Addis Ababa University
College of Education and Behavioral Studies
School of Psychology

Work Related Stress among Anesthetists in Addis Ababa Hospitals: Prevalence and Associated Factors

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November, 2014
Abstract

The major purpose of this study was to assess the prevalence and associated factors of work related stress among anesthetists in Addis Ababa Hospitals. The research employed a cross-sectional research design using Job Content Questionnaire (JCQ) and turnover intention scale as research instruments. Out of ten government run hospitals in which surgery is performed, four hospitals were selected through the use of the lottery method of simple random sampling as the target population has the same job roles and the available professionals are very limited. Informed consents were obtained from the participants and fifty one anesthetists working in selected hospitals filled out the questionnaire. The findings showed that the prevalence of high level of work related stress was 96.1% among participant anesthetists. Moreover, all the participants had low level of job satisfaction and 84.3% had turnover intention. Generally, this study suggests that the job control and demand of anesthetists and lack of social support increased work stress experience of anesthetists since the results indicated that the participant anesthetists job control and demand positively and significantly correlated with their work stress level, job satisfaction score was negatively and significantly correlated with turnover intention and social support was negatively and significantly correlated with job satisfaction.
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Acronyms

AANA American Association of Nurse Anesthetists
ASA American Society of Anesthesiologists
CHD Coronary heart disease
CPR Cardiopulmonary resuscitation
CRNA Certified Registered Nurse Anesthetists
EAA Ethiopia Anesthetists Association
HSE Health and Safety Executives
WRS Work related stress
Chapter One

Introduction

1.1 Background of the Study

Work is an essential aspect of life which can provide individuals with purpose, satisfaction, structure, self-esteem and spending power. It is one of the life tasks (goals) and commitment to society for Adler (as cited in Glassman & Marilyn, 2009). On the other hand, the workplace can also be a setting of stress and worry (Julia, 2007). Work-related stress (WRS) is a growing problem around the world and is the response people may have when presented with work demands and pressures which challenge their ability to cope (HSE, 2007). Stress occurs in a wide range of work circumstances but is often made worse when employees feel they have little support, as well as little control over work processes (WHO, 2013).

Occupational stresses incorporate exposure to the physical and psychosocial hazards of work. Psychosocial hazards are those aspects of work design of the organization and management of work, and their social and environmental contexts, which have the potential for causing psychological or physical harm. On the other hand, these outcomes can also have serious consequences for employers, potentially leading to high turnover, absenteeism, strikes, decreased productivity, low morale, etc (Cox & Griffiths, 1995).

As indicated by Mark and Smith (2008), the working life is changing and become more stressful across the world, and these changes have led to new challenges and problems for organizations and employees. The majority of these changes mean that workers are under growing pressure to compete, adapt, and learn new skills in order to meet the demands of their work (Cox & Griffiths, 1995).

According to Roy and Kathleen (2007), the presence of a support network has been found to reduce the negative effects of stress. The support of one’s social network can act as a buffer to stress in many ways. A positive social support network can increase an individual’s self esteem and self-efficacy. In addition, the support network may suggest solutions to stressors being faced. Having a support group can also alter perceptions of the stressor and associated with adaptive coping to stressful events.
Studies that used the job demand model indicate that, the path to turnover intention is the result of job demands that cause burnout. An indirect relationship between job demands and turnover intention is therefore proposed. It is suggested that this idea is based upon studies which have found that job demands, especially when there are less resources, stimulate exhaustion (the opposite of engagement) and, in turn, cause turnover intentions (Sjoberg & Sverke, 2000).

Almost all people at some time in their lives experience stress that relates to their occupation. Jobs that involve a responsibility for people's lives can be more stressful. Medical personnel have heavy workloads and must deal with life or death situations frequently. Making a mistake can have dire consequences. In an intensive care unit of a hospital, emergency situations are common; decisions must be made instantly and carried out immediately and accurately (Sarafino, 2006).

Several research findings including local studies indicate that the job of medical professionals is stressful. For instance, on a study done by Selamawit (2012) to assess prevalence and associated factors of work related stress among nurses working in public hospitals of Addis Ababa concluded that the prevalence of work related stress was high and about one in four nurses were stressed in their work places.

Being part of health discipline, Anesthesia profession deal with assessment of, consultation for and preparation of patients for anesthesia; relief and prevention of pain during and following surgical, obstetric ,therapeutic and diagnostic procedures; monitoring and maintenance of normal physiology during the intra operative period and management of critically ill patients. The anesthesia professionals are responsible for management and recovery from anesthesia (Miller & Parado, 2011).

According to Barash et al (2013), there is significant development in the conduct of anesthesia in the last decade, and it has been attributable to one of the most important contributions made towards the perfection of surgery. At the same time that anesthesia is increasingly safer for patients; it is becoming potentially more hazardous for its practitioners.

Anesthesia profession appears among stressful occupations. Specific stressors reported by the professionals include the unpredictability of the work, the need for sustained vigilance during long intervals, production pressure, and fear of litigation, difficult interpersonal relations and economic uncertainties (Barash et al, 2013).
Anesthetists share many occupational stressors with other service professionals, but they also experience unique work environment factors that set them apart: proximity to suffering and death; the emotional and physical needs of patients; pressures to perform consistently and optimally under changing conditions and difficulties to satisfy incompatible job demands and unclear expectations since each anesthetic procedure can result in unexpected morbidity or mortality, and a malpractice claim can arise from a bad outcome despite optimal care (Meeusen, 2010). Malpractice refers to any professional misconduct, but its use in legal terms typically refers to professional negligence. All these demands and working conditions are responsible for anesthetists work context which can result in stress and less job satisfaction (Barash et al, 2013).

Researchers conducted various researches to study stressors and its impacts on nurse anesthetists. In a survey conducted by Meeusen (2010), questionnaire containing work related items was distributed among all nurse anesthetists working in Dutch hospitals. The response of the survey result revealed that fatigue, unpredictability of work, fear of litigation, competence pressure, the need for sustained vigilance are job demands to the nurse anesthetists.

Other researchers also supported the notion that nurse anesthetists experience unique work environment factors that result to WRS. For instance, Perry (2005) indicated that nurse anesthetists encounter specific stressors while practicing their duties. Patient care-related stressors occur, including certain surgical cases (example-premature newborn cases, patient deaths and patient complication like difficult intubation and laryngeal spasm). And, the death of a patient in operation table is more stressful since it usually deemed as anesthetic death or it is mostly believed that the cause of the death is anesthetic.

Generally, several studies have been undertaken in different contexts and indicated that anesthetists face work related stress which is unique to the profession. But in the Ethiopian context, there are no studies (to the researcher’s knowledge) done on the work related stress of anesthetists. Taking into account this gap, this study sets out to assess the prevalence and associated consequences of work related stress among anesthetists working in Addis Ababa selected hospitals.
1.2. Statement of the Problem

The exceptional worldwide changes and shifts in the nature of organizations may result in increasingly stressful working environments, which can be manifested in many forms. These include a lack of control at work, shorter holidays, longer hours, insufficient rewards, job insecurity, poor promotion prospects, increased time pressure, lack of support, poor feedback, isolation, harassment, role conflict, and work-life balance issues (Griffiths, 1998).

The impact of excessive pressures within personal life cannot be ignored. Work stresses go home with the worker and Home stresses come to work (HSE, 2007). Whilst the employer cannot be held directly responsible for them, these factors play an integral part in work performance. At the societal level, costs are considerable in terms of absenteeism, loss of productivity, and health care consumption (Jac et al, 2001). With the increase in workloads of the past decade, the number of employees experiencing psychological problems related to occupational stress has increased rapidly in Western countries (Wang & Patten, 2001).

According to Miller et al (2010), the role of anesthetists is stressful because they are repeatedly confronted with changing patient needs, medical problems and suffering. Several potential risks to the anesthetists are related to the provision of care, including medico legal risk, the risk of an allergic reaction (such as latex glove allergy), and the risk of a needle stick injury and transmission of disease from the patient to the practitioner.

A research done by Evon (1985) cited in Perry (2005), looked at the physiological parameters of stress and studied the effects of biological stressors on 14 CRNAs while administering general anesthesia. Blood pressure, temperature, pulse, and serum cortisol levels were measured as the nurse anesthetists gave general anesthesia. The result of the study indicated that 12 participants had a measurable, detectable response to stress, such as an increase in blood pressure and pulse which can expose them to physical and psychological hazards. Those particularly prone to experiencing higher amounts of stress were the CRNAs with less than 10 years experience.
According to Lindfors et al (2006), the causes of anesthetists stress are high workload, organizational issues, working atmosphere, difficulties in combining family with work, and being on call. In many countries, anesthetists continue to work on call and do night shifts until the age of retirement. Being on call may be stressful for several reasons: sleep deprivation, excessive volume of work, requirement to work quickly, unpredictability of the nature of work, and lack of opportunity for consultation.

The other stressor for anesthetists is the use of potent anesthetic drugs by the professionals. Despite the remarkable growth in understanding of how anesthetic drugs work, not everything is known or predictable about how a patient will respond to these potentially toxic agents or potent anesthetic drugs (Henry, n.d.). On the other hand, Miller et al (2010) stated that the access to potent opioids with the frustrating tradition of extended work hours, and the unique role of anesthetist's plays in critical clinical situations contribute to the anesthetist's risk of drug dependence, fatigue, and emotional distress.

In addition to the above mentioned stressors, it is impossible to practice anesthesia without exposure to a number of potentially harmful environmental factors. Exposure to inhalation agents, transmissible diseases, and radiation are unavoidable in the operating room environment. For instance, more recent studies suggest exposure to waste gases remains a lingering concern among anesthetists. Fortunately, the past several decades have produced a number of technical advancements and guidelines that serve to minimize the adverse effects of these occupational exposures but they do not completely eliminate those risks (Miller et al 2010).

In general, literatures indicate that physical and emotional stresses are inherent in anesthesia practice. Stress is unavoidable and may be desirable to a certain degree. Anesthesia workplace stress may be associated with numerous factors that affect the day-to-day anesthesia care delivery activities, including the experience of the anesthesia provider, patient acuity, the need to be constantly vigilant and respond to changes in patient status. Other factors include workload and productivity, providing care in complex emergency cases, types of settings, and anesthetist relationships with the patient and family, anesthesiologists, surgeons, technologists, nurses, and other staff involved in the care of patients.
Considering the above notes, we can observe anaesthetists experience WRS and exposed to unique stressors. In my view, even if most of the studies give more emphasis to physical hazards of work stress, in the western world the issue of WRS in anaesthesia community and its likely impact is widely considered and has long become an important area of research.

According to the Department of Anesthesia (2014), the profession has been the list addressed discipline in the history of medical practice in Ethiopia while undertaking most of the total workload of anesthesia practice. The professionals served for several years (ever since 1974 G.C. Ethiopian anesthesiologists trained and start to replace the demand of foreign anesthesiologists) all over the country.

It is believed that WRS of anesthesiologists as seen in the western world could exist in our society, becoming a problem worth consideration, and our knowledge on the issue is not better than intuition. Hence, this research aims to assess about the experience of work stress among anesthesiologists working in Addis Ababa hospitals. In addition to assessing work stress, an attempt has been made to assess the social support, job satisfactions and turnover intention of anesthesiologists working in Addis Ababa hospitals.

