Occupational Stress among Dental Professionals

SUMMARY

Stress at the work place was declared by the World Health Organization as a worldwide epidemic. The stress caused by work appears when the balance between one's own possibilities and the environment demands is disturbed, which leads to a poor mental state. The fact is that the majority of dentists find they are under constant stress, which is caused by the nature of dental work. Literature describes dentistry as an extremely stressful profession. The main stressors include the tendency toward technical perfection, the causation of pain in patients, the lack of patient cooperation during dental treatment, the failure to maintain the given appointments. Adequate education and preparation, even during dental studies, non-neglect of symptoms and difficulties at the work place, adequate and timely response to the identification of the cause and its elimination or balancing, have a key role in solving this great problem in modern dentistry.

Key words: Stress, Dental Work, Dentistry, Prevention, Education

Introduction

Dentistry is a stressful profession1,2,3. Dentists are exposed to various stressors in their daily encounter with patients as well as during the performance of various dental endeavors and treatments. Factors that affect the psychological status of dentists can be: stress caused by clinical work, tension (caused by work with anxious patients), emotional exhaustion, depression4,5,6.

Literature describes dentists as professionals which are highly affected by stress7,8. However a comprehensive analysis of dentist’ stress during work and determination of stressors, as well as the short-term and long-term consequences on the work and health of dentists, has not been conducted yet. There is no exact information in the scientific literature on the impact of stress on the health and work of dentists, which is a major shortcoming for dental science as a whole. Given that dentistry is a very important industry, starting from basic and clinical research in all areas of dentistry to mass production and continuous improvement of dental materials and equipment, dentists as its end users are burdened by high prices of dental materials and maintenance of dental equipment, then by continuous education, monitoring and application of the latest scientific knowledge, and as doctors they are also obliged to provide their patients with the best service and show humanity while respecting medical ethics and the law.

It is also necessary to examine the effectiveness of various anti-stress methods on improving the mental health of dentists in order to improve their general health as well as to contribute to more efficient and better quality performance of dentists as medical professions.

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REVIEW ARTICLE (RA)

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Definition and meaning of stress

George et al. define stress as a biological reaction to any negative internal or external stimulus (physical, mental) that tends to disrupt the homeostasis of the organism. If the body’s reaction is inadequate, it can lead to diseases caused by stress. However, not every stress has a negative impact. Some stressors can even stimulate and motivate individuals to work more productively.

Stressors, or factors that cause emotional stress, are an integral part of everyday life. They represent factors that include emotions, attitude towards the environment, as well as the character of a person. The parts of the brain that react to these factors are the limbic system, the hypothalamus, and the reticular formation. They send a message through the sympathetic system to the intrafusal fibers of the muscle spindles and cause muscle contraction. This further leads to the appearance of musculoskeletal diseases, which are very common in the dental profession.

Personal characteristics, attitudes towards oneself, the way of overcoming difficulties, the overall health condition and factors outside work have a significant influence on whether the negative effect of stress factors will be manifested. Chronic stress causes high levels of cortisol, adrenaline, and noradrenaline and a chronic decline in the neurotransmitters serotonin and dopamine, which give us a feeling of satisfaction and happiness.

Stress caused by work

Work-related stress occurs when the balance between one’s own abilities and the demands of the environment is disturbed, which leads to a bad mental state. The World Health Organization has declared workplace stress a global epidemic. The level of independence at work, interpersonal relationships, and work organization all affect a person's attitude towards work, as well as the level of stress caused by the work environment.

Monotonous and repetitive work tasks, lack of motivation, inability to control work, job dissatisfaction, lack of support and help from the environment, cause stress and the development of work-related illnesses. According to the definition of the World Health Organization (WHO), work-related diseases cover a very wide range of diseases, which are in some way, but not always causally, related to occupation and working conditions. Work-related diseases are of multicausal etiology. It is their etiological specificity that makes it impossible to determine the influence of professional and non-professional factors on their occurrence. In their occurrence, the influence of professional factors can be: dominant, of lesser importance than other factors, or only supportive. These diseases are not included in the legally established lists of occupational diseases, which are mostly caused by occupational factors.

For dentists, the most common diseases related to work are musculoskeletal diseases. Psychological and psychosocial factors can have a significant impact on the occurrence of musculoskeletal disorders. Workplace stress can be considered as one of the important predisposing factors for the occurrence of this type of work-related illness.

Stress in certain situations can even have a stimulating effect on the organism, although in most cases it disturbs the balance and affects the physiological tolerance, which is individual in each person. The effect of stress factors is individual and what is stressful for one person can have a stimulating effect on another.

Burn-out syndrome

Burn-out syndrome is the body’s response to chronic stress caused by oversaturation with work and daily contact of dentists with patients and colleagues. It is defined as a lack of motivation, energy, meaningfulness of one’s own work, encouragement. Burn-out syndrome at work is characterized by emotional exhaustion, depersonalization, and low personal satisfaction.

The syndrome most often occurs in people who perform tasks related to work and communication with people. Numerous studies indicate that burn-out syndrome is extremely high among dentists. The etiology, frequency, possibility of prevention, as well as treatment strategies for this syndrome, among dentists, currently represent an important area of scientific research, due to its significant financial and social effect resulting from (dis)satisfaction of employees and its consequences on physical and mental health of working dentists.

Results from literature indicate that dentists, who are under stress and at higher risk for developing burn-out syndrome at work, have reported more general health problems. This is particularly important given the extent and prevalence of musculoskeletal disorders, the development of which may be encouraged by stressors.

