



Factors Associated with Electrolyte Disturbances among Diabetic Nephropathy Patients Attending the Diabetes Clinics at National Hospital Galle

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Diabetic Nephropathy (DN), a severe complication of Diabetes Mellitus, often leads to electrolyte imbalances due to altered renal function, insulin insufficiency, and disrupted hormonal regulation. This cross-sectional study was conducted at the National Hospital Galle to investigate the prevalence and associated factors of serum electrolyte disturbances specifically sodium, potassium, and chloride among 259 patients with DN. Data was collected through pre-tested questionnaire, medical records, and laboratory tests, focusing demographic details, clinical features, lifestyle, and dietary habits. Chi-square test was used to check whether there was a significant difference in the frequency of electrolyte disturbances between the groups. The study found a high prevalence of hyponatremia (54.8%), hyperkalemia (45.2%), and hyperchloremia (64.5%) among DN patients. Despite assessing various demographic (age, sex, marital status, residence), clinical (diabetes duration, BMI, diabetic complications), and lifestyle (smoking, alcohol use) factors, no statistically significant associations were observed with serum electrolyte levels, except a weak association between BMI and chloride levels (Pearson Chi-Square = 5881.477, $p < 0.05$). Notably, dietary patterns emerged as potential influencers, as white rice (Chi-Square = 43.7, $p < 0.05$) and fruits (Chi-Square = 151.325, $p < 0.05$) with chloride level and bakery food consumption with potassium levels (Pearson Chi-Square = 47.6, $p < 0.05$) showed notable associations. These results highlighted that while demographic and most clinical or lifestyle factors may not significantly affect electrolyte balance in DN patients, dietary habits could contribute to electrolyte disturbances in DN patients, especially in potassium and chloride regulation. The findings emphasize the importance of comprehensive clinical monitoring and dietary guidance in the management of DN patients to prevent complications arising from unrecognized or untreated electrolyte disturbances.

Keywords: Associated factors, Diabetic Nephropathy, Electrolyte disturbances