

**Pillay V, Swingler GH. Therapeutic impact of routine electrolyte testing in management of plasma sodium and potassium disturbances in children with dehydrating diarrhea. 40th Annual Society for Epidemiological Research Meeting (Massachusetts) 2007**

To assess the impact on clinical management of routine plasma electrolyte testing in children admitted to hospital with dehydrating diarrhoea we performed a cross-sectional analytic survey of children aged 6 weeks to 2 years admitted to the Rehydration Unit at Red Cross Children's Hospital, Cape Town, South Africa. Consecutive sampling was done during work hours. Changes in clinical management were assessed by review of structured clinical records with a change in management defined as a change subsequent to the performance of electrolyte testing that was consistent with the unit's management protocols for electrolyte abnormalities.

In 55 (10.4%) of 528 included children sodium levels were abnormal, with 18 (3.4%) below 125mmol/l, 37 (7.0%) above 150mmol/l and 23 (4.4%) above 155 mmol/l. In 166 (31.6%) of 525 children potassium levels was below 3.5mmol/l, 40 (7.6%) below 2mmol/l and 13 (2.5%) below 1.5mmol/l. In the population studied, for every management change of a potassium level below 1.5mmol/l, 44 patients [95%confidence interval 28 to 99] needed to be tested and 48 patients [95%confidence interval 30 to 116] for each management change for sodium below 125mmol/l. In more prevalent and less severe conditions such as a potassium level below 3mmol/l, 3 to 4 patients needed testing for each management change. The benefits of routine testing needs to be weighed against the costs of performing many tests to detect one abnormality, taking into account the many competing priorities in settings where dehydrating diarrhoea is prevalent.