And, the current study mainly focuses on psychosocial dimension of work related stress as a risk assessment. According to Cox et al (2002), risk assessment is the first step in management of stress so that provides information on the nature of the problem, the stress-related hazards and the way they might affect the health of those exposed to them and the healthiness of their organization.

Therefore, the following research questions are raised in line with the research topic.

- What is the prevalence of work related stress among anesthesiologists?
- Does job control and demand of participant anesthesiologists predict work related stress?
- Does demographic variables such as gender, marital status, educational level and being part timer had effect on the participants of work related stress?
- Is there any relationship between the participants Job stress, job satisfaction, turnover intention?
- Does social support could act as a buffer to job stress, job satisfaction, turnover intention?
1.3. Objective of the Study

1.3.1. General Objective

The general objective of this study was to assess WRS among anesthetist's working in Addis Ababa hospitals.

1.3.2. Specific Objectives

The specific objectives of the study were:-

- To assess the prevalence of work related stress among anesthetists working in Addis Ababa hospitals.
- To determine if the job control and demand of participant anesthetists related with the level of work related stress.
- To examine whether demographic variables such as gender and work experiences had association with the participant anesthetists work related stress level.
- To find out if there is any relationship between job stress, job satisfaction, and turnover intention.
- To see whether social support could act as a buffer to job stress, job satisfaction, turnover intention or not.

1.4. Significance of the Study

As it has been discussed, being anesthetist seems stressful job, impacting various life domains of the professionals. Thus, any issue with the adverse effect of WRS (such as less job satisfaction, increase professional turnover, performance decline, etc) on the productivity of this population has likely impact to the professionals, the organization in which they are working, to all citizens and government.

On the other hand, deeper understanding of the profession and the impact of stress on the professionals will also help to create programs and strategies that improve the working environment of the professionals and the ability to develop positive coping strategies. This in turn will hopefully reduce the negative effects associated with untreated work-related stress.
Therefore, the current study is justifiable for its theoretical and practical implications and its findings are believed to yield the following major significant outputs.

- To understand scientifically, the prevalence of WRS among anesthetists to the stakeholders in view of the fact that our knowledge is not more than intuition in our context.
- To create awareness about the anesthesia profession by providing some insight for concerned bodies.
- The findings could be used to guide preventive measures to reduce stress among these workers and to develop further studies towards the intervention of stress in the workplace of Anesthetists.
- To the scientific community, the research will contribute to literature and can serve as important initial resource for further study on the area.

1.5. Delimitation of the study

In general, work related stress is worldwide as well as countrywide concern. Though the problem has this wide scope, the study is limited to Addis Ababa and only four government run hospitals in Addis Ababa have been involved in the study. So, the outcome of the research is generalized only to anesthetists working in selected four hospitals of Addis Ababa.

1.6. Limitation of the study

The respondents of the study were only who were available during the data collection process due to the shift nature of the work, being on annual leave and some of them were on training. As a result of this, the researcher couldn’t include them in the research. Secondly, even though the researcher is aware that the study will be more reliable with the inclusion of anesthetists working in private hospitals, with the limitation of resources it was difficult to incorporate.


1.7. Operational definition of variables

Below is a list of variables used throughout this work, along with a brief definition of each.

- Work related stress is the adverse reaction people have to excessive pressure or other types of demand placed related to their work (HSE, 2007). Work related stress develops because a person is unable to cope with the demands being placed on them. Stress, including work related stress, can be a significant cause of illness and is known to be linked with high levels of sickness absence, staff turnover and other issues such as decline in job performance. Occupational stress adversely affects performance, productivity, job satisfaction, and health of professionals (Gmelch, Lovrich, & Wilkie, 1984).

- Job satisfaction is an attitude with two components: an affective and a cognitive component. The affective component of job satisfaction, often described as likeability or pleasure, encompasses how individuals feel about their jobs. In other words, employees who find pleasure or enjoy their work are more likely to have job satisfaction. The cognitive component explains the perception of fulfilled need or expectations. Both components are responsible for their own contribution to job satisfaction. Job satisfaction fluctuates across the working day, and these fluctuations are in part driven by mood and emotions (Meeusen, 2010).

- Job turnover intention (intentions to stay or leave the organization) is the propensity to leave job as a result of an employee’s decision-making process related to organizational characteristics and perceived alternatives. The organizational characteristics can be the working environment stressors (Campion, 1991).

- Social support refers to a network of individuals on whom one can rely for psychological or material support to cope effectively with stress and the diverse ways in which individuals help others. Social support has been documented as playing an important and positive role in the health and well-being of individuals. Social support is could be material aid, informational or emotional support. Social support given in the workplace positively predicts support received. Also, physical health tends to decrease when an individual has long work hours and lacks social support. Conversely, individuals who have a social support network tend to be buffered against the adverse effects of longer working hours (Roy F. & Kathleen D., 2007).
Chapter Two

Literature Review

2.1 An Overview

The review of the literature section presents conceptual and empirical studies related to work related stress among nurse anesthetists and the theoretical framework of the study. It begins with a review of concepts of work related stress, theories of work related stress, studies about work related stress, social support as a buffer for work related stress and work related stress across professions. Then follows aspects of anesthesia and studies about anesthetists work related stress. The final section includes the theoretical framework of the study.

2.1.1. Concepts Related to Work Related Stress

One of the major aspects of life is work, which gives purpose, satisfaction, structure, self esteem and spending power. However, the work place can also be a setting of stress and worry. WRS has effect at individual, organizational and societal level. Assessing the risk is the first step in the management of WRS. Information should be obtained about employee perceptions of their job conditions and perceived levels of stress can also be examined to evaluate the existence and scope of WRS (Julia, 2007).

WRS is widespread and is not confined to a particular area, sectors, jobs or industries. The UK Health and Safety Executive (HSE, 2007) formal definition of WRS is the adverse reaction people have to excessive pressures or demand placed on them at work. Stress occurs when this pressure becomes excessive.

The impact of excessive pressures within personal life cannot be ignored. Work stresses go home with the worker and Home stresses come to work (HSE, 2007). Whilst the employer cannot be held directly responsible for them, these factors play an integral part in work performance. At the societal level, costs are considerable in terms of absenteeism, loss of productivity, and health care consumption (Jac et al, 2001). With the increase in workloads of the past decade, the number of employees experiencing psychological problems related to occupational stress has increased rapidly in Western countries (Wang & Patten, 2001).
Under some circumstances, work may have positive health benefits by promoting psychological well-being (Baruch & Barnett, 1987). On the other hand, there is evidence to suggest that work is only one of a number of possible areas or aspects of life that can give rise to the experience of stress (Surtees & Wainwright, 1998). Levi (1984) has grouped the various psychosocial characteristics of work under four headings: quantitative overload, qualitative under load, lack of control over work and lack of social support. Each aspect of such work situations carries a potential for harm and thus represents stress. These are the fundamental dimensions of psychosocial stresses in that they underpin the person’s perception of the stressfulness of any work situation. In manageable doses, stress has positive implications, such as increasing one’s level of alertness and cognition (Perry, 2005).

Psychosocial pressures or hazards have been implicated as risk factors for many physical and psychological problems, including increased risks of heart disease, gastrointestinal problems, anxiety, depression, burnout, absence, fatigue, accidents, substance misuse, musculoskeletal disorders, work-family conflict, and many other problems. These outcomes can also have serious consequences for employers, potentially leading to high turnover, absence, strikes, decreased productivity, low morale, etc (Cox & Griffiths, 1995; HSE, 2007). For instance, the findings of the study done by karasek et al (1981) concluded that low decision latitude or environmental constraints on the worker's ability to decide how to respond to environmental demands appears to be an independent coronary heart disease(CHD) risk factor. This factor resolves a commonly expressed paradox concerning excessive job demands. Decision latitude may represent a stress moderating factor with risk-reducing consequences, instead of a job stressor.

As indicated by Mark and Smith (2008), it is a common perception that working life is changing across the world, and these changes have led to new challenges and problems for organizations and employees dissatisfaction. Job Satisfaction has been defined as a multidimensional construct and a product of the global evaluation of one’s workplace and context. On the one hand, job Satisfaction is viewed as a dependent variable that varies with the quality of working conditions and with other stressors.
According to Meeusen (2010), job satisfaction is presumed to be an independent variable that determines a variety of consequences such as irregular work attendance and performance. Job satisfaction is not the same as motivation, although it is clearly linked. Stress and less job satisfaction can result depending on the job demands and controllability of working conditions.

Schabracq and Cooper (2000) stated that the combination of new technology, globalised economies, and new organizational products and processes, have caused exceptional changes and increasing risks. The exceptional changes and shifts in the nature of organizations may result in increasingly stressful working environments, which can be manifested in many forms. These include a lack of control at work, shorter holidays, longer hours, insufficient rewards, job insecurity, poor promotion prospects, increased time pressure, lack of support, poor feedback, isolation, harassment, role conflict, and work-life balance issues (Griffiths, 1998).

Roy and Eli (2010) explained that uncontrollable or unpredictable events are perceived to be more stressful than controllable and predictable ones. When people feel that they can predict, modify, or terminate an aversive event, or that they have access to someone who can, the event is experienced as less stressful. Ambiguous events are often perceived as more stressful than clear cut events.

One of the reasons for stress is also a lack of control over work activities and interpersonal support or poor working relationships among the superior and subordinates. Sometimes, people feel stressed due to the feeling of job insecurity, lack of career opportunities, or level of pay which is negative implications of work stress recognized as a challenge to both employers and workers. Workplace stress is different for everyone - what is stressful for one person may not be stressful for another (Geeta et al, 2007).

The path to turnover intention is the result of job demands that cause burnout. An indirect relationship between job demands and turnover intention is therefore proposed. It is suggested that this idea is based upon studies which have found that job demands, especially when there are less resources, stimulate exhaustion (the opposite of engagement) and, in turn, cause turnover intentions (Sjoberg & Sverke,2000).
WRS is not an individual weakness, but instead is an individual reaction to organizational and/or interpersonal problems at work. Therefore it has to be tackled at an organizational level. Furthermore it is a multi-causal problem that requires multi-dimensional solutions. Social Support is associated with how networking helps people cope with stressful events. Besides it can enhance psychological well-being (House, 1981).

Also Roy and Kathleen (2007) stated that, the presence of a support network has been found to reduce the negative effects of stress. The support of one’s social network can act as a buffer to stress in many ways. A positive social support network can also increase an individual’s self esteem and self-efficacy. In addition, the support network may suggest solutions to current problems or stressors being faced. Having a support group can also alter perceptions of the stressor by decreasing the perceived importance of the stress. As such, having a strong and stable support network may lessen the negative effects of stress. In addition, support is associated with adaptive coping to stressful events and greater protection from the negative effects of stress.

The stress process model suggests that social support affect stress related outcomes in several ways including as an additive factor, as a buffer, or as a moderator of stressors. In the context of work, therefore, a variant of the demand–control model has been developed to account for the possibility that social relations at work might affect the extent of stress due to the demand control relationship (Maureen et al, 2003).

