Methods: Comprehensive search of databases (Medline, Embase, Cochrane, APA PsycINFO, Web of Science, and Scopus) from 2000 to February 2023 using keywords related to TMS and dementia (PROSPERO, CRD42022326423). Here we report outcomes from randomized controlled trials (RCTs) of TMS on non-AD dementia populations.

Results: In total, 20 RCTs comprised of 660 patients, mean age 62 years (range 46-71). Diagnostic groups include stroke (n=8), Parkinson's disease (n=6), Frontotemporal dementia (n=3), Huntington's disease (n=2) and Progressive non-fluent aphasia (n=1). The most common site of stimulation was left (L) dorsolateral prefrontal cortex (DLPFC, n=13); other sites were primary motor cortex (n=2); Right (R) Broca's area, Brodmann area, Contralesional pars triangularis, R Inferior Frontal Gyrus (IFG) (all n=1); and multiple sites in 1 RCT (L and R IFG, L superior frontal gyrus, L DLPFC, L and R right anterior temporal lobe, supplementary motor area, anterior cingulate, and vertex). Studies used both low (1Hz, n=5) and high (50Hz, n=5) frequencies, or other high (5Hz, 10Hz, 20Hz) or combination low/high frequencies. Frequent duration of treatment was 10 days (n=7), range 1-40. Of 20 studies, 19 (95%) demonstrated improvement of global cognition (on MoCA, MMSE) and specific cognitive domains (learning and memory, language, executive function, problem-solving, attention, reaction time). The only RCT with no effect utilized a single session intermittent theta burst stimulation on the LDLPFC on PD patients. Adverse events in 7 studies included headaches (most common), dull skull pain, dizziness, insomnia, fatigue, anxiety, temporary decrease in hearing, and temporary decreased mental clarity.

Conclusion: There is favorable evidence that rTMS improves global and specific cognitive domains in non-AD dementia. Left DLPFC is the most common stimulation site, both low- and high-frequency are utilized, and 10 sessions is frequently used. Further studies are needed to determine optimal TMS treatments in cognitively impaired populations

FC25: Use of antidepressants in older adults in Sweden 2006-2020

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Objectives: Antidepressants are among the most prescribed medications in older adults. In this study we aimed to explore the trends in the use of antidepressants in older Swedish adults between 2006 and 2020.

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Methods: We conducted a retrospective repeated cross-sectional study, where we included all older adults (65 years and older) registered in the Swedish National Prescribed Drug Register between 2006 and 2020. We estimated the use of antidepressants in older people for each year, across the 21 Swedish regions.

Results: The Swedish population of older adults increased from 1.2 million in 2006 to 1.7 million in 2020. There was an increase in antidepressant use from 12.4% in 2006 to 13.2% in 2019 and 13.8% in 2020. We found that the use of antidepressants varied across age groups, older adults 85+ had a higher use (18.2% in 2006, 18.2% in 2019 and 19.4% in 2020) compared to those 65-74 years of age (9.6% in 2006, 11.7% in 2019 and 12.2% in 2020).

Individuals who used antidepressants were generally older (mean age = 77.7) and more often women, compared to individuals who did not use antidepressants (mean age =75.7). Moreover, individuals who used antidepressants also had a higher use of benzodiazepine compared to non-users (25.1% vs. 6.4% in 2006; 16.0% vs. 2.7% in 2019 and 15.6% vs. 2.5% in 2020), sleeping drugs (27.7% vs. 10.9% in 2006; 25.2% vs. 9.3% in 2019 and 24.6% vs. 8.9% in 2020), first generation antipsychotics (1.1% vs. 4.0% in 2006 and 0.3% vs. 1.3% in 2020) and second-generation antipsychotics (1.0% vs. 6.3% in 2006 and 0.8% vs. 6.3% in 2020).

Citalopram was the most frequently used antidepressant. However, its use declined from 2006 to 2020 and instead we observed an increase in the use of mirtazapine and sertraline. The prescription of tricyclic antidepressants (TCA), selective monoamine-A inhibitors and lithium was relative stable over time.

Overall, antidepressants were prescribed at doses close to the defined daily doses (DDD), except for TCA, mianserin, bupropion and venlafaxine which were often prescribed at lower doses.

Conclusions: We found a slight increase in antidepressant prescription in Sweden between 2006 and 2020, with older adults 85 years and older using more antidepressants compared to those 65-74 years of age. Use of antidepressants was associated with increased use of benzodiazepines, sleeping drugs (zolpidem and zopiclone), as well as first- and second-generation antipsychotics. Citalopram was the most prescribed antidepressant, but its use has declined over time.

FC26: What have staff got to do with it? Untangling complex relationships between residential aged care staff, the quality of care they provide, and the quality of life of people with dementia

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Background: Despite the integral role long term residential care staff play in the lives of residents with dementia, the mechanisms for supporting staff to bring about good quality of care (QOC) and quality of life (QOL) are poorly

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