7)	0.53(0.29,0.97)	0.039*
	No	300(82.2)	175(58.3)	125(41.7)	1.00	
Depression	Minimal	161(58.5)	90(55.9)	71(44.1)	ref	
	Mild	84(30.5)	57(67.9)	23(29.1)	0.60((0.34,1.04)	0.07*
	Moderate	24(8.7)	20(83.3)	4(16.7)	0.25(0.08,0.775)	0.016*
	Mod. sever	5(1.8)	4(80)	1(20)	0.30(0.31,2.89)	0.30
Current GPA	>3.5	100(27.4)	52(52)	48(48)	1.00	
	3-3.49	105(28.8)	63(60)	42(40)	0.72(0.41,1.25)	0.24*
	2-2.99	160(43.8)	107(66.9)	53(33.1)	0.53(0.32,0.89)	0.01*
Year of study	1st year	62(17.0)	35(56.5)	27(43.5)	1.88(0.74,4.75)	0.17*
	2nd year	72(19.7)	42(58.3)	30(41.7)	1.74(0.70,4.32)	0.22*
	3rd year	70(19.2)	39(55.7)	31(44.3)	1.94(0.78, 4.81)	0.15*
	4th year	70(19.2)	54(77.1)	16(22.9)	0.72(0.27,1.88)	0.50
	5th year	60(16.4)	30(50)	30(50)	2.44(0.96, 6.17)	0.05*
	6th year	31(8.5)	22(71)	9(29)	1.00	

NB. *P < 0.05,**P < 0.001

5.5 bi-variate logistic regression analysis associated factors with sleep deprivation

In the bi-variate logistic regression analysis six viariables candidate for mltivariate logistic regression analysis such as; drink coca-cola, Frequency of Coca-Cola, drink alcohol, smoke

cigarette khat chewing use of electronic device before bed time were associated with sleep deprivation at p- value ≤ 0.25 and entered into multivariable logistic regression.

Table 4 Bivaiate analysis of factors associated with sleep deprivation in Jimma university of student, 2019

Variable	Category	Frequency (%)	Global PSQI score		COR (95%CI)	P value
			Sleep deprived	Good sleeper		
Drink coffee or tea in life time	yes	358(98.1)	219(61.2)	139(38.8)	0.47(0.10,2.15)	0.33
	No	7(1.9)	3(42.9)	4(57.1)	1.00	
Drink coffee or tea in this month	yes	341(93.4)	208(61)	133(30.9)	1.17(0.42,3.24)	0.76
	No	24(6.6)	11(64.7)	6(35.5)	1.00	
Frequency drink coffee or tea in this month	Monthly or less	31(9)	21(67.7)	10(32.3)	0.65(0.29,1.45)	0.30
	Weekly	57(16.6)	40(70.2)	17(29.8)	0.58(0.31,1.09)	0.89
	Daily or almost daily	255(74.3)	148(58)	107(42)	1.00	
Drink Coca-Cola in life	Yes	336(92.1)	207(61.6)	129(38.4)	0.66(0.31,1.42)	0.19*
	No	29(7.9)	15(51.7)	14(48.3)	1.00	
drunk Coca-Cola in past month	yes	242(72)	150(62)	92(38)	0.94(0.58,1.54)	0.82
	No	94(28)	57(60.6)	37(39.4)	1.00	
FrquencyCoca-Cola Drink in past month	Monthly or less	131(53.7)	86(65.6)	45(34.4)	1.00	
	Weekly	95(38.9)	53(55.8)	42(44.2)	1.71(0.93,3.12)	0.08*
	Daily or almost daily	18(7.4)	13(72.2)	5(27.8)	0.62(0.15, 2.47)	0.50
Drink Alcohol in life time	Yes	137(37.5)	92(67.2)	45(32.8)	0.61(0.39, 0.95)	0.03*
	No	228(62.5)	130(57)	98(43.)	1.00	
Drink alcohol in past month	Yes	65(47.4)	42(64.6)	23(35.4)	1.24(0.60,2.54)	0.36
	No	72(52.6)	50(69.4)	22(30.6)	1.00	
Frequency of alcohol drink in past month	Monthly or less	42(64.6)	30(71.2)	12(28.6)	2.50(0.83, 7.53)	0.90
	Weekly	20(30.8)	10(50)	10(50)	1.25(0.10,15.10)	0.99
	Daily or almost daily	3(4.6)	2(66.7)	1(33.3)	1.00	
Smoke cigarette in life time	Yes	49(13.5)	33(67.3)	16(32.7)	0.50(0.26, 0.94)	0.03*
	No	314(86.5)	187(59.6)	127(40.4)	1.00	
smoke cigarette in past month	Yes	24(52.2)	19(79.2)	5(20.8)	0.56(0.14,2.13)	0.39
	No	22(47.8)	15(68.2)	7(31.8)	1.00	
Frequency of smoke cigarette in past month	Monthly or less	6(40)	5(83.3)	1(16.7)	0.18(0.01, 2.15)	0.79
	Weekly	5(33.3)	4(80)	1(20)	0.54(0.06, 4.37)	0.88
	Daily or almost daily	4(26.7)	3(75)	1(25)	1.00	
Khat chew in life time	Yes	87(23.8)	64(73.6)	23(26.4)	0.47(0.27, 0.80)	0.006*
	No	278(76.9)	158(56.8)	120(43.2)	1.00	
Have you chew khat in past month	yes	54(62.1)	33(73.3)	12(26.7)	0.93(0.35,2.56)	0.89
	No	33(37.9)	23(71.9)	9(28.1)	1.00	
Frequency khat chew in past month	Monthly or less	12(26.7)	11(91.7)	1(8.3)	0.33(0.43,2.48)	0.29
	Weekly	24(53.3)	16(66.7)	8(33.3)	0.81(0.16, 4.00)	0.80
	Daily or almost	9(20)	6(66.7)	3(33.3)	1.00	

	daily					
Use electro media	Yes	294(80.5)	178(60.5)	116(39.5)	1.00	
	No	71(19.5)	44(62)	27(38)	1.06(0.62, 1.81)	0.82
Type of electro device	Mobile	252(69)	156(61.9)	96(38.1)	1.00	
	Watch TV	21(5.8)	9(42.9)	12(57.1)	2.16(0.88,5.33)	0.09*
	computer	22(6)	14(63.)	8(36.4)	0.92(0.37,2.29)	0.87
electro device in minute before bed	<60	267(89.6)	166(62.2)	101(37.7)	1.00	
	60-120	26(8.7)	11(42.3)	15(57.7)	2.24(0.99,5.07	0.05*
	>120	5(1.7)	5(100)	0	0	0.99

NB. *P < 0.05,**P < 0.001

5.6 Multivariate logistic regression analysis associated with sleep deprivation

Multivariate logistic regression analysis was fitted to determine factors associated with sleep deprivation. Factors that showed significance at p-value < 0.25 were included into the final multivariable model for analysis.

