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Assessment of work related stress and associated factors among anesthetists in Addis Ababa governmental and private hospitals

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ABBREVIATIONS:-

Abbreviations	**in plain texts**
AA	Addis Ababa
AAU	Addis Ababa university
AARHB	Addis Ababa regional health beruo
AAUMFSA	Addis ababa university medical faculty school of anesthesia
CDC	communicable disease centers
EAA	Ethiopian Anesthetists Associations
MBI	Maslack burnout inventory
PPM	part per million
PSSM	perceived stress scale measurement
PSS	perceived stress scale
OSHO	occupational safety and health organization
REM	Rentgen equivalents man
WHO	World health organization

Assessment of work related stress and associated factors among anesthetists in AA public and private hospitals

Summary

Background Anesthetists are prone to stress due to the nature of job and responsibility of patient situations in perioperative .High levels of stress are believed to affect anesthetists' health and performance. . If the stress is not dealt with effectively, feelings of loneliness, nervousness, sleeplessness and worrying may result .Stress is the main problems that impends to delivery quality anesthesia care in our set up, Stress is unavoidable but is not all bad. Too little stress leads to sleep, boredom and increase concentration, whereas too much stress gives us a sense of panic and tension. Acute and chronic stress is the most common form of stress in anesthetists their profession. It comes from demands and pressures of the recent past and anticipated demands and pressures of the near future, such as their job of providing anesthetics or attending patient perioperative.

Objectives of this study to assesses the prevalence of stress and associated factors upon anesthetists in AA.

Methods is cross-sectional quantitative was chosen in the duration of February to May 2014. PSS(perceived stress scale structured questionnaires was developed and primary data collected from AA anesthetists.

Results Two hundred four anesthetists were participated in study . The response rate of the study was 97.3%, their age ranged from 20 to 59 years . The majority were male: 115(56.4%). Study participant of 51%(N=204) with 95%CI(0.44 to0.578%) become stressed

Conclusion, More than half of the anesthetists in Addis Ababa governmental as well as private hospital have defined work related stress. Statistically significant associated factors such as:- Watching football games TV/DSTV(movies), greater than 15days night duty per month, automatic mechanical ventilation non function at all, excessive physical and mental workload, complexity of the task, responsibility of the patient with ethical decision and fear of harming patient, mostly dissatisfaction on profession .

CHAPTER 1

1.Introduction

1.1 Background

Anesthetists are prone to stress due to the nature of job and responsibility of patient situations in perioperative [Kuczkowski KM,2007]. High levels of stress are believed to affect anesthetists' health and performance. . If the stress is not dealt with effectively, feelings of loneliness, nervousness, sleeplessness and worrying may result. Effective coping strategies facilitate the return to a balanced state, reducing the negative effects of stress.[Naiemeh S,et al,2007]

Stress is seen as modern society's illness by professionals from different sectors. It has effects on people's behaviors, communications and efficiency. Stress was described as a relationship between individuals and their environment that is appraised as dangerous and evaluated as beyond their ability to deal with stress. Selye defined stress as a physiological non-specific reaction to external or internal demands. Therefore, it is not the stressor that causes stress but the individual's perception and emotional reaction to it [Shah C, et al 2009]

As a result of the ever-increasing pace of worldwide liberalization of trade and economies, as well technological progress, the number of occupational accidents and diseases are increasing in many developing countries. It is estimated that every year over 1.2 million workers are killed due to work-related accidents, stress and diseases and 250 million occupational accidents and 160 million work-related-stress morbidity have been occurring. The economic loss related these accidents and diseases are estimated to amount 4% of world gross national product[ILO-OSH 2001]

Study indicated that stress in anesthetists have usually measured stress through mental or physiological indicators[A.S Nyssen,L.Hansez etal 2008]. When using this approach, one must be careful not to confuse the effects of stress or outcome variables and the sources of stress or antecedent variables. Although stress measuring is very difficulty, it is subjective, individual perceptions and also the stress tolerance various from country to country. Physiological measuring stress in resource insufficient countries, like Ethiopia is very challenging.

1.2 .statement of the problem

Stress is not a new issue. Evenif; not sufficient study in our setup, in recent years it has became more apparent. It can be defined as 'environmental (intrinsic or extrinsic) factors which exert undue strain or pressure on a person' and can be caused by numerous factors either at home or in the workplace. Stress from any source may affect an employee's health and their performance at work. Causes of work related stress can be associated with a wide range of factors. The nature of the job or some aspects of the job may be potentially stressful [OSHO ,2010].

In recent years there has been a growing appreciation of the anesthesia related complication upon the professionals and their' stressful life situation can also affects the families, organization, patients, community[Larsson J,2009]. Anesthesia is a stressful medical profession,it as a profession represents a medical field in which the professionals are permanently tense. The various reasons for this situation include the great responsibility for the patient's life, the daily use of "blind" invasive techniques, and the production pressure that characterizes the activity in the operating room, i.e sound pollution ,extreme temperature of the room, prolong time standing and bending/twisting conditions[Gurman G,,etal 2012]

Anesthesia professionals by their very nature are challenging with potential exposure to different inhalational chemicals such as :halothane,isoflurane,sevoflurane,desflurane nitrous oxide ;biological(blood born infections Hepatitis B &C,HIV) and physical hazards(the lower back pain, the neck pain, leg pain and other pricking sharp instruments injuries) which can cause both short and long term health problems and can these all are also its input to be stressful. [Kats and slade,2006]

The purpose of the study, to know the stress level and the possible factors upon professionals. In industerlized countries have reduced occupational related stress significantly, the risk levels are still very high in most developing countries because of inadequate understanding of the magnitudes of the problem[Yamakage M, 2007]. This group workers are exposed directly without adequate monitoring and emergency drugs to handling operating patients, lifting,

shifting patients, so they are more susceptible to occupational related blood born infectious diseases, ergonomic and psychological problems, these all are its own impact on stressful life conditions.

The multiple responsibility of the patients, themselves increase stressful life style. in our set up (Ethiopia) in most part of the country these all types of responsibility run by one or two anesthesthetis. The various reasons for this situation include the fact that anesthesiology is a team profession that requires perfect cooperation with other specialists. It also entails great responsibility for the patient's life, the daily use of "blind" invasive techniques, and last but not least the production pressure that characterizes the activity in the operating room

Therefore; I expect this study will give insight into many risk factors for occupation- related stress in operation room Anesthesia professionals health care providers; However, such studies are lacking in this professionals . Therefore, I was carried out this study to assess the prevalence of stress, sources and causes of stress and coping strategies among professionals.

1.3. Significance of the Study

The significant of this study to assess prevalence of work-related stress and to identified the factors affecting work related stress. Also will give insight to many risk factors for occupation- related stress in Anesthesia professionals health care providers The results of the study will be used as base line information to design appropriate intervention. It also useful as baseline document for decision makers, policy development officers ,schools and EAA strategies for the factors that can cause stress among professionals.

CHAPTER TWO

2 . Literature Review

Proportion of anesthesia profession to total population in USA anesthesiologist to population is 1:6400 and nurse anesthetist 1:7127[HVO improving global health through education] and Ethiopia total anesthesiologist about 17,with population ratio is 1:4705882 and total anesthetist about 600,to population ratio 1:160,000[FMOH health indicators, 2012 , EAA annual review confrance,2013]this indicates that USA have 735 times more anesthesia profession to compare Ethiopia.

AS the study show that , anesthesia it is now well recognized that anesthetists do suffer from stress. Survey UK [Linkman L,1995], 30% of anesthetists felt stressed a lot of the time while 5% felt stressed all the time; 33% described themselves as severely stressed and 7% felt their stress was more than severe .

As the study showed that in the work related environment the stressful elements were lack of control (42%), strained professional relationships (25%), work overload (24%), difficult work (6%) and potential litigation (3%). In the area of administrative and social factors, administrative responsibilities (42%) and work-home conflict (35%) were the most stressful while money (14%), teaching responsibilities (6%) and peer review (4 %).[A.S Nyssen,L.Hansez etal 2008]

Anesthetist is a stressful medical profession. While anesthesia in particular has become safer for the patient in the last decades, anesthesia as a profession represents a medical field in which the professionals are permanently tense[Gurman GM, Klein M,et al 2012] . The profession is the cross-cutting (i.e. the link with medical, general surgery, and all types of surgery disciplines and now a day in emergency set up also a great role.

Anxieties about the possible hazards of working environments and lack of clear cut studies(non conclusive) upon anesthetic drugs hazardous and toxicity is also one of stress trigger in the professionals. study in Britain show that Halothane 0.1 to 60 part per million(PPM), nitrous oxide 30 to3000PPM and inspiration to expiration (I:E)ratio of 2ppm halothane and .5ppm) of nitrous oxide in atmosphere in operating theatres is invariably contaminated by anaesthetic gases;[MP Vessey,JF Nunn,1980]. However,there is any measuring instruments attached to measure the exposure level in operation theater, like Radiograper or radiologist professions measuring the exposure of radiation i.e Rentgen equivalent man(REM),annual allowed exposure is 5REMs or 5000milliREMS[morgan & mikhail's 5th ed pp 17—50]

Even though;there was any study in our country (Ethiopia), no doubt that Anesthesia as a profession is a source of stress for the anesthetists.In spite of the tremendous reduction in the rate of anesthesia morbidity and mortality,due to new technology, new drugs and higher educated professionals[kats and slade 2006] in developed country.