So, in addition to the buffer effect of social support, work place stress management intervention programs have varied widely with the objectives, strategies and occupational group. Among the key areas that have tended to form the basis of such interventions and strategies are job design which incorporate adequate control/decision latitude and ensure a manageable workload and training programs in working methods and schedules may reduce strain through enhanced competency (David et al, 2005).
2.1.2. Theories of Work Related Stress

Theories of WRS have different assumptions and in many ways their content is overlapping. Amongst the prominent theories outlined by Mark and Smith (2008) include: Person-Environment fit model, Job characteristics model, Michigan Model, Demands-Control model, Transactional model and Job Demands-Resources Model. Person-Environment fit model developed by French (1973). The model is derived from the concept that an individual’s personal characteristics interacted with their work environment to determine strain, and consequent behavior (Lewin, 1951).

According to P-E fit model, for healthy conditions, it is necessary that employees’ attitudes, skills, abilities and resources match the demands of their job, and that work environments should meet workers’ needs, knowledge, and skills potential. When there is lack of fit in either of these domains can cause strain, and the greater the strain as demands exceed abilities, and need exceeds supply (Sonnentag & Frese, 2003).

Job characteristics model of Hackman and Oldham’s (1980) focuses on important aspects of job characteristics, such as skill variety, task identity, task significance, autonomy, and feedback. These characteristics are proposed to lead to ‘critical psychological states’ of experienced meaningfulness, and experienced responsibility and knowledge of outcomes. In conjunction with the model, Hackman and Oldham (1980) developed the Job Diagnostic Survey, a questionnaire for job analysis, which implies key types of job-redesign including combining tasks, creating feedback methods, job enrichment, etc.

Michigan Model or ISR model (Institute of Social Research), or the Role Stress Approach like the P-E fit model, the Michigan Model (Caplan, Cobb, French, Harrison, Pinneau, 1975) also places much emphasis on the individual’s own subjective perceptions of stressors. Environmental stressors, such as role ambiguity, conflict, lack of participation, job security, workload, lack of challenge etc, are subjectively perceived, and personality variables, demographics, and social support moderate these perceptions to lead to health outcomes (Kompier, 2003).
Demands-Control model developed by Karasek (1979) originally focuses on the two psychosocial job characteristics of job demands and job control. The latter factor is sometimes called decision latitude (Karasek, 1979) and is made up of the sub-factors of decision authority (control over work situation) and skill discretion (possibility of using learnt skills and competencies). Cox and Griffiths (1995) call the demand-control model an “interactional” model, as it focuses on the structural features of an individual’s interactions with their environment (as opposed to the process of what is occurring in this interaction). The Demands-Control model was expanded (Johnson & Hall, 1988) to include social support (DCS) as evidence suggested that support may act as a buffer in high demand situations (Cooper, Dewe, & O’Driscoll, 2001; Karasek & Theorell, 1990; Lim, 1996).

Transactional model developed by Cox and Griffiths (1995) focus on the structural characteristics of the stress process, i.e. which stressors are likely to lead to which outcomes in which populations. However, transactional views are more cognitive, and focus on the dynamic relationship that occurs between individuals and their environment in terms of mental and emotional processes. Transactional views often place emphasis on the role of subjective perceptions of the environment, and are more likely to acknowledge the possible impact of individual difference factors, such as differences in coping, appraisal, personality, locus of control etc (Cox et al. 2000).

Job Demands-Resources Model of Demerouti, Bakker, Nachreiner & Schaufeli, (2001) is the recent approach that takes cues from several of the existing approaches. JD-R categorizes psychosocial factors into the global categories of job demands and job resources to see how these may influence illness and organizational commitment (Llorens, Bakker, Schaufeli, & Salanova, 2006). Demands are said to be physical or social aspects of a job that require efforts and thus have physical and mental costs, and resources as workplace or organizational aspects that help with the achievement of work goals, reduce demands, or stimulate growth and developments (Llorens et al., 2006)
2.1.3. Studies about Work Related Stress

Stress has been studied from many different frameworks. The definition of stress has been an area of substantial debate. Stress has been defined as an independent variable, dependent variable and as a process. It has been examined from medical, behavioral and social science perspectives, each of which will conceptualize stress according to the understanding pertaining to the respective discipline (David et al, 2005). Lazarus (1984) advocated a psychological view in which stress is a particular relationship between the person and the environment that is appraised by the person as exceeding his or her ability to cope (Bonnie, 2013).

Variants of this psychological approach dominate contemporary stress theory, and among them two distinct types can be identified: the interactional and the transactional. The former focus on the structural features of the person’s interaction with their work environment, and the latter are more concerned with the psychological mechanisms underpinning that interaction (Cox et al, 2000).

WRS is the occurrence of negative emotions that are evoked by demanding situations in the work place. Globally, WRS is still a major and rising concern. An extensive amount of research now conclude that prolonged exposure to work related psychosocial hazards can have negative mental and physical health behavioral and social consequences for employees (Maureen et al, 2003). In a survey conducted by the American psychological Association (APA) 2011, 36% of workers said they felt tense or stressed at during their work day and almost half said that low pay affected their stress level at work (Mark & Rudy, 2011).

Sarafino (2006) also stated that almost all people at some time in their lives experience stress that relates to their occupation. The demands of the task can produce stress in two ways. First, the work load may be too high because some people work very hard for long hours over long periods of time if they need the money and jobs that involve a responsibility for people's lives can be stressful. Medical personnel have heavy workloads and must deal with life or death situations frequently. Making a mistake can have dire consequences.
The result of a research done by Marinaccio et al (2013) to investigate socio-demographic and occupational variables involved in perceived risk of work-related stress indicated that female workers reported lower scores on control and peer support and more negative perceptions of relationships and change at work than male workers, most of them with full-time contracts. Age, job seniority, and educational level appeared positively correlated with control at work, but negatively with job demands. Fixed-term workers had positive perceptions regarding job demands and relationships, but more difficulties about their role at work than permanent workers. A commuting time longer than one hour and shift work appeared to be associated with higher levels of risk factors for work-related stress, the latter having more negative effects, increasing with age.

Also studies that used the job demand model indicate that, the path to turnover intention is the result of job demands that cause burnout. An indirect relationship between job demands and turnover intention is therefore proposed. This idea is based upon studies which have found that job demands, especially when there are less resources, stimulate exhaustion (the opposite of engagement) and, in turn, cause turnover intentions (Sjoberg & Sverke, 2000).

As a consequence, Bothma (2011) concluded that the turnover phenomenon has significant cost and other negative consequences for any organization. Losing employees that are highly skilled may have disruptive implications for organizations, such as impaired organizational functioning, service delivery and administration. It may also contribute to increased costs of re-hiring and re-training employees.

Most Stress researchers usually have studied the effects of social relationships on stress phenomena in organizations under the dominator of "social support". They have convincingly documented direct curative effect of social support on stress phenomena in a great number of studies. Appropriate social support has positive effects on stress prevention, the recovery from stress related complaints and reintegration after a traumatic event. On the other hand, Social support can outcome of a social network, which in its turn results from being embedded in the organization as a whole (Marc et al, 2003). Thus, the professional liability insurance that provides financing protection in the event of court judgment against anesthetists preserve from further stress (Miller and Pardo, 2011).
Generally, research findings show that the most stressful type of work is that which involves excessive demands and pressures that are not matched to workers’ knowledge and abilities, where there is little opportunity to exercise any choice or control, and where there is little support system (Cox and Griffiths, 1995). And, Marinaccio et al (2013) suggest that assessment and management of work-related stress risk should consider specific socio-demographic and occupational risk factors such as gender, age, educational level, job status, shift work, commuting time and job contracts.

2.1.4. Work Related Stress across Professions

A study done by Johnson (2005) about the experience of WRS across 26 professions provides information on the rank order of occupations in relation to job satisfaction and the experience of negative stress outcomes, and as such allows the identification of “high” and “low” stress occupations. Although some suggestions have been made to explain the findings, a full analysis of the relevant stressors for any particular occupation is not attempted. Past research into high-risk occupations is on the whole supported with occupations previously described as reporting high stress levels also indicating high stress levels here. So, the findings of the study revealed that there is variation on the level of stress and each occupation has a peculiar WRS.

WRS is manifested across professions, for example, research findings of out of online-questionnaire, online-platform designed for the purpose of targeting the 500 European schools indicate that the workload and role overload of teachers were found to be the main stressors (occupational health and safety, 2011).

It is well known from several studies that the work of teachers implies some particular strain factors, such as greater emotional demands and work-privacy conflict than most other professions. It is also known that teachers demonstrate higher levels of burnout and cognitive stress when compared to most other professions, or to the general mean of employees. Teachers do also have some structural advantages, like greater influence at work or better possibilities for professional development than other professions (Nübling et al, 2011).
Occupational health and safety (2011), highlights how the amount of work together with the multiplications of areas of responsibility and roles constitute the main stressors for teachers. From the survey, the issue of quantitative workload does not in itself have a direct statistically proven influence on the strain factors. But, when the tasks of work conflicts with private life it becomes evident that this is a factor that for the participating teachers influences their daily wellbeing.

Findings of a local study done to explore teachers and instructors job satisfaction and its relation with self-esteem in Dessie town by taking some demographic variables, also point out the educational level of the participants did not have a significant correlation with job satisfaction and the educational level mentioned were certificate, diploma, degree, masters and above (Solomon, 2009).

The results of another local study done to investigate factors that influence the job satisfaction of secondary school teachers in Addis Ababa indicated that the teachers were significantly dissatisfied with most aspects of their work. Salary and benefits emerged as the primary dissatisfying aspect of all the work factors. Other areas of dissatisfaction related to poor fringe benefits and opportunities for promotion; the management style of the principals; lack of decision-making opportunities for the teachers and the poor relationships teachers have with the principals and the parents (Gedefaw, 2012).

Stacy (2009) study done with the purpose to understand the relationship between the level of job-related stress experienced by police officers and their ability to function well in the various roles they play in their lives. The study employed quantitative approach with a random sample of 69 active police officers and secondary analysis findings indicated that the police officers as well experienced job-related stress.

Compared to other kinds of workers, service workers are facing different and also specific stressors such as client demands, aggression and confrontation with death and dying. Health workers are one of the service professionals who work directly with people whose well-being should be protected, maintained or enhanced by altering their personal attributes and mandated to protect and to promote the welfare of their clients (Sarafino, 2006).
Several research findings including local studies indicate that the job of medical professionals is stressful. For instance, on a study done by Selamawit (2012) to assess prevalence and associated factors of work related stress among nurses working in public hospitals of Addis Ababa concluded that the prevalence of work related stress was high and about one in four nurses were stressed in their work places.

Also a study done by Mark and Smith (2011) to investigate the relationships between job characteristics and coping in predicting levels of anxiety and depression in nurses. It was based on current theories of occupational stress, and predictors included job demands, social support, decision authority and skill discretion control, effort, over-commitment, rewards, and ways of coping. It was predicted that job demands, extrinsic effort, over-commitment, and negative coping behaviors would be positively associated with depression and anxiety, and social support, rewards, decision authority, skill discretion control, and positive coping would be negatively associated with depression and anxiety.

