

Loneliness share the same concept: an unpleasant, subjective experience resulting from inadequate social relationships. Loneliness and rumination are remarkable risk factors of depression among the elderly in the both community and nursing homes (Gan et al., 2015). A Norwegian study found that 56% of nursing home residents are feeling lonely (Dragaset et al., 2011). The study from Poland found that depression was observed in 33.8% long term care facility (Horwath, Scerbinska, 2017). Furthermore, another study from China shown that 14.9% residents in long term facility reported suicidal ideation (Zhang et al., 2020). Associated with one being depressed in nursing homes include pain, risk of stroke, risk of heart attack, decreased cognitive function and is also linked to increased morbidity in nursing home residents, a relationship it has been also suggested for medical inpatients (Zammit, Fiorini, 2015).

Methodology: The scoping review has been selected as the appropriate methodology for this study. The general purpose for conducting scoping reviews is to identify and map the available evidence (Arksey, O'Malley, 2005). Scoping reviews can be useful tools to investigate the design and conduct of research on a particular topic and conducted to review current research and identify knowledge gaps on the topic (Munn et al., 2018). According to Arksey and O'Malley (2005) the scoping review methodology is divided into six steps framework: identifying the research question, searching for relevant studies, selecting studies, charting the data, collecting the data, summarizing and reporting results and consulting with stakeholders to inform or validate study findings.

Results: A total of 27 studies were included in the final synthesis, mixed designed studies (n=7) including questionnaires, surveys, Geriatric depression Scales, Satisfaction with life Scale, Loneliness Scale, face to face interviews and observations. Furthermore, were included quantitative studies (n=10) included one longitudinal study with 6 years follow up. Finally, were also included qualitative studies (n=10), the studies used a mixture of approach of interviews and observation. The majority of the participants were from long-term facilities (n=24), medical students and nurses were included (n=1) study and mixture of participants such as residents, family members and staff were included in (n=1) study. The most of the studies are from Norway (n=7), China (n=3), Finland (n=2), Turkey (n=2), Poland (n=2), US (n=2), Belgium (n=1), Sri Lanka (n=1), South Korea and Japan (n=1), Hong Kong (n=1), Malta (n=1), Taiwan (n=1), Iran (n=1), New Zealand (n=1) and Sweden (n=1). In Table 1, we provide a summary of the individual studies.

Discussion: This scoping review highlights the importance to continue support residents' well-being in the long-term care facilities, support their mental health and also to continue educate and support healthcare staff as they have the major impact on resident's welfare. Previous studies indicated the correlation between loneliness and depression with demographics factors such as being married, unmarried or widowed for that reason it was recommended by Mahammadi et al. (2016) pay more attention on reducing feeling of loneliness and anxiety by increasing their life satisfaction. We found that only one study was focused on resident's suicidal ideation (Zhang et al., 2020) who concluded from his cross-sectional study with 538 participants, age above 60 years old, from 37 nursing homes in China that 14.9% reported current suicidal ideation but we are worried that this number could be higher and we believe that needs to be done more research for the future to prevent any risk of suicide among elderly. One reason for the lack of information on suicide risk in long term facilities is that prior 2010, universal screening for suicidal ideation in these facilities had not been widely adopted nor recommended as an approach to prevent suicide (Mezuk et al., 2014).

P104: Heterogeneity of Response to methylphenidate in apathetic patients in the ADMET 2 Trial

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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