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## **INTRODUCTION**

End-Stage Renal Disease (ESRD) in Diabetes Mellitus (DM) patients has been called a " medical catastrophe " of worldwide dimension. World Health Organization statistics identify 150 million people with diabetes mellitus worldwide and suggest that this figure may double by 2025 (*Deray et al., 2004*).

Diabetic nephropathy occurs in approximately 30% of patients with type 1 diabetes , and 20% of patients type 2 diabetes , and is now the single largest cause of patients starting Renal Replacement Therapy ( RRT ) ( *Joss et al ., 2007* ) .

Anemia is often more severe and occurs at an earlier stage in patients with diabetic nephropathy than in patients with other types of Chronic Kidney Diseases (CKD). However, the cause of anemia in diabetic patients without advanced renal failure is unclear. Anemia consequent to Erythropoietin (EPO) deficiency has been described in these patients (*Kim et al., 2009*).

Anemia is a common and often unrecognized complication of diabetes that may have an adverse effect on progression of diabetes related complications, cardiovascular disease, and mortality. In patients with chronic kidney disease, anemia is associated with poorer outcomes including higher rates of hospitalization, cardiovascular disease cognitive impairment, and mortality (*McGill and Bell, 2006*).

Erythropoietin is a glycoprotein hormone secreted by the kidney and liver into circulation in response to hypoxia. The principal function attributed to

epos is the regulation of red blood cell production, mediated by its specific cell surface receptor (*Scully et al., 2011*).