The Conclusion of a research done with the objective of to compare the job satisfaction and intention to leave of different categories of health workers in Tanzania, Malawi, and South Africa pointed out that job satisfaction is an important determinant of the performance and turnover of health professionals. The lowest job satisfaction and highest intention to leave were found in South Africa where 47.9% of those surveyed were dissatisfied with their job and 41.4% were actively seeking other jobs (Blaauw et al, 2013). On the other hand, the prevalence rate of Chinese hospital workers with high job strain was 16.5% (Chien et al, 2011).

According to Pandarakalam (2010), psychiatry is a stressful profession. Rates of alcoholism, drug abuse and suicide among personnel working in mental health have been reported to be elevated, but there is a lack of any authoritative report about the occupational hazards of psychiatry. Psychiatrists are expected to exhibit a neutral attitude towards their patients, but all psychiatrists from time to time experience vicarious traumatisation as a result of empathetic engagement with a patient and their traumatic material, and this is distinct from transference. The author also outlined that psychiatry and anesthesia are generally identified as the medical specialties that present the highest risk to practitioners.
2.2. Aspect of Anesthesia and Studies of Anesthetists Work Related Stress

2.2.1. Aspects of Anesthesia and its Work Related Stress

Being part of health discipline, anesthesia deal with assessment of patient, consultation for and preparation of patients for anesthesia; relief and prevention of pain during and following surgical, obstetric, therapeutic and diagnostic procedures monitoring and maintenance of normal physiology during the intra operative period and management of critically ill patients. The anesthesia professionals are responsible for management and recovery from anesthesia (Miller & Parado, 2011).

Anesthesia profession is a stressful occupation. Specific stressors reported by the professionals include the unpredictability of the work, the need for sustained vigilance during long intervals, production pressure, and fear of litigation, difficult interpersonal relations and economic uncertainties. During the practice of anesthesia, as in other areas of life, everything doesn’t always go as planned, undesirable outcomes may occur regardless of the quality of care provided. Estimates of anesthesia related morbidity and mortality are difficult to quantify because of different methodologies. It is generally accepted that anesthesia safety has improved over the past 50 years (Barash et al, 2013).

According to Miller et al (2010), potential risks to the anesthetists are related to the provision of care, including medico legal risk, the risk of an allergic reaction (latex glove), and the risk of a needle stick injury and transmission of disease from the patient to the practitioner.

Improvements in the conduct of anesthesia have been attributable to one of the most important contributions made towards the perfection of surgery. Anesthetists have been providing anesthesia care in the United States and in some European countries for nearly 150 years and were the first “nursing specialty group”. The skilled, well-trained nurse anesthetists have most certainly played a keystone role in improving anesthesia practice. At the same time that anesthesia is increasingly safer for patients; it is becoming potentially more hazardous for its practitioners (Meeusen, 2010).

Mortality due to anesthesia considered higher than surgery when mortality from anesthesia began to be studied in the 1950s and it is often difficult to sort out mortality due to surgery and patient death from that due to administration of anesthesia drugs (Henry, n.d.).
However, due to the introduction of sophisticated monitoring devices, better training, understanding of the physiologic effects of anesthetics and better transmission of information concerning causes of anesthesia mortality, the mortality rate has fallen. Despite the remarkable growth in understanding of how anesthetic drugs work, not everything is known or predictable about how a patient will respond to these potentially toxic agents or potent anesthetic drugs (bid).

According to Michael et al (2010), after the incident anesthetists will continue to feel traumatized long after the event and also it is not unusual for a clinician involved in a major traumatic incident to be asked and even to stop clinical work pending during the investigation of an incident. The author also emphasized the need of available insurance system and on-going psychological counseling which involves the giving of information aimed at preventing psychological morbidity and aiding recovery after a traumatic event.

Meeusen (2010) also indicate that nurse anesthetists share many occupational stressors with other service professionals, but they also experience unique work environment factors that set them apart: proximity to suffering and death, the emotional and physical needs of patients, and pressures to perform consistently and optimally under changing conditions and difficulties in attempting to satisfy conflicting or incompatible job demands (role conflict) and unclear expectations (role ambiguity) are the causes of WRS in the community.

The other potential risks to anesthetists are the risk for latex allergy and risk for contracting a disease from a patient. A study done on 168 eligible anesthesiologists and nurse anesthetists working in the anesthesia department of The Johns Hopkins Hospital, the prevalence of latex allergy with clinical symptoms was 2.4% and that of latex sensitization without clinical symptoms was 10.1%. The prevalence of irritant or contact dermatitis was 24%. These data suggest that latex is an important problem to the anesthesiologist and that there is a need to transform the hospital to a latex-free environment. Among the greatest fears of health care workers is risk for contracting a disease from a patient. For instance, in a theoretical model of the risk for HIV infection, it was estimated that the 30-year occupational risk was 0.10% to 0.22% in low-prevalence areas and 8.26% to 13% in high-prevalence areas (Miller et al, 2010).
2.2.2. Studies about Anesthetist’s Work Related Stress

Research efforts to examine the unique WRS to anesthetists’ community have consistent results. A study conducted by Perry (2005) employed qualitative inquiry of interview, observation and artifact data findings indicate that nurse anesthetists encounter specific stressors while practicing their duties. It also indicates, that patient care-related stressors occur, including certain surgical cases (Example, premature newborn cases, patient deaths and patient complication (Example, difficult intubation and laryngeal spasm). And, 95% of the participants stated they have experienced the death of patient and the extent of the death being stressful depends on whether it is anticipated or unanticipated. From the total participants 74% revealed patients die unexpectedly and emphasized that the death of a patient in operation table is more stressful since it usually deemed as anesthetic death.

According to Stuart and Timothy (2004) in relation to surgery, intra operative mortality is less than 2% for patients classified as American Society of Anesthesiologists (ASA) grades I, II and III (i.e. no morbidity to severe but not incapacitating systemic disease). A figure which is increased to 8–10% in ASA IV and V patients, and particularly when emergency surgery is performed and one of the most noticeable changes in medico-legal practice has been the vast increase in the number of complaints from patients and their relatives. Each anesthetic procedure can result in unexpected morbidity or mortality, and a malpractice claim can arise from a bad outcome despite optimal care. Malpractice refers to any professional misconduct, but its use in legal terms typically refers to professional negligence. All these demands and working conditions are responsible for anesthetists work context which can result in stress and less job satisfaction (Barash et al, 2013).

According to Miller et al (2010), studies in different setting indicated the possibility that chronic exposure to anesthetic waste gases could result in adverse health effects such as an increased incidence of abortions among female anesthetists and congenital anomalies in children of male and female anesthesiologists was higher than in the control groups of physicians. In addition to these reproductive effects, meta-analysis of these early studies linked the exposure to anesthetic gases to hepatic disease in males and cervical cancer, liver disease, and kidney disease in females.
Several other researchers also supported the notion that nurse anesthetists experience unique work environment factors that result to WRS. In a survey conducted by Meeusen in 2010, containing work related items, was distributed among all nurse anesthetists working in Dutch hospitals were completed and analyzed by means of a factor analysis in order to discriminate between relevant and irrelevant work context factors revealed fatigue, unpredictability of work, fear of litigation, competence pressure, the need for sustained vigilance are job demands to the nurse anesthetists. It is also indicated in the study that, the role of the nurse anesthetist can be stressful because they are repeatedly confronted with changing patient needs, medical problems and suffering which can leads to job dissatisfaction.

A study done by Hayat (2013) showed low job satisfaction in Pakistani anesthetists. Roughly 50% of the respondents in the study were satisfied with their job; among these, a high ratio of trainees was dissatisfied, due to job stress. Due to its apparent increasing incidence and employers and their insurers were becoming increasingly concerned at the advance of employee litigation in Europe, there is an increased need for practical ways to prevent and manage work stress. The interaction among job content, work organization, management, other environmental and organizational conditions on one hand and the employee's competencies on the other influences employee's psychosocial hazard.

Chronic sleep deprivation and night work are also connected to serious health problems such as metabolic syndrome and breast cancer are health risks to anesthetists. Both short and excessively long sleeps are associated with higher mortality in humans (Dembe et al, 2005 cited in Lindfors et al, 2006).

Lindfors et al (2006) study confirms that work-related stress and exhaustion is common among Finnish anesthetists. Being on call is one of the most important perceived causes of their stress, which is in line with the finding that the anesthetists have the greatest on-call burden among Finnish physicians. Unlike other specialists, they also continue to have an on-call commitment until the age of retirement. Being on call is the greatest reason for their perceived sleep deprivation. Being on call is significantly correlated with various, even severe, stress symptoms. These symptoms are associated with sick leave. Women seem to be more affected by stress than men.
2.3. Theoretical Framework of the Study

The research about the causes and consequences of job stress dominated by psychological and social psychological studies, and focus how workers interact with their work environments and why this interaction sometimes leads to stress. For psychologists, when something about the job and something about the individual worker do not quite fit together stress occurs. Psychologists do not see work as inherently stressful, although they sometimes suggest that jobs should be redesigned to reduce their stressfulness. But this can't be the whole story. Workers don't create the jobs that cause them stress. Not all jobs carry the same risk of evoking stress and not all workers are exposed to stressful jobs. Workers do not initiate layoffs or economic downturns that generate job insecurity (Mark & Rudy, 2011).

The UK Health and Safety Executive (HSE, 2007) has attempted to categorize the key work design factors which may relate to stress-related health issues. These include: Demands; Control; Support; Relationships; Role; and Organization.

The conceptual foundation upon which this investigation is based among the contemporary theories is job demand control support model. Demands-Control model (Karasek 1979) is currently perhaps the most influential model of stress in the workplace (Kompier, 2003). Job demand support model emphasize on the joint effects of the demands of the work situation and environmental moderators of stress. The theory particularly emphasize on the range of decision making freedom or control available to the worker facing those demands and skill utilization (Maureen et al, 2003).

Karaseks' (1979) research showed that those exposed to high levels of demand, as well as having low levels of job control (high-strain situation) were disproportionately more likely to show increased levels of depression, fatigue, and cardiovascular disease and mortality. However, the lowest levels of illness were in individuals with moderate or even high demands, if they also had high levels of job control (challenge situation). It is stated in the theory that when levels of psychological strain increase with the increase in job demands and control, increases in motivation, learning, efficiency, mastery, challenge, performance and job satisfaction.
According to demand control theory (1979), when there is high demand and low decision latitude the combination is labeled as job strain (high strain), the high demand and high decision latitude combination is active work and the low demand and high decision latitude combination is low strain work (Karasek, 1998).