From total variables included into the multivariate logistic regression; six variables were found statistically significant. Physical illness, CGPA, alcohol drink, smoke cigarette, khat use and use of electro-device before bed time were predictors of sleep deprivation.

Multivariate logistic regression analysis showed that, those who had physical illness were nearly 2 time more likely to experience sleep deprivation [AOR=1.91;95% CI, 1.01, 3.58) p=0.044) than those who had not physical illness. Accordingly those who scored GPA 2-2.99 were 52% less likely to have good sleep compared those who had ≥3.5 point [AOR=0.48, 95% CI 0.27, 0.83 (p value =0.009). Students who drunk alcohol were 58% less likely to have good sleep as compare to students did not drunk alcohol [AOR=0.42 95 % CI in 0.2, 0.89 (p value=0.023). Students who were khat users were 69% less likely to have good sleep [AOR=0.31 95% CI 0.12, 0.82 (p=0.018), as compare to students who did not khat use. Students who smoke cigarette were 70% less likely to have good sleep as compare to students did not smoke cigarette [AOR=0.30 95 % CI in (0.09, 0.93) (p value=0.05). Participants who used electronic device before bed 60-120 minute before bed were 5.26 times [AOR=5.26 95% CI 1.78, 15.52 (p = 0.003) more likely to have poor sleep experience as compared to those students who used electronic media less than 60 minute before bed. (table 5)

Table 4Multivariate logestic regression variable associated with sleep deprivation in JU student,2019

Variable	Category	Global score PSQI		COR 95%, CI	AOR 95%, CI	P value
		Sleep deprivation	Good sleep			
Physical illness	Yes	45(72.6)	17(27.4)	0.53(0.29, 0.97)	1.91(1.01, 3.58)	0.044*
	No	177(58.4)	126(41.6)	1.00		
Current GPA	>3.5	52(52)	48(48)	1.00		
	3-3.99	63(60)	42(40)	0.72(0.41, 1.25)	0.72(0.40, 1.29)	0.27
	2-2.99	107(66.9)	53(33.1)	0.53(0.32,0.89	0.48(0.27, 0.83)	0.009*
Alcohol drink	Yes	92(67.2)	45(32.8)	0.61(0.39, 0.95)	0.42(0.20, 0.89)	0.023*
	No	130(57)	98(43.)	1.00		
khat chewing	Yes	64(73.6)	23(26.4)	0.47(0.27, 0.80)	0.31(0.12,0.82)	0.018*
	No	158(56.8)	120(43.2)	1.00		
Smoke cigarette	Yes	33(67.3)	16(32.7)	0.50(0.26,0.94)	0.30(0.09, 0.93)	0.05*
	No	187(59.6)	127(40.4)	1.00		
Use of electro media	<60	166(62.2)	101(37.7)	1.00		
	60-120	16(42.3)	15(57.7)	2.24(0.99,5.07)	5.26(1.78, 15.52)	0.003*

NB. *= reference variable, ** = significant at < 0.001, *= significant at <0.05 Adjusted

CHAPTER SIX: DISCUSSION

This study showed that the prevalence of sleep deprivation among Institute of health under graduate students in jimma university was high. Approximately 61% of students in our study were classified as having sleep deprivation. In this study alcohol, drinking, cigarette smoking, khat using, physical illness, score of GPA and uses of electronic device were found to be statistically significant predictors of sleep dedprivation.

The theoretical values of this finding- it expand body of knowledge for interested readers regarding on sleep deprivation, identifying the possible risk factors and determining the magnitude of sleep deprivation among students.

Practical values of this finding- the university may prepare an action plan for promoting healthy sleep through counseling service, professionals give to attention and assess sleep deprivation when they assess physical and psyciological complains, it is also important for meta analysis and used as an input for policy making and researchers use this finding as a baseline for future study.

Approximately, 61% (95% CI, 56 - 65%) of students in our study were classified as sleep deprived. 44.6% of the participants slept greater than 7 hours daily, showed that Less than the study conduct in Egypt 51.7%. The pssible reason for this diffrence may be that less consumption of coffee and cultural varation in Egypt (49). In our study show that sleep latency 11.5% of 15 -30 minute lower than in the south East Asia 25.3%. The possible cause could be socio-demographic and cultural deffrence.(52). 56.2% reported sleep efficiency of above 85% in our study showed that less than in Egypt 93.3% reported sleep efficiency of above 85% (49). The possible cause for difference might be our respondents were higher use of caffibated beverage, khat and cultural difference.

Regarding the subjective sleep quality 68.2% of the students in our study reported fairly bad. This is higher than a university of Egypt, where 18.7% (49). This could be explained by more stressful educational system due to examination period, higher burden on the students or different sociodemographic variables in Ethiopia.

This study was in line with studies conducted in Lebanose university 58.7% (46), india 60% (43), and University of Iran 62.4%(62). The possible cause should be results as in the previous studies which indicate due to similar socio demographic, period of data collection, methodology and use of data collection instrument.

This study was higher than studies conducted in medical students in Ethiopia (Gonder and Haromaya) 55.8%(41), Nigeria 49.5%(51), Egypt 53.3% (49). This difference may be contributed to variation in the curriculum, measuring tool, living condition and other constraints high coffee consumption life style and environmental factors.

This study finding revealed that students who had physical illness were nearly two times high risk for sleep deprivation than counterpart. Our finding in line with study conducted in Nigeria (51). This should be excessive use of electronic media and environmental factors.

Caffeine consumption to be associated with increased odds of poor sleep quality sub scales, but it appeared to be associated only with long sleep latency. Caffeine consumed even in the afternoon could impair the ability to fall asleep. Caffeine is an adenosine receptor antagonist and can increase arousal. Caffeine also may act on gamma-amino butyric acid neurons of the posterior hypothalamus to suppress sleep-promoting pathways. The net effect is that caffeine increases vigilance, alertness, and decreases sleepiness (31).

