

## Factors Influencing the Threshold of Pain and Tactile Sensitivity in Medical Students

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**ABSTRACT:** Pain is a structured complex of physiological reactions of the body, its thoughts, images, feelings experienced during pain by a person. The threshold of pain sensitivity is inversely proportional to the overall life dynamics of a person. A bored, sad person experiences pain much harder than a cheerful, enthusiastic person.

**KEYWORD:** nociception, pain threshold, system, sensitivity, organism, students, autonomic disorders, tactile and pain sensitivity.

The ability to nociception is already endowed with the simplest animals, and according to some sources, even plants. The antinociceptive system is a much later acquisition of evolution. In humans, the dynamic balance of activity of the nociceptive and antinociceptive systems is manifested in changes in pain sensitivity (A. M. Vasilenko, 2003).

Pain is a complex set of physiological reactions of the body, as well as thoughts, images, and feelings experienced during pain by a person. His internal dialogue, often reflecting feelings of helplessness, hopelessness, loss of control, ideas, imagination, motivation, expectations that result in pain. Mental maladjustment, violation of interpersonal relationships can become a source of self-induced pain. In turn, pain syndrome is a common cause of adaptation disorders, mental disorders. The threshold of pain sensitivity is inversely proportional to the overall life dynamics of a person. A bored, sad person experiences pain much harder than a happy, cheerful, enthusiastic person.

**The aim of the work** is to assess the influence of various factors on the threshold of pain and tactile sensitivity in students.

90 students of the Samarkand State Medical University were examined.

The main method of research was esthesiometry – a method of objectification of pain sensations using the device "Esthesiometer".

The level of psychological distress of the subjects was assessed following the example of the expert from General Health Questionnaire, D. Yoldberg, P. Williams, 1988, the level of somatic complaints – Giesener Beschwerdebogen, E. Bruchler, J. Schulz, and others - were evaluated. Sner, 1967.

The influence of the action on the pain and tactile threshold of the following factors was evaluated: cold, heat, emotional, intellectual load, physical load, musical impact, suggestive impact.

The results of the assessment of the students' condition indicated that their level of psychological distress was within the normal range.

Complaints related to the feeling of "social dysfunction" in students amounted to  $1.27 \pm 0.17$  points (with a norm of  $1.05 \pm 0.16$  points,  $p > 0.05$ ), complaints related to the feeling of "depression" amounted to  $1.12 \pm 0.19$  points (with a norm of  $1.01 \pm 0.15$  points,  $p > 0.05$ ), complaints about "somatic symptoms" were  $2.07 \pm 0.21$  points (normal  $1.84 \pm 0.18$  points,  $p > 0.05$ ), complaints related to anxiety and insomnia were  $1.57 \pm 0.23$  points (normal  $1.25 \pm 0.20$  points,  $p > 0.05$ ). The integral indicator of psychological distress among students was the severity of the psychosomatic component of complaints among students, a normal subjective level of complaints concerning general well-being, vegetative disorders, and disorders of internal organs. The number of complaints on the "Pain (rheumatic) factor" scale was  $4.51 \pm 1.11$  points with a norm of 4.7 points, on the "Exhaustion" (nervous) scale –  $5.52 \pm 0.93$  points with a norm of 5.5 points; on the "Heart factor" scale –  $2.13 \pm 0.84$  points with a norm of 3.1 points; on the "Heart factor" scale –  $2.13 \pm 0.84$  points with a norm of Gastric factor – was  $2.34 \pm 0.82$  points with a norm of 2 points.

The total intensity of complaints ("Pressure of complaints") among students, i.e. the general subjective perception of the severity of existing violations, was  $14.30 \pm 0.82$  points with a norm of  $14.53 \pm 0.73$  points, which indicates the absence of significant differences,  $p > 0.05$ .

Thus, the examined individuals were a relatively healthy group, which is expected to reveal a normal initial level of pain and tactile sensitivity.

In students in a state of relative rest, the threshold of pain sensitivity according to esthesiometry was  $0.73 \pm 0.08$  mv, the threshold of tactile sensitivity in healthy individuals.

As a cold factor, we used immersion of the forearm in cold water for 5 minutes; as an emotional positive factor, students were read funny stories for 5 minutes; as a pharmacological factor, we used taking a cup of strong coffee without sugar; as a suggestive (suggestive) factor, we used a text prepared by a psychotherapist, when listening to which the subjects should have had the following questions: a feeling of freezing, numbness; as an intellectual factor, simple mathematical tasks were used for 5 minutes. As can be seen from the diagram, the strongest effect—a decrease in tactile and pain sensitivity (an increase in their thresholds) - was observed when using a suggestive (suggestive) factor; a less pronounced effect was observed with pharmacological and emotional, positively colored exposure. It is important to note that the solution of intellectual tasks in conditions of limited time, accompanied by negative emotions – annoyance, anxiety, contributed to an increase in tactile and pain sensitivity (lowering their thresholds).

Considerable interest was aroused by the influence of the musical factor on tactile and pain sensitivity in students.

The greatest effect – a decrease in pain and tactile sensitivity among students—was provided by original works (sessions of healing music by Yu. Ryzhova), as well as classical music that has an analgesic effect. We used to listen to works by P. Tchaikovsky, W. Mozart, and L. Beethoven for three minutes. The positive effect of using heavy rock (AC/DC) for listening is noteworthy, which was more pronounced among male students who are fond of this type of music use of musical resonance effects (R. Hubner), based on taking into account biorhythms, motor processes in various organs and systems, also caused a moderate decrease in tactile and

pain sensitivity in students. This effect can be significantly enhanced by using disks that take into account the characteristics of the psychoemotional state of the subjects. In this study, we used only one universal disc for tonic treatment for three minutes.

