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INFLUENCE OF GEOMAGNETIC ACTIVITY AND ATMOSPHERIC PRESSURE ON THE QUALITY OF SLEEP OF MEDICAL STUDENTS

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Relevance. In numerous countries, the problem of sleep deprivation - insomnia - becomes more and more acute each year. This coincides with the increased risk of pathology of the central nervous and cardiovascular systems. Sleep disorders significantly reduce the quality of life, negatively affect mental and physical performance, contribute to the reduction of cognitive motivation in students and teachers, which leads to the emergence of emotional burnout syndrome.

Aim of the study. Identification of the influence of geomagnetic activity and atmospheric pressure on the degree of meteorological dependence among young people, who are affected by these factors.

Materials and techniques. In the course of the study, we conducted a survey among 84 students aged 17 to 21 years. The survey was conducted on the eve and on days 1 and 2 of meteorological changes. The questionnaires included the following questions: presence of anxiety or fear while falling asleep, inability to fall asleep for 30 minutes, night awaking should with headache, nightmare, sleepwalk, bruxism, night sweat, early awakening time, feeling tired when waking up. Assessment of cardiovascular status was performed according to indicators of systemic blood pressure, and also a heart rate. Atmospheric pressure and geomagnetic activity data were obtained from the official website of the Ukrainian Hydrometeorological Center https://meteo.gov.ua.

Results. The most dramatic changes are observed in inability to fall asleep for 30 minutes. The number of people almost doubled on the day 2 compared whith the day on the eve. As well as the presens of night awaking. On the contrary, the difficulty of falling asleep after them stayed nearly constant. Another fact worth nothing is a number of people that felt headache after nighttime awakenings along with bruxizm which increased enormously in the period of weather changes. On the flip side,

sleepwalk and rhythmic movements during sleep was not a thing at all among students. The comparison between the day on the eve and the second day of meteorological changes in terms of cardiovascular indications showed that the systolic blood pressure raised on average at 4 mm Hg and 3 mm Hg diastolic in firs group (not wether sensitive), 9 mm Hg both systolic and diastolic in second group (slightly wether sensitive), and 23 and 20 mm Hg respectively in third group (wether sensitive). Heart rate varied 2 bpm in first, 10 bpm in second and 14 bpm in third group.

Conclusions. The development of insomnia in student youth is caused not only by disorders of work and rest, but also depends on the influence of changes in atmospheric pressure and geomagnetic activity, as evidenced by the development of insomnia depending on the degree of weather sensitivity. Thus, it is impossible to exclude meteorological dependence, but to reduce the impact on the human body of the weather conditions is real, which will certainly lead to normalization of the quality and nature of sleep.