Participant who had normal CGPA were 52% less likely to have good sleep compared those who had higher CGPA. This fiding is in line with study conducted in University of Malaysia (45). The possible factors excessive use of electronic media, similar socio demographic area.

Students who drunk alcohol were 58% less likely to have good sleep as compare to students did not drunk alcohol. This fiding is in line with study conducted in Nepal (33) and chilean (27). This could be the same measuring tool and university regulation.

This study result showed that excessive electronic device user before bed time were 5.26 time more likely to be sleep deprived comparing to their counterpart. This fiding is in line with study conducted in United Arab Emirate (55). This could be due to Impact of globalization and fast growth of modernization.

This study result showed that participants who smoke cigarette were 70% less likely to have good sleep as compare to students did not smoke cigarette. This fiding is in line with study conducted in Chilean College (27) and in Lebanose (46) This could be due to globalization impact and the same regulation of university.

This study result showed that Students who were khat users were 69% less likely to have good sleep as compare to students who did not khat use. This fiding is in line with study conducted in Ethiopia(Gondar and haromya) (59). This might be due the same exposure and similar environment.

6.1 Limitations of the study

➤ First,the cross sectional nature of study design does not determine cause and effect relationship.

➤ use of a self-administered survey that relied on subjective measures of sleep deprivation and other covariates may have introduced some degree of error.

➤ This study was interpreted with some limitations. 'dose of substance use were not exactly known.

CHAPTER SEVEN: CONCLUSION AND RECOMANDATION

7. 1 Conclusion

Our study showed that sleep deprivation is common among institute of health under graduate students in Jimma university. Generally, institute of health student had late to bed time, Physical illness, CGPA, alcohol, cigarette smoking, khat chewing and use of electronic device were significant predictors. Education on sleep hygiene techniques and its application would be beneficial in this student population.

7.2 Recommendations

➤ Federal ministry of health and minister of education should invest on university students training & capacity building to increase and to create awareness for optimal sleep.

➤ Health education programs regarding duration and quality of sleep should be emphasized in colleges students to increase the awareness and importance of optimal sleep.

➤ Governments should develop legislation to control proper use of electronic device, khat and cigarette.

➤ Jimma university should limit consumption of khat, cigarette, alcohol and electronic device use

➤ Students should use their time properly and read more on academics than other leisure activities to achieve their goal on their GPA/result to decrease distress.

➤ Further longitudinal and large sample size at national level studies are needed on how to improve the quality of sleep of this special group of population.

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ANNEX

Anex I : Participant information sheet

My name is MamoSolomon and I am Adult health nursing student at Jimma University. I am doing a research entitled "Magnitude of sleep deprivation among Jima university south west Ethiopia 2019

Purpose: The objective of the study is to determine the Magnitude of sleep deprivation and associated factor in Jima University 2019. The knowledge gained from this work is believed to help the government to tackle this problem.

Study procedures: You're approached to the study team member(s) who will explain the details of the study to you and ask for your consent to participate in the study. If you are willing to participate in this study, you will be asked to verbal consent form.

Benefits: The knowledge gained from this work is believed to help the government to tackle this problem.

Confidentiality: the result of the study and related information will only use for the purpose of this study. Your name will not be used on the sample questionnaire and/or any report that might result from the study. We will use codes specific to the study and only the principal investigator can access the link of the code with the participant's information.

Sharing the result: At the end of this study we will write a report about the results of the study through publication or any other means. The reports won't bear any information relevant to your personality. We assure you the confidentiality of such information.

Right to refuse :Since participation in this study is entirely voluntary. You can refuse to participate in this research at any time. Your refusal to participate in this study will not affect any of the benefits you are supposed to get from the center.

Freedom to ask question or raise concerns: If you have any question(s) or concern(s) regarding the study; you can forward them with the address indicated below any time at:

Principal investigator MamoSolomon

Phone: - 0932271095

E-mail:- mamosol69@gmail.com

JIMMA UNIVERSITY

Questionnaire to AssessPrevalence sleep deprivation and its associated factors among Undergraduate health science students, Jima University main campus, South Western, Ethiopia 2019.

Dear respondents;

My name is _____field of study Adult health nurse MSc. Students, need information towards sleep deprivation to do a research. This research result only indicates to the prevalence of sleep deprivation and its associated factors and generalization is made to this University. The questionnaire takes only 20-30 minutes. So, Ineed your genuine co-operation. Every information is kept confidential. No one will observe except the investigator or data collectors. If you require any clarification do not hesitate to ask the investigator assigned for you. This questionnaire is not examination. There is no right or wrong answer. But make sure that you have read each question carefully, and give the answer you think correct for yourself by circling the number of your choices.

If you agree by this idea encircle **yes**If not encircle **No**

Yes-continue

No –thank you

Thank you for your genuine co- operation

ANNEX III: Questionnaire and Consent Form

Respondent's number/ code _____

After reading the following Ninteen questions which asks about socio-demographic economic characteristics, give appropriate answer based on the questions.

Table 6 Socio Demographic questionniare

No	Questioners	Response.	skip
1	Age in year	_____	
2	**Sex**	1. Male 2. Female	
3	Where residence of your family?	1. Rural 2. Urban	
4	Do you have family problem to you?	1. Yes 2. No	
5	Do you have friends conflict?	1. Yes 2. No	
6	Marital status	1. Single 2. Married 3. Divorced 4. Separated	
7	Participants pocket money (ETB)	_____	
8	Current Living status	1. on-campus 2. off-campus	
9	Do you have interest to your department choice?	1. Yes 2. No	
10	Do you have conflict to your instructor?	1. Yes 2. No	
11	Year of study	1. 1st year 2. 2nd year 3. 3rd year 4. 4th year 5. 5th year 6. 6th year	
12	Could you write your CurrentGPA please?	_____	
13	Do you do regular physical exercise	1. Yes 2. No	
14	If yes question number 15 how many minuteperday	_____	
15	Do you use electronic media before bed	1. Yes 2. No	

