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Probiotic supplementation in chronic kidney disease: a meta-analysis of the research

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Objectives: To evaluate the effectiveness of probiotic supplementation in CKD population.

Methods: We used PubMed, ScienceDirect, and Cochrane databases with "probiotic," "chronic kidney disease," "creatinine," "BUN," and "uric acid" as keywords.

Results: Our calculation revealed that there was no significant difference of creatinine (MD = 0.48; 95% CI = 0.75-1.71; p = 0.44), BUN (MD = 2.45; 95% CI = 1.27-6.18; p = 0.20), and uric acid (MD = 10.64; 95% CI = 22.60-43.94; p = 0.53) based on the analysis of the overall effect on both group with CKD, which indicates that those value were not affected by probiotic intervention.

Conclusions: Although the result shows that probiotics do not significantly impact CKD, the potency of probiotics could be increased when combined with prebiotics or other preparations that involve regulating the gut microbiota.

Figure 1. PRISMA Flowchart

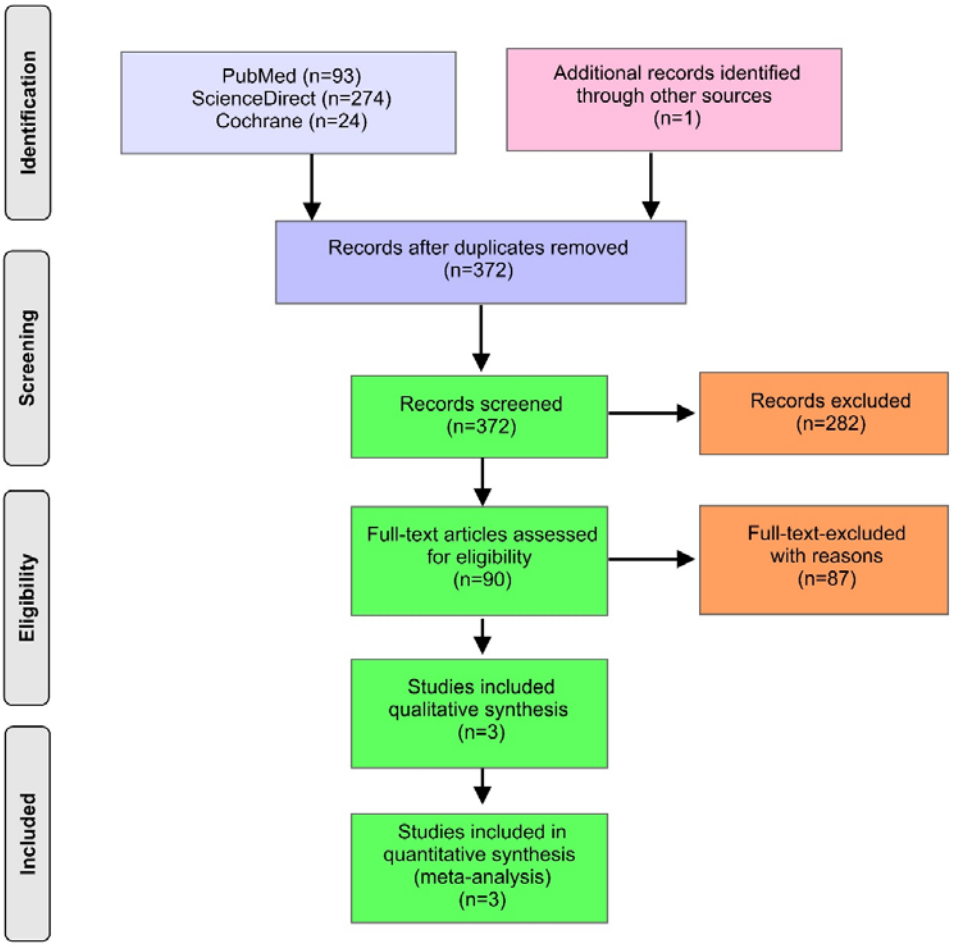

Figure 2. Summary of risk of bias across all the included studies