



**OPERATIONAL
RESEARCH
SNAPSHOT**

GastroSAM: Rethinking Rehydration for Malnourished Children

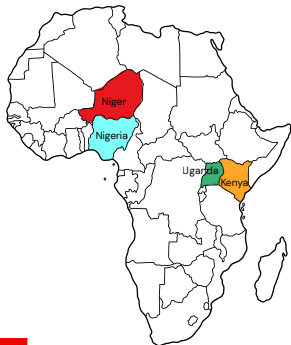


For nearly two decades, international guidelines have cautioned against using intravenous (IV) fluids in children suffering from Severe Acute Malnutrition (SAM) and dehydration due to gastroenteritis (GE).

Because SAM affects heart and kidney function, the World Health Organization recommended the use of a specialised oral solution rather than IV fluids. Despite these precautions, hospital data from several African countries have continued to show high mortality from dehydration among SAM children.

Thus, the GastroSAM trial was conducted in close collaboration among Médecins Sans Frontières, Imperial College London and University College London in 2023. The study aimed to provide robust evidence on how to safely manage dehydration in SAM children.





The study took place across 4 countries involving 272 children aged 6 months to 12 years. Different methods of rehydration treatment therapy were investigated :

1. Oral Rehydration with IV only for shock (current WHO SAM arm)
2. Rapid IV rehydration (3-6 h)
3. Slow IV rehydration (8 h) without bolus



The results showed that: Both slow and rapid IV rehydration were safe - no heart failure, fluid overload, or increased mortality. Children on oral fluids had more vomiting, shock, and needed more nasogastric feeding.



These findings provide the first robust clinical evidence that children with SAM can safely receive IV fluids using protocols similar to those for non-malnourished children.



Policy and practice

Equipping frontline health workers with the knowledge and skills to systematically monitor vital signs, recognize early clinical deterioration, and respond promptly, especially in settings with limited monitoring resources, must be a priority.

The World Health Organization has expressed openness to revisiting its guidelines. National health authorities should be actively supported in adapting and implementing these changes.

Original Study: Maitland K, Ouattara SM, Sainna H, et al. "Intravenous rehydration for severe acute malnutrition with gastroenteritis." [New England Journal of Medicine](#). 2025-06-13. DOI: 10.1056/NEJMoa2505752

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