Karasek (1979) thus proposed an interaction where high demands and low control would predict high strain, but that high control would buffer the negative effect of demands on outcomes. The implications for job redesign are that healthy jobs ought to have high levels of control without extreme levels of demand, and with wide networks of social support. There is significant evidence in a variety of populations associating health outcomes with control, demands, and support. The DCS is a popular and influential model of workplace stress with good predictive validity (Van der Doef and Maes, 1999).
Chapter Three
Methods and Procedures

3.1. Research Design

One of the objectives of doing research is to portray the characteristics of a particular situation or group. Describing the stress of anesthetists related to their working environment was the major purpose of this particular study. Therefore, the research employed a cross-sectional research design to describe the current situation of the professionals. According to Jupp (2006), cross-sectional research design is the collection of data from a sample of individuals or groups at a particular point in time as a basis for inferring the characteristics of the population from which the sample comes and one of its distinctive features is to provide descriptive estimates of the population’s parameters. In order to achieve its core purpose of describing the work stress of anesthetists, the current study used quantitative approach of survey method. As stated by Harwell (n.d.), key features of many quantitative studies are the use of instruments such as tests or surveys to collect data, and reliance on probability theory to test statistical hypotheses that correspond to research questions of interest.

3.2. Population and Sampling

Based on the objective of the research, the target populations of this study were anesthetists working in Addis Ababa government run hospitals. In Addis Ababa there are twelve government run hospitals, namely, 'Tikur Anbesa Hospital', 'St. Paulos Hospital', 'Zewditu Memorial Hospital', 'Gandi Memorial Hospital', 'Ras Desta Damtew Memorial hospital', 'Yekatit 12 Hospital', 'Menilk II Hospital', 'Amanuel Hospital', 'Tirunesh Debaba Hospital', 'St. Peter Hospital', Armed Forces Hospital, and Federal Police Referral Hospital. Among the twelve government run hospitals, 'St. Peter' TB Specialized General Hospital and 'Amanuel' Specialized Psychiatric Hospital were excluded since their service do not include surgery.

For the purpose of this study, the rest ten hospitals were taken as clusters in order to take the whole sample of anesthetists working in each selected hospitals of Addis Ababa to assign as groups. So, the research employed cluster sampling which involves assigning groups of people, rather than individuals, based on membership in a group (Vanderstoep and Johnston, 2009).
Out of the ten government run hospitals taken as clusters in which surgery is performed, 40% of the hospitals in Addis Ababa were selected through the use of the lottery method of simple random sampling (Krejcie & Morgan, 1970). The names of each government run hospitals were written on a piece of paper and the researcher picked four pieces of papers. Through the use of this procedure 'St. Paulos' 'Tekur Anbesa', 'Gandi Memorial' and 'Ras Desta Damtew' Hospitals were selected as a study site for the current research. However, during the data collection process it was found out that "Ras Desta Damtew" Hospital is undergoing maintenance of the hospital so that the staffs are assigned to work in different hospitals of Addis Ababa. Then, Armed Force hospital was selected with the same simple random sampling procedure using lottery method from the remaining six hospitals which weren’t selected in the first round of lottery drawing.

Thus, a total sample size of 57 anesthetists working in selected clustered hospitals ('St. Paulos', 'Tekur Anbesa', 'Gandi Memorial' and Armed Force) were taken because the target population has the same job roles and the available professionals are very limited.

3.3. Instruments of Data Collection

The necessary data for this research were collected through self-administered questionnaires. As indicated in the previous chapter, the theoretical framework selected in the current study is the job demand control support model of Karasek (1979). This model of job stress predicts stress related risk or the most adverse reactions of psychological strain occur when the psychological demands are high, the worker's decision latitude is low and low social support at work further increases risk (Karasek et al, 1998). In line with this conceptual framework, the Job Content Questionnaire (JCQ) was used to measure work related stress of participant anesthetists since the instrument is designed to measure social and psychological characteristics of jobs.
Job Content Questionnaire instrument is standardized instrument to measure decision latitude, psychological demands and social support and has predictive power for job related mental strain. It is a self-report questionnaire with a four point Likert-scale response format (strongly disagree, disagree, agree and strongly agree) focusing on psychological and social structure of work situations (Karasek, 1985).

In a study done by Karasek et al (1998), in a large sample of 16,601 participants (38% women and 62% men), the JCQ showed generally acceptable internal consistency (Cronbach's alpha coefficients of overall average for women is .73 and for men is .74) even though there were minor deviation of subscales across population and some of the scales validity were borderline. In the current study, Cronbach's α values were found to be .744, .444, .641, .608 and .831 for psychological demand, decision latitude, physical demand, social support and satisfaction subscales respectively.

According to Job Content Questionnaire and User's Guide of Karasek (1985) and Karasek et al (1998), JCQ have six subscales: Decision latitude, psychological demands, social support, physical demands, job insecurity and job satisfaction. Decision latitude subscales of JCQ measure the decision authority (e.g. "On my job, I have very little freedom to decide how I do my work") and skill discretion (e.g."My job requires me to be creative"); Psychological demands sub scale measure the mental work load, organization constraints on task completion, and conflicting demands (e.g."My job requires long period of intense concentration on the task"); Social support sub scale measure the impact of co-workers and supervisor within instrumental support, socio emotional support and interpersonal hostility( e.g. "People I work with are friendly"); Physical demands subscale measure physical loads of the work( e.g."I am often required to move or lift very heavy loads on my job"); Job insecurity subscale of JCQ measure the labor market requirements for particular skills(e.g. "My job security is good").and Items that measure the job satisfaction and depression level of the worker (e.g."I was usually tired in the morning").

In addition to the JCQ items which measure job demand/control/support and satisfaction, the current study added five items after categorizing the list of stressors found out from pretest done to assess the major stressors related to the practice of anesthesia profession in Ethiopia context.
Those participated in the pretest were three masters students of anesthesia of Addis Ababa University who were working as anesthetists and the president of Ethiopia anesthetists association as well as instructor in School of Anesthesia of Addis Ababa University. After explaining the purpose of the study, the participants were asked to list out the stressors related to their working environment. The list of stressors mentioned by the participants of the pretest categorized were shortage of tools and material; exposure to waste gases and its health risk; fear of litigation, shortage of manpower and workload and lack of professional social support. Then, the stressors adopted as part of the JCQ items that intend to measure job stress of anesthetists in line with the view the participant anesthetists in the pretest and literatures.

The added five items after the pretest were: I get all the tools and materials to do my job; I am exposed to waste (inhalational) gases; Each anesthetic procedure can result in unexpected morbidity or mortality and I fear malpractice claim can arise; I handle always case with another anesthetist and I have professional (counseling) help when I am in stressful situation in my working area. And, the items are integrated with JCQ subscales of psychological demand, physical demand, job security and social support respectively.

To investigate the turn over intention of the anesthetists and its relationship with their job satisfaction, turnover intention was measured with three item scale used to measure an overall turnover propensity (Sjoberg & Sverka, 2000). The items include: "I am actively looking for other jobs";" I feel that I could leave this job" and" If I was completely free to choose I would leave this job".

Also, socio demographic variables such as age, gender, level of education, work experience, marital status, own children or not and work related attributes of average work day/week, whether they are doing shift work/night work and part time or not are included in the questionnaire with the inquires that measure socio economic status.

The scoring of the response given for each statement was changed into numeric value and then scores of the data gathered was made to be encoded into SPSS. First, the items measure the same components of the construct were identified and encoded consecutively.
The items of JCQ response set that measure job stress range from 1("strongly agree") to 4("strongly disagree"). Negatively phrased items were reversely coded. As a result, scores ranged from 40 to 160 for job stress. For 6 items of job satisfaction measuring scale, scores were ranging from 6 to 36. The scores of the 3 items of turnover intention ranged from 3 to 15. These scores were used to measure the level of work stress, job satisfaction and turnover intention of anesthetists.

Therefore, median cut-off point was used to determine the cut point for job stress and participants who scored below the median point for job stress are considered as stressed and those who scored above the median point considered having low stress level.

For job satisfaction also median cut-off used, participants who scored below 15 considered as high in job dissatisfaction whereas scored above 15 are considered low in job dissatisfaction. Regarding the turnover intention items, participants who scored below 9 considered as having high intention of leaving the job while those who scored above 9 considered as having low turnover intention.

3.4. Data Collection Procedures

As indicated above, this study used questionnaire to gather all required data for the research and the population of interest was anesthetists working in Addis Ababa government run hospitals who filled out the questionnaires. The questionnaires were presented to the participants in English as the target population graduates of Anesthesia. The allocated time for filling the questionnaire was 20 to 30 minutes. The questionnaire given to the participants to take home to fill during their free time and return back within two weeks of the allocated data collection time of this research.

In order to carry out the data collection process, the researcher personally approaches the selected hospitals with letter of support from the School of Psychology that explains the purpose of the study. After submitting the letter and reaching on an understanding of the selected hospitals as the nature of the study, the participants given the questionnaire after explaining to the anesthetists the objective of the research, including the content of the questionnaire.
The administration of the instruments took place at "St. Paulos" "Tekur Anbesa", "Gandi memorial" and armed force hospitals compound of Addis Ababa. The questionnaires were administrated by the researcher in collaboration with four assistances from each selected hospitals of Addis Ababa to facilitate the data gathering process. Initial orientation was provided to four assistant data collectors on how to handle questions that might be raised from respondents, on how to describe the purpose and process of the study and on how to ask for verbal consent from the participants (participation was totally voluntary).

Out of 57 (fifty seven) questionnaire distributed 52 (fifty two) (91%) were returned/collected so that the data from 6 participants were not included in the analysis due to incomplete responses of the questionnaire. And, 51 (fifty one) questionnaires were found to be complete and represented a response rate of 89.47% ready for further analysis.

3.5. Data Analysis

Data were analyzed through SPSS version 20. To see the distribution of demographic data (age, sex, educational level, year of experience, average work day/week), frequency, percentage, mean and standard deviation were calculated for continuous variables.

In order to assess the prevalence of job stress among participant anesthetists, frequency and percentage was used to describe between high level of work stress and low level of work stress by using median cut-off point. In addition, Pearson product moment correlation was conducted to check whether or not the job control and demand is related with work stress level of participant anesthetists. First, composite score of each sub scale of the JCQ items computed and then correlated with decision latitude, psychological demand and physical demand subscales.

Besides, comparison of whether there existed statistically significant differences among participant anesthetists in the computed variables analyzed to see the association of demographic variables such as gender on work stress using two independent sample t-test, and marital status, educational level and being part timer on work stress using one way ANOVA.
Finally, to determine social support (independent variable) could act as a buffer with scores on work stress and job satisfaction; to see if there is any relationship between job stress, job satisfaction and social support with the participant's turnover intention and whether job stress related to job satisfaction analyzed also by using Pearson product moment correlation. The p-value adopted for the study was .05.

3.6. Ethical Considerations

Describing the work related stress of anesthetist was the general objective of this research. In addition, the current study intended to measure the turnover intention and job satisfaction of the participants of this study. Thus, the participants were given the questionnaire if they were willing to participate in the study and consent to participate achieved after explaining the importance of the research directly from the researcher or through assistances in each selected hospitals.