16	If your answer question number 17yes how many minutes	_____	
17	If your answer for question number 18 is yes which one did you use?	1. watched television 2. computer, 3. mobile phone 4. if other explain -------	
18	Have you a medical problem	1. Yes 2. No	
19	If yes for question number 21 which one did you feel in the past 6 month	1. asthma 2. diabetes 3. gastritis 4. if other explain -------	

Part II The following 15 questions focusonsubstances, so you are requested to give answers about your personal behavior on the use of these substances

No	Questionnaire	Response	skip
1	Have you ever drunk coffee/tea?	1. Yes 2.No	
2	If your answer to question number 1 is'yes' have you drunk in the past 30 days?	1. Yes 2. No	
3	If you answer to question number 2 is yes how often have you drink in the past 30 days?	1. monthly or less 2. weekly 3. daily or almost daily	
4	Have you drunk Coca-Cola /Pepsi drink?	1. Yes2. No	
5	If your answer to question number 4 is yes have you drunk in the past 30 days?	1. yes 2. No	
6	If you answer to question number 5 is yes how often have you drink in the past 30 days?	1. monthly or less, 2. weekly 3. daily or almost daily	
7	Have you drink alcohol?	1. Yes 2. No	
8	If you answer to question number 7 yes have you drunk in the past 30 days	1. Yes 2. No	
9	If you answer to question number 9 yes how often have you drink in the past 30 days?	1. monthly or less, 2. weekly 3. daily or almost daily	
10	Have you ever smoked cigarette?	1. Yes 2. No	
11	If you answer to question number 11 yes have you drunk in the past 30 days	1. Yes 2. No	

12	If you answer to question number 12 yes how often have you smoke in the past 30 days?	1. monthly or less, 2. weekly 3. Daily or almost daily	
13	Have you ever chewed khat?	1. Yes 2. No	
14	If your answer to question number 14 is yes have you chewed in the past 30 days	1. Yes 2. No	
15	If your answer to question number 15 is yes how often have you chewed in the past 30 days?	1. monthly or less, 2. weekly 3. daily oralmost daily	

Questioner PSQI

Instruction : The following question are related to your usual sleep habit during the past month

Only your answer should indicate the most accurate replay for the majority of days and nights to

the past month only. Please answer the question.

1. What time have you usualy gone to bed at night?_____
2. How long (in minutes) has it usually taken you to fall asleep each night?_____
3. What time have you usually gotten up in the morning?_____
4. How much hours of <u>actual sleep</u> did you get at night? _____

Table 5PSQI questions

5. During the <u>past month</u>, how often have you hadtrouble sleeping because you…	Not during the past month(0)	Less than once a week (1)	Once or twice a week (2)	Three or more times a week (3)
A. cannot get to sleep within 30 minutes				
B. wake up in the middle of the night or earlymorning				
C. have to get up to use the bathroom				
D. Cannot breathe comfortably				
E. Cough or snore loudly				
F. Feel too cold				
G. Feel too hot				
H. Have bad dreams				
I. Have pain				
j. Other reason(s), please describe:				
6. During the past month, how often have you taken medicine to help you sleep?				
7. During the past month, how often have you hadtrouble staying awake while driving, eating meals,or engaging in social activity?				

8. During the past month, how much of a proble has it been for you to keep up enough enthusiasmto get things done?				
9. During the past month, how would you rate your sleep quality overall?	Very good	Fairly good	Fairly bad	Very Bad

Section Iv Patient Health Questionnaire nine items (PHQ-9)

	Not at all	Sevral days	>Half the days	Nearly every day
	0	1	2	3
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed. Or the opposite being so figety or restless that you have been moving around a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead, or of hurting yourself	0	1	2	3

Annex IV. Subject information sheet (Amharic version)

የመረጃናየስምምነትቅፅ� እነዚህ ፅሁፍና ተሳታፊዎችበ ሙ ለ ፤ እኔ ማ ሞ ሰ ሀ ሞ ን በ ጅ ማ ዩ ኒ ቨ ር ሲ ቲ በ ነ ር ሲ ንግ ት ም ህ ር ት ክ ፍ ሌ የ ድ ህ ረ ም ረ ቃ ተ ማ ሪ ስ ሆ ን የ መ መ ረ ቂ ያ ፅ ሁ ፋ ን በ ጅ ማ ዩ ኒ ቨ ር ሲ ቲ በ ህ ክ ም ና ሳ ን ስ የ ት ድ መ ድ ም ረ ቃ ተ ማ ሪ ዎ ች የ እ ን ቅ ሌ ፌ እ ጥ ረ ት ያ ሀ ባ ቸ ዉ ን ሀ ማ ወ ቅ ና ያ ሊ ቸ ዉ እ ዉ ቀ ት ና ተ ግ ባ ር እ ን ዲ ሁ ም ተ ዛ ማ ጅ ነ ት ያ ሊ ቸ ዉ ን ጉ ዳ ዮ ች ሀ ማ ጥ ና ት ነ ዉ ፡፡ በ ዚ ህ ጥ ና ት እ ር ስ ዎ የ ተ መ ረ ጡ ስ ሀ ነ ስ አ ፃ ሉ ጌ ዉ ን መ ረ ጃ እ ን ዲ ሰ ጡ ን በ ት ህ ት ና እ ን ጠ ይ ቃ ሀ ን ፡፡

የመረጃሰብሳቢ.ውስም _____ የተጠያቂዉ መሆያ ቁ ጥ ር _____

መግቢ ያ   :
የ ጥ ና ቱ ሚ ስ ጥ ራ ዊ ነ ት መ ሉ በ መ ሉ የ ተ ጠ በ ቀ ነ ዉ ፡፡ እ ን ዲ ሁ ም ጥ ና ቱ በ ፃ ቃ ኝ ነ ት ሊ ይ የ ተ መ ሰ ረ ተ ነ ዉ ፤ ፤ በ መ ሆ ኑ ም በ ፃ ሀ ጉ ት ሰ አ ት ጥ ና ቱ ን የ ማ ቋ ረ ጥ ወ ይ ም ያ ሀ መ ሳ ፈ መ ብ ት ም የ ተ ጠ በ ቀ ነ ዉ ፡፡