Anesthesia is young science even in industerlized nations and it is a stressful profession because a multifactorial etiology. One can only remember the fact that this is a service profession, dealing with a "temporary pharmacological intoxication, using many blind methods and producing from time to time complications difficult to accept by the patient or family, to understand that our daily activity is full of stressful events[Larsson J, Rosenqvist U,2007]

Study show that stress as stimulus, response , perceptions and transaction[AS Nyssen,L,Hansez et al 2008] ,however, in this study we more give emphasis on stress as perception. Causes of workplace stress can be associated with a wide range of factors[www.usdaw nationalwide health safty 2010]. The nature of the job or some aspects of the job may be potentially stressful. anesthetists jobs by nature are dangerous with potential exposure to chemical,(like Halothane which is almost all avoided in developed nation but, the main agent in developing country like Ethiopia), in addition to equal sharing of biological and physical hazards with other operation room staffs.

Studies were conducted in different countries [e.g. Sweden, Austria, Belgium, Finland, Portugal, France,] the main consensual factors are :- time constraints, excessive (physical and mental)

workload, complexity of the task, responsibility (ethical and medico-legal decision) and fear of harming patients, collective dimension of the job, workplace atmosphere, and communication issues, lack of job control, combining family with being on call[Mackay and cooper,1987] .

There are so many scale of stress measure in different from place to place, the convince of our study we were used , the Index of Clinical Stress in its original version in English, and the Psychological State of Stress Measure (PSSM) [Lemyre L,Tessier R,Fillion M, 1990] . In the absence of a gold standard measurement of stress, modern scientists adopt three approaches of stress assessment: (1) the environmental approach referring to the occurrence of demanding events (stressors), (2) the psychological approach meaning the perceived by the individual stressfulness of each stressor and (3) the biological approach that focuses on the biological elements of the stress response [Eleni Andreou,Evangelos C, 2011]

Studies on anaesthesia used different metrics, applied on different subgroups and were conducted in different countries, globally, the results provide compelling evidence that more than stress, it is burnout that constitutes a significant problem for a high percentage of anaesthetists (around 40%)(Anne-Sophie Nyssen and Isabelle Hansez, 2008).

The study was showed that,AANA(American Association of the nurse anesthetists) members reported the percentage of their stress they attribute to work. The members indicated that 48% was associated with work, whereas students attributed 67% of their stress to their work school. [Anthony C, Dennis M, 2011]

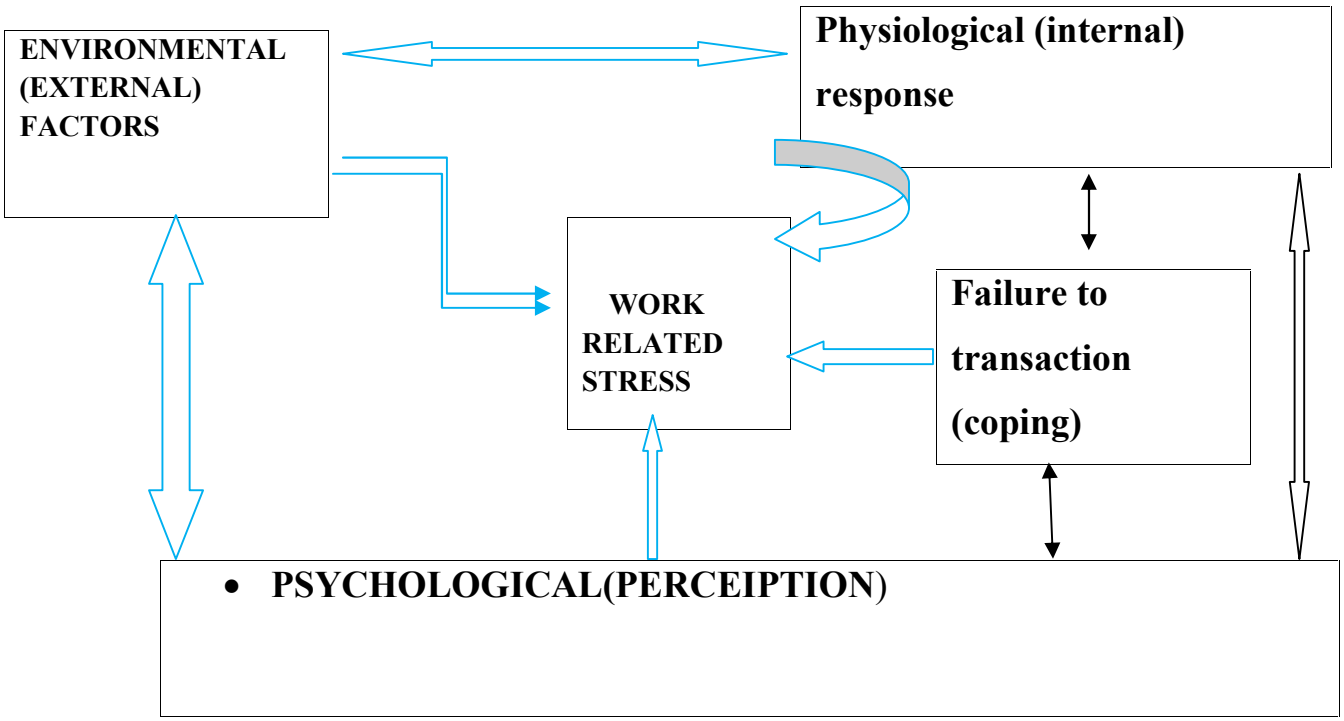


FIG.1 Conceptual framework of stress

2.1 Rational of the study

Stress is becoming a common health problem among anesthetists in country. There is limited study in this regard in Ethiopia. This study will be aimed to determine the prevalence and the associated factors of stress upon anesthetist in AA. It also useful as baseline document for decision makers, policy development officers ,schools and EAA and anesthetists live and work in a stressful environment.

CHAPTER Three

3. OBJECTIVES:

3.1 General objective:-

- To assess work related stress and the associated factors among anesthetists in Addis Ababa public and private hospitals.

3.2 specific objectives:-

3.2.1. To assess the prevalence of work related stress among anesthetists in AA

3.2.2. To identify the factors associated with work related stress.

CHAPTER FOUR

.METHODs And Materials

4.1 Study area:

The study was carried out in AA-capital city of Ethiopia, It is the home for about 2,738,248 people[Ethiopian national census,2007].The city is organized by three layers of government: city government at the top,10 sub city administrations in the middle,and 113 woredas At the bottom.AA city includes 6 hospitals in AA RHB , 6 Federal owned governmental and more than 40 private owned and NGO hospitals in different level[AA city Governance health department report 2012].

4.2 Study Design

Cross-sectional quantitative study design was employed to answer the proposed objectives of the study and was carried out May/2014.

Source population

All anesthetists were currently working in operation room in Addis Ababa city governmental and private hospitals

4.4 study population:

All governmental and, 25 selected private & NGO hospitals anesthetists were our study population

4.5 Inclusion criteria:

Study was included registered health professional anesthetists , Msc and intern Bsc anesthesia students, those were currently working in operation room in Addis Ababa hospitals.

4.6 Exclusion criteria

Study was excluded those ,who were anesthetist previously and now a day shift to other professions, third and second years of anesthesia students.

4.7 .Sample size determination

Sample size for specific objective one and two were calculated by using a single population proportion formula based on the following assumption, since an estimate of prevalence (P)was not available in these profession in our set up until this study has been carried out, so that 50%consider as value of prevalence and taking precision 5%,

$n=(Z_{\alpha/2})^2P(1-P)/d^2=(1.96)^2*.5*.5/.0025=384$

where-$Z_{\alpha/2}$ standard score corresponding to 95%CI=1.96 P- proportion of prevalence=50%(since an estimate prevalence is not available in our setup, so 50% consider as the value of prevalence and 5% taking precision) d-margin of error/precision/=5%

NB. If the size of the population that the sample is to represent is less than 10,000 then a smaller sample size was required correction formula :

$n= no/(1+no/N)=384/(1+384/300)=168$

no=the calculate sample size (original) N=total source(finite)

final sample size will be (168*1/1-0.2)+(non responders 20%)=210

NB .Total(300) anesthetists source from[FMOH, AARHB, School of anesthesia]

4.8 Sampling procedure

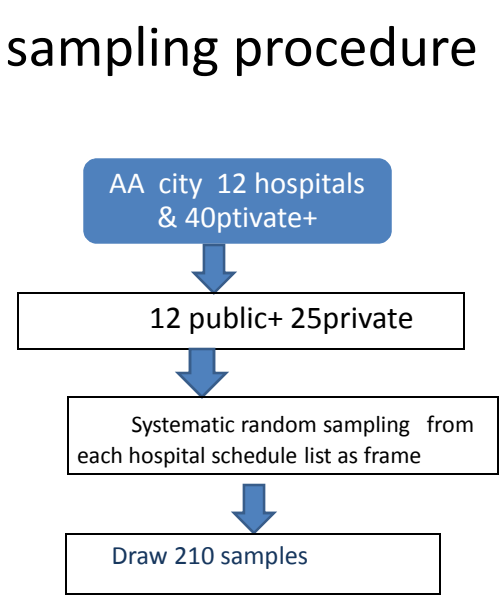


Figure 2 schematic of sampling procedure

From the selected hospitals systemic-probability random sampling method with sampling interval N/n (300/210) is equal to 1.4 of total anesthetists from the hospitals monthly program list. Where N=total target population and n= sample size..