Moreover, the questionnaire assures and explicit that all the information will be treated with confidentiality, and that no information will be linked to the participant's identity. In order to keep the response of the participants confidential, each questionnaire given a code and the participants are free even to request their data to be deleted without giving any reasons.
Chapter Four

Results

This results section presents the major findings beginning with the socio-demographic variables that were used for comparative purposes latter on. In this chapter of the thesis research results from data collected in quantitative techniques are presented. This chapter has two sections. In the first section of the chapter socio-demographic characteristics of the respondents are presented. In the second section, quantitative results from close-ended survey items of participants are presented using descriptive and inferential statistics techniques. Presentation of findings in each section is according to the order of basic research questions of the research.

4.1. Socio-demographic Characteristics of Respondents

The subjects involved in this study were 51 anesthetists working in four hospitals of Addis Ababa. As shown in Table 1 below, out of the total of 51 anesthetists 22 were females and 29 were males. And, the age of the respondents ranged from 22 to 53 as depicted on Table 2 below. With respect to the respondent's marital status, just above half of the anesthetists (51%) were married. Moreover, 23 of the respondents have the responsibility of their children ranging from 1 to 4 including the widowed and divorced/separated of single parents.

Regarding the educational level of respondents, 78.4% of the respondents have completed bachelor/University degree as anesthetists. In addition, all of the respondents pass through on job training by practicing in different hospital setting in order to complete their education to earn whether diploma, degree or 2nd degree. The profiles of the respondents are presented in the following table.

Also as shown on the table 1 below, 98% of the respondents have a permanent work contract at their current organization and 47.1% were part-time employee in another organization. Besides, 96.1% of the anesthetists reported that their job involves shift work/ night work.
### Table 1: Socio-Demographic Characteristic of Respondents

<table>
<thead>
<tr>
<th>Demographic characteristics</th>
<th>Frequency(N=51)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working Army</td>
<td>14</td>
<td>27.5</td>
</tr>
<tr>
<td>Hospital &quot;TikurAnbesa&quot;</td>
<td>17</td>
<td>33.3</td>
</tr>
<tr>
<td>&quot;Gandi&quot;</td>
<td>9</td>
<td>17.6</td>
</tr>
<tr>
<td>&quot;Paul&quot;</td>
<td>11</td>
<td>21.6</td>
</tr>
<tr>
<td>Gender Female</td>
<td>22</td>
<td>43.1</td>
</tr>
<tr>
<td>Male</td>
<td>29</td>
<td>56.9</td>
</tr>
<tr>
<td>Total</td>
<td>51</td>
<td>100</td>
</tr>
<tr>
<td>Marital Now married</td>
<td>26</td>
<td>51</td>
</tr>
<tr>
<td>Status Widowed</td>
<td>3</td>
<td>5.9</td>
</tr>
<tr>
<td>Divorced</td>
<td>3</td>
<td>5.9</td>
</tr>
<tr>
<td>Never married</td>
<td>19</td>
<td>37.3</td>
</tr>
<tr>
<td>Total</td>
<td>51</td>
<td>100</td>
</tr>
<tr>
<td>Responsibility Have child</td>
<td>23</td>
<td>45.1</td>
</tr>
<tr>
<td>Of child Don't have</td>
<td>28</td>
<td>54.9</td>
</tr>
<tr>
<td>Total</td>
<td>51</td>
<td>100</td>
</tr>
<tr>
<td>Education Diploma</td>
<td>2</td>
<td>3.9</td>
</tr>
<tr>
<td>Level Bachelor</td>
<td>40</td>
<td>78.4</td>
</tr>
<tr>
<td>Masters</td>
<td>9</td>
<td>17.6</td>
</tr>
<tr>
<td>Total</td>
<td>51</td>
<td>100</td>
</tr>
<tr>
<td>Permanent Yes</td>
<td>50</td>
<td>98</td>
</tr>
<tr>
<td>Work No</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Contract Total</td>
<td>51</td>
<td>100</td>
</tr>
<tr>
<td>Part Yes</td>
<td>24</td>
<td>47.1</td>
</tr>
<tr>
<td>Time No</td>
<td>27</td>
<td>52.9</td>
</tr>
<tr>
<td>Total</td>
<td>51</td>
<td>100</td>
</tr>
<tr>
<td>Shift Yes</td>
<td>49</td>
<td>96.1</td>
</tr>
<tr>
<td>Work No</td>
<td>3</td>
<td>3.9</td>
</tr>
<tr>
<td>Total</td>
<td>51</td>
<td>100</td>
</tr>
</tbody>
</table>
Table 2: Continuous Socio demographic Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Min.</th>
<th>Max.</th>
<th>Mean</th>
<th>Std. deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>22</td>
<td>53</td>
<td>33.94</td>
<td>8.004</td>
</tr>
<tr>
<td>Year of experience</td>
<td>1</td>
<td>15</td>
<td>5.27</td>
<td>3.694</td>
</tr>
<tr>
<td>Working days per week</td>
<td>5</td>
<td>7</td>
<td>6.16</td>
<td>.505</td>
</tr>
<tr>
<td>Average working hours/day</td>
<td>8</td>
<td>14</td>
<td>10.86</td>
<td>1.685</td>
</tr>
</tbody>
</table>

Regarding the respondents work experience, the respondent had been working for more than five years on average as anesthetists with the service year ranging from 1-15. And, the respondents spend 5 to 7 days per week on their job with the average working day of almost 11 hours per day as shown on the table 2 above.

4.2. Prevalence of Work Related Stress among Anesthetists

To measure the prevalence of work related stress experienced among anesthetists, the researcher decided to use median split point which is 100 as a comparison. For these purpose anesthetists who scored above the median split point are considered as not experiencing stress. And anesthetists who scored less than the median split point of the scale were considered as experiencing high level of stress in the study area. That is, the higher the job stress score, the lower the stress level.

In addition to this, the cut-off point for level of job satisfaction and turnover intention was 15 and 9 respectively as indicated in the methodology section of the current study.

Table 3 below depicts that 96.1% of the participant anesthetists of the current study were stressed. Furthermore, all of the participants scored low in job satisfaction level and 84.3% of the participants indicted that they have high turnover intention.
### Table 3: Prevalence and level of work stress, job satisfaction and turnover intention

<table>
<thead>
<tr>
<th>Variable</th>
<th>High</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Frequency, %)</td>
<td>(Frequency, %)</td>
</tr>
<tr>
<td>Job stress</td>
<td>49,96.1</td>
<td>1,2</td>
</tr>
<tr>
<td>Job satisfaction</td>
<td>-</td>
<td>51,100</td>
</tr>
<tr>
<td>Turnover intention</td>
<td>43,84.3</td>
<td>3,6</td>
</tr>
</tbody>
</table>

#### 4.3. The Relationship between Anesthetists Job Control and Demand with their Work Stress Level

The collected data were analyzed using Pearson product moment correlation statistical method to see the extent to which job control and demand associated with work related stress score (dependent variable) and the result presented on the table 4 below. Job control indicates the decision latitude and skill discretion of the work and job demand incorporates the psychological and physical demands of the work.

### Table 4: Degree of relationship of job control and job demand with work related stress

<table>
<thead>
<tr>
<th>Variable</th>
<th>Work Stress</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job control</td>
<td>.532**</td>
<td>.000</td>
</tr>
<tr>
<td>Job demand</td>
<td>.619**</td>
<td>.000</td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level (2-tailed).

As shown on the above table 4, Pearson product moment correlation analysis point out that decision (control) and demand of the work have positive and significant relationship with work related stress of participant anesthetists of the current study and the results were \( r = .532, p = .000 \) and \( r = .619, p = .000 \) respectively.
4.4. The Association of Demographic Variables with Anesthetists Work Stress

Comparison was performed using different statistical tools to determine whether demographic variables could act as a factor to job stress or not. The demographic variables analyzed were gender, marital status, educational level and working part time job in another organization.

4.4.1. The Association of Gender difference with Work Related Stress

Independent sample t-test was used to determine whether there existed statistically significant differences among participant anesthetists work related stress due to gender.

Table 5: Independent sample test result of work stress due to gender difference

<table>
<thead>
<tr>
<th>Variable</th>
<th>Groups</th>
<th>Mean</th>
<th>SD</th>
<th>DF</th>
<th>t-Value</th>
<th>sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job stress</td>
<td>Female(n=22)</td>
<td>81.86</td>
<td>6.034</td>
<td>49</td>
<td>-1.672</td>
<td>.312</td>
</tr>
<tr>
<td></td>
<td>Male(29)</td>
<td>79.41</td>
<td>4.436</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*P>0.05

Analysis of data using independent samples t- test showed that, there was no statistically significant difference between the two groups (males and females) in job stress (t = -1.672, df = 49, p=.312). That is the two groups of nurse anesthetists were not experiencing work related stress differently.

4.4.2. The Association of Marital Status, Educational Level and being part timer with Work Related Stress

One Way ANOVA was used to determine whether marital status, educational level and working part time could act as a factor to job stress or not among participant anesthetists of the current study.
Table 6: Summary of One Way ANOVA for Comparison of Marital Status, Educational Level and Shift work on Work Stress

<table>
<thead>
<tr>
<th>Variable</th>
<th>SS</th>
<th>DF</th>
<th>MS</th>
<th>F</th>
<th>sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between groups</td>
<td>101.303</td>
<td>3</td>
<td>33.768</td>
<td>.904</td>
<td>.446</td>
</tr>
<tr>
<td>Within groups</td>
<td>1756.109</td>
<td>47</td>
<td>37.364</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1857.412</td>
<td>50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Educ. Level</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between groups</td>
<td>16.512</td>
<td>2</td>
<td>8.256</td>
<td>.215</td>
<td>.807</td>
</tr>
<tr>
<td>Within groups</td>
<td>1840.900</td>
<td>48</td>
<td>38.352</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1857.412</td>
<td>50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Part timer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between groups</td>
<td>9.120</td>
<td>1</td>
<td>9.120</td>
<td>.242</td>
<td>.625</td>
</tr>
<tr>
<td>Within groups</td>
<td>1848.292</td>
<td>49</td>
<td>37.720</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1857.412</td>
<td>50</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

First, anesthetist's marital status was coded in to four categories (Now married, Widowed, Divorced and Never). One-way ANOVA was used to see if there is a statistically significant difference on respondents means score on work related stress items that can be attributed to their marital status. The result of the analysis of One-way ANOVA revealed that there is no statistically significant difference at (α = .05) among respondents view on their stress score that can be attributed to their marital status: F (3, 47) = 904, P = .446).This implied that marital status has no association with the level of work related stress of participant anesthetists.

As shown on Table 6 above, one way ANOVA was computed to see if there is statistically significant mean score difference on nurse anesthetist's stress with their educational status. The computed ANOVA result revealed that there is no statistical significant differences at (α = .05) among anesthetists stress level that can be attributed to their educational level: F (2, 48) = .215, P= .807). Thus, educational level has no association with the level of work related stress.

With regard to being part timer in another organization, the participant anesthetists response was coded into two categories (No and Yes). One way ANOVA was used to see if there is statistically significant mean score difference on nurse anesthetist's stress whether being part time employee in another organization or not as shown on table 6 above.
The computed ANOVA result revealed that there is no statistically significant difference at (α = .05) among anesthetists stress level that can be attributed to their being part time employee in another organization or not: F (1, 49) = .242, P=.625). Therefore, being part time employee in another organization has no association with the level of work related stress of participant anesthetists.

