Evidence Update

Other Infectious Diseases Series

Is it better to use oral or intravenous rehydration in children with dehydration due to gastroenteritis?

No important clinical difference was detected between oral and intravenous rehydration in children with dehydration due to acute gastroenteritis.

Inclusion criteria

Studies:

Randomized and quasi-randomized controlled trials.

Participants:

Children with dehydration due to acute gastroenteritis.

Intervention:

Intervention: oral rehydration therapy (ORT) administered orally or through a nasogastric tube.

Control: intravenous rehydration therapy (IVT).

Outcomes:

Primary: failure of rehydration or failure to maintain hydration after initial rehydration; death.

Secondary: weight gain; length of hospital stay.

Adverse events: any complication or adverse event.

Results

- 18 trials with 1811 participants. Two were adequately concealed. About half of the trials were conducted in high-income countries, with the other half in low and middle-income countries.
- For every 25 children treated with ORT rather than IVT, one child would fail to rehydrate and require IVT (risk difference 4%, 95% confidence interval 1 to 7; 1811 participants, 18 trials).
- Weight gain showed no significant difference between the two groups.
- Children treated with ORT spent less time in hospital (standardized mean difference 1.20 days, 95% CI 0.02 to 2.38; 526 participants, 6 trials).
- ORT and IVT were associated with different types of adverse event, but these were not systematically sought in most cases.

Adapted from Hartling L, Bellemare S, Wiebe N, Russell K, Klassen TP, Craig W. Oral versus intravenous rehydration for treating dehydration due to gastroenteritis in children. *Cochrane Database of Systematic Reviews* 2006, Issue 3. Art. No.: CD004390. DOI: 10.1002/14651858.CD004390.pub2. *Evidence Update* published in December 2006 .

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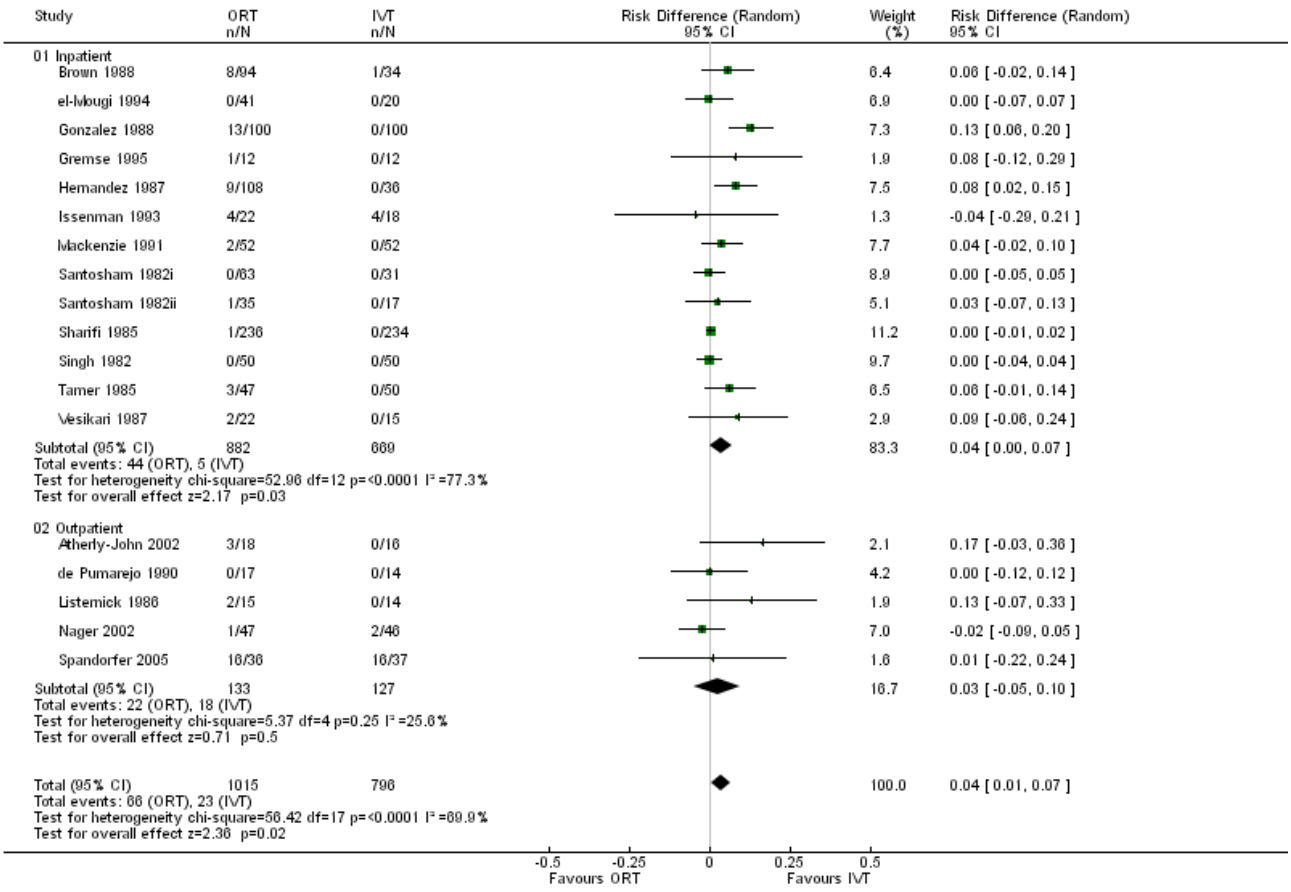
Oral versus intravenous rehydration therapy for treating dehydration due to acute gastroenteritis in children: failure to rehydrate



Authors' conclusions

Implications for practice:

There are no important clinical differences between oral and intravenous rehydration therapies for treating dehydration due to acute gastroenteritis in children. Oral therapy fails in about one in 25 children, and these children will go on to require intravenous treatment.

Implications for research:

No further trials are needed in this area.