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REVIEW ARTICLE

STRESS AMONGST ANAESTHESIOLOGISTS-AN ILLUSION OR REALITY?

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ABSTRACT

Anesthesiologists are highly skilled professionals, trained to make quick decisions and perform complex procedures under pressure. Stress is a necessary evil at certain times of an activity, in order to achieve the best possible performance, but if the intensity or duration of stress is excessive, the affected physician may suffer from reduced alertness and show signs of fatigue, which impacts negatively on his skills Negative health consequences of stress include headache, asthma, back pain, arrhythmias, fatigue, headaches, hypertension (HTN), irritable bowel syndrome, ulcers, depression, suppression of immune system, myocardial infarction. The skills of stress management are integral to the management of disparate conditions at work and in everyday life. Communication skills are basic necessity in our personal and professional lives and the ability to stand up for one's rights without violating the rights of others is important in the practice of assertiveness.

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INTRODUCTION

As health is not merely the absence of disease or infirmity but a positive state of complete physical, mental and social well-being (WHO, 1986), a healthy working environment is one in which there is not only an absence of harmful conditions but an abundance of health-promoting ones. The word stress comes from the Latin word *stringere,* draw tight. Selye (1946) created the concept of stress: a situation where a person feels tense, anxious, nervous, restless, and has difficulties in sleeping since stressful things are so troublesome and defined stress as the non-specific response of the body to any demand for change (Selye, 1956). Stress is considered synonymous with distress by many and defined as physical, mental, or emotional tension or a condition in which person's capacity to withstand the perceived demands becomes more than he can cope up. This process was well explained by the Yerkes-Dodson law in 1908 and illustrated by an inverted U curve (Figure 1) and it reflects the relationship between arousal and performance and depicts how performance (which can be defined as efficiency or coping up) increases as arousal (or demand) increases, but reaches a point beyond which further arousal leads to declining performance (Jackson, 1999).

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The anesthesiologist is one person who is involved with wide spectrum of department in the hospital; ICU, emergency services, surgical procedures done under anaesthesia, MRI, CT scans done under sedation, management of acute and chronic pain, labour analgesia, radiotherapy and in tertiary care teaching hospitals with added responsibility of research, teaching and administration, and in some of the private hospitals whole operation theatres are managed wholly by an anesthesiologist. (Nyssen *et al*., 2003; Kluger *et al*., 2003; Firth-Cozens, 1999) So there is always a constant amount of stress amongst anesthesiologists owing to their demand. Pressure at the workplace is unavoidable due to the demands of the hospital, may even keep anaesthesiologists alert, motivated, but when that pressure becomes excessive and unmanageable it leads to stress and undue sustained stress result in mental or physical strain. Extreme level of stress predisposes the anaesthetists to burnout, fatigue, substance abuse and suicide. Anaesthesiologists are at a higher risk of suicide as compared to other medical profession and female physicians are more prone as compared to male physicians. Not just the occupational stress, anaesthesiologists are at risk of contacting infections transmitted by patients like hepatitis B, C, HIV, risk of ionizing and non-ionizing radiations like C-arm exposure during orthopedics surgeries or neurosurgeries, temperature extremes, electric charges, fires, cylinder explosion, latex allergy, exposure to inhaled anaesthetics (leading to

reproductive hazard, nitrous exposure leading to vitamin B_{12} deficiency etc (Axelsson *et al*., 1996), are all responsible for adding to stress disorders. According to the Audit Commission report at London, anaesthesia has been described as a "poorly understood medical specialty" (Larsson, 2007). Many people do not realise that anaesthetists are doctors too as they always work behind the curtain, as they never encounter patients in the first go when they are admitted to hospital, patients always remember the surgeon who operated upon them rather the anaesthesiologist who put them off to sleep. Anaesthetists′ activities affect up to two-thirds of the revenue generated in any hospital, yet accounting for only 3% of the salaries paid in many hospitals (Harrop, 2010). Inappropriate work schedules like frequent night shifts (Kinzl, 2005) as in ICU and emergencies (Howard, 1997), working for long hours in operation theatres, may trigger sleep and circadian rhythm disorders, leading to alterations in digestion, sleep, body temperature, adrenalin secretion, blood pressure, heart rate and behavior, chronic fatigue, gynecological problems such as irregular menstrual cycle, abortions, premature labour, intrauterine growth restriction resulting in small for gestational age, pregnancy-induced hypertension (Seeley, 1996). Initially, the impact reflects on the professional's health and later it can be seen on his performance, family conflicts, and failure in establishing or maintaining relationships with one's children, isolation, divorce and family breakdown (Kam, 1997). Fatigue affects doctor's decision-making skills and probability of human error (Curry, 1990). Stressful person is likely to indulge in alcohol and drug abuse has increased risk of suicide, aggressive behavior, difficulty to concentrate, impairment of vigilance, reduced work performance and possibility of medical malpractice (Axelsson, 1996).

