

## PROTEIN-ENERGY WASTING AND FRAILTY IN ELDERLY DIALYSIS PATIENTS

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The population in Kazakhstan is rapidly aging, as a result the number of geriatric patients on maintenance hemodialysis (MHD) has been increasing. Protein-energy wasting (PEW) is one of the common complications that can increased morbidity and mortality in these patients. The primary objectives of this study were to evaluate the prevalence of PEW in elderly patients. A secondary objective was to investigate the relationship between nutritional status and frailty.

. From July to September 2018, a total of 65 elderly patients undergoing HD in 7 dialysis facilities in Almaty, Kazakhstan were enrolled in this cross-sectional study. All participants were evaluated for the nutritional status by using Mini Nutritional Assessment (MNA), Malnutrition-Inflammation Score (MIS). Frailty was defined in accordance with the Edmonton Frail scale (EFS). The study participants' median age was 69 (range: 65–88) years old, and median dialysis vintage was 36 (IQR 15–60) months, 53.8) and diabetes (35.4 and, according to MNA, the risk of malnutrition was detected in 47.7 had malnutrition. No significant difference was observed between genders in the frequency of PEW. Mean body weight was  $69.1 \pm 11.3$ kg, the mean BMI was slightly overweight  $25.6 \pm 4.29$ kg/m<sup>2</sup>, while hand-grip strength was  $21.33 \pm 3.36$  in men and  $15.5 \pm 5.51$  in women,  $p=0.008$ , and it is lower than the normal population standard values. The prevalence of frailty assessed by the EFS was 23.1%, 43.1 patients were vulnerable. The frail patients group had a higher proportion of women 86.7% ( $p=0.001$ ), worse nutritional status (93.3 had PEW evaluated by MIS ( $p=0.018$ ) and MNA ( $p=0.035$ ), respectively), more frequency of falls ( $p=0.01$ ), anemia ( $p=0.038$ ). 66.7% of frail patients were widowed ( $p=0.005$ ).

Conclusion. Protein-energy wasting is common among elderly hemodialysis patients in Kazakhstan. Its prevalence varies between 37.5 depending on the measurement tool used to evaluate the nutritional status. Also the study showed that the prevalence of frailty is high among female patients, and we detected that PEW increased in frail patients.