4.5. Relationship among Work Stress, Job Satisfaction and Turnover Intention of Anesthetists

To see the strength and direction of relationship between work related stress, job satisfaction, social support and turnover intention of participant anesthetists, Pearson product moment correlation coefficient was employed. Job stress (dependent variable) was the composite score of stress sub scales.

<table>
<thead>
<tr>
<th></th>
<th>Work stress</th>
<th>Job satisfaction</th>
<th>Social support</th>
<th>Turnover</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work stress</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job satisfaction</td>
<td>.091</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social support</td>
<td>.172</td>
<td>-.370**</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Turnover intention</td>
<td>.219</td>
<td>.344*</td>
<td>-.199</td>
<td>1</td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

The result of the correlation indicated that job satisfaction score was positively and significantly correlated with turnover intention score (r = .344, p=.013) which implies that as job satisfaction score decreases turnover intention score decreases.

Also, the result showed that work stress total score was positively but not significantly correlated with turnover intention total score (r = .219, p=.122). The result imply that as work stress score decreases indicating high level of stress turnover intention score also decreases.
As shown also in the above table 7, the results of the correlation analysis revealed that Anesthetists work related stress score was positively related to their job satisfaction score \((r = .091, p=.527)\). Hence, as the score of work stress decreases the score of job satisfaction also decreases. The result implies that those participants with high level of stress were also low in their job satisfaction level.

4.6. Social Support as a Buffer of Work Related Stress among Anesthetists

The analysis of the current study as shown on table 7 above also indicate that social support total score was positively but not significantly related with work stress composite score \((r = .172, p=.227)\). As the score of work stress decreases indicating high stress level social support score also decreases but the magnitude wasn’t statistically significant.

On the other hand, social support total score was negatively and significantly correlated with job satisfaction score \((r = -.370, p=.008)\). The negative correlation between social support with job satisfaction shows that the two variables have inverse relationship. And, from the finding it is possible to say that job satisfaction highly depends on social support.

Though, social support score was negatively but not significantly related to turnover intention score \((r = -.199, p=.161)\) which indicates that the variables have inverse relationship.
Chapter Five  
Discussions

Here discussion was made in line with the basic research questions and the results obtained.

5.1. The Prevalence of Work Related Stress among Anesthetists

Even though stress is unavoidable and may be desirable to a certain degree in anesthesia practice, the results of the analysis of the current study revealed that 96.1% of the participant anesthetists had high level of work related stress. Therefore, the finding of this study is consistent with several studies (Meeusen, 2010; Perry, 2002).

As indicated by Meeusen (2010), the provision of high quality health care's in general, and anesthesia care in particular, is one of the basic requirements of a modern and productive society. And, this can only be achieved above all, with a well-trained and highly motivated health care workforce. However, the work place is subject to rapidly changing demands and increased pressure which can lead to job stress.

The result of this study also indicated that all the participants had low level of job satisfaction and the prevalence of turnover intention among the participant anesthetists was 84.3%. Similarly, the study done by Hayat (2013) found out that roughly 50% of respondent Pakistan anesthesiologists had low level of job satisfaction; among these, a high ratio of respondents was dissatisfied due to job stress. Another study done among Dutch nurse anesthetists by Meeusen et al (2011) showed that 42% of the sample had the intention to leave the job within the next 2 years.

Also, a research conducted about job retention of nurse anesthetists in the Netherlands found that burnout was predicted by personality traits and work climate; job satisfaction was predicted by work climate and context and turnover intention was predicted by burnout and job satisfaction. Thus, the study concluded that personality traits and work climate have the same impact on burnout, the work climate and work context have the same impact on job satisfaction, and therefore on turnover intentions, across different health system types, different cultures, and different countries. And, the study suggest that healthcare management interventions to retain highly trained and skilled health professionals may be generalized across country boundaries and health system types (Mahoney et al, 2014).
5.2. The Relationship between Anesthetists Job Control and Job Demand with their Work Stress Level

The result of the Pearson product moment correlation analysis of the current study point out that the job control and demand of participant anesthetists have positive and significant association with the work stress level of participant anesthetists. And, the result of the current study goes in line with the notion of Sarafino (2006) that workers feel stress when there is perceived insufficient control over aspects of the job and have little opportunity to make decisions on their own. According to Barash et al (2013), each anesthetic procedure can result in unexpected morbidity or mortality, and a malpractice claim can arise from a bad outcome despite optimal care. Furthermore, the use of potent anesthetic drugs is among the uncontrollable aspect of the job since everything is not known or predictable about how a patient will respond to anesthetic drugs (Henry, n.d.). Hence, these working conditions are responsible for anesthetists work context which can result in stress.

One of the components of psychological demand was the need for intense concentration (sustained vigilance) in the job. Researches of converging evidence using behavioral, neural, and subjective measures that shows that vigilance requires hard mental work and is stressful especially, that require human monitoring vigilance tasks are exacting (Joel et al, 2008).

Joel et al (2008) then suggest that in addition to moderating the workload of sustained attention assignments, it is critical to design tasks to afford engagement, autonomy, and challenge. As declared by Lisa (n.d.), in the state anesthesia care is among the most lucrative nursing specialties. The salaries vary by geographic region, practice setting and are generally best in major metropolitan areas.

The other physical job demand component related to anesthesia profession is exposure to waste gases. Even if there is controversy on the studies about the health risk of occupational exposure to waste gases and its impact to anesthetists, more recent studies suggest there remains a lingering concern among anesthetists (Miller et al, 2010). Rusli et al (2006) also suggest that those workers who have problems with exposures to dangerous chemicals, air pollution from dusts, smoke, gas, fumes, fibers, or other things and dirty or badly maintained areas at their workplaces might increase stress among workers.
5.3. The Association of Demographic Variables with Anesthetists Work Stress

According to European Foundation for the Improvement of Living and Working Conditions (2007), women are found to have a higher score on stress-related outcomes than men. Nevertheless, the result of the independent t-test of statistical analysis of this study revealed that there was no statistically significant difference between female and male anesthetists regarding to their work related stress (p>0.05).

Also, Hashmi et al (2007) suggest that married working women may be prone to work stress because they bear the double burden of housework and a job outside the home. The result revealed that there is no statistically significant difference at (α = .05) among respondents view on their stress score that can be attributed to their marital status: F (3, 47) = 1.090, P= .363). This implied that the four groups of marital status in the current study are not experiencing work stress differently.

Even though the result of the current study showed that being part time employee in another organization has no association with the level of work related stress of participant anesthetists, almost half of the participant anesthetists had part time jobs in another organization and the average working hours/day of the participants of this study were more than 10 hours. However, Literatures indicate that working overtime is associated with lack of recovery in jobs that are characterized by high job demands. In addition to the effect of high demand and low controllability of the job, long working hours have cumulative effects on the workers’ ability to recover from work stress (van der Hulst et al., 2006 cited in Rusli , 2006).

As concluded by Cox et al (2000), there may be a link between involving in shift work in general and fatigue and night shift work is highly stressful and may prejudicial to bio defense. Also, the result of the current study portrays that 96.1% of the participant anesthetist's current position involve shift work/ night work. As the descriptive statistics showed, there was one respondent at the age of 53 involved in shift/night work which is consistent with the finding of Lindfors et al (2006) that anesthetists continue to work on call and do night shifts until the age of retirement.

The result of the current study also indicates that there is no statistically significant differences on work stress of anesthetists due to educational level of participant anesthetists which implies that participant in all three levels of education are experiencing work related stress.
5.4. Relationship among Work Stress, Job Satisfaction and Turnover Intention of Anesthetists

As indicated on the analysis of the current study, the Pearson product moment correlation revealed that anesthetists work related stress score was positively related to their job satisfaction ($r = .091, p=.527$). And, work stress total score was positively correlated with turnover intention as well but the magnitude was not significant. The result of this study was consistent with many research findings that point out work stress and less job satisfaction correlated.

The result of the correlation also indicated that job satisfaction score was negatively and significantly correlated with turnover intention. According to Lin et al, n.d., high occupational stress and low job satisfaction are associated with high burnout, particularly in the emotional exhaustion and depersonalization dimensions. Low job satisfaction and high emotional exhaustion are associated with high turnover intention.

However, Jonge and Kompier (1997) cited in Meeusen (2010) suggests that training and retaining anesthetists will become increasingly important to keep up with the growing demands by developing an optimal work environment to reduce job turnover and increase the recruitment of anesthetists.

Unavailability of all the necessary tools and materials to do job optimally is one of psychological demand factor which can be reason for job dissatisfaction. A local study done by Mengistu (2011) to examine vocational teachers level of job satisfaction and the underlying factors in Addis Ababa using both qualitative and quantitative method indicate that one of the main reason for dissatisfaction were unsuitability of working conditions, i.e. inadequacy of training materials, references, machines and equipments. Besides to the above mentioned reasons lack of incentives such as further education and promotion potentials, low payment and benefits which in turn impacts satisfaction of teachers.

According to Longnecker et al (2008), advances in technology with the development of pulseoximetry and capnography in conjunction with the creation and implementation of practice guidelines appear significant when considering factors that have both improved patient safety and reduced anesthesia malpractice cases over the past several decades in the western world.
5.5. Social Support as a Buffer of Work Related Stress among Anesthetists

Even if the magnitude of the relationship was not significant, the analysis of the current study showed that social support was positively related with work stress. On the other hand, social support was negatively and significantly correlated with job satisfaction. According to Michel (2004) people who live with communities characterized by high levels of social capital are less likely to suffer from damaging stress. Networking and Participation is mostly associated with increased levels of trust, reciprocal help and support from the involved community that increase shared efficiency.

Regarding the relationship of social support and turnover, social support was negatively but not significantly related to turnover intention which indicates that the variables have inverse relationship and as social support increases job turnover intention decreases. The finding from this result was compatible with the notion of Houkes et al. (2003) who conclude that high support at work decreases the intentions to quit job.

Finally, Sarafino (2006) suggest that Social support is one of the modifiers of the impact of stress. Support can come from different sources such as the person’s spouse, family, friends, coworkers, or community organizations.
Chapter Six
Summary, Conclusions and Recommendations

6.1. Summary
The research topic of this study was "Work Related Stress among Anesthetists in Addis Ababa Hospitals: Prevalence and Associated Factors". The research employed a cross-sectional research design to describe the current situation of the professionals and attempts to answer the following research questions:-

- What is the prevalence of work related stress among anesthetists?
- Does job control and demand of participant anesthetists predict work related stress?
- Do demographic variables such as gender, marital status, level of educational and being part timer had effect on the participants of work related stress?
- Is there any relationship between the participants Job stress, job satisfaction, turnover intention?
- Does social support could act as a moderator to job stress, job satisfaction, turnover intention?

To undertake the study, relevant information were collected from (51) Anesthetists working in randomly selected government run hospitals performing surgery through lottery method of sampling out of ten hospitals taken as clusters. After obtaining the informed consent of the participants, the anesthetists were provided with self-report questionnaire which consists of Job content questionnaire (JCQ) which is in line with the theoretical framework of this study. In addition, turnover intention was measured with three item scale used to measure an overall turnover tendency.

