

## **ABSTRACT**

The aim of this thesis was to assess the influence of canistherapeutic intervention on the level of fine motor skills in patients with rare diseases, namely mitochondrial encephalocardiomyopathy caused by TMEM70 gene mutation and Leigh syndrome.

Canistherapeutic intervention in these patients is based on activation of motoric functions during programme reasonably designed according to the needs of specific patients. The assistance of the dog is used to achieve this activation. The dog acts as an important motivational factor and the direct contact with it contributes to development of sensomotoric skills of these patients.

The thesis summarizes general information about rare diseases and focuses on one of the subgroups of mitochondrial disorders. It presents knowledge about the Leigh syndrome and mitochondrial encephalocardiomyopathy caused by TMEM70 gene mutation. Subsequently the thesis presents information about canistherapy and fine motor skills. The thesis further contains case reports of patients, data from research units and their evaluation.

The aim of the thesis was to find out whether patients with mitochondrial disease show improvement of quality and effectivity of selected grasp forms and thus faster and more precise execution assigned tasks focusing on object manipulations. Partial goal of this thesis was to familiarize both professionals and public with the issue of rare diseases and mitochondrial disorders and to point out the positive influence of individually designed canistherapeutic intervention.

The results of the research show that canistherapeutic intervention performed according to individually designed programme has positive influence on the quality and effectivity of the grasp and on speed and accuracy of performance in assigned tasks. The application of canistherapy leads to elimination of grasp insufficiency in object manipulation.

**Key words:** rare diseases, mitochondrial diseases, mitochondrial encephalocardiomyopathy, TMEM70, Leigh syndrome, canistherapy, fine motor skills, grasp