

## **BACHELOR THESIS ABSTRACT**

**Name, Surname:** Tereza Bílková

**Supervisor:** Mgr. Klára Novotná, Ph.D.

**Consultant:** Mgr. Eliška Rotbartová

**Title:** Cognitive rehabilitation of people with multiple sclerosis

### **Abstract:**

This bachelor thesis focuses on the topic of cognitive rehabilitation in patients with multiple sclerosis, which takes place in a home environment using the computer program HAPPYneuron. Multiple sclerosis is classified as an autoimmune disease, during which the cells of our central nervous system are damaged.

The aim of this bachelor's thesis is to test whether cognitive rehabilitation of 16 weeks, conducted through the computer program HAPPYneuron, has a positive impact on spatial orientation, short-term memory, attention and speech in MS patients.

In the theoretical part of the bachelor thesis I describe the actual issue of multiple sclerosis, including the clinical picture and types of multiple sclerosis. I then go on to describe in more detail the most affected domains of cognitive function, their examination and the possibilities of cognitive rehabilitation. Last but not least, I describe cognitive rehabilitation using computer programs, with a more detailed description of the HAPPYneuron program.

In the practical part, three patients were first examined by a clinical neuropsychologist. Based on this, the dominant domains for cognitive training were selected using the computer program HAPPYneuron. The training schedule was set at three times a week for thirty minutes for 16 weeks. After cognitive rehabilitation, I processed the data and evaluated the effectiveness of the home therapy. All three patients showed improvement not only in the initially selected dominant domains, but also in other domains that were investigated through neuropsychological testing.

**Keywords:** Multiple sclerosis, cognitive rehabilitation, HAPPYneuron, telerehabilitation