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BURNOUT SYNDROME AND ITS EFFECTS ON HEALTH.
A PERSPECTIVE ON CLINICAL STUDIES

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Abstract

Burnout syndrome (BOS) is a condition induced by occupational overuse or chronic fatigue, and most often it consists of physical, emotional and mental exhaustion caused by excessive and prolonged exposure to stressful situations. In the initial stages of BOS, individuals feel emotional stress and increasing job-related disillusionment. Some studies showed a strong positive association between overtime work, shift work, long-travelling time to work and cardiovascular disease. Also, it was revealed a strong relationship between “karoshi” (death from overtime work) and: repeated periods of extended hours of work; holiday shifts; changing jobs, especially in the absence of familial or social support; night working hours; major responsibilities; unequal balance between the provided effort and the reward. It has been found that scientific studies emphasize an association between burnout syndrome and cardiovascular disease. Among the mechanisms for coping with or preventing burnout are recognition of the problem, reduction of overload and acceptance of the fact that not all patients return to normal function. The paper aims to review clinical studies published in PUBMED, in order to highlight the role and implications of extended hours of work on health and identify optimal strategies to prevent BOS. Scientific studies reveal that BOS affects many professionals, especially health care providers, and therefore it should be given more importance by implementing educational policies and strategies.

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Keywords: Burnout syndrome, physical exhaustion, overtime work, cardiovascular disease.



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1. Introduction

Burnout syndrome (BOS) is a condition induced by occupational overuse or chronic fatigue, and most often it consists of physical, emotional and mental exhaustion caused by excessive and prolonged exposure to stressful situations. Those who are diagnosed with this syndrome feel overwhelmed by the pressure to respond to professional requirements and, over time, this constant accumulation of stress leads to loss of interest and motivation that once used to underpin the activities carried out at the workplace. People under overwork stress may present with no obvious symptoms and signs of heart and/or brain problems, but with depression and/or burnout syndrome (Hiyama & Yoshihara, 2008).

Maslach and Jackson (1981) state that burnout syndrome is the result of chronic stress (at the workplace), which has not been successfully dealt with. It is characterized by exhaustion and depersonalization (negativism/cynicism) and is found predominantly within human service professions: social workers, teachers, nurses, lawyers, engineers, medical practitioners, customer service representatives, police officers (Jackson, Schwab, & Schuler, 1986). Wolfe (1981) defines BOS as a feeling of emotional and physical exhaustion coupled with a sense of frustration and failure. Among the mechanisms for coping with or preventing burnout are recognition of the problem, reduction of overload and acceptance of the fact that not all patients return to normal function.

According to the American Thoracic Society (2016), BOS is a work-related constellation of symptoms that usually occurs in individuals without any prior history of psychological or psychiatric disorders. BOS is triggered by a discrepancy between the expectations and ideals of the employee and the actual requirements of their position. In the initial stages of BOS, individuals feel emotional stress and increasing job-related disillusionment.

From the above definitions, it results that stress and overwork are the main cause of BOS, with significant effects on the health status. Common causes leading to burnout are overwhelming and hard work with no clear goals, being powerless to change something important and forcing oneself to make the impossible happen. Some of the early warning signs of burnout syndrome are presented by Guntupalli, Wachtel, Mallampalli, & Surani (2014):

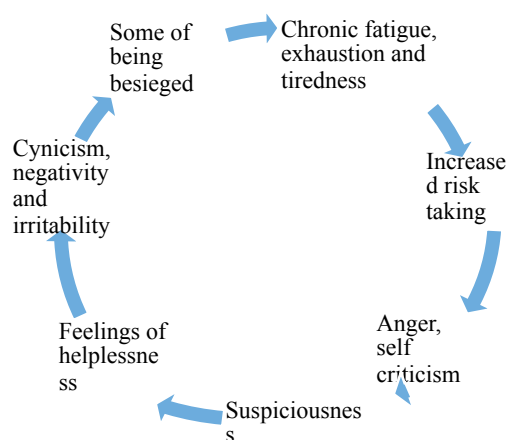


Figure 01. Early warning signs of burnout syndrome (Guntupalli et al., 2014)