4.9 Study variables : -

Dependant-variable:-stress level described as normal, mild, moderate as considered non stress and, High and very high considered stress[www.thecounselingteam.com and Maslach C,Jackson SE, 1990]

Independent variables: -socio demographic characteristics ,service year ,level of education, number of daily working hour, number of night duty, level of hospital ,the presence of senior consultant(MSC in anesthesia, Anesthesiologist),- being staff or student anesthesia, complete satisfaction to complete dissatisfaction in =profession, complexity of the task, responsibility of not harming patient and medico-legal and ethical decision and the availability of the anesthesia equipment(monitoring, emergency drugs, machine with ventilation)

4.10. Operational definitions of the indicators categories

Severity	Physical	Sleep	Behavioral	emotional
Normal	22-29	5-7	18-26	21-28
mild	30-37	8-9	27-35	29-36
moderate	38-47	10-11	36-44	37-45
High	48-54	12-14	45-50	46-55
Very high	54+	14+	50+	55+

1. Greater than or equal to three indicators(physical,sleep,behavioural and emotional) indicates high or very high considered "stressed" otherwise"non stressed" [www.thecounselingteam.com and Maslach C, Jackson SE, 1990]

2 Stress is a state of mind being under pressure which is caused by conflicting outer and inner self factors, experienced by all categories of age and gender(WHO,2010)

3.. Distress :a person perceives him/herself as having no ability to control stressful event

4. Work related Stress: as being the harmful physical and emotional response that occur when the requirements of the job.

5.Burnout is emotional exhaustion(working too hard over a period of time), depersonalizing(lack of concern), insufficient to accomplishment of the job (oxford advanced learner's)

6.. Burnout as a syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishmen(Maslach and Jackson)

7. Ergonomic hazards:- work activities that causes the worker to experience physical and mental stress such as lifting, holding, pushing walking etc(OSHO,2010).

4.11 . Data collection tools & procedures

The data collection instrument (structured questionnaire) on physical, sleep, behavioral and emotional indicators was adopted from psychological states of stress measures (PSSM). The Perceived Stress Scale (PSS) has good psychometric qualities and PSS measures the degree to which individuals perceived their daily life as being stressful during the last three to six months(s. cohen et al 1983). Different relevant sources with required modification based on outcome variable. The questionnaire was prepared in English, 5% of sample size pre-test was conducted in out of Addis Ababa hospitals, which was not included in the actual study .For validation of questionnaire 15 days prior to actual data collection. Data collectors were trained, data collectors were one head nurse of each selected hospitals(why because to decrease biases nurse head is preferred to anesthetists head) and one environmental health profession as supervisor.

4.12 Data processing and management

Data was checked for completeness and any incomplete information was excluded from the entry, coded data was entered into EPI info version 3.5.1 computer software package when the entry of every questionnaire was completed, the copy of the questionnaire was cross-checked with its hard copy to saw for consistency. After the entry of the whole questionnaire was completed, cleaning was made to avoid missing, , outliers and other inconsistencies was checked before cleaned data was exported to SPSS 20 version computer software package for analysis.

4.13 Data quality assurance

To maintain the quality of the data structured and pre-tested questionnaire was used to collect information one days training was given to all data collectors and supervisors in accordance with training manual developed beforehand. The collected information was checked frequently at the data collecting site by the supervisors overall supervision was made by the principal investigator. Questionnaire was checked for completeness every night at the time of data collection. Feedbacks on previous day activities was given for both data collectors and supervisors.

4.14 Data analysis

Descriptive statistics (frequencies, percentages and median) of different variables was computed. Bivariate crude odds ratio with 95% CI were computed to saw the presence of association b/n the selected independent variables with work related stress. Multivariate's Logistic regression analysis was also made to observe the relative effect of independent variable on the dependant variable to control the effect modification and other confounding factors. Only variables that reached a p-value less than or equal to 0.05 at the bivariate analysis level was kept in the subsequent Multivariate's logistic binary model.

4.15 Ethical consideration

Ethical clearance was obtained from AAU of health science school of anesthesia ethical committee. Formal letter was written to AA City Regional Health office and Federal MOH. These offices then wrote letters back to each sample selecting hospitals. The principal investigator was communicated these bodies. First of all, the data collectors introduced the purpose of the study briefly, such as participation in this study do not harm you and your families physical and psychology ,but your response very usefull to assess work related stress prevalence and to identify the associated factors that cause work related stress and for future to plan active management on the problems. The information sheet and consent was provided for respondents to read, then he/she was asked for his/her agreement to participate in the study. Confidentially privacy strictly will be maintained by omitting their names and personal identification. The respondent should not be obliged to answer any questions that he/she does not wish to answer and h/she can put on end to this interview at any time.

4.16 Dissemination of the results

The thesis result copy was distributed to AAU health science, AAU school of anesthesia, EAA and others those interested in study and supported organization.

CHAPTER FIVE

RESULTS

Socio-Demographic Characteristics

Total of participants were 204 anesthetists out of 210 planned sample size, the response rate of the study was 97.1%, their age ranged from 20 to 59 years. 109 (53.4%) were 20-29 years old,57(27.9%) were 30-39years old, 27(13.2%)were 40-49years old and 10(4.9%)were 50-59 years old, the mean age was 31.1 and standard division 8.8year.. The majority were male: 115(56.4%) .Marital status of the participants were 46%,49% and 4.4% married, single, and divorced respectively.

Religion of the respondents 60% orthodox,19%musulim ,18% protestants 2% catholic and 0.5% others. Educational background of the anesthetists were Advanced diploma 9.4% ,BSC 80.3% ,MSC 9.9% and 0.5% others. The work experience of the anesthetists were mean 8.5year ,median 4year, mode 2 year and standard division 7year. Eight seven point three percent of the anesthetists were working in governmental hospitals,12.7% working in private/NGO hospitals.

Eighty point four percent of the anesthetists were working in referral and teaching hospitals and the rest 19.6 were working in referral but not teaching hospitals.

Table 1: Socio-Demographic Characteristics

Variables		Frequency	Percentage
Age	20-29	109	53.4
	30-39	57	27.9
	40-49	27	13.2
	50-59	10	4.9
	Total	203	99.4
SEX	male	115	56.4
	Female	89	43.6
	Total	204	100
Marital	married	94	46.1
	Single	100	49
	Divorced	6	4.4
	Others	1	0.5
Education	BSC	163	80.3
	Msc	20	9.9
	Advanced diploma	19	9.4
Religion	Orthodox	122	59.8
	Muslim	39	19.1
	Protestant	36	17.6
	Others	7	3.5

Prevalence of work related stress among anesthetists

Work related stress among anesthetists caused by job demand and working environment that cause stress. Measuring stress is very difficulty due to its subjective characteristics, due to this reason for this study used four stress indicators, such as physical, sleeping disturbance, behavioral and burnout(emotional)

Four stress indicators instruments were used .The questionnaires consists of 64 items divided into 4 categories of potential indicators of stress: 21 items representing physical indicators of stress, 5 representing sleep disturbance indicators of stress, 17 representing behavioral indicators of stress, and 21 representing emotional(burnout)indicators of stress.

. Respondents provided a likert type that , almost always (on five days a week) is equal to five point, most of the time (three days a week) is equal to four point, some of the time (one and one half days a week) is equal to three point ,almost never (less than two hours a week) is equal to two point and never is equal to one point [Maslach C, Jackson SE, 1990]. The positive items points become reversed." .Answer to each item they had experienced during the last thee to six months preceding data collection date.

As study showed that physical indicator of the stress, mean 58.3, and standard deviation 16.5.The sleep disturbance indicator of the stress mean 13.6, , and std 4.7.The behavioral indicator of the stress mean 50.1, and std 13.1 and emotional or burnout indicator mean 55.9 , and std 16.8

Table 2: stress Indicators category and anesthetists frequency under the indicators level

Indicators	Normal	Mild	Moderate	High	Very high
Physical	2.5%	5.4%	19.1%	14.7%	58.3%
Sleep indicator	9.3%	9.3%	26%	15%	40.2%
Behavioral	3.9%	7.4%	31.9	14.2%	42.6%
Emotional (burnout)	4.4%	6.4%	27.9%	12.3%	49%

Table 3: indicators standards categories

Severity	Physical	Sleep	Behavioral	emotional
Normal	22-29	5-7	18-26	21-28
mild	30-37	8-9	27-35	29-36
moderate	38-47	10-11	36-44	37-45
High	48-54	12-14	45-50	46-55
Very high	54+	14+	50+	55+

Table 4. Overall and stress indicators scores of PSS(perceived stress scale)

Indicators	Physical	Sleep disturbance	Behavioral	Emotional
Mean	58.3	13.6	50.1	55.9
Standard dev (SD)	16.5	4.7	13.1	16.8

According to operational definition of the stress, the individual(anesthetists) should be greater or equal to three indicators categorized in the above moderate level of the stress indicators[www.thecounselingteam.com and Maslach C, Jackson SE, 1990]

In this concept when study participant of 51%(n=204), 95%CI(0.44 to0.578%) become stressed. And the majority of anesthetists belonged into high and above stress indicators level.

