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INDICES OF THE DENTAL CARIES INTENSITY IN INDIVIDUALS WITH DIFFERENT CLINICAL VARIATIONS OF PSYCHOPHYSIOLOGICAL DISADAPTATION

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Abstract

The role of psychological characteristics of the personality in the emergence and development of dental diseases has been substantiated by a number of studies of domestic and foreign scientists, in which features of the emotional and personal sphere of patients with different resistance of hard dental tissues and periodontium to diseases were considered.

The purpose of the study was to study the indices of caries intensity in people with periodontal disease in various clinical variants of psychophysiological disadaptation.

Materials and methods. Determination of the intensity of dental caries (DMF index) was carried out among 90 young people (aged 18-44 years) with periodontal diseases and considering their psychophysiological conditions.

Results. While analyzing the values of the DMF index in patients in the experimental groups, it was established that in group I, the mean DMF value (5.42 ± 0.18) indicated a low intensity of the carious process, which was 1.3 times lower than the mean values of the DMF

(7.10 ± 0,19) in individuals of group II, whose values of DMF indicated a moderate intensity of caries.

Key words: caries, intensity, psychophysiological state, young age, disadaptation responses.

Introduction. Epidemiological studies of recent years have shown a high incidence of dental diseases in different sex, age and social groups of the population, and have also determined the factors influencing the growth and development of dental morbidity [1, 2, 5]

The incidence of major dental diseases among the adult population has tended to grow in recent years, despite the rapid development of the industry, which involves the implementation of new techniques and technologies into practice [3].

According to the WHO, the problem of dental caries and diseases of periodontal tissues remain unresolved by modern medicine, and their relevance is determined by the high demand of the population for effective treatment of these diseases, and most importantly - the prevention of their occurrence [3, 4]. The role of psychological characteristics of the personality in the emergence and development of dental diseases has been substantiated by a number of studies of domestic and foreign scientists, in which features of the emotional and personal sphere of patients with different resistance to diseases of hard tissues of teeth and periodontium were considered [1, 6]. At the same time, psychophysiological symptoms in individuals with different intensity of dental caries remain insufficiently studied.

Objective. To study the parameters of caries intensity in people with periodontal diseases in various clinical variants of psychophysiological disadaptation.

Material and methods. The intensity of dental caries (DMF index) was measured in 90 young people (18-44 years old) suffering from periodontal diseases and taking into account their psychophysiological conditions. Two experimental groups were formed: group I - 46 patients with inflammatory periodontal disease, group II - 44 patients with inflammatory-dystrophic ones.

The examination of the oral cavity was carried out in accordance with WHO recommendations, using traditional dental procedures and diagnostic techniques. The presence of defects in the dental rows and the pathology of hard tissues of individual teeth was studied and systematized according to common classifications, among which the greatest attention was paid to the intensity of caries.

Psychophysiological examination of patients was performed jointly with certified specialists, which allowed to distinguish between four main variants of psychophysiological

conditions that were presented in the surveyed. In particular, the reactions of psychophysiological disadaptation (RPD) that arose in patients as a result of current psychological influences, including current pathology; somatogenic asthenic symptom complex (SASC), which was formed as a result of neurotoxic and psychologic traumatic effects of the disease; acute neurotic disorders (AND) that arose in patients as a result of psychologic traumatic experience; neurotic disorders with prolonged course (NDPC).

Results and discussion. Analysing the findings of psychophysiological studies showed that in young people with inflammatory lesions of periodontal tissues the initial variants of psycho-physiological disadaptation reactions predominated ($p < 0.05$), while in patients with inflammatory-dystrophic lesions of periodontal tissues with more frequent detection, acute neurotic disorders were manifested ($p < 0.01$) as well as neurotic disorders with protracted course ($p < 0.05$). The analysis of the frequency and nature of psychophysiological reactions in patients with periodontal tissue diseases depending on the age of the subjects, did not reveal significant regularities in the frequency of psychophysiological reactions, which may be due to the characterological features of the subjects.

Analysing the values of the caries intensity index (DMF) in patients from the experimental groups (Table 1) found that in group I the mean DMF value (5.24 ± 0.18) indicated a low intensity of the carious process, which was by 1.3 times lower the average values of DMF (6.91 ± 0.19) in group II, whose values of DMF indicated the average intensity of caries.

