RIMS Grant Project 2017 - Prevalence, features and underlying causes of dysarthria in multiple sclerosis. A Systematic review.

Leonie Ruhaak, Francesca De Biagi, Fredrik Sand, Hans Ket, Joke Geytenbeek, Vincent de Groot, Kelly Van Landeghem, Selma Giling, Sofie Noë, Marta Renom Guiteras

Abstract

Dysarthria is a well-recognized symptom in multiple sclerosis (MS). The reported prevalence of dysarthria ranges between 40-55%. Dysarthria in MS is manifested in various forms (e.g. articulatory and/or breathing problems). Dysarthria seems to develop occasionally in mildly impaired MS patients and to increase in frequency and severity in advanced MS. Dysarthria can complicate successful communication and is therefore associated with a decreased quality of life (QOL).

In order to develop therapy guidelines for the treatment of dysarthria in MS, an overview of the MS specific features of dysarthria is needed. Currently, no such overview is available. The present project carries out a systematic review with the following aims:

> 1. To determine the prevalence of dysarthria in MS with a focus on:
> 1a. Whether the prevalence of dysarthria increases with increasing disease severity
> 1b. Whether the prevalence of dysarthria increases with increasing disease duration
> 2. To determine the effect of dysarthria on QoL in MS
> 3. To determine the features/characteristics and underlying causes of dysarthria in MS
> 4. To provide an overview of currently available treatments for dysarthria in MS

Method:

A systematic review using the following keywords: "multiple sclerosis", "dysarthria" and "speech "disorders" to identify all literature on dysarthria in MS. A data-extraction form containing the relevant items needed to answer will be used. The research questions will be constructed and used to systematically retrieve relevant information. Prevalence estimates will be calculated based on the retrieved information and related to disease duration and disease severity measured with the EDSS or neuropsychological tests. A qualitative description of different features/characteristics, causes, QoL related to dysarthria and available treatments with preliminary information on their effectiveness will be given.

Data processing will be coordinated at VU medical center.

The reviewed evidence will be used to develop treatment guidelines. Furthermore, we may be able to provide advice on developing interventions that need to be tested in future trials.