

**Conclusion:** Given that fraud victimization is correlated with fraud vulnerability and high life satisfaction, it is critical for older adults and their caregivers to implement strategies aimed at reducing fraud risk. This study highlights the need for targeted interventions that address the unique vulnerabilities of the urban elderly population.

#### **P48: Network Structure of Depressive Symptomatology in Elderly with Cognitive Impairment**

**Authors:** Jee Hyung Pyo MD<sup>1</sup>; Hyukjun Lee MD<sup>2</sup>; Jakyung Lee MA<sup>2</sup>; Daseul Lee MA<sup>2</sup>; Hyeona Yu MA<sup>2</sup>; Shinn-Won Lim PhD<sup>4</sup>; Woojae Myung MD, PhD<sup>2,3</sup>; Doh Kwan Kim MD, PhD<sup>1</sup>

1. Department of Psychiatry, Samsung Medical Center, Sungkyunkwan University, School of Medicine, Seoul, South Korea
2. Department of Neuropsychiatry, Seoul National University Bundang Hospital, Seongnam, Republic of Korea
3. Department of Psychiatry, Seoul National University College of Medicine, Seoul, Republic of Korea
4. Department of Health Sciences and Technology, SAIHST, Sungkyunkwan University, Seoul, Republic of Korea

**Objective:** Patients with cognitive disorders such as Alzheimer's disease (AD) and mild cognitive impairment (MCI) frequently exhibit depressive symptoms. Depressive symptoms can be evaluated with various measures and questionnaires. Geriatric Depression Scale (GDS) is a scale that can be used to measure symptoms in geriatric age. Many questionnaires usually sum up symptom scales. However, core symptoms of depression in these patients and connections between these symptoms have not been fully explored yet. Thus, the objectives of this study were: 1) to determine core symptoms of two cognitive disorders, Alzheimer's disease and mild cognitive impairment; and 2) to investigate the network structure of depressive symptomatology in individuals with cognitive impairment in comparison with those with Alzheimer's disease.

**Methods:** This study encompassed 5,354 patients with cognitive impairments such as Alzheimer's disease [n = 1,889] and mild cognitive impairment [n = 3,464]. The Geriatric Depression Scale, a self-administered questionnaire, was employed to assess depressive symptomatology. Using exploratory graph analysis (EGA), a network analysis was conducted and the network structure was evaluated through regularized partial correlation models. To determine the centrality of depressive symptoms within each cohort, network parameters such as strength, betweenness, and closeness were examined. Additionally, to explore differences in the network structure between Alzheimer's disease and mild cognitive impairment groups, a network comparison test was performed.

**Results:** In the analysis of centrality indices, "worthlessness" was identified as the most central symptom in the Geriatric Depression Scale among patients with Alzheimer's disease, whereas "emptiness" was found to be the most central symptom in patients with mild cognitive impairment. Despite these differences in central symptoms, the comparative analysis showed no statistical difference in the overall network structure between Alzheimer's disease and mild cognitive impairment groups.

**Conclusion:** Findings of this study could contribute to a better understanding of the manifestation of depressive symptoms in patients with cognitive impairment. These results are expected to aid in identifying and prioritizing core symptoms in these patients. Further research should be conducted to explore potential interventions tailored to these core symptoms in patients with Alzheimer's disease and mild cognitive impairment. Finding out core symptoms in those groups might have clinical importance in that appropriate treatment for neuropsychiatric symptoms in patients with cognitive impairment could help preclude progression to further impairment.

**Keywords:** Network analysis, Depressive symptom, Cognitive dysfunction, Major depressive disorder, Alzheimer's disease, Mild cognitive impairment