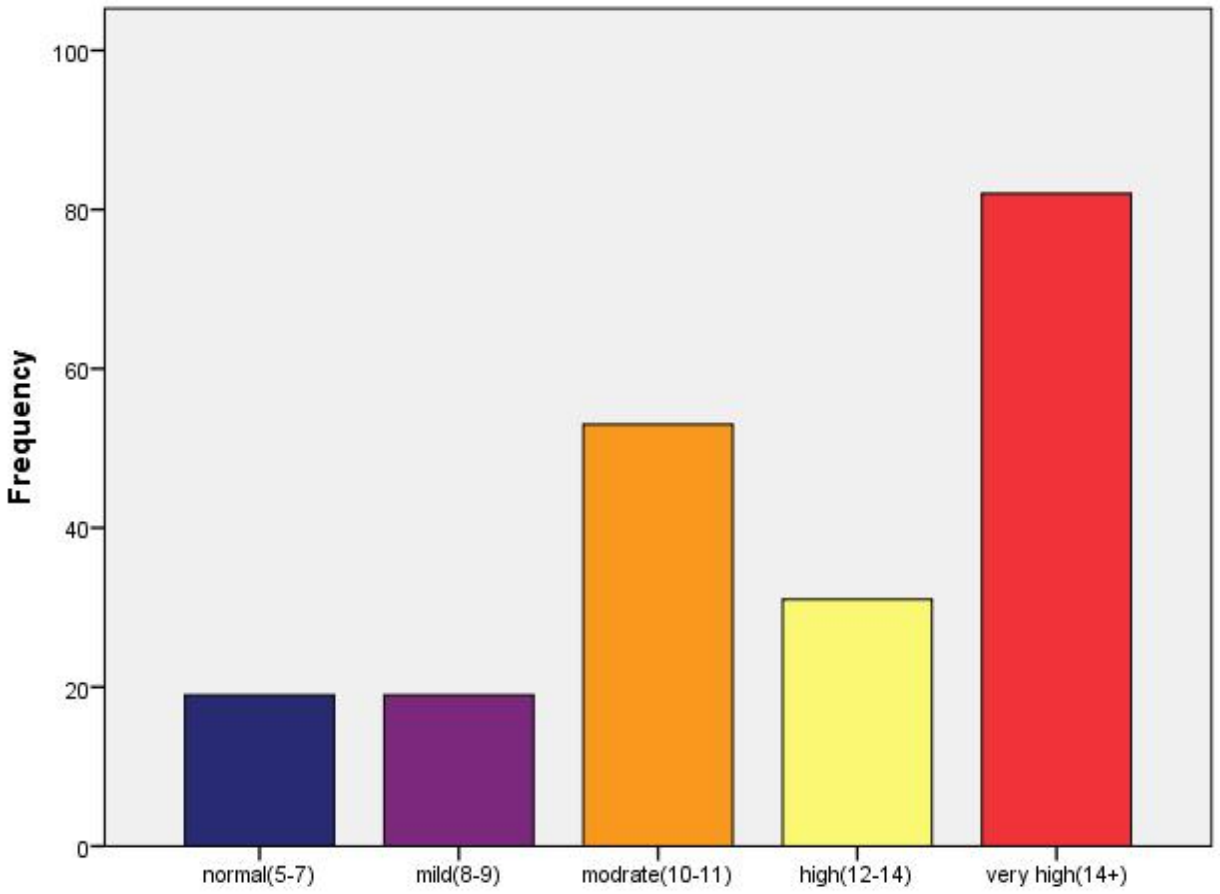


FIGURE 4: Sleep Disturbance stress indicators Graph

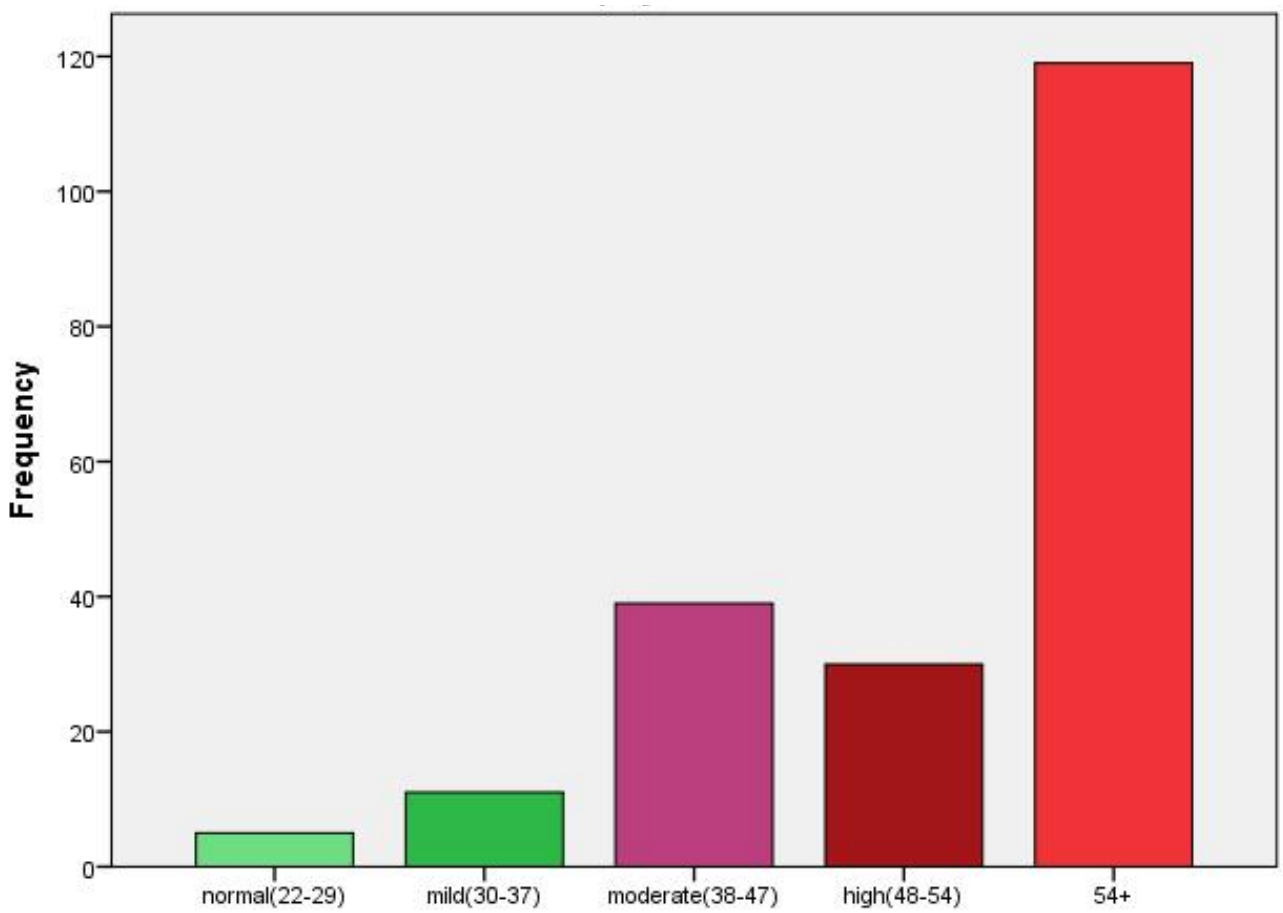


FIGURE 2: Physical stress indicators

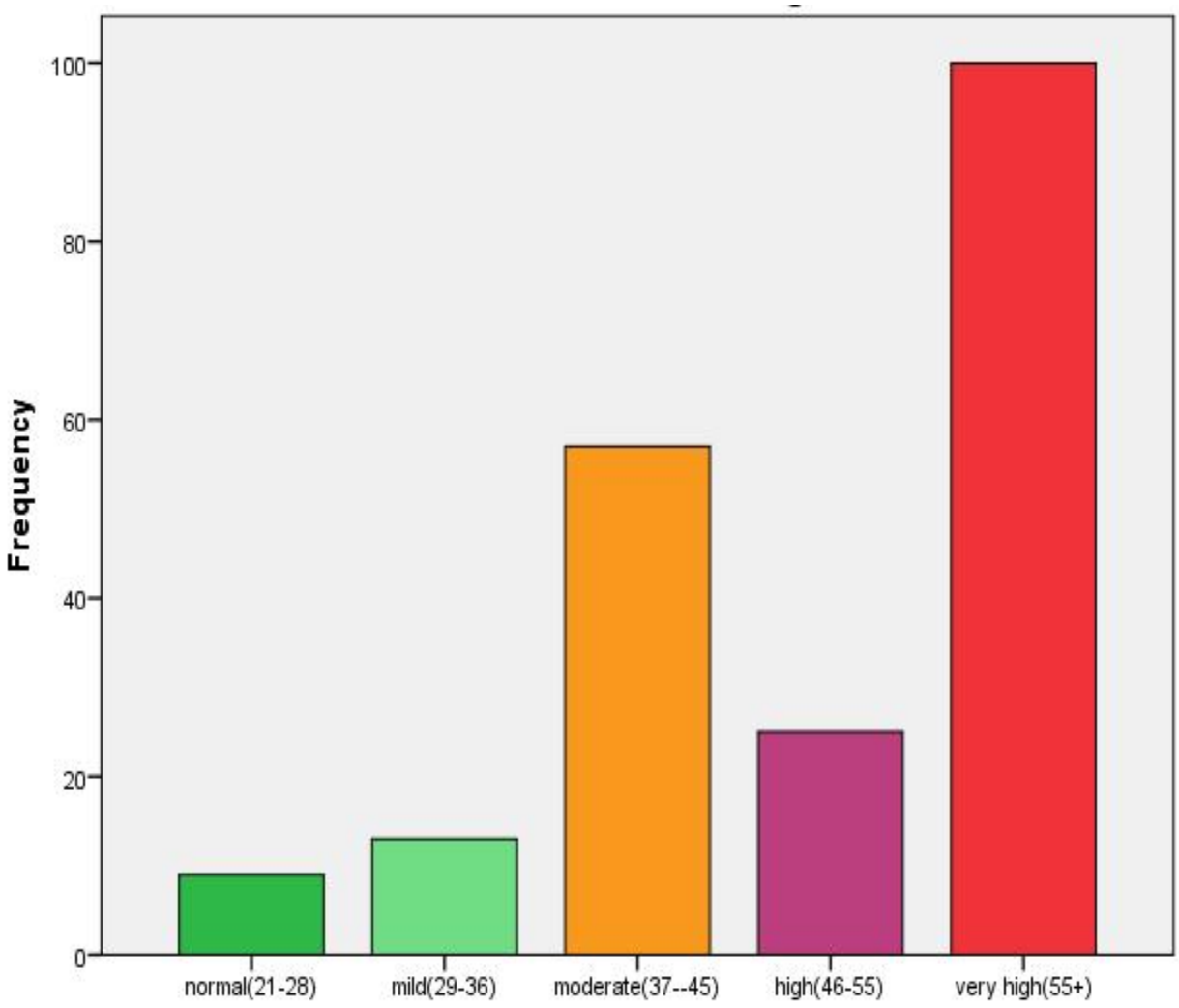


FIGURE 3:Emotional (Burnout) stress indicators Graphs

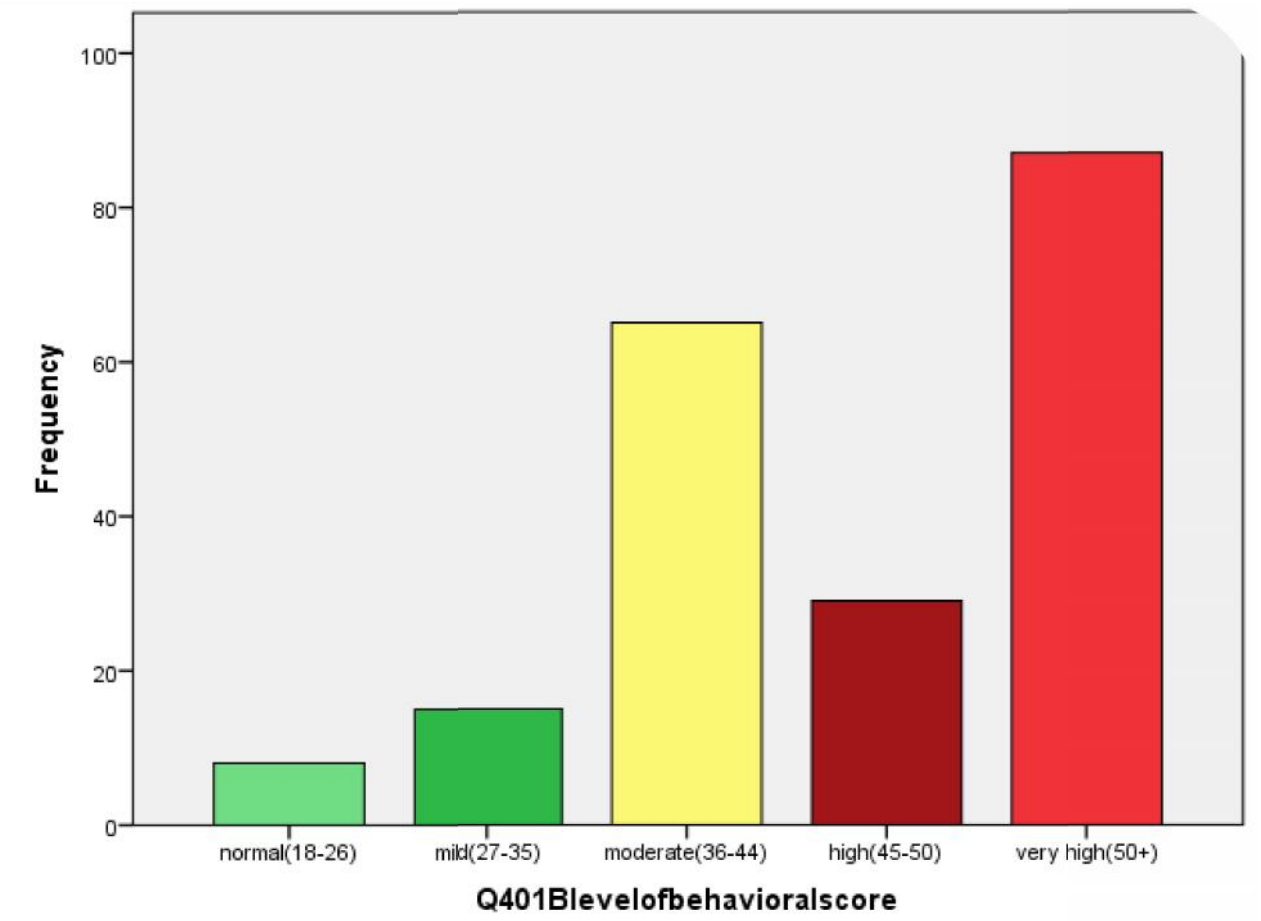


FIGURE 5: Behavioral stress indicators Graph

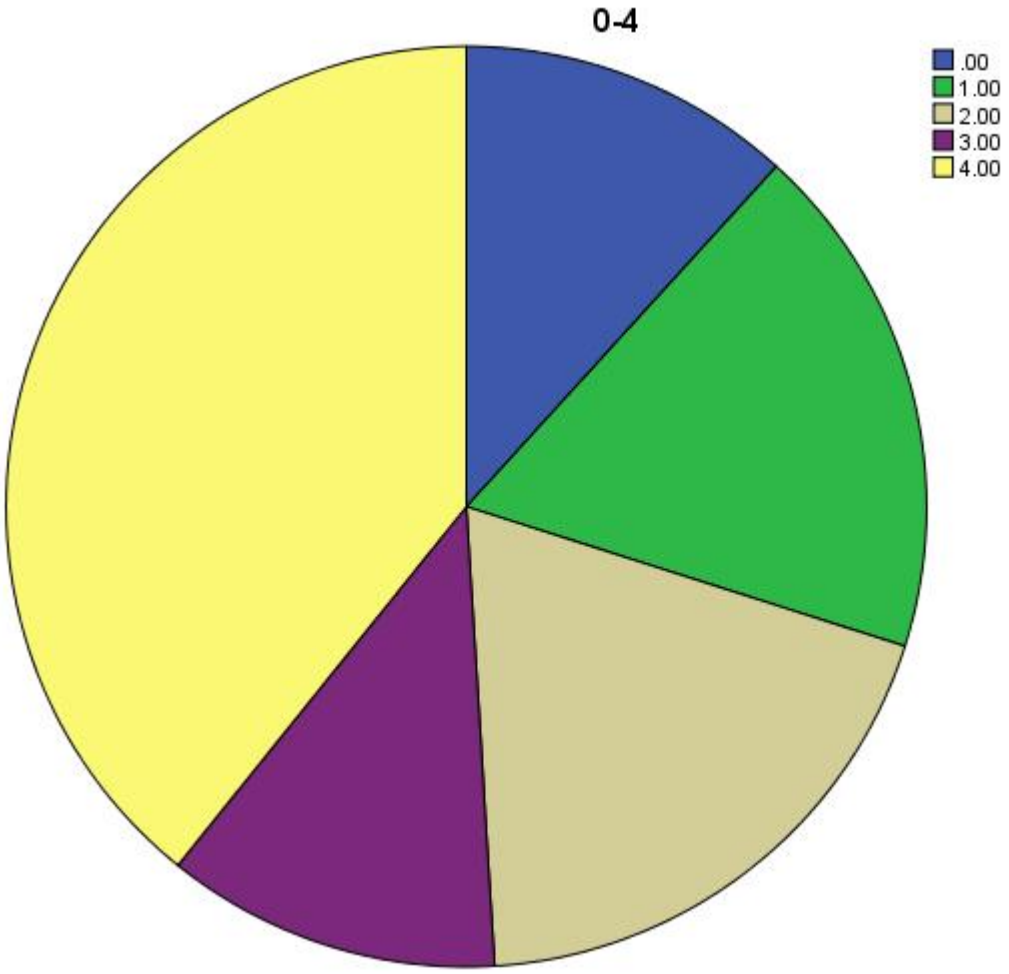
Key: -00 means four indicators were not show stress out of four indicators

1.00 means only one indicator was show stress

2.00 means two indicators were show stress

3.00 means three indicators were show stress

4.00 means all, four indicators were show stress



4.00 means four of four were shown stress

Key: yellow color(4.00) : represents four indicators shown stress
Wine(3.00): color represents three of four indicators shown stress
Gray color(2.00): represents two of four indicators shown stress
Green color(1.00): represents one of four indicators indicates stress
Blue color(00): represents none of the four indictors indicates stress

FIGURE 6: Combination of stress indicators Graph

Fifty one percent(N=204) , 95%CI(0.44 to0.578%) of the participants were stressed, those who were categorized into the high and very high stress indicators, such as : physical, sleep disturbance, behavioral and emotional.

