Etiology and Pathogenesis of Emotional Burnout Syndrome

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ABSTRACT

The article is devoted to the study of the etiology and pathogenesis of the occurrence of emotional burnout syndrome in medical students. Among medical students, there are cases of emotional burnout syndrome, when students have to change their chosen profession in the future, face difficulties in communicating with patients, and in more severe cases, drive themselves to suicide. Identification of etiopathogenetic factors of emotional burnout syndrome plays an important role in the timely prevention of the disease, the development of preventive measures.

Keywords: Burnout syndrome, medical students, etiopathogenetic factors, prevention

Introduction

At the WHO World Assembly in Geneva on may 20-28, 2019, emotional burnout syndrome was included in ICD-11 under the code QD85 as a "syndrome caused by chronic stress in the workplace". The term "burnout" refers to physical, emotional and mental fatigue, which arises from the discrepancy between a person's personal characteristics and the work environment (moderate professional stress). The development of emotional burnout syndrome and various factors are affected, which makes diagnosis and Prevention even more difficult. In Shahs of different specialties, especially in medical staff, students, it has been found that the prevalence of the syndrome among doctors ranges from 25 to 75% in different countries of the world. The effect of ESS on the body is associated with medical and social importance, which in turn leads to economic costs. That is why ESS is an urgent problem that is waiting for its solution today.

Emotional burnout syndrome (ESS) occurs in cases of intensive professional contact under the influence of many external and internal factors. It was first introduced in 1974 by H.J. It was described by Fredenberger as a reaction to unfavorable working conditions, as "a state of emotional, physical and mental exhaustion arising from working conditions.

Interest in the subject was in 1976, when K presented the ESS report at the annual meeting of the American Psychological Association. Appeared after the work of Maslach [7]. Later, K.Maslach (1993) called the syndrome “the sum of mental and physiological indicators, including a negative attitude towards Labor, lifestyle, etc., fatigue, overwork, and feelings of frustration in people” [8]. ESS is a serious psychosocial problem affecting the quality of life of workers [10]. The term "burnout" refers to physical, emotional, and mental fatigue, which is associated with the incompatibility of an individual's personal characteristics with the work environment (moderate occupational stress) [11]. Using Maslach's emotional burnout questionnaire (Maslach Burnout Inventory - MBI), most scientific studies have shown that the syndrome is classified into three components: emotional fatigue, depersonalization (cynicism), and loss

(reduction) of professionalism (decreased professional activity).

Although there are various surveys to determine the ESS. The poll Maslach created was a gold standard from the beginning. In 1998 Schaufeli and Enzmann used exactly the Maslach questionnaire in 91% of all scientific publications [30].

K.According to Maslach, the following rule applies: the longer the time and seniority after completing Higher Education, the higher the values associated with fatigue syndrome [11,12,27]. Because K. According to Maslach, fatigue occurs near the end of a professional career after a long period of professional stress. However, this does not prevent young professionals from developing the syndrome, as they may have great difficulty solving problems due to lack of Experience [2]. The main reason for the development of ESS is chronic and long-term stress. In addition, the individual characteristics of the stressed individual and his ability to overcome stress are important [19].

Over the years, it has been seen that people with ESS have increased over time. This in turn led to a growing interest in the study of the origin, etiology, pathogenesis and prophylaxis of this syndrome. Emotional burnout syndrome develops in the following stages:

Step 1 - "panic reaction". This stage is usually short-lived, and the person is physiologically ready to resist stressors. The natural energy and protection of the body is activated by the hypothalamus, which binds to the sympathetic nervous system and activates the adrenal glands, which increase the heart rate, increase blood flow to the muscles, heart and brain, and prepare a person for battle or escape. The problem arises when the body is in a state of stable stress, because stress is not eliminated and the body's resources are exhausted [1,3,16].

Stage 2 - "resistance" is a stage in which the body adapts to the constant presence of stress through the parasympathetic system to stabilize body functions and reduce the secretion of the adrenal glands [1,3,16].

Stage 3 - "burnout" is characterized by the restoration of the anxiety phase, which lasts a very short time, with a strong reaction of the vegetative system, which tries to regulate the hormonal response. At this stage, the vital resources of the body are destroyed by the immune system, which makes a person susceptible to diseases and even death. Basically, the body experiences hypoadrenia, in which case the body cannot adapt to stress. This in turn can lead to symptoms of intestinal obstruction syndrome, hyperinsulinism, hypertension, heart attack, chronic fatigue, psychosis, fatigue, and depression [1,3,4,16].

Six conditions for ESS development have been identified:

1) overload;
2) lack of control over planning and priorities;
3) compensation for labor activity is not enough;
4) unstable relationships within the team;
5) lack of trust and respect;
6) conflicts between Administrator and staff [5].

