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Diet and Foods for Chronic Kidney Disease

Hailey Michaelson*

Department of Internal Medicine, Division of Food Sciences, University of Medical Sciences, Fujian, China

***Corresponding author:** Hailey Michaelson, Department of Internal Medicine, Division of Food Sciences, University of Medical Sciences, Fujian, China, E-mail: mihailson@yahoo.co.cn

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Description

Health system planning requires careful assessment of chronic kidney disease epidemiology, but data for morbidity and mortality of this disease are scarce or non-existent in many countries. We estimated the global, regional, and national burden of CKD, as well as the burden of cardiovascular disease and gout attributable to impaired kidney function, for the Global Burden of Diseases, Injuries, and Risk Factors Study. We use the term CKD to refer to the morbidity and mortality that can be directly attributed to all stages of CKD, and we use the term impaired kidney function to refer to the additional risk of CKD from cardiovascular disease and gout.

Acute kidney disease which includes acute kidney injury (AKI) and chronic kidney disease (CKD) are highly prevalent among hospitalized patients, including those in nephrology and medicine wards, surgical wards, and intensive care units, and they have important metabolic and nutritional consequences. Moreover, in case kidney replacement therapy is started, whatever is the modality used, the possible impact on nutritional profiles, substrate balance, and nutritional treatment processes cannot be neglected. The present guideline is aimed at providing evidence-based recommendations for clinical nutrition in hospitalized patients with AKD and CKD. Due to the significant heterogeneity of this patient population as well as the paucity of high-quality evidence data, the present guideline is to be intended as a basic framework of both evidence and - in most cases expert opinions, aggregated in a structured consensus process, in order to update. Nutritional care for patients with stable CKD (i.e., controlled protein content diets/low protein diets with or without amino acid/keto-analogue integration in outpatients up to CKD stages four and five), nutrition in kidney transplantation, and paediatric kidney disease will not be addressed in the present guideline.

Chronic kidney disease has a prevalence of approximately 13% and is most frequently caused by diabetes and hypertension. In population studies, CKD etiology is often uncertain. Some experimental and observational human studies have suggested that high-protein intake may increase CKD progression and even cause CKD in healthy people. The protein source may be important. Daily red meat consumption over years may increase CKD risk, whereas white meat and dairy proteins appear to have no such effect, and fruit and vegetable proteins may be renal protective. Few randomized trials exist with an observation time greater than 6 months, and most of these were conducted in patients with pre-existing diseases that dispose to CKD. Results conflict and do not allow any conclusion about kidney-damaging effects of long-term, high-protein intake. Until additional data become available, present knowledge seems to substantiate a concern. Screening for CKD should be considered before and during long-term, high-protein intake.

After 5.5 years of follow-up, 31.7% of participants had developed CKD and 8.3% had died. Compared with participants in the least healthy tertile of mAHEI score, participants in the healthiest tertile had a lower risk of CKD and lower risk of mortality. Participants consuming more than 3 servings of fruits per week had a lower risk of CKD compared with participants consuming these food items less frequently. Participants in the lowest tertile of total and animal protein intake had an increased risk of CKD compared with participants in the highest tertile. Sodium intake was not associated with CKD. Moderate alcohol intake reduced the risk of CKD and mortality.

Chronic kidney disease introduces a unique set of nutritional challenges for the growing and developing child. This article addresses initial evaluation and on-going assessment of a child with CKD. It aims to provide an overview of nutritional challenges unique to a paediatric patient with CKD and practical management guidelines. Caloric assessment in children with CKD is critical as many factors contribute to poor caloric intake. Tube feeding is a practical option to provide the required calories and fluid in children who have difficulty with adequate oral intake. Protein intake should not be limited and should be further adjusted for protein loss with dialysis. Supplementation or restriction of sodium is patient specific. Urine output, fluid status, and modality of dialysis are factors that influence sodium balance. Hyperkalaemia poses a significant cardiac risk, and potassium is closely monitored. In addition to a low potassium diet, potassium binders may be prescribed to reduce potassium load from oral intake. Phosphorus and calcium play a significant role in cardiovascular and bone health. Phosphorus binders have helped children and families manage phosphorus levels in conjunction with a phosphorus restricted diet. Nutritional management of children with CKD is a challenge that requires continuous reassessment and readjustment as the child ages, CKD progresses, and urine output decreases.

On the other hand, obesity and its consequent diseases (hypertension, cardiovascular diseases etc.) are increasing as well. Although these are apparently two contradictory aspects of our era, they both may lead to serious consequences and trigger the risk of developing kidney disease. Rapid weight loss diets, which are increasingly popular among the young generations, are usually based on a high-protein intake and a very limited amount of carbohydrates. Although there is some evidence that these diets lead to a rapid weight loss, it is still unclear whether these results are sustainable in the longer-term. Besides, some studies suggest that high-protein intake may lead to long-term side effects, affecting your kidneys.