The collected data was analyzed by using SPSS 20. Mean and standard deviations were calculated for continuous variables, and frequencies and percentages for categorical variables to see the distribution of demographic data. Median cut-off point were used to set the cut point between high level of work stress and low level of work stress and then the frequency and percentage was analyzed mainly for job stress and job satisfaction and turnover intention. Also, Pearson product moment correlation was conducted to check whether or not the job control and demand is associated with the work related stress of anesthetists.
Besides, comparison of whether there existed statistically significant differences among participant anesthetists in the computed variables analyzed to see the association of demographic variables with work stress using independent t-test and one way ANOVA.

Finally, Pearson product moment correlation was computed to determine social support (independent variable) could act as a buffer with scores on work stress and job satisfaction; to see if there is any relationship between job stress, job satisfaction and social support with the participant's turnover intention and whether job stress related to job satisfaction and to see the correlation of work stress.

As the result of analysis made on the collected data using different statistics the following major findings obtained and summarized as follows:

Findings of the current study revealed that 96.1% of the participant anesthetists had high level of work related stress. Moreover, Pearson product m moment correlation the indicated that the job of participant anesthetists job control and job demand positively related with their work stress score as shown on table 4.

With regard to the impact of demographic variables on stress, the analysis revealed that there was no statistically significant difference between female and male anesthetists in their experience of work related stress. Also, there is no statistically significant difference due to marital status, educational level and being part timer in another organization.

The result of the current study showed that almost half of the participant anesthetists had part time jobs in another organization and the average working hours/day of the participants of this study were more than 10 hours.

Regarding job satisfaction and turnover intention, all participants score low job satisfaction and high turnover intention and there was significant and inverse relationship between job satisfaction and turnover intention of the participants of this study.

Finally, the Pearson product moment correlation analysis indicated that social support was negatively and significantly correlated with job satisfaction.
6.2. Conclusions

Having in mind the findings of the study, the following conclusions were drawn:-

- The prevalence of work related stress among participant anesthetists was 96.1%. Moreover, all the participants of this study had low level of satisfaction and 84.3% of them had turnover intention.
- The job control and demand of anesthetists is positively and significantly correlated with their work stress level. Therefore, we can say that the work of anesthetists is among jobs which are characterized as stressful.
- No statistically significant difference was observed between male and female anesthetists regarding their work stress level. That is the two groups of nurse anesthetists were not experiencing work related stress differently.
- The analysis of the current study also showed that there was no statistically significant difference on work stress level of participant anesthetists due to marital status, educational level and being part time employee in another organization.
- The result of the correlation indicated that work stress was positively correlated with job satisfaction, social support and turnover intention of participant anesthetists though job satisfaction score was negatively and significantly correlated with turnover intention.
- The result of the current study also portrays that social support from supervisor and coworkers was negatively and significantly correlated with job satisfaction indicating that social support could as a buffer for job satisfaction.
6.3. Recommendations

In line with the conclusions made, the following recommendations are forwarded concerning work stress of anesthetists working in Addis Ababa hospitals:-

- Based on the results of this study, work related stress is highly prevalent among participant anesthetists and all the participants of this study had low level of satisfaction and most of them had turnover intention. Therefore, the health care organizations should take on actions to prevent work stress and develop strategies to improve the job satisfaction by creating a positive working environment in view of the fact that humans are the main capital in health institutions.

- To meet the increasing demand of healthcare providers, it is crucial for the government to retain more skilled anesthetists by giving special attention to minimize turnover intention to motivate the young generation to join the profession. And, the provision of counseling service for the professionals could be a support system which contributes to minimize the work stress, job dissatisfaction and turnover intention.

- Creating and raising awareness about anesthesia profession to the society at large and different stakeholders such as the policy makers, health care management and legislative by anesthesia professionals.

- Efforts started by EAA(Ethiopia Anesthetists Association) to find legal support and refreshment training need to be strengthened so that the anesthetists feel secured and update their knowledge, skill and attitude about anesthesia profession.

- Other researchers may conduct further study to investigate WRS among anesthetists based on the results of this study and the gap it entails. Some of the pointes could be:-

  * Exploring the physical hazards of WRS.
  * Risk factors for anesthetist’s job turnover and job satisfaction.
  * A longitudinal study would be another important extension, as it would provide information about change and continuity of perceptions of anesthetists and would control for any cohort effects.
References


WRS among Anesthetists


WRS among Anesthetists


Occupational health and safety, (2011). Teachers’ Work-Related Stress: Assessing, Comparing and evaluating the impact of psychosocial hazards on teachers at their workplace. Brussels: Published by the European Trade Union Committee for Education.


WRS among Anesthetists


WRS among Anesthetists


Annex
Code: ____________

Dear Participant,

I would like to thank you in advance for your willingness to participate and valuable inputs in the study, "Work Related Stress among Anesthetists in Addis Ababa hospitals". This questionnaire is designed to collect information on your general demographic profile and experience of stress related to your work. The questionnaire is divided into two parts representing various measurements. Please respond to all questions in each part, without skipping any, even if you think the questions are very similar. This is very important for the data analysis. Your input is greatly appreciated, and filling-out the questionnaire should only take you approximately 20 minutes. Before starting filling out the study questionnaire, please read the “Information and Privacy” section below and understand the information accurately. If there is any unclear information or if you have any questions about study or the study questionnaire, please contact the researcher using the telephone number provided.

**Information and Privacy**

I would like to assure you that all the information collected from you in the current study will be treated with confidentiality, and that no information will be linked to your identity. Each participant will receive a unique personal identification number, and all data will be collected and classified under these personal identification numbers. The personal identification number will also be restricted to the individual participant and the researcher, and will not be disclosed to a third party. Data relating to specific identification numbers, which may allow inference to a specific individual or groups of individuals, will not be disclosed to a third party, or presented in a publication. At any time before the publication of the thesis, you reserve the right to request your data to be deleted, without giving any reasons.

Genet H/yesus
School of Psychology, Addis Ababa University
Tel: 0911787970
Part one: Demographic questions

In this part you find demographic questions. Please reply to each question either by writing your replies in the space provided, or by marking “X” in the box before your choice.

1. Age ___________ (years)
2. Gender: □ Male □ Female
3. What is your marital status?
   □ Now married
   □ Widowed
   □ Divorced / Separated
   □ Never married
4. Do you have any children of your own?
   □ No
   □ If yes, how many children do you have? ________
5. What is the level of education you have completed?
   □ College/University diploma
   □ Bachelor's/University degree
   □ Second degree/Master and above
6. What is your current position in this organization?
   _________________________ (Job title)
7. Did you get any special training before starting work at your current position?
   □ No
   □ If yes, please specify: ______________________________
8. How long have you been working on your current position?
   _______ (Years)
9. Do you have a permanent work contract at your current organization?
   □ No
   □ Yes
10. Are you part-time employee in another organization?
    □ No
    □ Yes
11. How many days per week do you spend on your job?
    _______ (Days per week)
12. How long is your average working day?
    _______ (Hours per day)
13. Does your current position involve shift work/ night work?
    □ No
    □ Yes
14. How much is your household income per month?
    _______ (Birr per month)
15. Do you have intention of leaving your work? Please tick ONE box only for each statement.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neither Agree nor Disagree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel that I could leave this job.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>If I was completely free to choose I would leave this job.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am actively looking for other job.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Part two:** This part contains two sub parts that focus on various aspects of your work experiences and satisfaction.

2.1. For each of the following statements please indicate whether you strongly agree, agree, disagree or strongly disagree. Please provide your answer by marking “X” on the number representing your choice. Thank you for answering all statements!

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 My job requires a high level of skill.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2 My job allows me to make a lot of decisions of my own.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3 On my job, I have very little freedom to decide how I do my work.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4 My job requires that I learn new things.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5 My job involves a lot of repetitive work.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6 I get to do a variety of different things on my job.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7 I have a lot to say about what happens on my job.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8 My job requires me to be creative.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9 I have an opportunity to develop my own special abilities.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10 My job requires working very fast.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11 My job requires working very hard.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>12 My job requires a lot of physical effort.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>13 I am not asked to do an excessive amount of work.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>14 I have enough time to get the job done.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>15 I get all the tools and materials to do my job.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>16 I am often required to move or lift very heavy loads on my job (patient lifting).</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>17 My work requires rapid &amp; continuous physical activity.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
### WRS among Anesthetists

<table>
<thead>
<tr>
<th></th>
<th>Statement</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>I am free from conflicting demands that others make.</td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>19</td>
<td>My job requires long periods of intense concentration on the task.</td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>20</td>
<td>My tasks are often interrupted before they can be complicated, requiring attention at a later time</td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>21</td>
<td>My job is very hectic.</td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>22</td>
<td>I get comparable salary for the job I do.</td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>23</td>
<td>I am often required to work for long period with my body in physically awkward position.</td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>24</td>
<td>I am often required to work for long period with my head or arms in awkward physically positions (handling face mask).</td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>25</td>
<td>I am exposed to waste (inhalational) gases.</td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>26</td>
<td>Waiting on work from other people or departments often slows me down on my job.</td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>27</td>
<td>My job security is good.</td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>28</td>
<td>During the past year, I often was in a situation where I faced job loss or layoff.</td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>29</td>
<td>Each anesthetic procedure can result in unexpected morbidity or mortality and I fear malpractice claim can arise.</td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>30</td>
<td>My supervisor (medical director of the hospital) is concerned about welfare of those under him.</td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>31</td>
<td>My supervisors pay attention to what I am saying.</td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>32</td>
<td>My supervisor is helpful in getting job done.</td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>33</td>
<td>My supervisor is successful in getting people to work together.</td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>34</td>
<td>I am exposed to hostility or conflict from my supervisor.</td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>35</td>
<td>People I work with are competent in doing their jobs.</td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>36</td>
<td>People I work with take personal interest</td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Question</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Disagree</td>
<td>Strongly Disagree</td>
<td></td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>----------------</td>
<td>-------</td>
<td>----------</td>
<td>-------------------</td>
<td></td>
</tr>
<tr>
<td>37 People I work with are helpful in getting the job done.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>38 I handle always case with another anesthetist.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>39 I am exposed to hostility or conflict from people I work with.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>40 I have professional (counseling) help and when I am in stressful situation in my working area.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

2.2. Describe how you have felt in the past two weeks by marking “X” in the box before your choice.

<table>
<thead>
<tr>
<th>Feeling</th>
<th>Hardly ever</th>
<th>Never</th>
<th>Some of the Time</th>
<th>Most of the Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. My sleep was restless.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. I felt depressed.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3. I enjoyed life.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4. I felt nervous or shaky.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5. I was unusually tired in the morning.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6. At the end of the day, I am completely exhausted mentally &amp; physically.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
Declaration

I the undersigned, declare that this thesis is my original work, has not been presented for a degree in any other university and that all sources of materials used in the thesis have been duly acknowledged.

Name: Genet H/yesus

Signature: ---------------------------

Date: -----------------------------

This thesis has been submitted for examination with my approval as a university advisor.

Name: Dr. Moges Ayele

Signature: ------------

Date of approval: ---------------------------