

Chronic stress and physical activity

What is chronic stress ?

Stress is characterized by a state of preparedness observed at physiological, psychological and behavioural levels. Stress can be therefore considered as the body's alarm and is a survival reaction (1). Indeed, in order to be able to deal with potential threats, the body releases hormones that help mobilize energy and enter in a state of stress (1). The reactions vary among individuals but the main symptoms involve a physiological response (increase in heart rate, hyperventilation or high blood pressure), a cognitive response (reduction of attention, perception or forgetfulness), an emotional response (being irritated or nervous) and behavioural reactions (harshness, impulsivity or making mistakes) (2, 3). When stress is finally relieved, balance is restored to go back to the rest state. Chronic stress occurs when the previously described stress symptoms become a continuing problem, the body is constantly in a state of stress and fails to achieve resting state. Chronic stress mainly develops when everyday stressors are ignored or poorly managed but also when a traumatic event occurs (4).

What are the effects of physical activity on chronic stress ?

Physical activity has a positive effect on physiological, cognitive and emotional responses induced by chronic stress and may therefore prevent, treat or manage stress-related conditions such as cardiovascular diseases, diabetes or depression (anhedonia, culpability, emotional instability, isolation, pessimism) (1,3). Indeed, regular physical activity may limit the increase in heart rate and blood pressure during stressful events by lowering their thresholds at the resting state. Consequently, it contributes to reducing overall stress effects on the body (1). In addition, aerobic and resistance exercises improve the selective attention and increase the brain's ability to solve conflicts (9) which are known to be challenged in the case of stressful events. Physical activity enhances the mood and increases positivity and psychological well-being (5,6) which can be maintained over time and provides benefits during stressful situations. During training sessions, realistic expectations and motivating factors can moreover positively affect well-being and subjective health regardless of the type of exercise and its duration or intensity (1,7,8).

What are the risks?

Engaging in physical activity always bears the potential risk of musculoskeletal injuries. Moreover, physical activity that is perceived as imposed would not result in the expected well-being effects, especially in patients with chronic stress. Indeed, physical activity can also increase stress if the training is perceived negatively such as when coaches or relatives put unnecessary pressure on the participant (1). As a result, sport could become a stress factor.

Recommendations

The general physical activity recommendations also apply to patients with chronic stress. Thus, they should reduce the time spent in sedentary activities and engage in enjoyable aerobic exercises for 150 minutes per week, with no more than 2 consecutive days without training. Better results are obtained if aerobic exercise is combined with 2 sessions of strength training and one session of balance exercises per week (10). More specifically, it is recommended to practice 30-60 min of moderate-intensity aerobic exercises, 5 days per week or 20-60 minutes of vigorous exercises 3-5 days per week, or a combination of moderate and vigorous exercises. Regarding strength training, each major muscle group should be trained 2-3 days per week with 2-4 sets of 8-12 repetitions per session (with 48h resting time between sessions) at moderate or high intensity (10). Finally, physical activity must be adapted to each person and should remain pleasant.

References

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→ Full references are available on www.sport-sante.lu

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