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Fibromyalgia is a chronic pain condition that is frequently accompanied by comorbid conditions, including depression. Depression is associated with reduced physical functioning and health disproportionately affecting middle-aged and older adults with fibromyalgia. This study examined depressive symptoms as a mechanism through which FM status is associated with BMI and physical performance among adults in mid-to-late-life. Participants included 250 community-dwelling middle-aged and older adults (82% female) with (59%) or without (41%) fibromyalgia (M age = 64.44, SD = 9.16). Depressive symptoms were measured using the Beck Depression Inventory-II, BMI was objectively assessed, and physical performance was measured using the Fullerton Advanced Balance scale, 6-Minute Walk Test, 30-Second Chair Stand, and 8-Foot Up and Go Test. Physical performance measure analyses were adjusted for age. Asymptotic mediation analyses revealed that fibromyalgia status was indirectly associated with higher BMI (95% CI [.18, 16.74]), and poorer performance in the Fullerton Advanced Balance (CI [-2.93, -1.24]), 6-Minute Walk Test (CI [-73.75, -35.35]), 30-Second Chair Stand (CI [-2.45, -1.16]), and 8-Foot Up and Go test (CI [.35, .92]) via depressive symptoms. Participants with fibromyalgia reported greater depressive symptoms which was subsequently associated with greater BMI and reduced physical performance. Findings support depressive symptoms as one factor through which fibromyalgia status is associated with higher obesity risk and reduced physical function in middle-aged and older adults with fibromyalgia. This study supports fibromyalgia status as a critical consideration when evaluating the health and disability risk of aging adults.

### DIFFERENT STATISTICAL APPROACHES TO DEVELOP A GUIDELINE FOR IMPROVEMENT OF CAREGIVER'S MENTAL HEALTH

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Caregiver burden is common, and improvement of caregivers' mental health could lead to better quality of care and well-being for both caregivers and care recipients. We investigate ways to develop a guideline to enhance caregiver's mental well-being by applying and comparing regression tree and ensemble tree models. Data comes from the 2017 National Health and Aging Trends Study and National Study of Caregiving. Dementia caregivers' (n=945) aspects of caregiving, care activities, support environment, and participation along with basic demographics and health are considered. First, insignificant predictors are preselected using linear regression with backward selection, which will not be included in the tree models. Using the predetermined predictors that are not excluded in the backward selection method, regression tree and ensemble tree models are generated to predict emotional difficulty of caregivers. The regression tree with the preselected predictors predicts caregivers with low to moderate levels of overload and high levels of joy being with their care recipient associated with the lowest level of emotional difficulty. On the other hand, if caregivers have high levels of overload and low to moderately high

levels of positive affect, this is linked with the highest level of emotional difficulty. Ensemble tree models showed similar results with lower error measures. Using tree-based methods can help determine the most important predictors of caregiver mental health. Easily interpretable results with applicable decision rules can provide a guideline for intervention developers.

### EFFECTIVE RECRUITMENT STRATEGIES FOR HOME-LIVING VULNERABLE OLDER ADULTS WITH DEPRESSION INTO A PSYCHOTHERAPY RCT

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Objectives: Vulnerable older adults, such as physically impaired or care-dependent individuals, are vastly underrepresented in psychotherapy research. Improving their inclusion in randomized controlled trials is necessary to determine the effectiveness of psychotherapy in this population. This study is the first to systematically evaluate strategies to recruit home-living vulnerable older adults with clinically significant depression into a large randomized controlled psychotherapy trial. Potential participants were approached directly (self-referral) or via cooperation with gatekeepers (gatekeeper-referral). Methods: The initiator of the first contact with the study team and successful recruitment strategies were recorded. Referral strategies were compared with respect to number of inquiries and inclusion rates; study personnel's time investment; and participant characteristics (sociodemographics, functional and cognitive status, depression and anxiety scores). Results: Most of the N=197 participants were included via gatekeeper-referral (80.5%, 95%CI=[74.9%,86.1%]), but time investment for gatekeeper-referrals was five times higher than for self-referral by media reports. Clinical psychologists and medical practitioners referred the largest proportion of participants (32.3% each) and referral by medical practitioners led to highest inclusion rates (55.6%; $\chi^2(3)=8.964$, p<.05). Most participants were referred from a hospital setting (50.3%), whereas referral numbers by medical practices were low (15.9%). Participants who initiated the first contact themselves had higher inclusion rates and were less functionally and cognitively impaired. Conclusions: Including home-living vulnerable older adults into psychotherapy trials requires simultaneous implementation of diverse recruitment strategies. Medical practitioners and psychologists, especially in hospitals, are the most effective recruitment strategy, but self-referral via media is most cost-efficient in terms of time investment.

### EMOTION REGULATION PROFILES OF DEVELOPMENT OF DEPRESSIVE SYMPTOMATOLOGY: A LONGITUDINAL STUDY.

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