

ABSTRACT

Work stress and coping strategies in relation to the state of the human immune system

Research in recent decades has shown that not only purely biological factors have an effect on the immune system and the possible development of disease. It is becoming increasingly clear that psychological factors must also be taken into account.

The topic of our research is to try to clarify, at least partly, how coping with work and life worries (or mental stress) affects a person's health, mainly the activity of immune system, especially in relation to the possible progression of cancer.

In the presented research we focus on three basic research areas, being the possible connection between the experienced number of demanding life and work events and the increased chance for the development of oncological disease. Furthermore, we look to identifying the possible difference in the use of strategies for overcoming stress in sick people and those who do not get sick. In the last part of the research, the possible connection between the experience of cancer and the perceived positive benefits of this challenging life experience.

We try to answer these (first two) research areas by comparing the two researched groups: groups of people without cancer and groups of people after cancer treatment and then a comparison with a standardization group for one of the methods. From the methodological point of view, we mainly use a combination of several questionnaire methods and an interview. For the last research question, we only work with a group after cancer treatment.

Research suggests that there may be a link between experiencing a number of challenging (especially non-work) life events and an increased likelihood of developing cancer. The resulting p-value ($p < 0.001$ for the number of events in one year and $p = 0.003$ for three years, respectively) was statistically lower than the determined confidence level $p = 0.05$.

In case of the possible effect of demanding work events, this connection was not statistically significant. The resulting p-value ($p = 0.963$ in the case of one-year work events and $p = 0.424$ in the case of three years, respectively) was higher than the specified confidence level ($p = 0.05$).

Examining another area, it was found that the group of people who got cancer did not differ from the control group in the following strategies for overcoming mental stress: a *positive outlook* and a *cognitive restructuring*, a *negative outlook* and *self-blame* (self-criticism), *minimizing threats* and *avoiding the problem*, *focusing on the problem* and *actively engaging in problem solving*, *regular exercise* and *regular rest*, *perceived social support*, *using social support*, *expressing emotions and feelings*, and *social withdrawal*. On the contrary, when comparing these two groups, a difference was found in the strategies for overcoming mental stress: *wishful thinking*, which is lower in the control group, and so-called *cognitive hardiness* (resilience), which is higher in the control group. Furthermore, when comparing the group of people who got cancer with the standardization group of the Stress Profile questionnaire, it was found that the groups do not differ in the following strategies for overcoming mental stress: *positive outlook*, *focusing on the problem* and *perceived social support*. On the contrary, a difference was found in the strategies: *negative outlook*, which is higher in patients and the *minimizing threats*, and in the so-called *cognitive hardiness* (resilience), which is lower in patients. Furthermore, the standardization group achieved higher results in the strategies of *regular exercise* and *regular rest*, but we attribute this to different characteristics of groups.

In the last research part devoted to the perceived benefit of the experience of cancer, we come to relatively clear conclusions, which show that most people are able (in addition to the negative experience) also to describe what the event brought them and what positives they perceive in life now. In addition, 28% quite surprisingly stated that the overall positive benefit of the event was that they would certainly not want to take back the disease from their lives.

From our point of view, the presented conclusions form an interesting basis for the next and more intensive research in the area of the impact of challenging life events on our health, the strategy of overcoming them, but also the perceived benefits of challenging life experiences.

Key words: mental stress, work mental stress, overcoming (coping) strategies, health, oncological disease, immune system, psychoneuroimmunology, post-traumatic growth.