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The effect of vegetarian diet on chronic kidney disease (CKD) progression – systematic review

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Introduction: Vegetarian diet is more and more popular around the world as the alternative to the casual omnivore diet. It is considered not only a healthy way of consuming but also a sustainable way of living. Chronic Kidney Disease (CKD) is a rising problem for the global population. It is the main cause of death for 1.5% of the global population and it is projected to increase in the future. One of the nutritional strategies to tackle the problem of CKD is a protein-restricted diet (<0.8 grams of protein per day). It helps to decrease the proteinuria, uremic toxins, oxidative stress and improves renal function.

Aim: This systematic review is meant to examine the potential benefits of changing the diet to vegetarian to delay the progression of CKD.

Materials & Methods: Cochrane and Pubmed engines were used to search for the results. The investigation was carried out with the help of PRISMA 2020 Checklist and PRISMA 2020 flow diagram. Two investigators were involved in the selection. Selected terms for this research were: 'vegetarian diet' AND 'nephropathy', 'eGFR', 'albuminuria', 'chronic kidney disease'.

Results: According to studies from the last 6 years vegetarian diet improves eGFR and reduces proteinuria. It also decreases the serum urea and acidosis. Compared to the omnivore group, vegetarians have 16% and vegans have 13% less chance of CKD development. For diabetic patients' odds for CKD occurrence are 0.68 for both vegetarian and vegan diets indicating their protective aspect.

Conclusions: The vegetarian diet could be an alternative for low protein conventional diet not only improving the renal results but also the overall health of the patients. Vegetarians tend to have lower: BMI, LDL, blood pressure, oxidative stress. Although some studies emphasize the positive effect of plant-based diet on CKD, there is a need for big cohort studies with a larger population to deeply examine this aspect.

Keywords: albuminuria, chronic kidney disease, diabetes mellitus, vegetarian diet, vegetarianism