Table 4:-Total sum up stress prevalence among anesthetists

		Frequency	Percent
stress	0	99	48.5
	1	104	51.0
	Total	203	99.5

0=no stress
1= stress

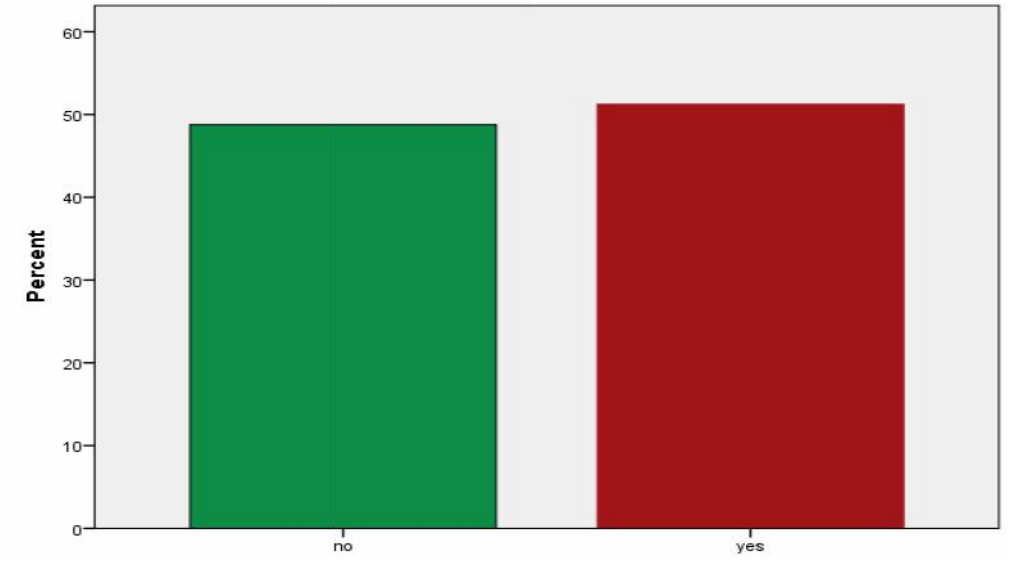


FIGURE 7: Sum up stress prevalence among anesthetists.

Table 6 : Age category with stress

		Stress		Total
		no	yes	
Age category	20-29	46	62	108
		42.6%	57.4%	100.0%
	30-39	32	25	57
		56.1%	43.9%	100.0%
	40-49	16	11	27
		59.3%	40.7%	100.0%
	50-59	4	6	10
		40.0%	60.0%	100.0%

Table 7:Educational level with stress

		stress		Total
		no	yes	
Educational level	Advanced Diploma	14	5	19
		73.7%	26.3%	100.0%
	BSC	69	93	162
		42.6%	57.4%	100.0%
	Msc	14	6	20
		70.0%	30.0%	100.0%

Table 8: satisfaction level with stress association

Satisfaction level	stress		Total	X^2
	No	yes		50.23,df=4,p-v 0.000
Completely satisfied	10	4	14	
	71.4%	28.6%		
Mostly satisfied	61	21	82	
	74.4%	25..6%		
Neither satisfied nor dissatisfied	20	37	57	
	35%	65%		
Mostly dissatisfied	7	35	42	
	16.7%	83.3%		
Completely dissatisfied professionals.	1	7	8	
	12.5	87.5		

Satisfaction have been strong association with stress(X^2=50.23 df,4 p=0.000), according to this Study, when the professionals more satisfied become less stressed, and vice versa more dissatisfied(less satisfied) more and more stressed.

Table 9 :Average night duty per month with stress association

		stress		Total
		no	yes	
Average night duty per month	<8days	30	51	81
		37.0%	63.0%	100.0%
	8-15days	57	46	103
		55.3%	44.7%	100.0%
	>16days	8	3	11
		72.7%	27.3%	100.0%
	none	4	4	8
		50.0%	50.0%	100.0%
Total		99	104	203
		48.8%	51. 2%	

Night duty was association with work-related stress (X^2=8.77,df=3 95%CI (0.006-0.053),p=0.029)

To identify the factors associated with work related stress

Table 10: sociodemograpy factors with stress

Sociodemograpy		stress		odd Ratio		95%CI	P-Value
		No	Yes				
Gender	Male	62	53				
	Female	37	51	1.6		0.921-2.82	**0.094**
Experience	low <=8.5	60	78				
	High >8.5	39	26	0.513	-	0.282-0.934	**0.028**
Hopital	Governmental	81	96				
	Private/NGO	18	8	0.375	-	0.155-0.907	**0.025**
Hospital level	Referral and T	76	87				
	Referral and NT	23	17	0.646		0.321-1.298	0.218
Night duty	**<8days**						
	8-15 days						
	>16days			**X^2 = 8.774,df=2**		**0.006-0.053**	**0.02**
Age category				**X^2= 5.43, df=4**		**0.155—0.267**	**0.211**
Marital status				**X^2=4.796,df=3**		**0.073-0.162**	**0.118**
Day time working hour				**X^2 =0.686,df=2**		**0.664—0.787**	**0.25**
(Staff or,Msc orBsc student)				**X^2=4.859,df=2**		**0.034—0.103**	**0.06**
Educational level (adv dipiloma,BSC MSC)				**X^2=11.851,df=3**		**0.00-0.015**	**0.00**
Religion				**X^2=1.888,df=4**		**0.739-0.85**	**0.79**

Table 11 :The presence of consultant, emergency drugs and other materials with stress association

Variables		Stress		Odd ratio	95%CI	p-val
		No	yes			
Anesthesiologist presence	No	44	33			
	Yes	55	71	1.71	0.971-3.051	0.062
Msc anesthesia presence	No	58	68			
	Yes	41	36	0.75	0.424-1.322	0.318
Consulate same level	No	67	72			
	Yes	32	32	0.93	0.515-1.683	0.812
Adequate emergency drug	no	54	65			
	Yes	45	39	0.72	0.411-1.261	0.25
More than adequate	No	97	103			
	Yes	2	1	0.47	0.042-5.276	0.53
Less than adequate	No	45	40			
	Yes	54	64	1.33	o.762-2.33	0.31
Automatic vent.fuction alwa	N	48	54			
	Yes	51	50	0.87	0.502-1.512	0.624
Auto vent func sometimes	No	57	51			
	Yes	42	53	1.41	0.811-2.454	0.223
Auto vent never func…….	No	93	103			
	Yes	6	1	0.15	0.018-1.273	**0.047**

Table 12: work and work related factors association with stress

Main factors		stress		Odd ratio	95% CI	P value
		no	yes			
Time Constraints	No	72	71			
	yes	27	33	1.239	1.677-2.27	**0.037**
Excessive physical and mental work	No	36	23			
	yes	63	81	2.012	1.085-3.734	**0.025**
Complexity of the task	no	68	49			
	yes	31	55	2.462	1.388-4.368	**0.002**
Responsibility of patient	no	44	53			
	yes	55	51	0.77	0.443-1.337	0.353
Medico-legal and fear of harming pt	no	47	51			
	yes	52	53	0.94	0.541-1.63	0.824
Job Security	no	68	66			
	yes	31	38	1.263	0.705-2.262	0.432
Frequency Emergency on call	no	88	85			
	yes	11	19	1.788	0.803-3.98	0.157
Work place communication gap	no	66	57			
	yes	33	47	1.65	0.934-2.91	0.084

The study indicate that ,time constraints, excessive physical and mental work and the complexity of the task were significant association with work related stress.

Table 13:Logistic regression of factors associated with work related stress among anesthetists

Variables	AOR(adjusted odd ratio)	95% CI	P-value
Watching football games TV/DSTV, movies(y/n),	0.233	0.056—0.97	**0.045***
Greater than 15 night duty per month(y/n)	4.131	1.912—8.823	**0.037***
Automatic ventilation non-function (y/n)	4.462	2.059—794.24	**0.009***
Excessive physical and mental work load(y/n)	3.421	1.368—8.554	**0.009***
Complexity of the task(y/n)	3.042	1.208—7.665	**0.018***
Responsibility of the patient with ethical decision and fear of harming patient(y/n)	4.442	1.202—9.6	***0*.04***
Mostly dissatisfaction on profession(y/n)	9.6	1.621—57.005	**0.013***
Final year Bsc and Msc anesthesia student(y/n)	4.01	1.078—14.9	**0.038***

NB: (y/n) y=yes,n=no

This statistically significant factors show that , Watching football games TV/DSTV, movies anesthetists were (AOR 0.233,95%CI (0.05—0.97)p=0.045) 77% less likely stressed than those who were not practicing it , with adjusting others listed significant factors in study. Greater than15 days night duty working anesthetists were 4.131(AOR 4.131, 95%CI (1.912—8.823),p=0.037) times more likely stressed than less than 15 days night duty covering. Anesthesia machine ventilator non function at all, set up working anesthetists were 4.462(AOR 4.462, 95%CI(2.059—794.24),p=0.009) times more likely stressed than its were working fully functional set up. The anesthetists responded , Excessive physical and mental work load were 3.421(AOR 3.421,95%CI (1.368—8.554),p=0.009) times more stressed than not excessive physical and mental work load with controlling other factors. Those who said complexity of the task were 3.042(AOR 3.042, 95% CI(1.208—7.665),p=0.018)times more likely stressed than those who not consider as such complex, with adjusting other factors. Anesthetists responded

Medico-legal and fear of harming patients were 4.442(AOR 4.442 ,95%CI (1.202—9.6),p=0.04) times more stressed than those responded as no. Anesthetists Mostly dissatisfaction on profession were 9.6(AOR 9.6 ,95%CI (1.621—57.005) ,p=0.013) times stressed than those who were relatively satisfied groups, with adjusting other factors. Final BSC and Msc student anesthetists were 4.01(AOR 4.01,95%CI(1.078—14.9),p=0.038)

NB: * **statistical significant facto,**

- AOR= Adjusted odd ratio

Table 14: Participants were stated Stress coping ways

• Strategies of stress releasing	Frequency	percentage
Drinking tea/coffee/caffeine soft drink	124	60.8
Communication with friends or families/went to church/mosque	110	53.9
Listening classical music or spiritual song	100	49
Watching TV/DSTV football games or movies	98	48
Quiet site enjoying	52	25.5
Drinking mild to moderate alcohol	42	20.6
Walking 2.5—5 km	29	14.2
Working active aerobic exercise	14	6.9
Chewing Chat	7	3.4
Others(taking nap, swimming……)	10	4.9

This result showed that, many of study participants were used to release their stress by practicing the following activities, the most common were : drinking coffee or tea or soft caffeine 60.8%(N=204), communication with friends or families or went to church/mosque 53.9%(N=204),Listening classical music's or spiritual song 49%(N=204) ,watching TV/DSTV football games or movies (especially young groups) 48%(N=204),quiet site enjoying 25.5%,drinking mild to moderate alcohol 20.6%(N=204) and others.

