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ETIOLOGICAL ASPECTS OF THE PRIMARY HEADACHE PREVALENCE: ON THE EXAMPLE OF PSMU (PACIFIC STATE MEDICAL UNIVERSITY) STUDENTS

Research article

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Abstract

The article is devoted to the analysis of the spread, identification and evaluation with the help of a questionnaire, created in an online Google Form, for primary headaches (tension headaches and migraines) among medical students of PSMU (Pacific State Medical University) both of the 1st and subsequent years, up to the 6th. This has made it possible to identify multidirectional indicators of detection between the form of headaches and the year of studying. The analysis of the survey made it possible to identify the primary psychosocial factors affecting the development of tension headaches and migraines, which in 70% of cases is associated with nervous overstrain, in 51.4% of cases with anxiety and in 18.6% with dissatisfaction with studies, to analyze the causal occurrence mechanisms for such aches and consider their impact on the students' daily life quality.

Keywords: headaches, primary headaches, tension headache, migraine, medical students.

ЭТИОЛОГИЧЕСКИЕ АСПЕКТЫ РАСПРОСТРАНЁННОСТИ ПЕРВИЧНОЙ ГОЛОВНОЙ БОЛИ: НА ПРИМЕРЕ СТУДЕНТОВ ТГМУ (ТИХООКЕАНСКОГО ГОСУДАРСТВЕННОГО МЕДИЦИНСКОГО УНИВЕРСИТЕТА)

Научная статья

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Аннотация

Статья посвящена анализу распространения, выявлению и оценке с помощью анкеты, созданной в онлайн-форме Google, первичных головных болей (головные боли напряжения и мигрени) среди студентов-медиков ТГМУ (Тихоокеанский государственный медицинский университет) как 1-го, так и последующих курсов, вплоть до 6-го. Это позволило выявить разнонаправленные показатели выявления между формой головных болей и годом обучения. Анализ опроса позволил выявить первичные психосоциальные факторы, влияющие на развитие головных болей напряжения и мигреней, которые в 70% случаев связаны с нервным перенапряжением, в 51,4% случаев с тревогой и в 18,6% с неудовлетворенностью учёбой, проанализировать причинно-следственные механизмы возникновения таких болей и рассмотреть их влияние на качество повседневной жизни студентов.

Ключевые слова: головные боли, первичные головные боли, головная боль напряжения, мигрень, студенты-медики.

Introduction

Among the pain sensations of various localization, headache is far from the last place – a feeling of pain in the area of the cerebral and facial part of the head that occurs in various pathological conditions of the body. In the practice of pain treatment, therapists and neurologists often meet with headache syndrome (HS).

According to statistics, almost 90% of humanity experience headaches, noting that every fifth person has a decrease in working capacity against this background [1], [2]. At the same time, working capacity, quality of life and the learning process decrease, which is especially important for medical university students [3]. Epidemiological studies of primary headaches in students in various countries have shown a high prevalence of headaches (migraines – from 11% to 40%; tension headaches (TH) – from 5.6 to 40.8%) [4].

The purpose of the study: to determine the prevalence and main causes of primary headaches among medical students of PSMU.

Materials and methods

The present study included an anonymous on-line survey, created in Google Form, for students of the Pacific State Medical University enrolled in higher education programs from 1st to 6th years (Table 1).

The survey was conducted using a test questionnaire developed by us, which includes 16 questions.

Table 1 - Questionnaire

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N i/t	Question	Variant of answer
1	What course are you a student of	1 / 2 / 3 / 4 / 5 / 6
2	Your gender	Male / Female
3	How often do you have a headache	1 time per month / Up to 7 times a month / Up to 15 times a month / More than 15 times a month
4	The duration of your headache	From 30 min. to 7 days / From 4 hours to 72 hours
5	Do your relatives have headaches	Yes / No
6	How do you stop a headache	Medically / Non-medicated
7	Psychological stress causes (increases) headache	Yes / No
8	Do you have harbingers of a headache	Yes / No
9	Concomitant headache symptoms	<ul style="list-style-type: none"> • Nausea • Vomiting • Photophobia • Sounds phobia • Muscle tension of the neck, shoulder or back of the head • There is nothing like that
10	Localization of headache	One-sided / Two-sided by the type of "hoop"
11	The nature of the headache	Pulsating / Compressive
12	Physical activity led to	Strengthening HS / Lightening HS / Did not affect HS
13	The effect of headache on daily activities	Affects / Does not affect
14	A headache attack occurs after	<ul style="list-style-type: none"> • Overwork • Lack of sleep • Nervous overstrain • Physical overstrain • Consumption of certain foods • I do not explain in any way, because I do not know the reasons • Other
15	Does the training load affect the frequency of headaches	Yes / No
16	Did the frequency and intensity of headaches increase during distance learning	Yes / No

The study included questionnaires of 70 students, among whom the proportion of 1st-year students was 10% (n = 7), 2nd-year students – 14.3% (n = 10), 3rd-year students – 12.9% (n = 9), 4th-year students – 27.1% (n = 19), 5th-year students – 27.1% (n = 19) and 6th-year students – 8.6% (N = 6) (Fig. 1).