2. Problem Statement

Epidemiological studies conducted in developed countries, such as the US and Japan, showed a strong positive association between overtime work, shift work and long-travelling time to work and cardiovascular disease. In the European countries, it was emphasized that low reward jobs, shift work and working at night increased the risk of cardiovascular disease (Ke, 2012). Studies highlight that, in Japan, “karoshi” or death from overtime work has become a social concern whose main cause is the sudden onset of a fatal cardiovascular or cerebro-vascular event (Wada et al., 2006). These studies raise the problem of “karoshi” also among physicians (Ke, 2012), who, although having a precise work schedule (65 hours/week), do not respect the working hours for moral, professional or scientific ethical reasons, or because of the large number of patients (Yuji et al., 2012). Thus, it was revealed a strong relationship between “karoshi” and: repeated periods of extended hours of work; holiday shifts; changing jobs, especially in the absence of familial or social support; night working hours; major responsibilities; unequal balance between the provided effort and the reward (Siegrist,1996); unfriendly work environment, strained collegial relationships (Repetti, Matthews, & Waldron, 1989). In China and South Korea, there appear more and more the “goulaosi” suicides associated with occupational burnout. Also, shift workers or those who do overwork may experience tense relationships with family members, and many social activities are carried out during the day. Thus, the Saturday and Sunday shifts may hinder the involvement in sports or religious activities, shift work being possible to lead to social marginalization of the employees (Harrington, 2001).

3. Research Questions

Is BOS a major issue for the current society?

4. Purpose of the Study

The paper aims to review clinical studies published in PUBMED, in order to highlight the role and implications of extended hours of work on health and identify optimal strategies to prevent BOS.

5. Research Methods

In the period 1981-2017, the renowned medical database PUBMED published 947 scientific articles on the burnout syndrome. Most of them (102 articles) were published in 2016. Of the 947 articles, 26 were clinical studies.

6. Findings

Table 01 presents a perspective on clinical studies regarding the burnout syndrome.

Table 01. A perspective on clinical studies regarding the burnout syndrome

Study	Population	Type of study	Assessment tools	Outcomes
Gunasingam, Burns, Edwards, Dinh, & Walton (2015)	31 resident doctors	A randomized controlled prospective study	Maslach Burnout Inventory	21/31 (68%) participants displayed evidence of burnout.
Gómez-Gascón et al. (2013)	14 health care centers	A clinical trial	- Maslach Burnout Inventory - Cuestionario de Desgaste Profesional de Enfermería - Goldberg's General Health Questionnaire	Organizational measures are important for preventing burnout syndrome, providing professionals with coping strategies, as this group intervention intends to do.
Moody et al. (2013)	48 nurses		-	Qualitative analysis of diaries kept by subjects revealed reduced stress, improved inner peace, compassion and joy, better focus and self-awareness and less somatic symptoms in the intervention arm.
Tsai et al. (2013)	Banking and insurance workers	A three-month exercise course	-	An effective approach to worksite exercise intervention and exercise intensity played an important role to alleviate damage between burnouts and metabolic syndrome component.
Zielhorst et al. (2015)	101 participants	A pilot study	Digital games	The therapeutic digital game may be a useful tool when embedded in a therapeutic burnout treatment program and is probably more efficient than cognitive-behavioral therapy, as it is used in current practice.
Ewers, Bradshaw, McGovern, & Ewers (2002)	33 nurses working in a medium secure psychiatric unit		Baseline assessments of knowledge, attitude and burnout questionnaires	Significant improvements in their knowledge and attitudes about serious mental illness and a significant decrease in burnout rates, whilst staff in the control group showed a small but non-significant improvement in knowledge and attitudes and an increase in burnout.
Bernaldo-De-Quirós, Piccini, Gómez, & Cerdeira (2015)	441 health care workers (135 physicians, 127 nurses and 179 emergency care assistants)	A retrospective cross-sectional study	Maslach Burnout Inventory	The health care professionals who had been exposed to physical and verbal violence presented a significantly higher percentage of anxiety, emotional exhaustion, depersonalization and burnout syndrome compared to those who had not been subjected to any aggression.
Edward, Ousey, Warelow, &	137 papers	A systematic review	-	Nurses exposed to verbal or physical abuse often experienced a negative

Lui (2014)				psychological impact post incident.
Erdur et al. (2015)	174 physicians aged 24 to 59 years	A cross-sectional study	Maslach Burnout Inventory	The study showed a significant association between emotional exhaustion and total violence (p=0.012) and verbal violence (p=0.016); depersonalization and total violence (p=0.021) and verbal violence (p=0.012).
Irinyi, Németh, & Lampek (2017)	1201 health care providers	A quantitative cross-sectional online survey	-	Verbal and physical aggression was experienced more frequently by nurses who were males, above the age of 50, working in in-patient care or in 12 hours shifts or constant night shifts.

