

## **FC46: Prevalence of depressive symptoms and diminished QoL in older patients with ESKD receiving HD in a tertiary level private hospital in Monterrey, Mexico.**

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**Introduction:** The ageing population with chronic kidney disease (CKD) has been increasing in developing countries and many of them are receiving Hemodialysis (HD) [1]. The prevalence of depression and other geriatric syndromes as well as the quality of life (QoL) in this population remains unknown since patients undergoing HD seldom receive a Comprehensive Geriatric Assessment (CGA) [2].

**Objectives:** To investigate the prevalence of depression and other geriatric syndromes as well as QoL in older patients with ESKD receiving HD.

**Methods:** In patients 50 years and older, receiving HD in a private tertiary hospital in northern Mexico, we applied a CGA consisting of functionality (Barthel and Lawton & Brody), comorbidity (Charlson Index), cognition (MoCA), depression (GDS), frailty (CFS), nutrition (MNA- SF), sarcopenia (EWSOP2), falls, and quality of life (OPQOL-Brief). Of 52 patients in the HD unit, 35 were eligible for the study. 9 patients did not give consent to participate in the study, resulting in a population of 26 patients.

**Results:** The mean age of the population was 68.85 years and 61% were women. Using a cut-off point of 5 points in the 15-item GDS to define the presence of depressive symptoms, 42.3% of the studied population presented depressive symptoms. We further stratified the severity of these symptoms into mild, moderate and severe (Table 1). Most patients presented mild depressive symptoms (72.81%).

Additionally, by OPQOL-Brief, the majority of patients (34%) reported having a very bad quality of life (Table 2). Of note, we also found that the median number of geriatric syndromes presented by each patient was 6, which is higher than what has been reported internationally in similar populations [2]. Of these, the most common geriatric syndromes were: dependence in Instrumented Activities of Daily Living (IADL) (92.3%), followed by cognitive impairment (84.6%) and inadequate nutritional status (80.8%).

**Conclusions:** Our findings revealed that 4 out of 10 older patients with ESKD receiving HD presented depressive symptoms, however most of them presented only mild depressive symptoms. Additionally, the majority of patients reported having a very bad quality of life.

## **FC47: Association between indoor ventilation frequency and depressive symptoms among older Chinese adults**

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**Objectives:** Indoor air pollution exposure is harmful to people's physical and mental health, especially in the elderly population, and represents a major issue for human health. Natural ventilation can improve indoor air quality and remove indoor contamination, thus reducing the adverse effects of indoor air pollution exposure on physical and mental health. Depressive symptoms are the most common mental health issue among elderly individuals. However, evidence linking the frequency of indoor natural ventilation to depressive symptoms in the elderly population is limited.

**Methods:** This study included 7887 individuals 65 years and older from 2017 to 2018 in the China Longitudinal Healthy Longevity Survey (CLHLS). The frequency of indoor natural ventilation was measured as the self-reported frequency of window opening per week in each season. Depressive symptoms were measured by the 10-item Center for Epidemiologic Studies Short Depression Scale (CES-D). Using a model adjusted for demographic, socio-economic, health status, and environmental factors, the correlation between indoor ventilation frequency and depressive symptoms was verified through logistic regression.

**Results:** Among the 7887 elderly people included in this study, 1952 (24.7%) had symptoms of depression. In the fully adjusted model, compared with the lower indoor overall ventilation frequency group (indoor ventilation frequency: 0–3 times/week), the higher indoor overall ventilation frequency group (indoor ventilation frequency: 6–8 times/week) showed a decrease in depressive symptoms by 33% [OR: 0.67, 95% (CI): 0.51–0.88]. Subgroup analysis and sensitivity analysis yielded similar results.

**Conclusions:** High frequency of indoor ventilation is significantly associated with the reduction of depressive symptoms in Chinese individuals 65 years old or older. This result provides strong evidence for health intervention and policy formulation. Encouraging an increase in indoor ventilation frequency will be an economically beneficial measure to promote healthy aging of the Chinese population.

#### **FC48: Using Complexity Analysis to Explore the Differences of Resting-state fMRI Data Among Late-life Depressed, Mild Cognitive Impaired, and Cognitive Normal Older Adults.**

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**Introduction:** Late-life depression (LLD) is associated with cognitive deficit with risk of future dementia. By examining the entropy of the spontaneous brain activity, we aimed to understand the neural mechanism pertaining to cognitive decline in LLD.

**Methods:** We collected MRI scans in older adults with LLD ( $n = 32$ ), mild cognitive impairment [MCI ( $n = 25$ )] and normal cognitive function [NC, ( $n = 47$ )]. Multiscale entropy analysis (MSE) was applied to resting-state fMRI data. Under the scale factor ( $\tau$ ) 1 and 2, reliable separation of fMRI data and noise was achieved. We calculated the brain entropy in 90 brain regions based on automated anatomical atlas (AAL). Due to exploratory nature of this study, we presented data of group-wise comparison in brain entropy between LLD vs. NC, MCI vs. NC, and LLD and MCI with a  $p$ -value below 0.001.

**Results:** The mean Mini-Mental State Examination (MMSE) score of LLD and MCI was 27.9 and 25.6. Under  $\tau = 2$ , we found higher brain entropy of LLD in left globus pallidus than MCI ( $p = 0.002$ ) and NC ( $p = 0.009$ ). Higher brain entropy of LLD than NC was also found in left frontal superior gyrus, left middle superior gyrus, left amygdala and left inferior parietal gyrus. The only brain region with higher brain entropy in MCI than control was left posterior