Thus, the influence of various factors on the threshold of pain and tactile sensitivity in students was revealed, and individual factors were identified that allow, if necessary, to reduce pain without the influence of pharmacological drugs.

## References:

1. Bol': rukovodstvo dlya studentov i vrachei: uchebnoe posobie [Pain: a guide for students and doctors]. acad. RAMS HN.HN.Yakhno. – , Moscow: MED press-inform, 2010, 304p..
2. Goldberg, D. A user,s to the General Health Questionnaire /D.goldberg, P.Williams NFER – HELSON, 1988r.
3. Ababkov V. A., Babin S. M., Isurina G. L., Kaidanovskaya E. D. Note of the Gissensky questionnaire of somatic complaints in the clinic of borderline neuropsychiatric and somatic disorders. Methodical manual-St. Petersburg, 1993-25s
4. Arinchina N. G., Katko E. V., Pushkarev A. L., Piliptsevich A. N. Assessment of pain syndrome in medical and social expertise and rehabilitation. Methodical recommendations, Minsk, 2001. - 18s.
5. Arinchina N. G., Katko E. V., Osipova A.V. Metodika otsenki cefalgicheskogo sindroma v praktike meditsinskoy reabilitatsii i medico-social'noi ekspertizi bol'nykh s arterialnoi gipertensii [Methodology for assessing the cephalgic syndrome in the practice of medical rehabilitation and medical and social expertise of patients with arterial hypertension]. Instructions for use, Minsk, 2004. - 27c
6. Sarkisova V., Xegay R. CAUSES, DIAGNOSIS, CONSERVATIVE AND OPERATIVE TREATMENT OF UTERINE MYOMA //Science and Innovation. – 2022. – Т. 1. – №. 8. – С. 198-203
7. ABOUT THE CAUSES OF ENDOMETRIAL HYPERPLASIA AND FORMS OF ENDOMETRIAL HYPERPLASIA, SV Vladimirovna - ResearchJet Journal of Analysis and Inventions, 2022
8. Саркисова В., Джуманов Б., Исроилова Г. Анализ репродуктивного и соматического здоровья женщин, госпитализированных по поводу гиперплазии эндометрия и маточных кровотечений //Журнал вестник врача. – 2014. – Т. 1. – №. 01. – С. 169-170
9. Саркисова В., Абдурахманова К. Роль гормональных препаратов в терапии гиперпластических процессов эндометрия и в частности при миоме матки //Журнал вестник врача. – 2014. – Т. 1. – №. 01. – С. 167-168
10. Sarkisova V. ASPECTS OF THE STATE OF THE AUTONOMIC NERVOUS SYSTEM IN HYPOXIA //Science and innovation. – 2022. – Т. 1. – №. D8. – С. 977-982.
11. Саркисова В., & Абдурахманова, К. (2014). Астено - вегетативные нарушения, оценка качества жизни у женщин климактерического возраста с гиперпластическими процессами в матке. Журнал вестник врача, 1(01), 163–166.
12. [https://inlibrary.uz/index.php/doctors\\_herald/article/view/4565](https://inlibrary.uz/index.php/doctors_herald/article/view/4565)
13. Sarkisova V. et al. ESSENTIAL ROLE OF BRADIKININ IN THE COURSE OF BASIC LIFE PROCESSES //Science and innovation. – 2022. – Т. 1. – №. D8. – С. 576-581.
14. Карабаев Ж., Карабаев А.Г. Ўткир панкреатитни даволашда автоном нерв тизими реактивлигида динамик ўзгаришлар //Gospodarka i Innowacje. – 2022. – Т. 28. – С. 76-80.

15. Нуримов П.Б., Карабаев А.Г. Взаимоотношение реактивности гипоталамо–гипофизарно-нейросекреторной системы, автономной нервной системы, прооксидантной и антоксидантной системы у интактных крыс в условиях аридной зоны //Central Asian Journal of Medical and Natural Science. – 2022. – Т. 3. – №. 5. – С. 234-238.
16. Karabayev Aminjon Gadaevich, Karabayeva Marjona Aminjonovna, Xudoyarova Dildora Raximovna. Study of vegetative reactivity of pregnant women with normoblastic normochromic hemato poiesis. /Polish science journal. -2021.-№8.-С.36-55.
17. Khakimova, M. S., & Allayarov, A. T. (2022). OPTIMIZATION OF METHODS OF TREATMENT OF ACCOMMODATION SPASM IN CHILDREN. In *НАУЧНЫЕ ИССЛЕДОВАНИЯ 2022* (pp. 309-311).
18. Khakimova, M. S., & Allayarov, A. T. (2022). DIAGNOSIS AND TREATMENT OF ACCOMMODATION SPAZM IN CHILDREN. In *НАУКА, ОБЩЕСТВО, ОБРАЗОВАНИЕ В УСЛОВИЯХ ЦИФРОВИЗАЦИИ И ГЛОБАЛЬНЫХ ИЗМЕНЕНИЙ* (pp. 163-165).
19. Алляров, А. Т. (2020). ГИПОТЕНЗИВНЫЙ ЭФФЕКТ И ПЕРЕНОСИМОСТЬ ПРЕПАРАТА ТАФЛОПРЕСС У ПАЦИЕНТОВ С ОТКРЫТОУГОЛЬНОЙ ГЛАУКОМОЙ. In *НАУКА И ИННОВАЦИИ В XXI ВЕКЕ: АКТУАЛЬНЫЕ ВОПРОСЫ, ОТКРЫТИЯ И ДОСТИЖЕНИЯ* (pp. 228-230).