

LETTER TO THE EDITOR

TAMARIND AS A SALLOGOGUE

Sir,

(Received on August 11, 1997)

Tamarind pulp which is rich in tartaric acid, acetic acid and vitamin C, is one of the important ingredient of Indian cooking. This induces salivation and enhances digestion. It is also attributed with bacteriostatic (1) and urinary litholytic properties (2). Effect of tamarind on salivation in human beings is reported here.

In the present experiment, salivation response of 64 human subjects between age group of 18-20 for different tastes such as sweet (chocolate), salt (sodium chloride), sour (tamarind) were compared. The quantity of stimulant was five grams and the duration of stimulation was three minutes in all cases. The saliva produced was collected after rinsing mouth with 30 ml of water. Saliva produced to tactile sensation (30 ml of water) and mechanical stimulation including jaw movement (chewing of tasteless gum) were used as controls and results are correlated below.

Tactile stimulus by water produced a very slight increase in production of saliva whereas mechanical movement of jaws with

stimulation by gum produced increased salivation which is similar to earlier reports (4,5). But the quantity of saliva produced were similar for salt and sweet tastes but was significantly higher than both the controls. The response to sweetness is similar to the reports of Guinard (6). Sourness (Tamarind) produced significantly higher quantity of saliva as compared to any of the other stimuli used in this experiment. This could be attributed to adaptive response to prevent denaturation of ptyalin by the acids present in the tamarind and also to reduce the irritation caused by acids. The process of dilution may also be protecting certain taste buds from the extreme acidity of tamarind pulp.

Treatment	Volume of saliva (ml) Mean \pm SE
Control (Tactile)	2.33 \pm 0.49
Control (Mechanical)	6.56 \pm 0.51
Sweet	11.03 \pm 0.51
Salt	11.91 \pm 0.50
Sour	21.61 \pm 0.81

These results were subjected to statistical analyses (3). Values of the treatment i.e. Sweet, Salt and Sour were significant as compared to both controls and highly significant for sour as compared to others ($P < 0.001$).

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REFERENCES

1. Gizaway DE. Bacterial growth in the juice prepared of traditional fruits. *Annals of Agric Sci CAIRO* 1994; 39: 571-580.
2. Anasuya, Shashikala. Tamarind ingestion and lithogenic properties of urine study in men. *Nutrition Research (USA)* 1990; 10: 1109-1117.
3. Snedacor VG, Cochran GW. *Statistical Methods* VI ed. 1976 Oxford and IBH Publishing Co., Calcutta.
4. Burgen ASV. Secretory processes in salivary glands. In *Hand book of Physiology*. 1997; 41-45. The Williams and Williams Co., Baltimore.
5. Guyton AC. *Text book of medical physiology*. IV edn. 1971; 870-871, W.B.Saunders Company, London.
6. Guinard J, Zoumas Morse C, Walchak C, Simpson H. Relation between saliva flow and flavour release from chewing gum. *Physiology and Behaviour* 1997; 61: 591-596.