

LETTER TO THE EDITOR

PHYSICAL PROPERTIES OF COLD EXTRACT OF CURRY LEAVES
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Sir,

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The commercial mouthwashes contain essential oils thymol and eucalyptus oil and their pH is below 5.5 (1). The essential oils present in these Mouthwashes contain terpenes and they have antibacterial activity against bacteria present in the mouth (2-4). The curry leaf (*Murraya koenigii spreng*) has 2.6% volatile essential oils (terpenes: beta caryophylline, beta gurjunene, beta elemene, bete phellandrene, beta thujene and others). These oils in the curry leaf are sufficiently soluble in water and terpenes are lighter than water. The curry leaves have antibacterial and antidiabetic activity (blocks pancreatic alpha amylase) (5, 6). The curry leaves are helpful in reducing halitosis (bad breath) and to maintain good oral hygiene (7, 8). In the present study we have studied the physical properties of the cold extract of fresh curry leaves. Cold extract of fresh curry leaves was prepared - by keeping 10 g of fresh cut curry leaves in a clean glass bottle containing 200 ml of distilled water and the lid was closed. This was kept at room temperature (at 31°C) for 2 hours

and the contents were mixed gently at 5 minute intervals for 2 hours. The pH, density and surface tension of this extract were determined (18 observations). The surface tension was determined by the capillary rise method. The results are expressed as mean \pm SD. The pH of the cold extract was 6.3 to 6.4 and the density and surface tension were 0.9741 ± 0.01 g/ml and 44.85 ± 1.62 dynes/cm respectively. The surface tension of distilled water (at 31°C) was 69.88 ± 1.40 dynes/cm. The terpenes produce a decrease in the surface tension of water (9). Terpenes present in the curry leaves lower the surface tension of water and this helps in the cleansing action as it produces foam when swished with water in the mouth. The pH of the cold extract of the curry leaves has a pH of 6.3 to 6.4 and this will help in protecting the oral tissues. Thus chewing 2 to 4 fresh curry leaves with 10 to 15 ml of water, swishing for 5 to 7 minutes and rinsing the mouth with water may be of help as cheap and safe mouthwash.

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REFERENCES

1. Claffey N. Essential oil mouthwash: a key component in oral health management. *J Clin Periodontol* 2003; 30(s5): 22–24.
2. Kato T, Iijima H, Ishihara K et al. Antibacterial effects of Listerine on oral bacteria. *Bull Tokyo Dent Coll* 1990; 31: 301–307.
3. Didry N, Dubruil L, Pinkas M. Activity of Thymol and Carvacrol, Cinnamaldehyde and Eugenol on Oral Bacteria. *Pharmaceutica Acta Helvetiae* 1994; 69: 25–28.
4. Dolara P, Corte B, Ghelardini C, et al. Local anesthetic, antibacterial and antifungal properties of sesquiterpenes from myrrh. *Planta Med* 2000; 66: 356–358.
5. Nutan MTH, Hasnat A, Rashid MA Antibacterial and cytotoxic activities of *Murraya koenigii* *Fitpterpia* 1998; 69(2): 173–175.
6. Bawden–Tucknoff K, Raman A, Hylands PJ, Houghton PJ Alpha amylase inhibitors extracted from plants traditionally used for diabetes and their potential as novel ant-diabetic treatments. British Pharmaceutical Conference, *Manchester UK*, 27–29. September 2004.
7. Math MV, Balasubramaniam P. Curry leaves (*Murraya Koenigii spreng*) and halitosis. *BMJ South Asia Edition* 2003; 19(3): 211.
8. Math MV, Balasubramaniam P. Curry leaves. *BDJ* 2004; 197(9): 519.
9. Zanker KS, Blumel G. Terpene-induced lowering of surface tension *in vitro*: a rationale for surfactant substitution. *Res Exp Med (Berl)* 1983; 182(1): 33–38.