programs. We have developed a modified version of AD8 (m-AD8) with the purpose of enhancing its specificity. This study aimed to compare the performance of AD8 and m-AD8.

Methods: The m-AD8 consists of all items adapted from the original AD8. Modifications included: (1) limiting the evaluated period to the past year instead of the past several years, (2) reselecting examples to reflect the socio-cultural context in Taiwan, and (3) rearranging the order of questions according to their complexity. We recruited 118 participant-informant dyads from a university teaching hospital. For each informant, the AD8 was administered first and then the Clinical Dementia Rating (CDR) to minimize contamination effect. The m-AD8 was administered 7 days later. Two geriatric psychiatrists made the final consensus DSM-5 diagnosis for each subject after considering all clinical information, including history, Mini-Mental State Examination (MMSE), CDR, and, if available, other past neuropsychological tests and neuroimaging.

Results: There were 59 subjects with normal cognition, 28 with mild neurocognitive disorder, and 31 with dementia (major neurocognitive disorder). When comparing dementia vs. non-dementia, the optimal cutoff value was 4 for both versions according to the Youden index. The AUC, sensitivity, and specificity were 0.893, 0.774, 0.862 for AD8, and 0.883, 0.741, 0.954 for m-AD8, respectively. The m-AD8 showed improved specificity, which was also true when the cutoff value was set as 2 or 3.

Conclusion: The optimal cutoff value for both versions was 4. The modification may change the performance of AD8 with improved specificity. These findings suggest that, depending on different situations, AD8 with a cutoff value higher than 2 may perform better in dementia screening.

P196: The effects of individual music therapy on well-being of nursing home residents with dementia: study protocol of a randomized controlled trial

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Background: Dementia is often associated with Neuropsychiatric Symptoms (NPS) such as agitation, hallucinations, anxiety, that can cause distress for the resident with dementia in long-term care settings and can impose emotional burden on the environment. NPS are often treated with psychotropic drugs, which, however, frequently cause side effects. Alternatively, non-pharmacological interventions can improve well-being and maintain an optimal quality of life (QoL) of those living with dementia. Music therapy is a non-pharmacological intervention that can reduce NPS and improve well-being of persons with dementia.

Objective: The main aim of this study is to assess the effects of individual music therapy on well-being controlled for providing individual attention in nursing home residents with dementia and NPS.

Methods: The research is conducted at eight facilities of one nursing home organization in the Netherlands. The participants in the intervention group receive 30 minutes of individual music therapy (MT) in their own room by a music therapist twice a week for 12 weeks. The participants in the control group receive 30 minutes of individual attention in their own room by a volunteer twice a week for 12 weeks. Assessments will be done at baseline, 6 weeks and 12 weeks. An independent observer, blinded for the intervention or control condition, assesses directly observed well-being (primary outcome) and pain before and after the sessions. Nurses assess other secondary outcomes unblinded, i.e., perceived quality of life and NPS assessed with validated scales. The sleepy duration is will be assessed by a wrist device called MotionWatch. Information about psychotropic drug use is derived from electronic medical chart review.

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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 ε4 allele. Forty APOE ε4 carriers and 29 APOE ε4 non-carriers underwent neuropsychological, structural magnetic resonance imaging, ^{18}F-fluorodeoxyglucose positron emission tomography scans (^{18}F-FDG-PET) and ^{18}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 ε4 carriers and non-carriers after controlling

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