የ ጥ ና ቱ አ ሊ ማ ፣ የ እ ን ቅ ሌ ፌ እ ጥ ረ ት ያ ሀ ባ ቸ ዉ ን ሀ መ ከ ሊ ከ ሌ ያ ሊ ቸ ዉ እ ዉ ቀ ት ና ተ ግ ባ ር እ ን ዲ ሁ ም ተ ዛ ማ ጅ ነ ት ያ ሊ ቸ ዉ ን ጉ ዳ ዮ ች ጥ ና ታ ዊ መ ረ ጃ ሀ መ ሰ ብ ሰ ብ ያ ሀ መ ነ ዉ ፡፡

ጥ ና ቱ የ ሚ ያ ካ ት ታ ቸ ዉ ተ ሳ ታ ፉ ዎ ች   :
መ ረ ጃ በ ሚ ሰ በ ሰ በ ት ወ ቅ ት ሀ ህ ክ ም ና ሳ ይ ን ስ ተ ማ ሪ ዎ ች ፤ እ ጣ የ ረ ሳ ቸ ዉ ሁ ለ ም የ እ ን ቅ ሌ ፌ እ ጥ ረ ት ተ ሳ ታ ፉ ይ ሆ ና ሉ ፡፡

የ ጥ ና ቱ መ ረ ጃ ፣ ጤ ና ይ ስ ጥ ሌ ኝ ፤ እ ን ዮ ም ን አ ዮ ሩ ፤ እ ን ዮ ም ን ዋ ለ ፤ እ ን ዮ ም ን አ መ ሹ (እ ን ዮ አ ስ ፃ ሊ ጊ ነ ቱ በ መ ረ ጃ ሰ ብ ሳ ቢ.ዉ) ፡፡

ስ ሜ -------------------------------- ይ ባ ሊ ሌ

የ መ ጣ ሁ ት በ ጅ ማ ዩ ኒ ቨ ር ሲ ቲ በ ነ ር ሲ ንግ ት ም ህ ር ት ክ ፍ ሌ የ ሁ ሁ ተ ኛ ዲ ግ ሪ ተ ማ ሪ በ ሆ ነ ዉ በ ተ ማ ሪ ማ ሞ ሰ ሀ ሞ ን እ የ ተ ሰ ራ ባ ሀ ዉ ጥ ና ታ ዊ ፅ ሁ ፈ ዙ ሪ ያ በ መ ረ ጃ ሰ ብ ሳ ቢ ነ ት ሲ ሆ ን በ ዛ ሬ ዉ ዕ ሁ ት እ ዚ ህ የ ተ ገ ኘ ሁ ት የ እ ን ቅ ሌ ፌ እ ጥ ረ ት ያ ሀ ባ ቸ ዉ ን ሀ ሀ ት እ ዉ ቀ ት ና ተ ግ ባ ር እ ን ዲ ሁ ም ተ ዛ ማ ጅ ነ ት ያ ሊ ቸ ዉ ን ም ክ ን ያ ቶ ች በ ሚ መ ሀ ከ ት በ ሚ ዮ ረ ገ ዉ ጥ ና ት ዙ ሪ ያ መ ረ ጃ ሀ መ ሰ ብ ሰ ብ ነ ዉ ፡፡ ይ ህ ጥ ያ ቁ የ ተ ዘ ጋ ጀ ዉ ሀ ም ር ም ር ስ ራ ሲ ሆ ን በ ጅ ማ ዩ ኒ ቨ ር ስ ቲ በ ጥ ና ት ና ም ር ም ር ኮ ሚ ቴ ተ ገ ም ግ ሞ እ ን ዮ አ ስ ፃ ሊ ጊ ነ ቱ ግ ድ ፃ ት ካ ሀ በ ት እ ር ማ ት ይ ዮ ረ ግ በ ታ ሌ ፡፡ በ ዚ ህ ጥ ና ት በ መ ሳ ተ ፈ ዎ የ ሚ ያ ገ ኙ ት ቀ ጥ ተ ኛ የ ሆ ነ ጥ ቅ ም የ ሀ ም ቢ ሆ ን ም ከ ዚ ህ ጥ ና ት የ ሚ ገ ኘ ዉ ዉ ጤ ት በ አ ን ድ ም በ ሊ ሊ መ ን ገ ድ ሀ ር ስ ዎ ም ሀ ሊ ም ይ ጠ ቅ ማ ሌ ፡፡

የምርምር ጥናቱ ክፍሉ የሆኑ መረጃዎችና ሂዮቶች ከተብራራሌኝ በኋሊ የእንቅሌፍ እጥረትን ሆመከሊከሌ ያሊቸዉን እዉቀትና ተግባር እንዱሁም ተዛማጅነት ያሊቸውን ጉዲዮች ሆማጥናት በተዘጋጀው ጥናታዊ ፅሁፍ ሆመሳተፍ ሙለ ፍቃደኝነቴን አሳይቻሁ፤ እኔም በተብራራሌኝ መንገድ ተረድቻሁ። ምርምሩ ምንም የተሆየ የገንዘብ ጥቅማጥቅም የሆሆውና አዮጋ የማያስከትሌ መሆኑን እንዱሁም የማዮርገው ተሳትፎ እና መረጃ በሚስጢር የሚያዝና ሆማንም ተሊሌፎ የማይሰጥ መሆኑን ተረድቻሁ።ስሇዚህ በዚህ የምርምር ጥናት ሊይ ሆመሳተፍ ፈቃዯኛ መሆኔን አረጋግጣሇሁ።

ሆመሳተፍፈቃዮኛነዎት? አዎ --------- የሆም ---------

የመረጃ ሰብሳቢው ስም ----------------------- ፊርማ ------------- ቀን-------------

ክፍል 1 ማህበራዊናሁኔታዊሚመሇከቱ ጥያቄዎች

ተ.ቁ	ጥያቄዎች	ምሊሾች	ይዝለሉ
1	ዕድሜ	-----------ዓሆት	
2	ፆታ	1.ወንድ 2. ሴት	
3	ቤተሰበዎ የት ይኖራሉ	1. ገጠር 2. ከተማ	
4	ከንደኛዎጋር ግጭትዐሇ	1. አዎ 2 የሇም	
5	ባሁኑወቅትየጋብቻሁኔታ	1. ያሊገባ/ቸ2. ያገባ/ች 3. የፈታ/ች 4. ባል /ሚስት የሞተበት	
6	የተሳታፊዎች የኪስ ገንዘብ መጠንይጸፉ (ETB)	_____	
7	አሁን ያለበት የኑሮ ሁኔታ	1. በካምፓስ 2. ከካምፓስዉጭ	
8	የትምህረት ክፍሌዎን ይፃፉ	_____	
9	በትምርት ምርጫዎ ደስተኛ ነዎት	1. አዎ 2 የሇም	
10	የተማሪዉ የጥናት ዓሆት	1. አንደኛአሆት 2. ሁለተኛዓሆት 3. ሶስተኛዓሆት 4. አራተኛዓሆት 5.አምስተኛዓሆት 6. ስድስተኛዓሆት	
11	ያለፈዉን ሰሚስቴር CGPA ይጻፉ?	_____	