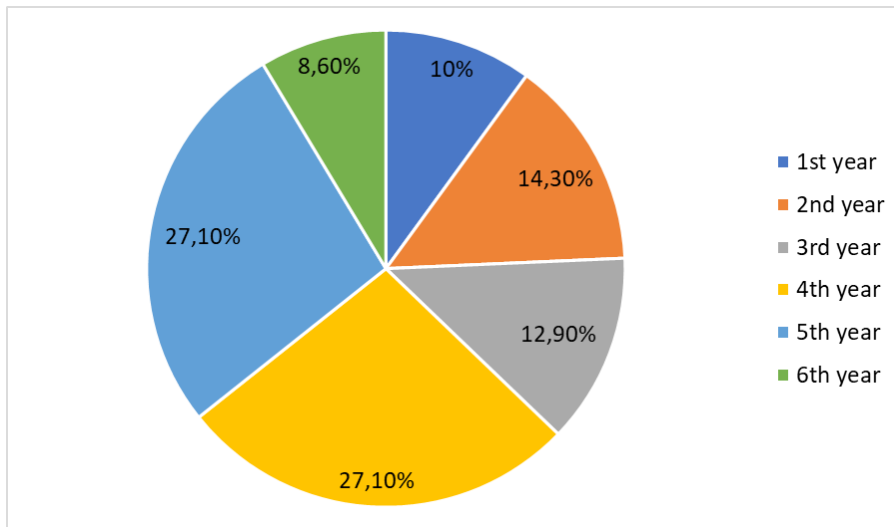


Figure 1 - Participants of online survey-questionnaires depending on the year of studying
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The number of students participating in the survey was not unidirectional by gender and was 82.9% among girls (n = 58) and 17.1% (n = 12) among boys (Fig. 2).

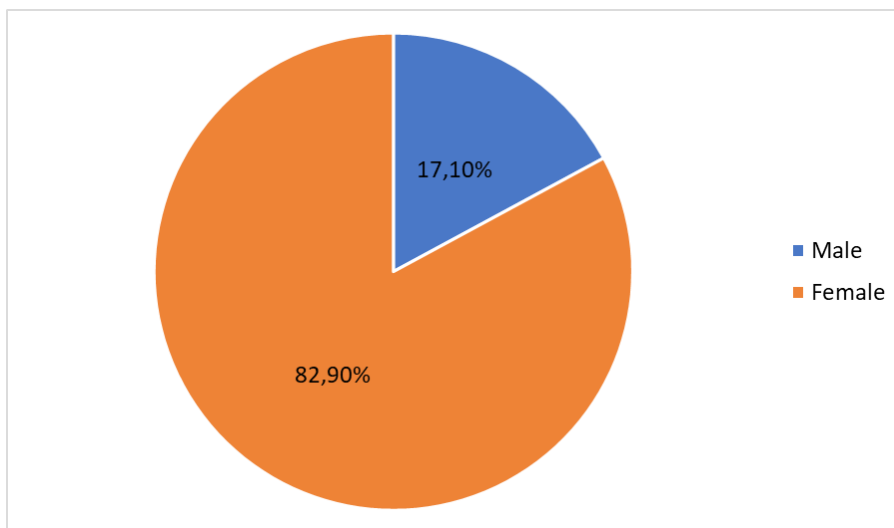


Figure 2 - The ratio of medical students who took part in the survey by gender
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Statistical data processing was carried out in the StatTech v. 1.2.0 program (developed by «Stattech LLC», Russia), as well as in the Statistica 12.0 software package (USA).

Results and discussions

Analysis of the survey data revealed that tension headaches (TH) are quite common among PSMU students both in the 1st and subsequent years, up to the 6th (67.1%). Migraines among the respondents were observed in 14.3% of students, with a predominance in the 1st and 6th years. Mixed primary headaches (combination of migraine with TH) were observed in 18.6% of respondents, with unidirectional spread from 1st to 6th year (Table 2).

