



# A SYSTEMATIC REVIEW AND META-ANALYSIS ON EFFECTIVENESS OF RICE-BASED ORAL REHYDRATING SOLUTION FOR THE TREATMENT OF ACUTE WATERY DIARRHEA AMONG CHILDREN

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## BACKGROUND

Acute diarrhea is one of the leading causes of morbidity and mortality among children and one of the recommended modalities to address this is thru the supplementation of the oral rehydrating solution. Rice-based ORS was introduced to address the limitation of glucose-based ORS.

## OBJECTIVES

This study aims to compare the effectiveness of rice-based ORS as compared with glucose-based ORS in the treatment of acute watery diarrhea among children. Specifically, it aims to review and analyze the effectiveness of rice-based ORS as compared to glucose-based ORS as to stool output, duration of diarrhea and effect of osmolarity on treatment of diarrhea and to determine associated adverse events associated with rice-based ORS and glucose-based ORS.

## METHODS

This study used systemic review and meta-analysis of randomized trials. Primary outcomes were computed with 95% confidence intervals to determine the effectiveness of rice-based ORS. Adverse event was expressed as risk ratios with 95% confidence intervals.

## RESULTS

Sixteen studies met the criteria for the systematic review and meta-analysis. Duration of acute diarrhea was shorter by 5 hours with rice-based ORS (MD= -5.27 hours, 95% CI= -9.63 to -0.91, p-value= 0.02) compared to glucose-based ORS. The stool output was 62.35 mL/kg lower with rice-based ORS (MD= -62.35 mL/kg, 95%CI= -128.43 to 3.74, p-value= 0.06) compared to glucose-based ORS. Vomiting was the only reported associated event with ORS intake (RR= 1.08, 95%CI= 0.81to 1.43, p-value= 0.60).

## CONCLUSION

Rice-based ORS show advantage in reducing the duration and stool output of diarrhea among children when compared to glucose-based ORS.