

HOW RMT CAN AFFECT MEMORY AND COGNITIVE DECLINE

What is the connection between respiration and cognition?

- Cognitive impairment is prevalent in patients with respiratory dysfunction and chronic lung disease, eg in COPD. Suggested mechanism: hypoxia. Lung disease, depression, physical inactivity, and aging, which when combined have an enhanced effect on cognitive decline.
- Evidence:
 - <http://www.jhsmr.org/index.php/jhsmr/article/view/29>
 - <https://www.ncbi.nlm.nih.gov/pubmed/24589828>
 - <https://www.ncbi.nlm.nih.gov/pubmed/25798202>
 - <https://www.ncbi.nlm.nih.gov/pubmed/28860729>

Therefore, improving respiration by RMT has the potential to slow down/attenuate/reverse cognitive decline/onset of dementia.

Evidence:

- https://www.fasebj.org/doi/10.1096/fasebj.2019.33.1_supplement.695.5
- <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4374650/>
- Other evidence of the impact of RMT on cognition:
- <https://www.ncbi.nlm.nih.gov/pubmed/?term=quackenbush+J++and+cognition>

CONCLUSION

RMT is a feasible and safe approach to delay onset of cognitive decline/dementia in elderly people, especially in those with respiratory impairment.

THE MEDICAL, SOCIAL AND ECONOMIC BURDEN OF DEMENTIA

The prevalence of dementia is a growing international healthcare concern. According to the World Health Organization, almost 40 million people worldwide currently live with dementia. These numbers are expected to double over the next 20 years. Alzheimer's disease is the most common form of dementia. Between 50% and 80% of mainly older people with dementia will develop Alzheimer's. There is currently no cure for dementia or Alzheimer's (Dodd 2015; Di Resta and Ferrari 2019).

A recent report in the Financial Times revealed that dementia leads the table of the most expensive diseases, with a global economic burden of \$ 818 billion per year. This makes dementia more expensive than heart disease or cancer. The reason for the costly nature of dementia does however not lie in direct treatment costs. Drugs that have an impact on the disease are very limited and available for a few dollars per month. The immense burden of dementia is associated with the continuous social care the affected people require. The estimated costs only cover care that is actually reimbursed or paid for, in countries that have a scheme in place covering care for dementia and other long-term diseases, ignoring the big share of care that is carried out by family members and other members of the community (Eley 2018).

As effective drugs for dementia are still beyond the horizon, disease management currently revolves around mitigation of some of the worst symptoms and lifestyle and care management to comfort patients.

Can dementia be prevented?

As there is no cure for dementia to date, the question of prevention or slowing down of disease progression has gained a lot of interest. There are several known risk factors for developing dementia, some of which can be addressed. While age, gender, genetics, and ethnicity are risk factors beyond individual control, others can be influenced. An interesting rule of thumb suggests “what is good for the heart, is good for the head”. Following this advice, smoking cessation, alcohol in moderation, a healthy lifestyle, and physical activity all contribute to reducing the risk of developing dementia, as well as of those diseases that represent risk factors: type 2 diabetes, high blood pressure, elevated cholesterol, and obesity. So, while a healthy, balanced and active lifestyle is no guarantee to not get dementia, it does reduce the risk (Risk factors and prevention).

Recently, an interesting link between the lungs, lung disease and the development of dementia has begun to emerge that sheds new light on potential preventive measures. There is also greater awareness of severe COPD as a systemic inflammatory disorder, such that the clinical deterioration seen in these patients obey too many and interactive extrapulmonary factors. Hence, preventive and therapeutic interventions in dealing with the associated morbidities, such as cognitive impairment, require a comprehensive approach.

Chronic lung disease and the onset of dementia

Over the last few years, a link has been established between a decline in pulmonary function, for example during COPD or another chronic lung disease, and cognitive decline - the first signs of possible development of dementia. This is something that therapists may have actually been aware of long before scientific publications confirmed their intuitive notion. Deborah Inman, SLP, and Martha Hardwick from Bridgesthegap.com both found that onset of cognitive decline “very often coincides with worsening of a respiratory problem”.

These findings were recently confirmed by a series of more widespread observations.