CHAPTER SIX

Discussion

Measuring stress is very difficulty due to its subjective characteristics, due to this reason for this study used four stress indicators, such as physical, sleeping disturbance, behavioral and burnout(emotional) [www.thecounselingteam.com and Maslach C, Jackson SE, 1990]

There are differences underlying causes and triggers of work related stress for everone.However,some workplace like anesthesia,many factors more likely to lead to stress than others.such as :thinking of difficulty intubation during start of surgery, fear of laryngeal spasm during extubation and also full of thought through out the procedure cardiac arrest of the patient [Reeve PE,et al,1993]

The high prevalence of this study show that stress 51%(N=204), 95%CI(0.44 to0.57.8%) could be attributed to the fact that being a public and private or NGO hospitals in AA[Lindfors PM, Nurmi KE, Mertoja OA, et al. 2006] conducted study in Finland anesthetists 68% of them felt stressed. The difference could be attributed to the socioeconomic, cultural and environmental factors. This study prevalence distributed female to male ,the frequency of females 1.6 time more among stress than male OR(odd ratio) 1.6, 95% CI 0.921—2.82. It might be due to females were more occupied other household problems during their working place than male.[Eleni Andreou,Evangelos C,etal,2011]

Among different stress indicators the majority of the anesthetists were complained physical indicators showed that, 73% and emotional(burnout) 62% fall into high and very high stress indicators. Study conducted Belgium in anesthesia burnout in anesthetists constituted around 40% it indicates the difference proportion between them and us [Anne-Sophie Nyssen and Isabelle Hansez ,2008]. This may be due to Technology variation and our setup the use of old inhalational drugs, pollution of the room and the proximity to inhalational drugs, malposition sitting or standing for long time and over think for those anesthetized patient to avoid harming intraoperatively and emerging from anesthesia.

AS study indicate that ,the prevalence of stress become high in two extremity age categories ,such as the top 20—29 years and the bottom 50---59years that is 62% and 60% became stressed respectively .It implies that top age group, they were struggling to adopt transitional life from

university to actual working area , low experience and also so eager fullness to develop independence to manage the situations. When came to the bottom age group ,most probably due to physical , age , social factors might be due to these related diseases. These were supported the study conducted in Sweden among experienced and low experienced anesthetists
[Larsson J, Rosenqvist U, Holmstro I,2007]

When the prevalence of stress in Governmental compare to private or NGO hospitals, among 177 participants from governmental hospital anesthetists 54.2% and 26 private or NGO 30.8% were stressed, with odd ratio of private over governmental(OR= 0.38,95%CI 0.155—0.907, p-value 0.025) .It implies that the frequency of private/NGO anesthetists were 62% less than among stress as compare to governmental anesthetists. These discrepancy may be due to on public hospitals faced large number of patients flow with inadequate emergency anesthetic drugs, equipment and also referral of complicated cases from private or NGO hospitals to governmental. In relative to these private handling small number of patient with well equipped setup.
Study also indicated that stress prevalence varies between referral but not teaching to referral and teaching hospitals,42.5% and 53.4% respectively, with OR= 0.646,95%CI 0.321—1.298 p-value 0.218 . this show that the frequency of referral but not teaching anesthetists 35% less among stress than teaching and referral hospitals.Most likely due to teaching learning process the procedure should be prolonged, so that the patient ,anesthethics and anesthetists contact hour were also elongated, which inturn increase physical and mental workload upon professionalists .

The study divides the participants in three groups, such as fully time staffs, Msc anesthesia students and final year Bsc students anesthetists .The stress prevalence among them, out of staff 127 staffs (45.7%). Out of 36 Msc student anesthetists (61.%)and out of 39 Bsc student anesthetists 61.5% were stressed.stress association with these groups (X^2 =4.633,df=2 ,95%CI 0,086—0.179 p-value 0.132)[Larsson et al.2007]conducted study in anesthesia specialist education program in Sweden in favors this results, Students have so many problems such as attending attachment area to practice, class attending, preparing them for intraoperative and theoretical examinations, these all made them superior in stress than staffs.
..

Anesthetists experience a variety of stressful events during their working area, among those demographics factors associated with work-related stress were : sex, marital status, educational level, experience low over high, working hospitals(private over government), staff over intern(BSC) or MSC anesthesia student found in bivarite analysis.

Others work related factors such as presence of emergency drugs ,functional of automatic ventilation, presence of senior consultation ,excessive physical and mental workload ,complexity of the task and medico legal or ethical decision were association of work related stress among anesthetists. This factors also association with stress in study was conducated in different counteries (e.g. Sweden, Austria, Belgium, Finland, Portugal, France, etc.). [Anne-Sophie Nyssen,et al, 2008]

There were statistical significant factors that associations between work related stress were :, Watching football games TV/DSTV, movies, greater than 15days night duty per month, automatic ventilation non function at all, excessive physical and mental workload, complexity of the task, responsibility of the patient with ethical decision and fear of harming patient, mostly dissatisfaction on profession and final Bsc and Msc anesthesia student compare to staff anesthetists. The all listed factors were positive or greater than one adjusted odd ratio with stress.[Lerderer W, Kinzl JF, Trefalt E, et al, 2006]This statistically significant factors almost similar with the study conducted in Portugal and Austria.

Coping strategies refer to the specific efforts, both behavioral and psychological, that people employ to master, reduce, tolerate or minimize stressful events. .[Naiemeh S,et al,2007]thThe guidelines have stated that there are no standards for coping strategies, that might be vary depending on socio-cultural factors. On other hand, coping strategies have been shown to vary by region, community, social group, household, gender, age, season and time in history and are greatly influenced by individuals' previous experiences. The study participants mostly stated strategies were drinking(tea, coffee, and soft caffeine) 60.8%(N=204),communication with friends or families or went to church 53.9%, listening classical music or spiritual song 49%, Quiet site enjoying 25.5% ,drinking mild to moderate alcohol 20.6% and others.

CHAPTER SEVEN

Conclusion

It is clear from the results of this study show that, more than half(51%) of the anesthetists in Addis Ababa governmental as well as private hospital have defined work related stress. Statistically significant associated factors such as:- Watching football games TV/DSTV, movies, greater than 15days night duty per month, automatic mechanical ventilation non function at all, excessive physical and mental workload, complexity of the task, responsibility of the patient with ethical decision and fear of harming patient, mostly dissatisfaction on profession and final Bsc and Msc anesthesia students.

Anesthetists were experienced some strategies to cope with stress such as drinking(tea, coffee, and soft caffeine) ,communication with friends or families or went to church , listening classical music or spiritual song , Quiet site enjoying ,drinking mild to moderate alcohol Watching TV/DSTV football games or movies and others.

7.1. Strength of the Study

This study used primary data to assess the prevalence and factors that were associated work related stress. This study is probably the first/ among the pioneers research work related stress upon anesthetists Ethiopia. It will be helpful as baseline information for other researchers.

7.2. Limitation of the study

The study design was cross sectional which is used to investigate findings on a single point of time. So that the factors associated work related stress out of the study period could not be investigated. It is also limited to be compared with other studies due to absence of similar studies.

CHAPTER EIGHT

Recommendation

Hospital organizations Providing anesthetists with meaningful programs that assist in recognizing stress and identifying effective Stress management strategies and also building programs about how to manage stress evoking factors internal and external. They require attending sessions to assist in improving their life and coping with stress such as time management and other stress related issues.

Any anesthesia equipment before purchasing should consulting anesthesia professional and after purchased the company should give short training for basic application of the equipment. Because as we know most anesthesia machines (automatic mechanical ventilators) are lost their function with in short period of time.

EAA(Ethiopian Anesthetist Association) Providing for anesthetists periodic on job training in management of stress with collaboration of FMOH,NGOS and others that addresses some of the issues pertaining(relating) to the experience to manage their stress.

Anesthesia schools educational administrators should introduce effective coping strategies through incorporating stress management training into orientation activities for students anesthetists, counseling programs for newcomers to practice anesthesia.