7. Conclusion

As can be seen, recent years have brought, at the world level, a constant interest in studies able to prove the association between working hours and the emergence of cardiovascular, neurological, psychological pathologies, etc. There is a high prevalence of job burnout or profession-related wearing down, which is considered to be an adaptive disorder to chronic work stress and entails harmful consequences for the individual suffering from it and the employing organization (Adán, Jiménez, & Herrer, 2004).

Zielhorst et al. (2015) argue that BOS is a globally increasing illness and, as a result, many forms of burnout therapy have arisen. In this context, we bring to discussion the prospective study conducted by Gunasingam et al. (2015) on a group of 31 resident doctors, which aimed to track the prevalence of BOS among the participants, as well as to highlight the impact of debriefing sessions on the level of exhaustion experienced by them. The study results, published in the *Postgraduate Medical Journal* (2015), revealed that, in the initial stage, 68% of them showed specific signs of burnout. Data were collected using the Maslach Burnout Inventory and proved a much higher incidence among female subjects, but there was no significant difference in scores on burnout and debriefing sessions. According to the study results, 11/18 (61%) suggested they would recommend the strategy to future junior doctors, and 16/18 (89%) found that the sessions were a source of emotional and social support.

Another effective strategy in reducing BOS is represented by coping strategies (Gómez-Gascón et al., 2013) or the diaries kept by subjects (Moody et al., 2013), which have revealed reduced stress, improved inner peace, compassion and joy. The study conducted by Zielhorst et al. (2015) and published in *Cyberpsychology, Behaviour and Social Networking Journal* demonstrated the therapeutic role of video games and showed a greater decrease in complaints and disengagement and a stronger increase in coping skills than the non-therapy conditions.

The systematic review achieved by Edward et al. (2014) on a total of 137 scientific articles highlights that verbal and physical aggressions in medical units have a particular effect on health care professionals, especially nurses. To these, we can add the results of other studies that prove a significant association between the exposure of health care professionals to verbal and physical aggressions and

burnout symptoms (Erdur et al., 2015; Irinyi, Németh, & Lampek, 2017; Bernaldo-De-Quirós et al., 2015).

In this context, it has been found that scientific studies emphasize an association between burnout syndrome and cardiovascular disease. Accordingly, common risk factors for cardiovascular disease and stroke include hypertension, diabetes, hyperlipidaemia, obesity, smoking, family history. These factors account for 30 to 40% of cardiovascular diseases (Guntupalli et al., 2014). Also, the power of this scientific evidence suggests that the extended work schedule leads to increased fatigue and significantly affects the performance and safety of those involved. Systematizing the results of clinical trials, we can point out the main effects of extended working hours on the body:

- Sleep deprivation represents an increased risk for: gastrointestinal pathology, cardiovascular disease, breast cancer, spontaneous abortion, emergence of burnout syndrome accompanied by depression, high risk of injury and therapeutic errors (Landrigan et al., 2004), various addictions (World Health Organization, 2003);
- Prolonged increased stress leads to cardiovascular and cerebrovascular diseases, increasing thus the risk of heart attack or stroke (Kivimäki et al., 2015);
- Increased personal dissatisfaction by changing the relationships in private life/work environment; increased depression; emergence of chronic fatigue sensation, emergence of anxiety, decreased quality of life and altered circadian rhythm (Harrington, 2001).
- Increased incidence of hypertension (Hayashi et al., 1996; Wada et al., 2006), hypercholesterolemia, emergence or worsening of musculoskeletal pathologies, severe deterioration in the circadian rhythm and dietary habits.

In conclusion, we can state that overtime work and the acts of violence against employees have a significant influence on the physical and mental health status. Scientific studies reveal that BOS affects many professionals, especially health care providers, and therefore it should be given more importance by implementing educational policies and strategies. We think that burnout syndrome experienced by health care professionals, but also those involved in other fields, can be prevented by respecting, at least in the European countries, the directives issued by the European Commission. According to these provisions, the EU's Working Time Directive (2003/88/EC) requires EU countries to guarantee the following rights for all workers: a limit to weekly working hours, which must not exceed 48 hours on average, including any overtime; a minimum daily rest period of 11 consecutive hours in every 24; a rest break during working hours if the worker is on duty for longer than 6 hours; a minimum weekly rest period of 24 uninterrupted hours for each 7-day period, in addition to the 11 hours of daily rest; paid leave of at least 4 weeks per year; extra protection for night work (European Commission, 2003). Complying with these directives can minimize the undesirable consequences of burnout syndrome on the body and improve the health status of employees in all fields of activity.

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