12	መደበኛ የአካል ብቃትእንቅስቃሴያካሂዳሉ?	1. አዎን 2 የለም	
13	ለጥያቄ15 አዎ ከሆነ በቀን ለስት ደቂቃ ይሰራሉ?	------	
14	ከመምህር ጋር ገጭት አለዎት?	1. አዎን 2 የለም	
15	ማኅበራዊ ሚዲያዎችን ከምነታ በፊት ትጠቀማላችሁ?	1. አዎ 2. የለም	
16	ከተጠቀሙ ለምን ያህል ጊዜ በደቂቃ? _____	------	
17	አዎ ከሆነ የትኛዉን ይጠቀማሉ?	1. ሞባይል 2. ቴለብዝን 3. ኮምፒተር ሌላካለይጻፉ ------	
18	የጤና ችግር አለበዎ?	1. አዎ 2. የለም	
19	ያለበዎትን የቴና ችግር ይጻፉ	1. አስማ 2. ስኳር 3. ጨንራ 4. ሌላካለይጻፉ ------	

ከፍልIIሱብየሚያመጡንጥረነገርሁኔታየሚመለከቱጥያቄዎች (አልኮልመጠጥጫት መቃምስ2ራማጫስ)

ተ.ቁ	ጥያቄዎች	ምላሾች	ዝለሱ
1	በሂወተዎ ቡና ወይም ሻይጠጥተዉ ያዉቃሉ	1 አዎ 2. የለም	
2	ቁጥር 1 አዎከሆነ ባለፉት 30 ቀናትውስጥጠጥተዋል;	1 አዎ 2. የለም	
3	ለጥያቄ 2 መልሱ አዎ ከሆነ ምን ያህል ጊዜ ተጠቀሙዋል	1. በየወሩወይምከአንድወርበታች 2. በየሳምንቱ 3. በየቀኑወይምብዙጊዜ	
4	በህይወትዎ ኮካ-ኮላ / ፔፕሲ መጠጥ ጠጥተዉ ያቃሉ	1. አዎ 2 የለም	
5	ቁጥር 4 አዎከሆነባለፉት 30 ቀናትውስጥ ተጠቅመዋል	1. አዎ 2 የለም	
6	ለጥያቄ 5 መልሱ አዎ ከሆነ ምን ያህል ጊዜ ተጠቀሙዋል	1. በየወሩወይምከዚያበታች 2. በየሳምንቱ 3.በየቀኑወይምበየቀኑማለትይቻላል	
7	በህይወትዎ የአልኮል መጠጥ ጠጥተዉ ያዉቃሉ;	1. አዎ 2. የለም	
8	ለጥያቄቁጥር 7 አዎከሆነባለፉት 30 ቀናትውስጥ ተጠቅመዋል	1. አዎ 2. የለም	
9	ለጥያቄቁጥር 8 አዎከሆነባለፉት 30 ቀናትውስጥምንያህልጊዜይጠጣሉ?	1. በየወሩወይምከዚያበታች, 2. በየሳምንቱ	

			3. በየቀኑወይምበየቀኑማለትይቻላል	
10	በህይወትዎ ሲጋራ አጭሰው ያውቃሉ?	1. አዎ 2. የለም	
11	ቁጥር 10 አዎከሆነባለፉት 30 ቀናትውስጥቅመዋል	1. አዎ 2. የለም	
12	ለቁጥር 11 አዎከሆነባለፉት 30 ቀናትውስጥ ለምንያህልጊዜአጭሰዋል	1. በየወሩወይምከዚያበታች, 2. በየሳምንቱ 3.በየቀኑወይምበየቀኑማለትይቻላል	
13	በህይወትዎ ጫትቅመውያውቃሉ	1. አዎ 2. የለም	
14	ቁጥር 13 አዎከሆነባለፉት 30 ቀናትውስጥቅመዋል	2. አዎ 2. የለም	
15	ቁጥር 13 አዎከሆነባለፉት 30 ቀናትውስጥምንያህልጊዜቀመዋል	1. በየወሩወይምክዚያበታች, 2. በየሳምንቱ 3.በየቀኑወይምበየቀኑማለትይቻላል	

ክፍል III የእንቅልፍጥራትመለኪያጥያቄ (PSQI)

ትዕዛዝ 3

ባለፈውወርከተለመደውየእረፍትልምዶችጋርየተያያዘውጥያቄበአለፈውወርውስጥበጣምበብዙቀናትናምሽቶችባለፈውወርውስጥበጣምትከለኛየሆነሪፖርቶማሳየተመቻልሰለዚህመልስዎያለፈዉወርቀናሊትትከለኛየእንቅልፍልማድየሚጠቁሙሊሆኑይችላሉ።

1.ባለፈዉወርዉስጥወደምኝታለመተኛትየሚሄዱትስነተስዓትላይነዉ ? ----------

2. አልጋላይከወጡበኋላበምንያህልደቂቃዎችዉስጥእንቅልፍ�ያይመጣል? ----

3. በማለዳብዙጊዜከእንቅልፍየሚነቁትስንትስዓትላይነዉ _____

4 ሀ.በአንድሌሊትምንያህልሰዓታትበእንቅልፍይያልፋሉ _____

ለ. በአንድሌሊትበአልጋላይስንትሰዓታትይተኛሉ?_____

በ ሰ ን ጠረ ዡላ ይየ ማ ይመረ ጠት ን X ምል ክ ት ያ ድር ጉ

5	በአለፈውወርውስጥምንያህልጊዜየእንቅልፍችግርአጋ ጠማት	ባለፈውወዉስ ጥምንምአላጋጠ መኝም (0)	በሳምንትከአንድጊ ዜያነስ (1)	በሳምንትአንድወይ ምሁለትጊዜ (2)	በሳምት 3 ወይም ከዚያበ ላይ (3）	
	ሀ. በ 30ደቂቃውስጥእንቅልፍማግኘትአልቻልም					
	ለ. ሌሊትወይምገናሳይነጋከእንቅልፍእነቃባር					