Anesthesia profession her/him self should practice stress coping mechanisms and also try to minimize night duty greater than 15days.Increase safety margin to decrease stress in anesthesia practice, such as to develop preanesthetic evaluation, equipment preparation, more or less emergency drugs and machine readiness

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29. Guidelines on Occupational Safety and Health Management Systems

(ILO-OSH 2001)

Annexes:

Annex 1

Information and Consent Sheet

Information sheet and consent form prepared for BSc Anesthesia, who were participated in research project, a cross-sectional study assess prevalence and factors associated work related stress in selected private and all government hospitals in Addis Ababa

Name of Principal investigator: Mitiku Kolcha

Name of the organization: Addis Ababa University, College of Health Sciences, Department of Anesthesia

Name of the Sponsor: Addis Ababa University

This information sheet and consent form is prepared to explain the study you are being asked to join. Please listen carefully and ask any questions about the study before you agree to join. You may ask questions at any time after joining the study. The investigator is final year Mastter degree in anesthesia graduate student from the department of anesthesia, college of health science, Addis Ababa University, and one advisor from Addis Ababa University.

Purpose of Research Project

Stress is the main problems that impends to delivery quality anesthesia care in our set up, Stress is unavoidable but is not all bad .It could highly influenced by different factors that can lead to Poor quality of anesthesia delivery , disorganization of the service, conflicting roles, medication error, , dissatisfaction with the care provided, and increased mortality. These problems are manageable if anesthetists can properly delivery of anesthesia with minimal stress.

Procedure

To assess the prevalence and factors associated work related stress among anesthetists in Selected private and all Government Hospitals in Addis Ababa you are invited to take part in this project. If

you are willing to participate in this project, you need to understand and tick ―yes‖ the agreement form. Then after, you will receive the questionnaire by the data collector to give your response. You do not need to write your name on the questionnaire and all your responses and

the results obtained will be kept confidentially by using coding system whereby no one will have access to your response.

Risk/ Discomfort

By participating in this research project, you may feel that it has some discomfort especially on wasting time about 10-15 minutes. We hope you will participate in the study for the sake of the benefit of the research result. There is no risk in participating in this research project.

Benefits

If you participate in this research project, there may not be direct benefit to you but your participation is likely to help us in assessing the prevalence and factors associated stress among anesthetists in Addis Ababa selected and all governmental hospitals . Ultimately, this will help us to identify the gap and take the appropriate intervention by the authorized stakeholder.

Incentives

You will not be provided any incentives or payment to take part in this project.

Confidentiality:

The information collected from this research project will be kept confidential and information about you that will be collected by this study will be stored in a file, without your name, but a code number assigned to it. In addition, it will not be revealed to anyone except the principal investigator and will be kept locked with key.

Right to refuse or withdraw:

You have 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 right.

Persons to contact:

If you have any question to ask, comment, suggestion please contact

- Mitiku Kolcha

Tel: +251-911118410

Email = *tuytmitik@yahoo.com*

Annex 2

Questionnaire

Consent Form

Addis Ababa University

College of Health Science

Department of Anesthesia

This questionnaire is prepared to assess the prevalence and the factors that associated work related stress among anesthetists in Addis Ababa governmental and private hospitals..

The assessment is made for the partial fulfillment of Masters Degree in Anesthesia. The results of the study will be used as base line information to design appropriate intervention strategies to increase anesthetists‘ capacity to conduct anesthesia process for their patients.

The questionnaire contains both closed and open ended questions and will be provided in self administered form. You are therefore kindly requested to provide genuine answers to the questions.

The information you provide is confidential and is used only for the purpose of this study. If you have any question, don‘t 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. However, you have the right to turn down if you are not voluntary to participate fill =No‘ in the box below.

If you are voluntary Yes No

Thank you in advance for your cooperation

Data collectors sign: _____

Questionnaire

Sociodemograpics (please circle your appropriate response)

Age	1.20---29 2.30---39 3.40---49 4.50---59 5.60^{+}	
sex	1.male 2. female	
Martial status	**1.married 2.single 3.divo**rced 4.widowed 5. others	
Religion	**1**.Orthodox 2.Musulim 3.protestant 4. Catholic 5. others	
Education levels	**1.Advanced diploma 2.Bsc 3.Msc 4.others**	
Work experiences	**_____YR**	
Your working hospital name	**_____**	
Your Hospital level	**1.referal and teaching** **2. Referral but not teaching**	
Average your daily working hour	**1.8—10 2.11—15 3.>16**	
Average your night duty per month	**1. <8days 2. 8—15days 3.>16days**	
Who are you going to consulate in case of problem in working area	**1.Anesthesiologist 2. Msc anesthetist** **3.same level but senior for facilities**	
How do you see your setup(OR)availability of the anesthetics emergency drugs	**1.adequate** **2.more than adequate** **3.less than adequate**	
How do you see your setup anesthesia machine mechanical ventilator system **How much were you satisfied in your profession (you can responde only one)**	**1. always functional** **2. sometimes functional** **3. never functional at all** **1.completely satisfied** **2.mostly satisfied** **3.neither satisfied nor dissatisfied** **4.mostly dissatisfied** **5.completely dissatisfied**	

Stress indicotors **Physical**]	**Almost Always (on five days a week**	**Most of the time (on three days a week)**	**Some of the time (on one and one half days a week)**	**Almost never (less than two hours a week**	**Never**
How often would you say:My body feels tense all over					
How often would you say: I have a nervous sweat or sweaty palms or face					
How often would you say: I have shortage of time feeling really relax					
Because of my busy schedule I miss at least two meals during the week					
I have problems with my bowels (constipation or diarrhea).					
I smoke tobacco/cigarette					
I lack physical energy or fatigability					
SLEEP INDICATORS:	**Almost Always (on five days a week**	**Most of the time (on three days a week)**	**Some of the time (on one and one half days a week)**	**Almost never (less than two hours a week)**	**Never**
How often would you say: I have problem of falling asleep.					
I have problem of awake from sleep					
I wake up at least once in the middle of the night for no clear reason					
No matter how much I sleep ,when I awake up feeling very tired					
I have nightmares or repeated bad dreams					

BEHAVIORAL INDICATORS	**Almost Always (on five days a week**	**Most of the time (on three days a week)**	**Some of the time (on one and one half days a week)**	**Almost never (less than two hours a week)**	**Never**
How often would ld you say: I try to work while I'm eating lunch to finish my job					
I go to work even when I feel sick					
I have started over thinking for work at home.					
I drink mild to moderate alcohol to relax.					
I drink tea or coffee or caffeine to relax					
After dinner I spend more time alone or watching TV than I do talking with my family or friends					
At least once during the week I have a shouting match with staffs or supervisor					
I have problems with my sex life					
EMOTIONAL INDICATORS:	**Almost Always (on five days a week**	**Most of the time (on three days a week)**	**Some of the time (on one and one half days a week**	**Almost never (less than two hours a week)**	**Never**
How often would you say: I have found the best way to deal with patients and working area problems to consciously to avoid conflict					
I have problem of remembering things					
It is important for me not to show my emotions to my family and friends					

It is hard for me to relax at home					
It's best if I don't tell even my closest friend how I'm really feeling in working area.					
I worry a lot in job					
I feel very angry inside.					
I have temper outbursts I can't control					
When people criticize me, even in friendly, constructive way, I feel offended.					
I feel extremely sensitive and irritable duringwork					
When I have an important personal problem I can't solve myself, I do not seek other professional help.					

questions	Almost Always (on five days a week)	Most of the time (on three days a week)	Some of the time (on one and one half days a week	Almost never(1hr/wk)	Never
How often during the last one month would you say: My body feels tense all over					
How often during the last one month would you say I have a nervous sweat or sweaty palms					
How often during the last one month would you say I have a hard time feeling really relaxed					

How often during the last one month would you say I have severe or chronic lower back pain					
How often during the last 3-6 month would you say I get severe or chronic headaches.					
3-6 month would you say:I get tension or musclespasms in my face, jaw, neck or shoulders					
How often during the last one month would you say:My stomach discomfort or feels upset.					
How often during the last one month would you say:I get skin rashes or itching					
How often during the last one month would you say I have problem with my bowels (constipation or diarrhea).					
How often during the last one month would you say I need to urinate more than most people.					
How often during the last one month would you say My ulcer bothers me					
How often during the last one month would you say I feel short of breath after mild exercise like climbing up four flights of stairs					
How often during the last one					

month would you say Compared to most people, I have a very small or avery large appetite					
How often during the last one month would you say My weight is more than 15pounds higher than what is recommended for a person my height and build					
How often during the last one month would you say I smoke tobacc					
How often during the last one month would you say I get sharp chest pains when I'm physically active.					
How often during the last one month would you say I lack physical energy					
How often during the last one month would you say When I'm resting, my heart beats more than 100 times a minute.					
How often during the last one month would you say Because of my busy schedule I miss at least two meals during the week.					

How often during the last one month would you say I don't really plan my meals for balanced nutrition.					
How often during the last one month would you say I spend less than 3 hours a week getting vigorous physical exercise (running, playing basketball, tennis,swimming, etc).					

Declaration

I,the undersigned ,senior Msc in anesthesia student declare that this thesis is my original work in partial fulfillment of the requirement for the degree of master of anesthesia

Name _____

Signature_____

Date of submission_____

Assurance of investigators

The undersigned agrees to accept responsibility for the scientific,ethical and technical conduct of the research project and for provision of required progress reports as pre terms and conditions of the research and publications office of Addis Ababa university

Name of the student_____signture_____Date_____

Approval of the advisor(s)

Name

1._____signture_____DATE_____

*2.*_____*signture*_____*Date*_____

Advisor agreement

Full title of research project: ***Assessment of work related stress and associated factors among anesthetists in AA public and private hospitals***

Name of student _____

This thesis has my/our approval as Advisor(s) on the **Msc in anesthesia course.**

Name

1._____signture_____

2._____signture_____