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Evaluation of anti-diarrhoeal effect of Dānyapanchaka decoction

A P G Amarasinghe* and B M Nageeb

Institute of Indigenous Medicine, University of Colombo, Rajagiriya

Diarrhoea is one of the major causes of mortality among children in developing countries. The World Health Organization has established Diarrhoeal Disease Control Programme, which includes studies of traditional medical practices. Ayurveda texts contain many recipes used in the treatment of diarrhoea and its complications.

Dānyapanchaka decoction is one of the most common preparations amongst various drugs prescribed in the treatment of non-specific diarrhoea in children by traditional physicians in Sri Lanka. Ingredients of this decoction are *Coriandrum sativum* (Kottamalli), *Zingiber officinale* (Inguru), *Cyperus rotundus* (Kalāduru ala), *Plectranthus zatarhendi* (Iriveriya) and *Aegle mamelos* (Beli). The present study was undertaken to evaluate its anti-diarrhoeal effects. Decoction was prepared according to the Ayurvedic pharmacopoeia. Albino Wistar rats (either sex) weighing 200-225 g were fasted for 18 hours prior to experimentation and divided into three groups (n=10/group). Treated group received 1ml of Dānyapanchaka decoction, control group received 2 ml of distilled water and reference group was administered Loperamide (0.143 mg/animal dissolved in distilled water). After 60 minutes of drug administration, each animal was given 1 ml of pure caster oil. Frequency of diarrhoea was recorded at 1-hour intervals for 6 hours. Charcoal meal test was performed to elucidate the effects of this decoction on the peristaltic movement in rats. The decoction inhibited the frequency of diarrhoea significantly (8.3±1.33, $p<0.01$) like the standard drug Loperamide (6.2±1.21, $p<0.01$) as compared to control group (16.7±2.23). The wetness of the faecal matter was also reduced by both the standard drug and the decoction. Decoction showed a significant reduction (47.82±3.28, $p<0.01$) of the propulsion of the charcoal meal through the gastro intestinal tract when compared with the control group. This effect was comparable to the reference drug (Atropine 0.1mg/kg body weight). The above observations suggest that Dānyapanchaka decoction at the given dose has an anti diarrhoeal effect against caster oil induced diarrhoea in rats. One of the probable mechanisms of anti-diarrhoeal action of Dānyapanchaka decoction could be via the reduction of peristaltic movements.

* drgamarasinghe@hotmail.com Tel: 011 2694308