

## **FC17: Emergent neuropsychiatric symptoms and sleep disturbances among dementia-risk older adults with depressive symptoms in nursing homes: a network analysis**

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**Objectives:** The aim of this study was to identify core and bridge symptoms between emergent neuropsychiatric symptoms and sleep disturbance in dementia-risk older adults with depressive symptoms in nursing homes using network analysis, and to further compare the structural differences in symptom networks between subthreshold depressive and depressive groups.

**Methods:** A total of 853 older adults in nursing homes participated in this study. We used the Mild Behavioral Impairment (MBI) and the Pittsburgh Sleep Quality Index (PSQI) to assess the severity of emergent neuropsychiatric symptoms and sleep disturbances, respectively, and the analyses also generated a network model of the MBI-PSQI in the sample and examined subthreshold depressive and depressive groups' potential differences between network structure and connectivity.

**Results:** The core symptom in the global MBI-PSQI network of older adults with depressive symptoms in nursing homes was MBI8'' (Lack of pleasure experience: 8.340), and the bridge symptom was PSQI7'' (Daytime Dysfunction: 3.894). The edges connecting the nodes MBI2'' (Lost curiosity in usual interests) and MBI3'' (Decreased social initiative) in the global MBI-PSQI network has the strongest weight (0.798). Compared to the global network, for participants in the depression group, MBI8'' (7.647) remains the most core symptom, and PSQI7'' (4.028) serves as a critical bridge symptom between emergent neuropsychiatric symptoms and sleep disturbances. However, in the subthreshold depression group, the MBI-PSQI network structure exhibits distinct characteristics, with MBI2'' (5.563) being revealed as the most significant symptom, closely followed by MBI8'' (5.453). Furthermore, the bridge symptom connecting emergent neuropsychiatric symptoms to sleep disturbances shifts to PSQI4'' (Sleep Efficiency: 1.386). Intriguingly, the strongest edge in both the global network and the subgroup network is MBI2-MBI3.

**Conclusions:** There is an association between emergent neuropsychiatric symptoms and sleep disturbance in dementia-risk older adults with depressive symptoms in nursing homes. In addition, heterogeneity in the network structure of subthreshold depression and depression, with shifts in core and bridge symptoms, providing directions for designing novel and targeted interventions.

## **FC18: Symptom characteristics of neuropsychiatric symptoms in older people with mild behaviour impairment: A latent class analysis**

**Authors:** Yuanjiao Yan, Yanhong Shi, Chenshan Huang, Rong Lin, Hong Li

**Background:** Mild behavioral impairment (MBI) in older people refers to a group of syndromes that are characterized primarily by clusters of neuropsychiatric symptoms without severe cognitive impairment, which is a high-risk population for dementia. Patients often experience a variety of symptoms and exhibit high heterogeneity in symptomatology across different individuals. Classifying the psychotic symptom characteristics of MBI patients aids in the implementation of precise interventions for the next steps.

**Objectives:** To explore the symptom characteristics of older people with MBI and to classify them based on their symptoms.

**Methods:** Using a multi-stage sampling Methods, the MBI-Checklist was employed to investigate symptom characteristics in 255 older people with MBI from 32 nursing homes in Fujian Province. Latent Class Analysis (LCA) was then employed to categorize these individuals based on their symptom profiles.

**Results:** The neuropsychiatric symptoms clusters in older people with MBI often present as a combination of lack of motivation and emotional dysregulation, lack of motivation and impulse control disorders, or emotional dysregulation and impulse control disorders; presentation of a single symptom cluster is relatively less common, accounting for 45.49%. Older people with MBI can be divided into 2 latent classes ( $P < 0.05$ ) based on symptom characteristics. According to the conditional probability of each class, they were named the “high-level group” [211 (82.69%)] and the “low-level group” [44 (17.31%)].

**Discussion:** As individuals with MBI are at high risk for developing dementia, early intervention can effectively delay or reduce the occurrence of dementia. Future interventions should be personalized based on the specific symptom characteristics of this population.

### **FC19: PET imaging of late-life psychosis and mood disorder**

**Author:** Masaru Mimura

**Summary:** In his 1910 textbook, 8th Edition, *Mental Illness in Old Age*, E. Kraepelin stated, “The realm of late-life psychiatric disorders is perhaps the most unclear in the entirety of psychiatry.” More than a century later, it remains challenging to fully understand late-life psychiatric disorders, including late-life depression, late-life bipolar disorder, and late-life delusional states such as late paraphrenia. However, recent years have seen significant advancements. Neuropathological examinations of these late-life psychiatric disorders are gradually uncovering the underlying diseases. In addition, progress in neurofunctional imaging studies using positron emission tomography (PET) is shedding light on their neurological foundations. Traditionally, mood disorders and delusional conditions in the elderly were considered distinct from dementia. Yet, over time, more cases are being observed to progress into some form of dementia or neurodegenerative diseases. These cases are suspected to have diverse neuropathological entities based on the type of abnormal proteins accumulating in the brain, such as amyloidopathy, synucleinopathy, or tauopathy. Among these, we have specifically revealed that tauopathy is a background factor in some cases of late-life mood disorders and late-life delusional states, using Florzotau tau PET imaging. We have also found that psychiatric symptoms like delusions are related to the degree of accumulation of tau proteins. The involvement of tau pathology in symptom formation in late-life psychosis suggests that disease-modifying drugs targeting tau, which may emerge in the near future, could be effective in treating these individuals.

### **FC20: Apathy: the fourth musketeer in the normal pressure hydrocephalus in older adults**

**Author:** Federico Carlos Augusto Quaglia, MD

**Objectives:** Highlight the presentation of behavioral symptoms in addition to the classic clinical trial in idiopathic normal pressure hydrocephalus in the elderly. Identify apathy as the most prevalent behavioral symptom in normal pressure hydrocephalus (NPH) in the elderly.