

Background: Apathy is the most common neuropsychiatric symptom in Alzheimer's disease (AD), however there are no approved treatments. In the recent Apathy in Dementia Methylphenidate Trial 2 (ADMET 2), methylphenidate treatment resulted in a significant reduction in apathy with a small to medium effect size. We assessed response in ADMET 2 to identify individuals likely to benefit from methylphenidate.

Methods: In ADMET 2, AD patients with clinically significant apathy were randomized to methylphenidate or placebo. Twenty-three potential predictors of treatment outcome chosen a priori for evaluation were divided into levels (e.g. anxiety present/absent). For each predictor, change in Neuropsychiatric Inventory apathy (NPI-A) due to methylphenidate for each level was estimated. Predictors with larger differences in effect (≥ 2 pt NPI-A) between levels were selected. Participants were then grouped into 10 subgroups by their index scores, constructed based on model-based prediction of response (NPI-A ≥ 4).

Results: In total 177 participants (66% male, mean (SD) age 75.7 (8.0), Mini-Mental State Examination 18.9 (4.8)) had 3 month follow-up data. Six potential predictors met criteria for multivariate modelling. The median Index score was -1.33 (range: -8.35 to 6.83). Methylphenidate was more efficacious in participants with no NPI anxiety (change in NPI-A - 2.21, Standard Error (SE):0.60, $p=0.0004$) or agitation (-2.63, SE: 0.68, $p=0.0002$), and who were on cholinesterase inhibitors (ChEI) (-2.44, SE:0.62, $p=0.0001$), between 52-72 years of age (- 2.93, SE:1.05, $p=0.007$), had normal diastolic blood pressure (-2.43, SE: 1.03, $p=0.02$), and more functional impairment (-2.56, SE: 1.16, $p=0.03$) as measured by the Alzheimer's Disease Cooperative Study Activities of Daily Living scale. After 3 months of methylphenidate, 79% of participants with a higher index score ($>$ median) responded (≥ 4 pt NPI-A) and 49% of those with a lower index score responded.

Conclusions: Individuals who were less anxious or agitated, younger, on a ChEI, had normal diastolic blood pressure, and with more impaired function were more likely to benefit from methylphenidate when compared to placebo. Consistent with its potential activating effects, methylphenidate may be particularly beneficial for apathetic AD participants with lower baseline anxiety and agitation.

P105: Measuring clinically relevant change in apathy symptoms in ADMET 2

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Objective: Treatments trials for apathy in Alzheimer's disease assess change scores on widely used assessment scales. Here, we aimed to determine whether such change scores on the Neuropsychiatric Inventory - Apathy (NPI-A) scale indicate clinically meaningful change.

Methods: Participants completing the Apathy in Dementia Methylphenidate Trial 2 (ADMET 2) were included. Participants in this randomized trial received methylphenidate or placebo for 6- months along with a psychosocial intervention. Assessments included Clinical Global Impression of Change in apathy (CGIC-A) and the NPI-A.

Participants in both groups with complete data at the six-month visit were included. CGIC-A was assessed as improved (minimal, moderate or marked), no change, or worsened (minimal, moderate or marked). For CGIC-A levels, mean and standard deviation (SD) of the change in NPI-A from baseline was calculated. Spearman correlation determined the association between change in NPI-A and CGIC-A, and Mann-Whitney U tests determined differences

between the 'no change' group and the 'improved' and 'worsened' groups. Effect size (mean NPI-A difference between either 'improved' and 'no change' / SD of overall change) were calculated. Differences were also assessed at 3 months as a sensitivity analysis.

Results: Overall, 177 participants were included (median age: 77years, Mini Mental State Examination score: 19.3 (4.8), baseline NPI-A [mean, SD]: 7.9, 2.3), change in NPI-A: -3.7 (3.9). On the CGIC-A, 69 were improved, 82 showed no change, and 26 worsened. The Spearman correlation between NPI-A change and CGIC-A was 0.41 ($p=1 \times 10^{-8}$). The change in NPI-A among participants who improved was -5.3 (4.1) [$W=1873$, $p=3 \times 10^{-4}$], among those who worsened was -1.2 (3.1) ($W=1426.5$, $p=0.009$) compared to those with no change (-3.2 [3.4]). The NPI-A score for minimal clinical improvement was -4.5 (4.6) with a small effect size of -0.32, which was consistent at 3-months (-0.31).

Conclusion: A minimal clinically significant improvement over 3 and 6-months corresponded to a mean decline of 4.5 points on the NPI-A; however, there is considerable overlap in the NPI-A between levels of clinical impression of change.

P108: Relational aspects in dementia family caregiving: exploring caregivers' self-perceived caring style and its correlates in the caregiving stress and coping process

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Most research in dementia family caregiving field has been guided by the stress and coping model, which holds a caregiver-centered perspective look at the family caregiving scenario. This individualistic approach of mainstream caregiving research does not allow to explain the relational aspects and variables related to the interaction between caregivers and the person with dementia (PWD), which have been underexplored until today. However, more systemic and dyad-centered approaches are needed to enrich our understanding of this chronic stress scenario. How caregivers perceive their way of caring for the PWD may exert a central role in the stress and coping model, and it may be potentially related to characteristics of the PWD (problematic behaviors and functional capacity), and caregivers' distress and coping variables. This study aimed to develop and test a valid and reliable instrument to measure caregivers' self-perceived caring style and explore these potential associations.

This communication will present preliminary evidence from family dementia caregivers who volunteered to participate and were interviewed to assess sociodemographic data, stressors, psychological outcomes (anxiety and depression) and the following interaction-related variables: self-perceived caregiving interaction style, expressed emotion and quality of the relationship in the dyad (past and present). A sample of 100 participants is expected, as the project is currently going on.

The Caregivers' Self-Perceived Caring Style Scale (SPCSS) has been developed to measure 6 potential aspects of caregivers' way of caring for the PWD: calmness, tenderness/lovingness, acceptance/validation, control/structure, overprotection, hostility, and communication facilitation. Preliminary reliability and validity analyses support good