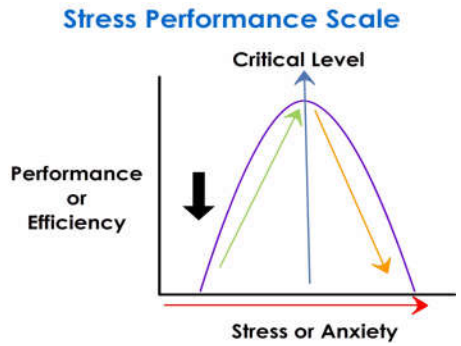

Figure 1. Stress performance inverted U graph

All these situations deteriorate the professional's image and may sometimes result in career abandonment, premature retirement and, in extreme cases, civil or criminal issues that can even lead to suicide (Howard, 2002; Helliwell *et al*., 1983; Swanson, 2003 and Gravenstein *et al*., 1983). Chronic stress over a prolonged period of time can lead to chronic health ailments like asthma, back pain, arrhythmias, fatigue, headaches, HTN, irritable bowel syndrome, ulcers, depression and suppression of immune system. Burnout syndrome is defined as a physical and emotional response to occupational stress, characterized by emotional exhaustion, depersonalization, feelings of incompetence and failure to meet targets (Lederer, 2006). Burnout syndrome affects quality of life and professional performance. Anesthesiology is a high risk profession for burnout owing to demands like long working hours, night shifts, and responsibility and affected individuals may show signs of stress arousal (irritability, forgetfulness, sleep disorders), may attempt to compensate for stress (social withdrawal, increased cynicism, persistent tiredness) and suffer from exhaustion (exhibit depression or anxiety symptoms, chronic pain syndromes, or functional disorders of the cardiovascular or gastrointestinal system) (Howard, 2002; Kluger, 2003 and Kluger, 2003). Suicide, drug addiction, and increased rates of early retirement are frequent in anesthesiologists (Helliwell, 1983 and Swanson *et al*., 2003). Burnout not only places the individual at great risk for physical and psychologic dependence including substance misuse, but it may also lead to compromised safety (Gravenstein *et al*., 1983) As it develops, burnout syndrome may cause psychological/ psychiatric disorders, mainly anxiety, depression, drug abuse and suicidal ideation (Lederer, 2006; Kluger *et al*., 2003 and Nyssen, *et al*., 2003). Interpersonal relationships, soft skills, communication skills and a high emotional quotient are required for the practicing anaesthesiologists to function smoothly in a team (Coomber, 2002). Institutional positive attitudes to keep balance between work and home, defining role and responsibilities, equal distribution of work amongst colleagues, fixed working hours of not more than 48 hours in a week, incentive/credit for extra working hours, restoring sleep after 24 hours duty, avoiding alternating night duties, extra care for pregnant anaesthesiologists like placing them away from stressful anesthesia setup like avoiding ICU/emergencies and less night shifts (Lederer, 2006). Sleep-deprived anaesthesiologists should never be pressurized to provide anaesthesia (McNamee, 1987). Taking time to establish rapport with patients′ family before and after anaesthesia makes anaesthesiologists more visible and hence more likely to be recognized and appreciated. Anaesthesiologists should take care of their health and take steps like periodic vacation with family to destress and relax. Psychosocial interventions, such as cognitive-behavioral stress management (CBSM), have a positive effect on the quality of life of affected anesthesiologists and these interventions decrease perceived stress and negative mood (e.g., depression), improve perceived social support, facilitate problem-focused coping, and change cognitive appraisals, as well as decrease release of cortisol from the adrenal cortex., also decrease patients' overuse of medications and utilization of the health care system (Murray, 2003; Murray, 1985).

Conclusion

Acute stress responses may be adaptive and typically do not impose a health burden. Individuals who are optimistic and have good coping responses may benefit from such experiences and do well dealing with chronic stressors. In contrast, if stressors are too strong and too persistent in individuals who are biologically vulnerable because of age, genetic, or constitutional factors, stressors may lead to disease. The degree of stress that an anaesthesiologists in India suffers is due to interplay of factors like the type and quality of work, his/her relationship with surgeons, and the support he/she receives from colleagues and family. Primary prevention consists in eliminating and/or reducing possible stressors, while secondary prevention is characterized by early detection of depression and anxiety symptoms and tertiary prevention involves recovery and rehabilitation.

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