The role of changes in DNA methylation in ESS development is being studied [20]. Studies show that two types of genes point to epigenetic and functional changes: the first type are those that directly control the function of the hypothalamic hypophysar system and the second type are those that cause long-term dysregulation of nerve processes and are important for the proper regulation of brain functions [13]. DNA methylation has been found to play an important role in the pathogenesis of depression and various posttraumatic stress-related mental disorders [14,23].

Some authors believe that cortisol activity is important in tur hil emotional burnout and depressive disorders. Hypercorticism is believed to be associated with restlessness and depression, while hypocorticism is more frequent in emotional burnout, and may be accompanied by various changes in the pattern of the GR gene of methylated DNA. An increase in the Gr gene promotes negative feedback, which leads to hyporeactivity of the GG system and later hypocorticism [28].

SLC6A4 is the gene responsible for serotonin production, and it can in turn be considered as the bio-marker gene of emotional burnout [14]. Currently, this leads to the development of ESS, while hypermethylation of the SLC6A4 gene [6,9,25]. ESS and long-term occupational stress are associated with certain anatomical and

functional features of the brain. For example, people with chronic occupational stress have been found to have a functional communication defect between the amygdala(corpus amygdaloideum) and the medial prefrontal cortex, including the anterior part of the cingulate gyrus [15].

In addition, a decrease in the number of receptors (5-HT1A receptors) involved in the regulation of the GG system in the anterior cingulate gyrus, insular cortex and hippocampus has been noted [18]. A decrease in the volume of gray matter in the anterior cingulate gyrus and dorsolateral prefrontal cortex, a decrease in caudate nucleus and shell size has been reported [17]. Patients with ES have significant thinning of the mesial frontal cortex and selective changes in subcortical formations: the size of the amygdala increases on both sides and the size of the caudate nucleus decreases [26]. People with ES have weak functional link activity between the right amygdala and anterior cingulate cortex, which causes difficulties in controlling and overcoming negative emotions [21,22].

W.P.According to Kaschka and others by the authors (2014) there are both internal and external etiological causes of ESS:

● Internal (personal characteristics): high (ideal) expectations in oneself, excessive ambitions, perfectionism; a feeling of irreplaceability; refusal to delegate certain tasks to others (impossibility); constant striving to please others and suppress their own needs; strong need for recognition; hard work, reassessment of their abilities-as a result, overwork; meaningful profession, or work as a replacement of social life.

● External factors: issues of leadership and cooperation; excessive work requirements; conflicting guidelines; lack of time; inability to express an opinion; bad work environment; lack of influence on the organization of work; lack of freedom of choice; submission problems; uncertainty; weak / missing dialogue between management and employees; management restrictions; external pressure bosses increased responsibility; poor organization of work; poor performance in; lack of positive thoughts; lack of social support.

K. According to Maslach, ESS develops in 3 stages [24] :

Emotional fatigue (HCH) can be described as physical and/or mental fatigue. It feels like the need for additional physical movements, gradual loss of energy. HCH is the central part of ESS and is characterized by increased fatigue at work, inability to perform professional tasks. In order to protect oneself from these negative emotions, a specialist seeks to distinguish himself from others, he develops an indifferent attitude, does not humanize relationships with others, becomes frivolous and humiliating towards specialist colleagues, moves away from them.

Depersonalization is characterized by a negative attitude towards patients and impudent reactions, the interests of which are not taken into account at all. It is also an attempt to protect against fatigue.

A lack of personality or a feeling of an unfulfilled personality (a decrease in professional skills) is associated with a loss of self-confidence, the development of negative and low-level self-esteem, which leads to a decrease in labor productivity, weakness or absence of self-awareness.

J.Greenberg described ESS as a five-step Step Step-by-step process [29] :

1. The first stage-the employee enthusiastically performs his duties, over time the work will generate less satisfaction and efficiency will decrease.
2. The second stage is a further decrease in performance and interest in work, insomnia, apathy appear. There may be headaches for no apparent reason.
3. In the third stage, chronic stress, irritability and aggression appear.
4. In the fourth stage, chronic fatigue appears.
5. The fifth stage-physical and psychological problems have an acute form, which can provoke the development of various diseases.

Conclusion

From the data obtained, it can be seen that the parasympathetic nervous system, the hypothalamo system and the methylated DNA GR gene have been found to play an important role in the origin of emotional burnout

syndrome. In addition to it, the internal and external etiological causes of ESS development and the development in 3 stages have been developed. Timely identification of Stages 1 and 2 of the development of emotional burnout syndrome is very important in the implementation of preventive measures. While the methylated DNA SLC6A4 gene reduced serotonin secretion, the patient was found to experience moods, apathy, depersonalizations.

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