

Probiotics and diarrhoea - what about *amasi* (traditional fermented milk)?

Urbanisation has greatly influenced diets, but those of us who belong to the older generation of Africans grew up eating *amasi*. An excellent meal for hot summer days, grandmothers also considered it a useful intervention for childhood diarrhoea.

Diarrhoeal disease is a major cause of mortality and morbidity in poor communities, and a burden significantly increased by the HIV/AIDS epidemic. Any intervention (in addition to the vitally important oral rehydration solution) that might help prevent or treat diarrhoea should therefore be investigated. The number of Medline articles on probiotics is significant, especially when one considers that they were not even mentioned in medical curricula until recently. Probiotics are defined as live micro-organisms that, when administered in adequate amounts, confer a beneficial effect on the health of the host.¹ Two often-studied roles for probiotics in children are in acute diarrhoeal illness and antibiotic-associated diarrhoea (AAD).

For AAD a systematic review of 9/10 trials reporting on the incidence of diarrhoea 'showed statistically significant results favouring probiotics over ... controls (RR 0.49; 95% CI 0.32 to 0.74). However, intention to treat analysis showed non-significant results overall (RR 0.90; 95% CI 0.50 to 1.63).' The intention to treat analysis as a more reliable measure of outcome therefore puts a damper on the former positive results. The authors conclude that 'The current data are promising, but it is premature to routinely recommend probiotics for the prevention of pediatric AAD.'²

The article on probiotics, especially *Saccharomyces boulardii*, by Vandenplas *et al.* in this issue of *SAJCH* (p. 116) gives us an opportunity to debate and scrutinise the evidence on the effectiveness of probiotics in acute diarrhoea. In addition to studies cited in the above article, a systematic review of 23 studies found that 'probiotics reduced both the risk of diarrhea by day 3' and the 'mean duration of diarrhoea by 30.48 hours (95% CI 18.51 to 42.46 hours ...)', in essence 1 - 2 days.³ The authors concluded that 'Probiotics appear to be a useful adjunct to rehydration therapy ...' and that more research is needed on the use of particular probiotic regimens in specific patient groups.

The most recent trial also happens to compare the largest number of products, with 4 individual probiotics, 1 mixed strain probiotic and a control group treated only with oral rehydration fluid. The study found that the 'median duration of diarrhoea was significantly shorter in the *L rhamnosus* strain GG (78.5 hours) and the mixed strain group (70.0 hours) than in children who received oral rehydration solution alone (115.0 hours)'. In addition, 'One day after the first probiotic administration, the daily number of stools was significantly lower in the *L rhamnosus* strain GG and in those who received the probiotic mix than in the other groups.' The other three probiotics, including *S. boulardii*, were no different from oral rehydration in terms of the total duration of diarrhoea, the number of stools a day and their consistency. There was no difference between any of the groups in duration of vomiting, fever and rate of admission to hospital. The authors caution:

'Not all commercially available probiotic preparations are effective in children with acute diarrhea.'⁴

While more data on the benefit or otherwise of probiotics will continue to be published, what is particularly interesting in the plethora of studies is the lack of comparisons of probiotics with common fermented milk products. Apparently even among experts in the field 'there is still a debate about whether or not the yoghurt starter cultures ... should be considered as probiotics'.⁵ Perhaps it should not matter whether or not cultures in common fermented milk products are called probiotics. There are anecdotal data that suggest the benefit of common yoghurt, with reduction in mean hospitalisation days, diarrhoea frequency and weight gain compared with controls.⁶ The latter benefit does not seem to be under much scrutiny. Would it not better serve poor communities to test the benefit of probiotics against fermented milk products, which are commonly available, so that only those that are significantly better are recommended in clinical practice?

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