

COMMON SALT AND SUGAR WITH AND WITHOUT SODIUM BICARBONATE AS
AN ORAL REHYDRATION SOLUTION IN DIARRHOEA OF CHILDREN

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The effectiveness of common salt and sugar with or without sodium bicarbonate as an oral solution for fluid replacement in cholera and other severe non-cholera diarrhoeal diseases of children from 1 - 12 years of age (mean 6.35 yrs) was prospectively compared in a randomised double blind trial. After initial standard intravenous rehydration, patients were randomly assigned to receive either solution by mouth.

Both groups were comparable as to age and initial severity of dehydration (mean plasma sp. gravity 1.030). The group receiving oral solution without sodium bicarbonate improved its serum bicarbonate during continued oral therapy. Both groups showed slight hypokalaemia after 24 hours which was more marked after 48 hours, particularly in heavy purging cases. Failure in both groups was directly related to a high stool output. The presence or absence of sodium bicarbonate did not influence the failure rate. All patients passed urine within 24 hours being well hydrated with oral therapy. Sustained depression of serum bicarbonate level was present in those cases which failed on salt-sugar formulation without bicarbonate but not in those cases which failed who received sodium bicarbonate together with salt and sugar.

We conclude that (1) in patients with a very high stool output, failure was equally common in both groups; (2) patients who failed on the simple salt sugar replacement solution did not correct their serum bicarbonate concentrations; (3) patients successfully treated showed equally satisfactory results with both solutions; (4) oral potassium supplementation seems indicated in all groups.