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	ሐ. ሽንትቤትለመጠቀምእንቃነበር				
	መ. በአግባቡመተ�ነፈስአልቻልምነበር				
	E. ሳልወይምድምጽ/ማኮራፋት/የማስማትችግርነበረብኝ				
	ረ. ከፍተኛቅዝቃዜይሰማኝነበር				
	ሰ. መጥፎሕልምይታየኝነበር				
	H. ህመምይሰማኝነበር				
	ሌሎችምክንያቶችካሉአባክዎንበዚህምክንያትስንትጊዜ የእንቅልፍችግርእንደገጠምዎትያብራሩ				
6	ባለፈውወርውስጥለመተኛትየሚረዳመድሃኒትምንያህል ጊዜወስደዋል?				
7	ባለፈውርምግብስትመገቡበማሽከርከርበማናባራዊን ቅስቃሴዎችላይአየተሳተፉኢያለንቅልፍእንቅልፍይለወ ትነበርወይ?				
8	ባለፈውርነገሮችንበትጋትለማከናወንምንያህልጊዜተቸ ግረዋል?				
9	በአጠቃላይበባለፈውወርውስጥየአርስዎየእንቅልፍጥራ ትምንደረጃላይነበር	በጣምጥሩ	በአንጻርዊጥሩ	በአንጻራዊመጥፎ	በጣምመጥፎ
		(0)	(1)	(2)	(3)

PHQ-(9)ድብርትንበተመለከተየሚከተሉት9 ጥያቄዎችበትክክልእንብባችሁመልሱ፡፡

		እረበ ጭራሽ	ብዙ ቀናት	ከግማሽ ጊዜበላይ	በየቀኑማለ ትይቻላል
		0	1	2	3
1	ነገሮችንለማከናወንፍላጎቴቀንሷልብለህታስባልህ/ሽ				
2	የድብርትወይምተስፋየመቁረጥስሜትይሰማሀል/ሽ				
3	ለመተኛትመቸገርወይምብዙየመተኛትችግርአለብህ/ሽ				
4	የድካምወይምጃይልየመቀነስስሜት አለብህ/ሽ				
5	የምግብፍላጎትመቀነስወይምክልክበላይየመብላትፍላጎት አለ ብህ/ሽ				
6	ስለራስዎወይምለቤተሰብዎመጥፎስሜትይሰማዎታል				
7	ጋዜጣማንበብወይምቴሌቪዥንመመልከትየመሳሰሉ ትንነገር				

	ችላይላይችግርአለብህ/ሽ				
8	ቀስበቀስመንቀሳቀስወይምማውራትሌሎችስዎችንማስተዋል . ወይምበተቃራኒውከመደበኛውበላይእየተንዙመሄድአለህ/ሽ				
9	ብሞትወይምራሴንባጠፋይሻለኛልብለዉያስባሉ				

Addaan baafataGaafannoo Koodii gaafannoo

Kutaa I: Gaaffilee hawaasummaa fi hawaas dinagdee

Gaaffilee 22n armaan gadii waayee haala hawaasummaa fi hawaas dinagdee gaafatan erga dubbistee booda deebii sirrii akka deebistu kabajaan sin gaafadha.

Lakk.	Gaaffilee	Deebii	Darbi
1	Umurii	_____	
2	Saala	1. Dhiira 2. Dhalaa	
3	Saba	_____	
4	Amantaa	1. Ortodoksii 2. Musliima 3. Pirootestaantii 4. Waaqeffataa 5. Kan biro, caqasi _____	
5	Maatiin kee eessa jiraatu?	1. Baadiyyaa 2. Magaalaa	
6	Hiriyoota kee waliin waldhabdee qabdaa?	1. Eeyyee 2. Lakkii	
7	Haala gaayelaa	1. Kan hin fuune/heerumne 2. Kan fuudhe/heerumte 3. Kan adda bahe/baate	
8	Hamma maallaqaa siif ergamu	_____(ETB)	
10	Iddoo amma jiraattu	1. Doormii 2. Doormii ala	
11	Filannoo muummee barnootaa keetti gammaddeertaa?	1. Eeyyee 2. Lakkii	
12	Barsiisaa kee waliin wal dhabdee qabdaa?	1. Eeyyee 2. Lakkii	
13	Waggaa meeqaffaa baratta?	1. Waggaa 1^{ffaa} 2. Waggaa 2^{ffaa} 3. Waggaa 3^{ffaa} 4. Waggaa 4^{ffaa} 5. Waggaa 5^{ffaa}	

			6. Waggaa 6ffaa	
14	GPA kee dhiyoo kanaa?	_____		
15	Sochii qaamaa idilee ni raawwattaa?	1. Eeyyee 2. Lakkii		
16	Deebiin kee gaaffii 15 eeyye yoo ta'e guyyaatti daqiiqaa meeqaaf hojjetta?	_____		
17	Hirriba dura miidiyaa elektirooniksii ni fayyadamtaa?	1. Eeyyee 2. Lakkii		
18	Deebiin kee gaaffii lakkoofsa 17 eeyyee yoo ta'e, daqiiqaa meeqaaf?	_____		
19	Deebiin kee gaaffii lakkoofsa 17 eeyyee yoo ta'e, kam fayyadamta?	1. Teelevizhinii 2. Koompiyuutar 3. Taphoota 4. Bilbila harkaa 5. Kan biraa, caqasi -------		
20	Rakkoo fayyaa qabdaa?	1. Eeyyee 2. Lakkii		
21	Gaaffii lakkoofsa 21 eeyyee yoo jette, ji'oota jahan darban keessatti kam dhibamte?	1. Asmii 2. Dhibee sukkaaraa 3. Gaggabdoo 4. Dhibee kalee 5. Kan biro, caqasi -------		

Kutaa II: Gaaffilee wantoota sammuu si'eessaniifi hadoochan.

Gaaffileen 21n gadii wantoota sammuu si'eessanii fi hadoochani.Atis fayyadamasaanii irratti amala kee akka deebistuuf kabajaan isin gaafadha.

