

## **Usefulness of Mini Nutritional Assessment score in vitamin D (25(OH) D3) deficiency of elderly hospitalized patients, Yangon, Myanmar**

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Elderly people are a special risk group for malnutrition and Vitamin D deficiency as a global health problem. A rapid assessment tool to predict the vitamin D deficiency is necessary to use as surrogate maker for early detection as well as monitoring Vitamin D status among elderly population. This study was to find out the usefulness of Mini Nutritional Assessment (MNA) score in serum vitamin D (25(OH) D3) deficiency of elderly hospitalized patients. A hospital based cross-sectional analytical study was conducted with 360 elderly hospitalized patients within 48 hours after admission to Medical Unit (3), Yangon General Hospital during January, 2016 to December 2017. Simple random sampling method was used to recruit patients who took clinical history and physical examination, calculating Mini Nutritional Assessment score, assessing serum vitamin D 25 (OH) D3 levels by using Cobas 8000 chemiluminescenceImmunoAssay (CLIA). Mean age of elderly patients was 70 years with standard deviation (SD) of 7.4. Male and Female ratio was 1:1. The mean MNA score and serum vitamin D (25(OH)D<sub>3</sub>) level was 19 (SD=4.98) and 19.4 ng/ml (SD = 10.8), respectively. The proportion of patients who were malnourished (MNA score <17) and at risk of malnutrition (MNA score 17-23.5) was 34.7% and 41.7% respectively while those who had vitamin D deficiency (serum vitamin D (25(OH)D<sub>3</sub>) level <30 ng/ml ) was 81.7% of the study population. Low level of serum Vitamin D was detected in female, 90.2% compared to male, 73.7%. One unit increase in MNA score was associated with increase in mean value of Vitamin D level by 0.55 ng/ml (adjusted  $r^2 = 0.1452$ ,  $\rho=0.3$ ,  $p < 0.0001$ ) after adjusting other variables. The lowest cut value of MNA score to predict Vitamin D deficiency was 15.2 in male group (sensitivity=85.4%, specificity=26.5%) while those value was 21.5 in female group (sensitivity=80.9%, specificity=64.7%). The study highlighted that prevalence of Vitamin D deficiency among elderly hospitalized patients was high. It is recommended that in the remote area with limited resources, MNA score could be used as a surrogate marker to identify vitamin D deficiency in elderly hospitalized patients, especially in female group.