

## ABSTRACT

### **Prevalence and Fluid Management of Dehydration in Children without Diarrhoea Admitted to Kenyan Hospitals: A Multisite Observational Study**

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**Objectives** To examine the prevalence of dehydration without diarrhoea among admitted children aged 1–59 months and to describe fluid management practices in such cases.

**Design** A multisite observational study that used routine in-patient data collected prospectively between October 2013 and December 2018.

**Settings** Study conducted in 13 county referral hospitals in Kenya.

**Participants** Children aged 1–59 months with admission or discharge diagnosis of dehydration but had no diarrhoea as a symptom or diagnosis. Children aged <28 days and those with severe acute malnutrition were excluded.

**Results** The prevalence of dehydration in children without diarrhoea was 3.0% (2019/68 204) and comprised 15.9% (2019/12 702) of all dehydration cases. Only 55.8% (1127/2019) of affected children received either oral or intravenous fluid therapy. Where fluid treatment was given, the volumes, type of fluid, duration of fluid therapy and route of administration were similar to those used in the treatment of dehydration secondary to diarrhoea. Pneumonia (1021/2019, 50.6%) and malaria (715/2019, 35.4%) were the two most common comorbid diagnoses. Overall case fatality in the study population was 12.9% (260/2019).

**Conclusion** Sixteen per cent of children hospitalised with dehydration do not have diarrhoea but other common illnesses. Two-fifths do not receive fluid therapy; a regimen similar to that used in diarrhoeal cases is used in cases where fluid is administered. Efforts to promote compliance with guidance in routine clinical settings should recognise special circumstances where guidelines do not apply, and further studies on appropriate management for dehydration in the absence of diarrhoea are required.

**Keywords:** Prevalence, Fluid management, Dehydration, Children, Diarrhea, Kenyan hospitals