It was noted that in the patients of both experimental groups without the psychophysiological reactions of disadaptation, the minimum values of DMF were determined: 2.98 ± 0.26 in group I and 4.48 ± 0.27 in group II. The DMF index increased by 1.3 times in the presence of RPD in patients of group I with respect to data in individuals without psychophysiological disadaptation ($p_1 < 0.01$), which was 1.4 times lower than in the individuals from group II: 4.14 ± 0.12 , $p < 0.01$ versus 5.84 ± 0.14 ($p_1 > 0.05$). In the somatogenic asthenic symptom complex (SASC) patients of group I had the DMF value 5.54 ± 0.13 ($p < 0.01$, $p_1 < 0.01$) which was 1.3 times lower in relation to that in the experimental group II - 7.28 ± 0.15 ($p_1 < 0.01$). In patients from group I with acute neurotic disorders (AND), the DMF was 6.72 ± 0.14 ($p_1 < 0.01$) and reached the maximum values in patients of this group suffering from neurotic disorders with prolonged course (NDPC) - 7.87 ± 0.24 ($p < 0.05$, $p_1 < 0.01$). Individuals from group II had the same tendency: an increase in DMF in individuals with AND to 8.44 ± 0.14 and in the case of NDPC-up to 9.10 ± 0.25 , $p_1 < 0.01$.

Table 1 – Values of DMF in patients with periodontal tissue diseases depending on psycho-physiological disadaptation

Clinical variants of psycho-physiological disadaptation	DMF index	
	Group I (n=46)	Group II (n=42)
Reactions of psychophysiological and logical disadaptation (RPD)	4,14±0,12*	5,84±0,14
Somatogenic asthenic symptom complex	5,54±0,13*	7,28±0,15*
Acute Neurotic Disorders (AND)	6,72±0,14*	8,44±0,14*
Neurotic disorders with prolonged course (NDPC)	7,87±0,24*	9,10±0,25*
Without psychophysiological disadaptation	2,98±0,26	4,48±0,27

Notes:

1. $p < 0,01$; $p < 0,05$ – a reliable difference in values for data in inflammatory and dystrophic diseases of periodontal tissues.
2. $*p_1 < 0,01$ – a reliable difference in values for data in individuals without psycho-physiological disadaptation.

Conclusions. Thus, as a result of a thorough analysis of the obtained data, it was established that according to the criteria of the DMF index for adults, in patients with inflammatory diseases of periodontal tissues in the absence of psycho-physiological disadaptation, in the presence of RPD and SASC, the DMF value corresponded to a low intensity level, and in the case of AND and NDPC to a medium level of caries intensity. At the same time, in individuals with inflammatory-dystrophic lesions of periodontal tissues, low DMF levels were observed in subjects with RPD and without RPD, whereas in the case of SASC, AND, NDPC, the index value corresponded to the medium intensity of caries.

Prospects for further research. Studying the relationship between dental diseases and psycho-physiological disadaptation reactions may contribute not only to further scientific substantiation of the typical characteristics of the individual variety of morphofunctional and psychophysiological indices of the body, but also to the level of its resistance to the lesion to the hard tissues of the teeth and periodontal diseases.

References

1. Chereda, V. V. (2014). Genderni individualno-psihologichni karakteristiki osib molodogo viku zalezno vid stomatologichnogo statusu [Gender-related individual and psychological characteristics of young adults depending on their oral status]. Aktualni

problemy suchasnoi medytsyny: Visnyk ukrainskoi medychnoi stomatolohichnoi akademii – Actual problems of modern medicine: Ukrainian medical stomatological academy herald, 14 (2 (46), 114-116 [in Ukrainian].

2. Petrushanko, T. O., Ostrovska, L. Y., & Purdenko, T. Y. (2009). Dynamika zmin karioznoho protsesu u vzaiemozviazku z vehetatyvnym ta neiropsykhologichnym stanom u vahitnykh [The analysis of interrelations between the state of vegetative nervous system and CFE index at women at different trimester of pregnancy]. Ukrainian dental almanac, (3), 6-8 [in Ukrainian].

3. Pavlenko, O.V., & Maystruk, P.O. (2013). Analiz poshyrenosti kariiesu ta uskladnenoho kariiesu v meshkantsiv mista Kyieva [Caries and complicated caries spreading analysis among kiev city citizens]. Sovremennaia stomatolohyia – Modern Dentistry, (5), 16-18 [in Ukrainian].

4. Duda, K. M. (2013). Stan tverdih tkanin zubiv u ditey doshkilnogo viku z riznimi rivnyami trivozhnosti [Condition of hard tissue of teeth in preschool children with different types of anxiety]. Svit medytsyny ta biolohii – World of medicine and biology, 9 (2-2 (38)), 120-121 [in Ukrainian].

5. Petrushanko, T.O., & Havrysh N.V. (2009). Zv'iazok stomatolohichnoi zakhvoriuvanosti likariv z yikh psykholohichnym statusom [Connection of stomatological morbidity of doctors with their psychological status]. Sovremennaia stomatolohyia – Modern Dentistry, (1), 17-22 [in Ukrainian].

6. Gontar, E.A., & Gavrilov, A.E. (2008). Izuchenie vlijanija psichosomaticeskogo statusa na intensivnost' kariiesa zubov [Study of influence of psychosomatic status on intensity of tooth decay]. Visnyk stomatologiy, (1), 25 [in Russian].