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**Relationship between glycosylated hemoglobin and macrominerals in renal dialysis patients of Hail, Saudi Arabia****Nawaf OM Alhazmi, Mohammed RM Alshammari, Rasheed HR Alshortan, Ahmad F Alhaysuni, Jamal M Arif and Mohammed Kuddus**  
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Essential minerals have significant role in the glucose metabolism and energy production inside the cell. Imperfect mineral metabolism have been associated with the increased mortality of renal dialysis patients, but their effects in these patients are less characterized. The literature suggested that the incidence of renal dialysis patients in Saudi Arabia showed rapid increase over the last 3 decades. In the present study, we examined the correlations between levels of minerals (serum calcium, phosphorus and magnesium) and HbA1c in diabetic and non-diabetic renal dialysis patients of Hail region. Total 76 blood samples of renal dialysis patients (diabetic and non-diabetic) were analyzed by using biochemical methods. As expected, no significant relationship was observed ( $p > 0.05$ ) in baseline parameters such as age, sodium, potassium, bilirubin, creatinine, urea and glucose, in both diabetic and non-diabetic renal dialysis patients. The results also showed that there is no significant relationship between calcium and phosphorus, calcium and magnesium as well as magnesium and phosphorus in non-diabetic renal dialysis patients; however, in diabetic patients calcium and phosphorus have minor significant association ( $p = 0.057$ ). Further, there was no significant relationship between phosphorus and HbA1c in both types of renal dialysis patients. However, in diabetic renal dialysis patients there was significant relationship ( $p < 0.05$ ) between calcium and HbA1c as well as magnesium and HbA1c. These preliminary results indicate the supportive role of calcium, magnesium and HbA1c in the better management of diabetes. The supplementation of calcium and magnesium might be beneficial to manage energy level associated with weakness in the diabetic patients.

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**Nutritional status and quality of life in end stage renal disease patients undergoing hemodialysis in Indonesia****Kalis Waren, Prio Wibisono, Karunia Valeriani Japar, Akhil Deepak Vatvani, Denny Hartanto and Theo Audi Yanto Lemuel**  
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**Background & Aim:** Malnutrition is a major problem in End Stage Renal Disease (ESRD) patients undergoing hemodialysis and this may occur due to several factors such as inadequate nutritional intake, increase losses or and to an increase in protein catabolism. The aim of this study is to assess the relationship between nutritional status and Quality of Life (QoL) in ESRD patients undergoing hemodialysis.

**Methods:** This is a multicenter cross sectional study that took place in 4 hemodialysis clinics in Jakarta from October to December 2016. Nutritional status was measured using Subjective Global Assessment (SGA) Questionnaire. Quality of life was measured using World Health Organization-Quality of Life (WHO-QOL) Questionnaire containing 4 domains related to physical health, psychological, social relationships and environmental. Analysis was done using One-way ANOVA or Kruskal-Wallis, depending on the distribution of the data.

**Results:** There were a total of 116 patients. The mean age of the patients was 52.7 (25-84) years. There were 78 (67.2%) male. The mean BMI of the patients were 22.9 (14.1-32.6) kg/m<sup>2</sup>. 36 (31%) patients had BMI < 18.5 kg/m<sup>2</sup> and 25 (21.6%) patients had BMI > 25 kg/m<sup>2</sup>. There were 48 (41.3%) patients classified as moderately malnourished and 11 (9.5%) of the patients classified as severely malnourished. There was significant association between level of nutritional status and physical health domain ( $p < 0.001$ ). The mean difference in physical health domain values between normal nutrition and severely malnourished is 18.9 ( $p < 0.001$ ). The other domains did not have any significant association with nutritional status.

**Conclusion:** Malnutrition can lead to poorer physical health related quality of life. By improving the nutritional status of the patients, we can increase the QoL of the patients.

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