

# EFFECTIVENESS OF TRIMETHOPRIM -SULFAMETHOXAZOLE FOR PREVENTION OF URINARY TRACT INFECTION AFTER KIDNEY TRANSPLANTATION.

## A Systematic Review And Meta-analysis.

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### INTRODUCTION AND AIMS

Urinary tract infections (UTIs) are the most common bacterial infection in renal transplant recipients. To date, guidelines for UTI prophylaxis among renal transplant recipients are lacking. Clinically, trimethoprim-sulfamethoxazole (TMP/SMZ) is the most commonly used antibiotic for UTI prophylaxis. This systematic review was conducted to critically appraise the quality of available literature and evaluate the effectiveness of UTI prophylaxis using TMP/SMZ among renal transplant recipients. The primary outcome of the study was the incidence of UTIs in the first year following kidney transplantation.

### METHODS

Multiple electronic databases including MEDLINE (via Ovid), Cochrane Central Register of Controlled Trials (CENTRAL) and Proquest were searched for randomized controlled trials evaluating effectiveness of TMP/SMZ for the prevention of UTIs among renal transplant patients. In addition, reference lists of retrieved articles and clinical trials.gov were also searched. The search terms included: {Renal OR Kidney} AND Transplant AND {urinary tract infection OR CYSTITIS OR UTI} AND {antibiotic OR antibacterial OR trimethoprim OR sulfamethoxazole OR TMP OR SMX} AND {Prevent' OR prophylaxis} combined with filters (Human, English, clinical trial). Cochrane Collaborations' tool for assessing risk of bias was used to assess quality of included studies. Two authors independently extracted the data and two others checked it. Data synthesis and analysis were performed using Rev Man (version 5.3).

### RESULTS

Out of 127 studies retrieved from the database search, three randomized controlled trials met inclusion criteria. Overall, the quality of trials was poor. The trials had unclear or high risk of bias for most of the domains of Cochrane Collaborations' risk of bias tool. Meta analysis found that TMP/SMX prophylaxis significantly lowered the risk for developing UTIs by 77% (95%CI RR -0.23 [-0.34,-0.12]). Data were not combined for other outcomes due to clinical heterogeneity.

### CONCLUSIONS

Although (TMP/SMZ) shows a significant reduction in the incidence of UTIs during first year post-transplantation, selected studies were of questionable quality. More rigors and robust studies are needed before the use of TMP/SMZ can be advocated.

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