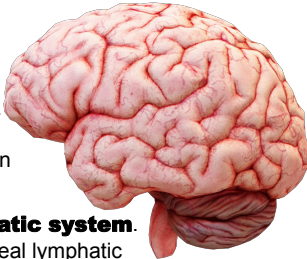


Effects of EMMETT lymphatic drainage on sleep behaviour, cognitive functions and quality of life in mild and moderate dementia

A randomized control pilot trial

INTRODUCTION

- Dementia is on the rise worldwide. Currently over 36 million people are suffering from dementia (2).
- Key contributors include **neuroinflammatory processes** and the accumulation of misfolded proteins. **Accumulations of amyloid beta and tau fibrils** disrupt communication and the supply of nutrients to brain cells, ultimately leading to irreversible neuron loss (3).
- In 2012, a group of researchers discovered the **glymphatic system**. This system is linked to the lymphatic system via meningeal lymphatic vessels and promotes the removal of metabolic substances such as amyloid beta and tau fibrils from the brain (4).



RESEARCH QUESTIONS

- To what extent does a four-week EMMETT lymphatic drainage therapy affect the **sleep behavior** of adults with mild to moderate dementia compared to an identical control group without additional treatment?
- To what extent does a four-week EMMETT lymphatic drainage therapy affect **cognitive functions** in adults with mild to moderate dementia compared to an identical control group without additional treatment?
- To what extent does a four-week EMMETT lymphatic drainage therapy affect the **quality of life** of adults with mild to moderate dementia compared to an identical control group without additional treatment?

HYPOTHESIS

The hypothesis of this study is that lymphatic drainage can enhance the body's cleansing processes. Through the connection between the lymphatic system and the brain's glymphatic system, this treatment method may potentially improve the removal of waste products from the brain. Consequently, it is hypothesized that improvements in various dementia symptoms can be achieved during the early stages of dementia. This hypothesis is supported by several research findings, which also suggest that **enhancing lymphatic function may offer potential therapeutic benefits in the treatment of dementia** (1).

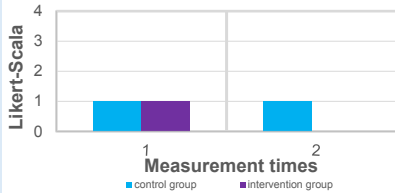
METHODS

12.02-03.03.2024		04.03 – 29.03.2024	02.-04-03.04.2024	
Acquisition of subjects - Association Luxembourg Alzheimer (ala) "Beim Goldknapp" retirement home in Luxembourg (Erpeldingen) - Check inclusion and exclusion criteria =>26 patients	Measurement time 1 - Sleep behaviour questionnaire - MMST - SF-12	Intervention 13 patients in the intervention group: 2x/week for 4 weeks: 30 min lymphatic drainage 13 patients in the control group: no additional treatment	Measurement time 2 - Sleep behavior questionnaire - MMST - SF-12	Data analysis - Quantitative study - SPSS - Descriptive statistics - Mixed ANOVA

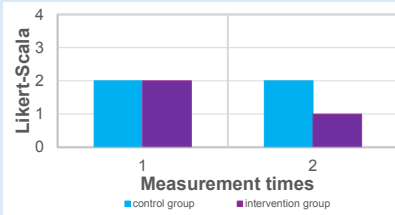
RESULTS

Sleep behavior

Falling asleep

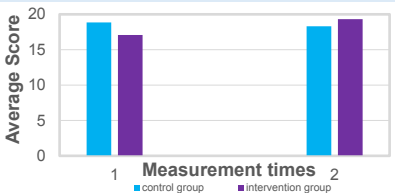


Sleeping during extended periods of time & daily performance

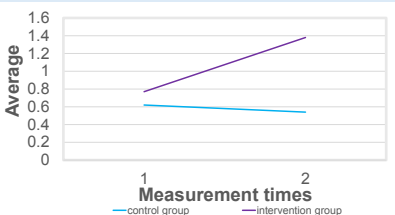


MMST

Total Score

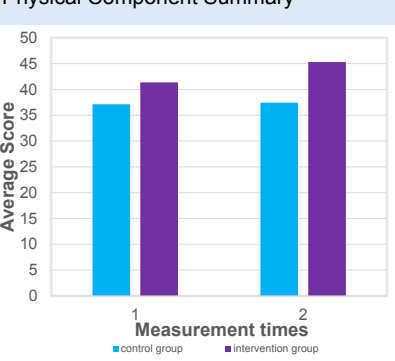


Memory ability



SF-12

Physical Component Summary



DISCUSSION

The results of this study suggest that EMMETT lymphatic drainage could be a **promising treatment method for early-stage dementia**. However, further larger, and more comprehensive studies are needed to confirm these results and to assess long-term efficacy.