Lakk.	Gaaffilee	Deebii	Darbi
1	Buna/shaayii dhugdee beektaa?	1. Eeyyee 2. Lakkii	
2	Gaaffii lakkoofsa 1 eeyyee yoo jette, guyyoota 30n darban dhugdee beektaa?	1. Eeyyee 2. Lakkii	
3	Gaaffii lakkoofsa 1 eeyyee yoo jette, ji'a keessatti yeroo meeqa dhugda?	1. Ji'aan 2. Torbaniin 3. Guyyaan/irra caalaa guyyaan	
4	Dhugaatii kookaa/peepsii dhugdee beektaa?	1. Eeyyaa 2. Lakkii	

5	Gaaffii lakkoofsa 4 eeyyee yoo jette, guyyoota 30n darbaniif dhugdee beektaa?	1. Eeyyee 2. Lakkii	
6	Gaaffii lakkoofsa 5 eeyyee yoo jette, ji'a keessatti yeroo meeqa dhugda?	1. Ji'aan 2. Torbaniin 3. Guyyaan/irra caalaa guyyaan	
7	Alkoolii ni dhugdaa	1. Eeyyee 2. Lakkii	
8	Gaaffii lakkoofsa 7 eeyyee yoo jette, guyyoota 30n darbaniif dhugdee beektaa?	1. Eeyyee 2. Lakkii	
9	Gaaffii lakkoofsa 8 eeyyee yoo jette, ji'a keessatti yeroo meeqa dhugda?	1. Ji'aan 2. Torbaniin 3. Guyyaan/irra caalaa guyyaan	
10	Sigaaraa aarsitee beektaa?	1. Eeyyee 2. Lakkii	
11	Gaaffii lakkoofsa 10 eeyyee yoo jette, guyyoota 30n darbaniif aarsitee beektaa?	1. Eeyyee 2. Lakkii	
12	Gaaffii lakkoofsa 11 eeyyee yoo jette, ji'a keessatti yeroo meeqa aarsita?	1. Ji'aan 2. Torbaniin 3. Guyyaan/irra caalaa guyyaan	
13	Jimaa qaamtee beektaa?	1. Eeyyee 2. Lakkii	
14	Gaaffii lakkoofsa 13 eeyyee yoo jette, guyyoota 30n darbaniif qaamtee beektaa?	1. Eeyyee 2. Lakkii	
15	Gaaffii lakkoofsa 14 eeyyee yoo jette, ji'a keessatti yeroo meeqa qaamtee?	1. Ji'aan 2. Torbaniin 3. Guyyaan/irra caalaa guyyaan	

Kutaa III: Gaaffilee PSQI

Qajeelfama : gaaffileen armaan gadii haala hirriba kee yeroo maraa ji'a darbee kan mul'isa.

Deebiin kee haala hirriba kee yeroo maraa guyyaa baay'ee ji'a darbee akka deebistu kabajaan si gaafadha.

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Ji'a darbe kanatti

1. Galgala sa'aa meeqatti rafta?_____

2. Hirribni daqiiqaa meeqa keessatti si fudhata?_____

3. Ganama sa'aa meeqatti hirribaa dammaqxa?_____

4. A. Hirribarratti sirriin sa'aa meeqa dabarsita?_____

B. Sireerra sa'aa meeqa turta?_____

Gabatee 6: gaaffilee PSQI, deebii kee mallattoo kana 'X' fayyadamuun iddoo qophaawerratti deebisi.

5. Ji'a darbe keessa yeroo meeqa hirribni sababa _____ si rakkise?	Ji'a darbe gonkumaa (0)	Torbeetti yeroo tokkoo gadi (1)	Yeroo tokko ykn lama torbeetti (2)	Yeroo sadii fi sanaa ol torbeetti (3)
J. Daqiiqaa 30 keessatti rafuu dhabuu				
K. Halkan walakkaa/subiin hirribaa dammaquu				
L. Mana dhiqannaa fayyadamuuf dammaquu				
M. Rakkoo hargansuu				
N. Qufaa/ kurruufa sagalee dhageessisu				
O. Qorrisiisuu				
P. Hoo'isuu				
Q. Abjuu badaa qabaachuu				
R. Dhukkubbii				
j. kan biroo, ibsi.				
6. Ji'a darbe keessa yeroo meeqa qorcha hirribaa fudhatte?				
7. Ji'a darbe keessa yeroo nyaattuufi dhimma hawaasummaa gaggeessitu hirriibni si rakkisaa?				
8. Ji'a darbe keessa gammachuudhaan hojii kee raawwachuuf rakkinoota hagamiitu si mudate				
9. Ji'a darbe keessa waliigalaan sadarkaa hirriba kee akkamiin sadarkeessita?	Baay'ee gaarii	Gaarii	Badaa	Baay'ee badaa

Kutaa vI: Gaaffilee mukuu "Patient Health Questionnaire nine items" (PHQ-9)

	Gonkumaa	Guyyota muraasa	Guyyoota walakkaan ol	Guyyaa mara
	0	1	2	3
1. Hojii hojjettuuf fedhii/gammachuu xiqqaa				
2. Miira gadaantummaa, mukaawuu, abdii dhabuu				
3. Hirriba rafuuf rakkachuu ykn baay'ee rafuu				
4. Miira dadhabbii qabaachuu				
5. Fedhiin nyaataa hir'achuu ykn dabaluu				
6. Miira badaa qabaachuun fi gadaantummaa kee ykn kan maatii sitti dhagahamuu				
7. Wantootarratti qalbeeffannaa dhabuu kan akka gaazexaa dubbisuu, teelevizhinii ilaaluu.				
8. Suuta deemuu ykn dubbachuu, ykn baayee socho'uu				
9. Miira of balleessuu ykn of miidhuu yaaduu				

Assurance of Principal Investigator

I the undersigned agree to accept responsibility for the scientific ethical and technicalconduct of the research project and for provision of required progress reports as per terms and conditions of the Faculty of health scienceeffect at the time of grant is forwarded as the result of this application.

Name of the student: __Mamo solomon_____

Date._____   Signature _____

Name of the institution <u>Jimma University</u>

Date of submission _____

APPROVAL OF THE ADVISOR

First   advisor _____signature _____date

Second advisor_____ signature_____ date