



**Proceedings of 3rd International Research Symposium
Faculty of Allied Health Sciences 2025**

University of Ruhuna



**‘Combating Healthcare Challenges through
Research and Innovation’**

August 07, 2025

**Faculty of Allied Health Sciences, University of Ruhuna,
Galle, Sri Lanka**

iRuFARS 2025

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ISSN: 2659-2029

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Prevalence and Severity of Anaemia across Different Chronic Kidney Disease Stages among Chronic Kidney Disease Patients at Teaching Hospital, Jaffna

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Background: Anaemia and Chronic Kidney Disease (CKD) are linked to global health challenges. Awareness of anaemia in CKD patients is essential to optimising patient care. However, it remains unknown in selected CKD patients.

Objectives: To assess the prevalence and anaemia severity across the CKD stages among patients attending the Nephrology and Medical clinics at Teaching Hospital, Jaffna

Methods: This descriptive cross-sectional study was conducted using convenient sampling technique. A total of 137 patients (18 years or more) diagnosed with CKD were recruited and categorized into five CKD stages based on estimated glomerular filtration rate (eGFR). Patients on dialysis, with kidney transplant or erythropoietin therapy were excluded. Serum creatinine and blood haemoglobin concentrations were measured by Jaffe and cyanmethemoglobin methods, respectively. Anaemia and its severity were defined according to the WHO criteria. Patients' age and gender were entered into a data extraction sheet. Data were analysed using descriptive statistics in SPSS software.

Results: In the selected population, 48.18% (n=66) were anaemic and equally distributed (n=33) between males and females. The mean±SD age of anaemic patients was 51.24±14.59 years. The highest proportion of anaemic patients (13.9%) was observed in stage 3b, followed by stage 4 (12.4%) and stage 2 (10.2%), showing statistical significance ($p<0.001$). Anaemia was more frequent in females at early CKD stages, while in advanced stages, anaemia was predominantly observed in males. Mild anaemics (63.6%) were highest, followed by moderate (33.3%) and severe (3%) anaemics. Mild anaemia was predominated in males (54.8%), whereas moderate anaemia was more prevalent in females (54.5%). Only females had severe anaemia. Mild anaemia was the most frequent form observed across all CKD stages. Moderate anaemia (22.7%) was distributed evenly between patients in stages 2 and 3b. Severe anaemia was observed only in the patients at stage 4. However, the severity of anaemia was not significantly associated with CKD stages.

Conclusions: Anaemia was prevalent in nearly half of the CKD patients, with mild anaemia being the most common across all stages and severe anaemia observed only in advanced stages. Although anaemia prevalence increased significantly with CKD progression, no significant association was found between anaemia severity and CKD stages in selected CKD patients.

Keywords: Anaemia, Chronic kidney disease, CKD stages, Severity of anemia