

**Results:** We will present baseline data and preliminary results.

**Discussion:** The outcomes refer to both short-term and long-term effects consistent with therapeutic goals of care for a longer term. We hope to overcome limitations of previous study designs such as non-blinded designs and pragmatic designs in which music facilitators that were not only music therapists but occupational therapists and nurses. This study should lead to more focused recommendations for practice and further research into non-pharmacological interventions in dementia.

**Trial registration:**

The trial is registered at the International Clinical Trials Registry Platform (ICTRP) search portal in the Netherlands Trial Registration number NL7708, registration date 04-05-2019.

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## **P205: The effect of APOE e4 genotype on cognition, brain volume, glucose metabolism and amyloid deposition in AD**

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**Objective:** Many previous studies have shown that the APOE e4 genotype affects cognition, brain volume, glucose metabolism and amyloid deposition. However, these studies were conducted separately, and few studies simultaneously investigated the effects of the APOE e4 genotype on cognition, brain volume, glucose metabolism and amyloid deposition in Alzheimer disease (AD). The purpose of this study is to simultaneously investigate the association of the APOE e4 genotype with cognition, brain volume, glucose metabolism and amyloid deposition in patients with AD.

**Methods:** This is a cross-sectional study of 69 subjects with Alzheimer's disease (AD). All subjects were divided into carriers and noncarriers of the  $\epsilon$ 4 allele. Forty APOE  $\epsilon$ 4 carriers and 29 APOE  $\epsilon$ 4 non-carriers underwent neuropsychological, structural magnetic resonance imaging, <sup>18</sup>F-fluorodeoxyglucose positron emission tomography scans (<sup>18</sup>F-FDG-PET) and <sup>18</sup>F-Florbetaben amyloid positron emission tomography scans (amyloid PET). Analysis of covariance (ANCOVA) was conducted to compare the differences on cognition, brain volume, glucose metabolism and amyloid deposition between APOE  $\epsilon$ 4 carriers and non-carriers after controlling

demographics.

**Results:** APOE  $\epsilon$ 4 carriers had 50% lower scores of SVLT\_delayed recall compared to non-carriers ( $0.88 \pm 1.65$  vs  $1.76 \pm 1.75$ ). However, APOE  $\epsilon$ 4 carriers performed better on other cognitive tests than non-carriers (K-BNT ( $11.04 \pm 2.55$  vs  $9.66 \pm 2.82$ ), RCFT ( $25.73 \pm 8.56$  vs  $20.15 \pm 10.82$ ), and Stroop test\_color response ( $48.28 \pm 26.33$  vs  $31.56 \pm 27.03$ )). APOE  $\epsilon$ 4 carriers had slightly smaller hippocampal volume than non-carriers ( $3.09 \pm 0.38$  vs  $3.32 \pm 0.38$ ), but greater total brain cortical thickness ( $1.45 \pm 1.55$  vs  $1.37 \pm 1.24$ ).

**Conclusions:** We found that APOE  $\epsilon$ 4 genotype is associated with cognition, brain volume in AD, suggesting that APOE  $\epsilon$ 4 genotype can play a very important role in the underlying pathogenesis of AD.

## **P209: Psychological therapies for depression in older adults residing in long-term care settings: Are they effective?**

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**Objectives:** This systematic review and meta-analysis aimed to (1) assess the effectiveness of psychological therapies for depression in older people living in long-term care (LTC) settings, and (2) investigate differences in effectiveness between types of psychological treatments.

**Methods:** We included randomised controlled trials (RCTs) with participants aged 65 years and older. Participants were required to present with (a) major depressive disorder (MDD) or (b) symptoms of depression based on a score over a cut-point on a validated depression measure. The study setting was LTC facilities, including nursing homes, assisted-living facilities, and residential aged care facilities, where some level of day-to-day care was provided by staff employed in the facility. Treatments were grouped and classified as cognitive-behavioural therapy, behaviour therapy, or reminiscence therapy.

**Results:** The literature review identified 19 studies for the qualitative synthesis: 18 were included in a meta-analysis. Results indicated a benefit for psychological treatments on depressive symptoms at end-of-intervention (standardized mean difference (SMD)  $-1.04$ , 95% CI  $-1.49$  to  $-0.58$ ; 18 trials, 644 participants), and at a medium-term follow-up (SMD  $-0.43$ , 95% CI  $-0.81$  to  $-0.06$ ; 8 RCTs, 355 participants), but not in the longer-term (SMD  $-0.16$ , 95% CI  $-0.58$  to  $0.27$ ; 2 RCTs, 92 participants). There was no difference in outcomes between therapy types.

**Conclusion:** This systematic review demonstrated positive impacts of psychological therapies on symptoms of depression in older people living in LTC, both immediately after therapy and in the medium term, but longer-term impacts were not demonstrated.

## **P211: Quality of Life and participation in society of elderly people with aphasia**

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