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**ABSTRACTS: VOLUME 3, SPECIAL ISSUE**

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**ABSTRACT**

**Vitamin B12 Status among Chronic Kidney Disease Patients in Gaza Strip**

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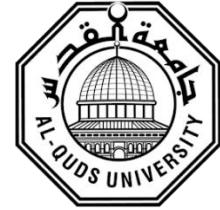
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**Published in May 2022**

**Background:** In the world, chronic kidney disease (CKD) is a rising health burden, with an estimated 20 million people affected. CKD is characterized as either a prolonged decrease in kidney function with a rate of glomerular filtration below 60 ml/min/1.73 mt<sup>2</sup> or evidence of damage to the kidneys. The key factor contributing to chronic renal failure (CRF) anemia is the lack of erythropoietin, iron deficiency and reduced red cell lifespan. Nutritional deficiency, vegetarian diet, or deranged vitamin metabolism are another possibility in uremic patients.

**Objectives:**

- 1.To assess the status of vitamin B12 level among chronic kidney disease and renal failure patients in Gaza Strip.
2. To measure the prevalence of vitamin B12 deficiency in hemodialysis patients.
3. To assess the correlation between the status of vitamin B12 and other biochemical tests.



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**Methods:** It is a hospital based descriptive study conducted at Al-Shifa Hospital-Gaza and Al-Aaqsa hospital, 70 CKD patients suffering from renal failure treated in hemodialysis nephrology unit were included. Questionnaire interview was applied which included questions about: Family history, age, body mass index (BMI), Vitamin B12, urea, creatinine and uric acid level, complete blood count (CBC), red blood cells (RBC), calcium and phosphorus results were recorded. Data were analyzed using SATA statistics program.

**Results:** The mean of cases age was  $47.57 \pm 15.870$  years; more than half of them were female. The study revealed that most of them have a complain of hypertension; all of them were complain of Vitamin B12 deficiency between low 35.71% and borderline 64.29% limits before using supplements. However, two third of them were using vitamin B12 supplements and nearly 80% of them improved to normal vitamin B12 results after using supplements for three months. Also, almost most of them had normal white blood cells (WBCs) count but 84.29% were anemic had hemoglobin less than 10 mg/dl. In addition, nearly 32% are diabetic with high blood sugar. However, more than two third of them had elevated urea ( $>100$ ) and creatinin levels ( $>5$ ), and the total calcium was low ( $<8.2$ ) among 65.71% of them.

The study revealed a significant relationships between vitamin B12 level and daily nutritional habits ( $P=0.015$ ), and duration of being on dialysis ( $P<0.000$ ). The vitamin B12 mean difference before and after use of supplement; and revealed a significant difference ( $P<0.0001$ ) between Vitamin B12 at baseline and Vitamin B12 post using supplement, which could be associated to the effect of using supplements.

**Conclusion:** Serum vitamin B12 level monitoring should be required regularly in CKD patients, and vitamin B12 deficiency should be expected by nephrologists in CKD patients.

**Research Keywords:** Chronic kidney disease, Vitamin B12, Gaza strip, Glomerular Filtration Rate.