Table 2 - Prevalence of primary headaches in students
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Prevalence among PSMU students	Primary headaches (GB)		
	Tension Headaches (TH)	Migraines	Mixed primary headaches
1st year	+++	+++	+
2nd year	+++	+	+

Prevalence among PSMU students	Primary headaches (GB)		
	Tension Headaches (TH)	Migraines	Mixed primary headaches
3rd year	+++	+	+
4th year	+++	+	+
5th year	+++	+	+
6th year	+++	+++	+
Result, %	67.1	14.3	18.6

Research results

The analysis of the survey data made it possible to determine the primary psychosocial factors affecting the development of tension headaches and migraines in students. At the same time, 81.4% of respondents identified overwork and inadequate sleep or lack thereof among the main causes (n = 57), in 70% of cases the main cause is nervous overstrain (n = 49), in 51.4% of cases anxiety (n = 36), in 18.6% dissatisfaction with studies was the main cause of migraine (n = 13), 2.9% noted the influence of weather and meteosensitivity (n = 2) and 12.9% of respondents could not explain the cause of their headaches (n = 9) (Fig. 3).

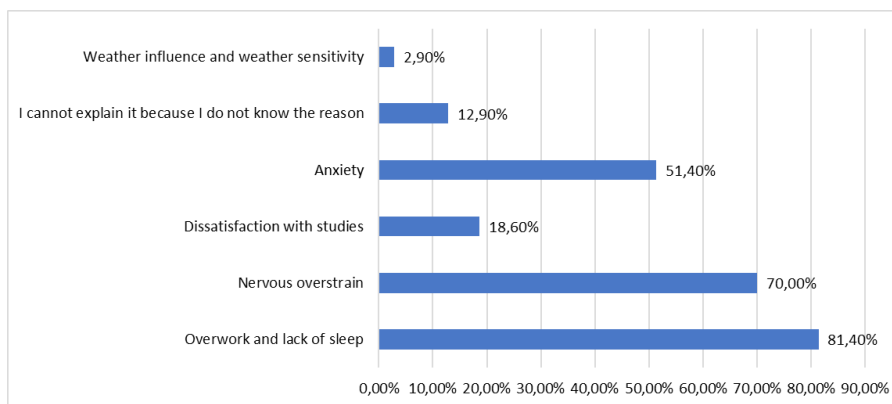


Figure 3 - Psychosocial factors influencing the development of tension headaches and migraines in medical students of PSMU
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Results

The data obtained confirm the fact that the prevalence of primary headaches among students of PSMU is quite high. First of all, this is due to the influence of the main psycho-emotional factors: overwork, lack of sleep, stress, maximum psycho-emotional and intellectual loads, especially during the period of taking tests and exams. Of particular importance is the activation of the trigemin-vascular system and the "triggering" of a migraine attack by trigger factors, which contributes to an increase in the sensitivity (sensitization) of trigemin-vascular fibers, as well as an increase in the excitability of the cerebral cortex. This corresponds to the neurogenic concept, where the leading role in the development of migraine belongs to the dysfunction of the central, peripheral and autonomic links of the nervous system.

The data obtained by us correspond to the literature data and are of a medical and social nature, since they directly affect the student's academic performance and performance during the study period.

The "muscle factor" and emotional stress are the main provocateurs of HS, causing and increasing the sensitivity and soreness of the muscles of the head and neck, which requires preventive measures aimed at rational provision of work and rest [5]. Among which compliance is highly important:

1. Sleep and wakefulness, because full sleep at night and short-term daytime sleep, contribute to the effective assimilation of educational material and ensure the process of transferring information from RAM to long-term memory;
2. The organization of a complete and balanced protein, vitamins and vegetable fats, at least 4-5 times a day;
3. Alternating the load with the optimal form of its distribution every 1.5 hours of classes, perform simple physical exercises, because prolonged sedentary mental work disrupts lymph circulation and outflow, which contributes to the formation of insufficiency in these body systems in the future;
4. Stay more outdoors, contributing to the saturation of the body with oxygen.

Conclusion

Headaches are one of the most common complaints among students of PSMU of different years, among which tension headaches (TH) are the most widespread, which is due to the influence of such primary psychoemotional factors as fatigue, lack of sleep, stress, maximum psychoemotional and intellectual loads during the adaptation period for first-year students and passing tests and exams for all students. In this regard, students were offered various preventive measures to ensure the organization of a rational work and rest regime.

Конфликт интересов

Не указан.

Рецензия

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Conflict of Interest

None declared.

Review

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