

## **Renal Protection in Patients with Diabetes: An Important Problem**

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Diabetes is a serious public health problem and is widely recognized as one of the major health emergencies of the latest years [1,2]. Global diabetes prevalence is projected to rise from 415 million in 2015 to 642 million in 2040. In other words, the risk of diabetes will rise markedly, from one in 11 adults in 2015, to one in 10 adults by 2040. It is estimated by the International Diabetes Federation that one in two adults with diabetes is undiagnosed. Currently, there are also 318 million adults with impaired glucose tolerance (one in 15 adults) in the world [1].

In parallel with the increase in diabetes prevalence, there seems to be an increasing prevalence of diabetic nephropathy [3]. Diabetic nephropathy is the most common cause of end-stage renal disease (ESRD) worldwide, accounting for approximately one third of all cases [4]. This condition can be due to metabolic and hemodynamic processes that cause structural and functional changes in the kidneys [5]. Studies have reported that several factors such as poor glycemic control, hypertension, high cholesterol level, and smoking increase the risk of ESRD among patients with diabetes [5,6]. In addition, genetics, ethnicity, microalbuminuria, the presence of diabetic retinopathy and anemia, dietary protein and fat intake are other risk factors associated with diabetic nephropathy [5,7].

Despite the fact that the prognosis of diabetic nephropathy has improved greatly, patient morbidity and mortality rates are still very high today, mainly because of cardiovascular causes [5,8]. Studies have highlighted the importance of early referral and intervention in management of diabetic nephropathy [8]. Several therapeutic interventions such as intensive glycemic control, control of blood pressure, the early blockade of the renin-angiotensin system, and control of other risk factors can delay the onset and slow the progression of diabetic nephropathy [5-8]. Based on the American Diabetes Association's evidence-grading system in 2015 [9], optimize glucose control and blood pressure control are the most effective strategies for reducing the risk or slowing the progression of diabetic nephropathy (A-level evidence/the most powerful scientific evidence). On the other hand, studies on the effect of dietary protein limitation on diabetic nephropathy have conflicting results. The American Diabetes Association emphasizes that "for people with diabetic kidney disease, reducing the amount of dietary protein below the recommended daily allowance of 0.8 g/kg/day (based on ideal body weight) is not recommended because it does not alter glycemic measures, cardiovascular risk measures, or the course of glomerular filtration rate decline" (A-level evidence) [9, p. S58]. Additionally, it is noted that the management of diabetes should be individualized [9].

In conclusion, a multifaceted and holistic approach provided by interdisciplinary health team members, including early identification and treatment of at-risk patients, care, education, counseling and emotional support can help reduce the risk or slow the progression of diabetic nephropathy. Poor adherence to treatment has serious consequences for this patient group. Therefore, diabetes nurses should be aware of the factors affecting treatment adherence in patients with diabetes [6,10,11].

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