Psychological and psychosocial factors that affect musculoskeletal pain

Stressful situations are a very important factor in the development of muscle pain syndrome. This is explained by the fact that during stress, any and even the slightest stretching of the muscles, creates a reflex contraction, an increase in muscle tone, which leads to the development of muscle pain syndrome.

There are more and more studies showing that psychosocial factors play a significant role in the development of musculoskeletal diseases related to work, especially the upper extremities and back. Psychological factors can act in two directions, they can be influenced by a long-term painful condition or they can enhance the development of chronic pain.
A large number of people with musculoskeletal diseases are in difficult life situations, such as: faced with severe emotional losses, existential problems, life adversities. It often happens that people with musculoskeletal diseases do not respond to classic analgesic therapy, which can be influenced by their emotional factors, such as depression and worries about important life events. Psychosocial factors can lead to a change in perception, as well as tolerance to external influences. The influence of emotional stress on the development of musculoskeletal disorders is very significant.

Stress in the dental profession

Studies indicate that high levels of stress in dentistry are caused by the nature of work, clinical work, unfavorable working conditions, work with nervous and anxious patients, work that often causes pain to the patient, work with demanding patients, time pressure and limitations, exposure to changes that necessarily impose continuous education in order to perform work tasks more efficiently, and often a bad atmosphere in the workplace caused by problematic interpersonal relationships. Stressors can affect general and mental health of many dentists, and can result in conditions such as burn-out syndrome, clinical depression, and pathological anxiety.

Stress affected dentist at the beginning of their career, even during their studies. Increased workload, time constraints and some aspects of clinical training, were identified as the main stressors among dental students. However, further research is suggested to identify and test stress management interventions.

Prevalence of stress among dentists and recommendations for its reduction

Many studies have indicated significant levels of stress among dentists. Stress, burn-out syndrome at work and depression in dentists can have major consequences on their ability to provide adequate health care to patients. High amount of stress among dental professionals, poor quality of sleep, and musculoskeletal disorders are strongly associated with work ability and productivity loss.

It has been observed that even during the study of dentistry, students are exposed to the stress and consequences it causes. A study conducted by Dunlap and Stewart indicates that 38% of the surveyed dentists feel constant worry and anxiety. Also, 34% of respondents point out that they feel mental and emotional exhaustion. As many as 83% of surveyed dentists believe that their profession is extremely stressful, while almost 60% believe that the dental profession is more stressful than other professions. According to Myers and Myers, 60% of dentists have a sleep problem, 58% have a headache problem, while 48% feel constant fatigue for no objective reason. A study conducted at the Faculty of Dentistry in Newcastle, indicates that 67% of final year students have a problem with pathological anxiety. Hayes et al. point out that dentists who have mental difficulties very rarely and reluctantly turn for professional help. Only 15% of dentists who have symptoms of depression have undergone treatment.

Accordingly, Kay and Lowe suggest that education on stress control, reduction, and elimination should be introduced into basic dentistry studies as well as in continuing education programs. These programs should include: deep breathing exercises, meditations, tips on ways to relax, ways to achieve time management, ways to improve communication and interpersonal relationships, improving practical and business skills. Professional help should be available and practiced if the effects of stress affect daily life. As the most important factor in the fight against stress, was point out that dentists themselves must be aware of these problems. Fifth-Cozen and King emphasize the significant influence of physician personality type and psychosocial factors on work performance.

In general, specialists were more satisfied with their psychosocial work environment, showed a higher degree of self-confidence and a lower degree of anxiety than dentists without a specialist title. Examining the level of stress between dentists of different specialties, Newton et al. came to interesting data that the highest level of stress is in specialists in pediatric and preventive dentistry, compared to dentists in other specialties. Results of study conducted among dentists chosen randomly from the American Dental Association, indicated that pediatric dentist and female dentists have been more depressed than male dentists.

Newton et al. and Tiernan emphasize the importance of the ability to communicate well, both verbally and nonverbally, with patients, which has an important impact on the patient relationship, as well as on the quality of service provided by dentists. Reducing anxiety levels in patients, relieving them of fear of the dentist, consequently leads to a direct reduction in stress levels in dentists during work.

Hannah et al. and Yoshida et al. point out that dentists should be educated about good communication skills. Better communication with the patient leads to an increase in the degree of satisfaction of the patient, who then more easily accept more difficult interventions, as well as possible failures of the therapy, which, unfortunately, can inevitably occur during daily dental clinical work.

Physical activity, due to its positive physiological, physical and psychological effects, is considered an important factor in quality coping with stress. Working in ergonomically adequate dental offices has...
huge benefits for psycho-physical conditions of dentists. Adequate workflow organization, with well balanced rest period between patients, adequate organizations of types of the dental procedures, and also use of ergonomically designed equipment are effective measures to minimized stress factors, which occurs during usual dental work. It is strongly suggested to dentists to try to adopt correct and dynamic working position, with periods of changing work position and combining sitting and standing position.

Conclusions

The main stressors are the tendency towards technical perfection, causing pain to patients, lack of cooperation from patients during dental treatment, non-compliance with deadlines and poor work organization. In the fight against stress, it is very important to determine exactly what causes it.

The most effective preventive measures to reduce the effects of stress during the work of dentists were physical activity, massage treatments, use of ergonomically designed equipment, correct and dynamic working position, with periods of changing work position and combining sitting and standing position. Also, adequate organization of the workflow itself, which includes periods of rest between patients, is very effective in eliminating and mitigating risk factors.

Adequate informing of dentists about the effects of stress on their general health and efficiency at work are the most important in the prevention of musculoskeletal diseases, cardiovascular diseases, diabetes and other metabolic disorders that occur as a result of stress during work.

Stress prevention and properly informing dentists about maintaining mental and general health is imperative in advancing the dental profession and science as a whole.

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