

## CHRONIC KIDNEY DISEASE. REHABILITATION

SP455

### QUALITY OF SLEEP, QUALITY OF LIFE AND FATIGUE: ARE THEY RELATED WITH SERUM VITAMIN D LEVEL?

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**Introduction and Aims:** Despite advances in the treatment of end stage renal disease, the poor quality of life (QOL) related to sleep disturbances and fatigue in patients on maintenance hemodialysis (MHD) is still an unresolved problem. Vitamin D deficiency is common in patients with MHD and is linked with increased cardiovascular morbidity and mortality. However its relation with quality of life and sleep has not been investigated. The aim of this study was to evaluate the relationship between quality of sleep, fatigue and serum vitamin D level and their influence on

quality of life

**Methods:** A total of 227 patients (mean age:  $52.2 \pm 14.3$  years; mean duration of dialysis:  $9.7 \pm 4.6$  years) undergoing MHD in our centre were enrolled into the study. Biochemical parameters as fasting plasma glucose (FPG), hemoglobin A1c (HbA1c), calcium, phosphorus, bicarbonate, C-reactive protein (CRP), lipid profile and urea reduction rate (URR) were assessed from monthly clinical visits. Assessments of fatigue and sleep quality (PSQI) were performed by using self-reported questionnaires. The PSQI scores over 5 showed poor sleep quality. The short form-36 (SF-36) questionnaire is assessed for measuring QOL. We also calculated the the number/severity of comorbidities using the Charlson Comorbidity Index (CCI) and malnutrition inflammation score (MIS). 25-OH vitamin D levels were measured in January and blood samples were collected for analysis before a midweek hemodialysis session.

**Results:** Patients were divided into 2 groups according to score of fatigue (sF) (Group 1; fatigued group (sF  $\geq 6$ ) n: 111 and group 2; the nonfatigued group (sF 5 had higher fatigue score and CCI and lower 25-OH vitamin D levels and SF-36 vitality subscale (p: 0.001). For each 1 ng/ml of increased level of 25-OH vitamin D resulted in 0.88 of increased score of SF-36, and 0.733 and 0.737 of decreased score of fatigue and CCI respectively. On multivariate general linear model analyses, CCI, PSQI score and MIS were detected as the predictors of score of fatigue.

**Conclusions:** Fatigue, quality of sleep thus quality of life may be related to 25-OH vitamin D deficiency in MHD patients.