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Research in Graubünden

Exhaustion in burnout and depression

How exhausted are people with stress disorders?

Heart rate variability (HRV) is a recognized stress indicator. The measured variable describes changes in the time interval between heartbeats. If the interval between heartbeats is sometimes shorter and sometimes longer, this shows that our body can adapt well to different circumstances. If heart rate variability is restricted, it is an indication that the body is experiencing a lot of stress. Sports scientist Wiebke Turner recently presented her research project that she started in February 2022 at the Clinica Holistica Engiadina in Susch at the conference "Graubünden forscht". Turner wants to explore whether heart rate variability provides clues to the severity of certain symptoms in individuals with burnout and depression. At the same time, she wants to investigate how exercise affects the state of exhaustion.



Heart rate variability and physical fitness are tested in the sports therapy diagnostic room. Image: Clinica Holistica Engiadina

Turner explains the steps involved in her study: "I recently submitted the project to the Zurich Cantonal Ethics Committee, which is also responsible for Graubünden. It reviews and approves research projects involving humans and their health data. In order to obtain meaningful data, I want to study up to 150 patients between the ages of 18 and 65 who are undergoing treatment for burnout and depression in Susch beginning in January 2023. The therapy lasts

six weeks. Sports therapy accounts for about twenty percent of the total treatment, which includes psychological therapy (about forty percent) and art and design therapy.

Participation in the study is, of course, always subject to the patient's consent. In a structured interview with predefined questions, we will clarify at the beginning of the therapy that there are no other psychiatric conditions. The study participants will initially answer questionnaires about their symptoms. During the first week of therapy we will measure HRV, pulse wave velocity and blood pressure of the study participants in supine and standing position. We will test cognitive abilities with reaction tests on the computer and physical fitness on the bicycle ergometer as well as with strength and balance tests. In addition, we will record the HRV of the study participants with a mobile ECG over 24 hours. To assess their subjective state of exhaustion on a daily basis during their stay, study participants will download an app to their cell phones. We will also equip them with a smartwatch with accelerometers to record physical activity and rest periods. All tests will be repeated during the last week of therapy so that I can compare the data from the first and last week."

Since the project is still in its early stages, the outcome is yet open. Turner is eager to see if heart rate variability is a suitable tool to allow inference about the extent of exhaustion and to determine how much exercise is recommended during therapy.

Wiebke Turner & Daniela Heinen



Wiebke Turner. Photo: Clinica Holistica Engiadina

The Clinica Holistica Engiadina SA (CHE) in Susch / Grisons is the first specialized clinic for stress-related illnesses and burnout in Switzerland. The clinic's range of services specializes in the holistic diagnosis and treatment of stress-related illnesses. www.clinica-holistica.ch

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