

## Commentary

# Stress in Surgical Environment: An Area of Concern Among Healthcare Professionals

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## Abstract

Professionals working in Operating Rooms are susceptible to a variety of the common work-related illnesses. They are exposed to a number of occupational hazards on a daily basis during their professional work. Occupational stress poses a huge risk to the personal well-being of the surgical teams and can lead to substance abuse, depression, divorce and even suicide. Taken together, the several stressors related to work in the operating rooms can, as a matter of fact, threaten, both team functioning and patient safety, particularly when adverse conditions are present and especially in patients with multiple comorbidities or difficult anatomy. Thus, preventive and stress-minimizing strategies should be established to face this problem and to avoid its heavy consequences.

## Introduction: Work-Related Stress in Healthcare

In the fast-paced, competitive world of today, many people consider stress to be a part of life [1]. Stress is defined as the nonspecific response of the body to any demand for change, which in turn may be a threat, conflict, or any kind of pleasant and unpleasant change that requires body adaptation [2].

Occupation is one of the main causes of stress in life. On average, one million people a day do not go to work because of the work-related stress. Add to that, 4% of the work hours are lost due to stress-related absence of workers. Furthermore, it is admitted that persons are subject to greater stress in occupations involving human contact [3]. The work stress can be defined as a harmful physical and mental response, the impact of which is related to the lack of coordination of work demands with capabilities, sources of support and the requirements of the employee [2].

When it comes to hospital occupations, they involve a high degree of occupational stress and the health care professionals are sub-

ject to a high level of stress as they are responsible for the well-being of the individual [2].

In fact, The nature of the practical exercise of health professionals and their working conditions confronts them with multiple stressors [4] such as the permanent exposure to morbidities and mortalities, the work overload, the risk factors to which they are exposed on a daily basis and the interpersonal conflicts, and to which is added the obligation to adapt to all these conditions because of the vigilance and involvement and human interaction that the nature of their profession demands [4,5] are circumstances in which health professionals are exposed on a regular basis.

## Stress in Operating Rooms

Operating rooms are high risk environments [6–8] and are in particular not immune to this problem. In fact, they are characterized by the great vulnerability of the professionals who exercise in these units to develop a syndrome of occupational stress [9]. Indeed, several studies indicate that the professionals working in operating rooms suffer from continuous exposure to multiple stressors which in turn can lead to a burnout syndrome [9–11]. In fact, the lack of personnel, the noise, the responsibility to succeed the intervention especially in the presence of unfavorable conditions (patients with multiple comorbidities or a difficult anatomy, etc ...) are situations in which the operating room professionals regularly face [9–11] and are responsible therefore of developing work related stress and its consequent results.

According the literature, studies have shown that stressors that can present at operating rooms are of two types; stressors of the first type are mental stressors such as poor or failure communication with the team members, and frequent and urgent need to decide, while stressors of the second type are physical environmental factors such as the light, the moisture and the structure of the operating rooms [10]. Other stressors are lack of job security, and variables such as working

time, mortality of patients and possibility of providing wrong services to patients [10].

## Effects of Stress

This occupational stress can lead to the development of the occupational burnout [12,13]. It also can lead to a reduction of the efficiency and the working output, the high work absenteeism, the reduction of patients' satisfaction, the quitting a job, the familial and marital problems, the drug and alcohol abuse, the depression, and even the suicide [14–16]. Furthermore, the work related stress accounts for 30% of diseases and absenteeism of the personnel in health care centers, with a yearly burden of 300 to 400 million dollars. This figure only reveals the materialistic aspect of loss due to stress while it can highly affect the personnel, their family members, as well as the patients [16,17].

## Review on Factors Related to Stress

According to Yosra et al. [10], higher levels of stress were due to the fear of being infected by HIV and hepatitis patients with mean of 3.2 and 58%; and lack of weekends with mean of 3 and 44%. The lowest levels of stress were related to inadequate skills with mean of 2.18 and 32%, and environment light with mean of 2.14 and 34.7%. Stress was significantly related to job status, conflict of doctors and nurses as well as spouses' attitude about work ( $P < 0.05$ ). But there was no significant relation between stress and work shift, age, being experienced, type of hospital and marital status. As for the study of Soheila et al. [16], results have shown that there was a significant inverse association between the score of stress and monthly working hours ( $r = -0.21$ ,  $P = 0.049$ ). Mean score of stress was 28.1 ( $\pm 12.3$ ) among those with average income and 33.8 ( $\pm 12.8$ ) for the low income subjects, showing a significant difference ( $p = 0.048$ ). According to Soltanmoradi et al. [2], Operating room nurses rated situations of the “death and dying” subscale as the most stressful, whereas situations of “discrimination” were described as less stressful. Uncertainty concerning treatment was significantly affected by gender; women had higher

scores in this subscale ( $P = 0.019$ ). Moreover, general operating room nurses (vs. specialized) had significantly higher mean scores regarding the perception of the stressfulness of “inadequate preparation”, “conflict with physicians”, and “discrimination” subscales ( $P < 0.50$ ). Also, a study conducted by Sonoda et al. [18], showed that 30–40% of operation room nurses were mentally stressed during surgery. Among scrub nurses, endoscopic and abdominal surgery, body mass index, blood loss and the American Society of Anesthesiologists physical status class were related to their mental stress. Conversely, circulating nurses were stressed about teamwork performance.

## Stress Management and Coping Strategies

When the individuals experience stress, they adopt different ways of dealing with it as they cannot remain in a contiguous state of tension. This is called coping, which is the way of dealing with stress [19]. Coping strategies are behavioral and cognitive efforts to deal with stressful behaviors and to meet internal and external needs [2]. People who use coping techniques in an appropriate way can reach a higher level of quality of life (QOL) [2]. Identifying the sources of stress and coping styles of nurses plays an important role in increasing the ability to cope with stressors and reducing or eliminating these factors [2]

Literature on stress states that coping strategies may be categorized as individual strategies and organizational strategies [19]. Individual strategies refer to the fact that employees can decrease stress by directly changing their own work habits or the work environments they are in. Some of the work-focused coping strategies are role clarification, time management, delegation, search for more information and direct task help and co-operative work strategies which are discussed below [19]. Role clarification refers to clarification sought by the employees from their superiors, when faced with unclear job assignments [19]. Organizational strategies include health maintenance, leadership training and stress reduction workshops which are used on a widespread basis [19].

## Conclusion

In conclusion, stress in operating rooms is a real problem that can affect professionals and that can have in turn negative consequences on patients. Thus, operating room professionals must be aware of the phenomenon. Preventive strategies should be applied to encounter this problem and to avoid its consequent risks. Even if it can't be completely eliminated, its negative effects should be minimized by focusing on its associated factors.

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