

Why stress may increase the number of headaches and or magnify the pain

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Stress and Headaches s Stress is a special functional which triggers an organism's response to extreme influence, either physical or psychological. It can be the result both of internal and of external factors: negative information coming from the environment, disturbing thoughts, anxiety and psychological traumas. There's nothing new about the fact that stress is a source of numerous disorders and diseases, it is likely to cause or magnify them. Physiological processes taking place in the human organism in stressful situations produce considerable impact on functioning of different systems in our organism.

In particular, this concerns relations between stress and headaches, because headache is often sparked or magnified by stress. Relations between stress and headaches have been widely researched in various target groups and samples. Coming across certain challenges and troubles or facing unpleasant information, a person is likely to feel inner tension and get ready to stand up against and react to difficulties. The pulse accelerates, muscles are tense, and the blood pressure gets higher. Even if any subsequent physical actions aren't eventually performed, those physiological changes, the vegetative reflection of the suppressed emotions, persist in the human organism.

Moreover, stress reduces the content of endorphins and serotonin, which are in charge of the sense of happiness and joy. According to the research of Nash & Thebarg (2006), to produce stress response, the organism activates the systems aimed at protection of normal functioning, e. g. " hypothalamic-pituitary-adrenal axis". Thereby, stress produces the direct effect on pain

production.

The type of headache mostly subjected to the impact of stress is the tension-type headache, that is, headache caused by excessive muscle tensions in the organism (neurological in nature), which usually result in overload. The set of physiological effects of stress includes related to muscle tonus and tension determines the impact produced on development and magnification of headache. Tension-type headache descends from durable muscular contraction in the skull, face, neck and pectoral arch or - in other words - muscular stress. The impact of contractions puts blood vessels under pressure, reducing blood circulation and thus oxygen supplies.

For those suffering from vegetative disorders like vegetative-vascular dystonia, stress might worsen headaches and magnify pain, because people's typical reactions to stressful situations include those deploying muscle tension like grinding of teeth and stiffening one's shoulders. Through the mechanism described above, tension transforms and turns into even greater pain. Moreover, the recent findings of Geva et al. (2014) unfold the way stress can magnify headache on the example of general studies: stress is likely to reduce humans' capability to modulate and reduce pain sensations; therefore, worsening of headaches in stressful conditions is very likely. Therefore, it is easy to trace interconnection between stress, tension and headache and the mechanism of levers affecting magnitude of pain. In addition, in people suffering from hypotonia, rises in blood pressure - as a part of protective mechanism of stress response - may lead to distension of blood vessels and hence

At the same time, it is necessary to mention the reverse connection between

headache and stress: whereas stress-related physiological processes induce headache, the latter, in its turn, might cause even more stress. However, the source is to be sought in the stress triggers.

References

Geva N., Pruessner J., Defrin R. (2014). Acute psychosocial stress reduces pain modulation capabilities in healthy men. *Pain*, 155(11): 2418-2425.

Nash, J. M., & Thebarger, R. W. (2006). Understanding Psychological Stress, Its Biological Processes, and Impact on Primary Headache. *Headache: The Journal Of Head & Face Pain*, 46(9), 1377-1386.