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Formulation of herbal mouthrinse for halitosis

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Abstract
Epidemiological studies showed that the mouth contains a wide variety of oral bacteria but only a few species of bacteria are believed to cause dental caries. Herbs are being widely explored to discover alternatives to synthetic antibacterial agents that results in dental erosion. The study was to assess the chemical properties, storage stability and microbial load of formulated herbal based mouthrinse blended with aloe vera, clove extract, mint leaves, baking soda and menthol. chemical analysis of pH and acidity revealed that sample T_2 has pH range of 6.58 and titrable acidity was 3.2% ,microbiological tests revealed that microbial load of all the three variants was less than the maximum limit of colony forming units and is depicted that sample T_2 showed less total plate counts in 0 day,5 day,7 day,10 day,15 day.i.e.0,172.3,183.6,198.6,220 respectively, as compared to other variants of mouthrinse, the findings revealed that purely aloe based mouth rinse was highly acceptable regarding all the phases of attributes and could be recommended for the person's suffering from dental erosions, halitosis etc.

Keywords: chemical analysis, storage stability, microbial load.

1. Introduction
Dental caries or cavities, more commonly known as tooth decay, are caused by a breakdown of the tooth enamel. This breakdown is the result of bacteria on teeth that breakdown foods and produce acid that destroys tooth enamel and results in tooth decay. Although dental caries are largely preventable, they remain the most common chronic disease of children aged 6 to 11 years and adolescents aged 12 to 19 years. The mouth contains a wide variety of oral bacteria, but only a few species of bacteria are believed to cause dental caries; *Mutans streptococcu*s and *Lactobacilli.* [1]
Mouthwashes (mouth rinses) are solutions or liquids used to rinse the mouth for a number of purposes:
(a) To remove or destroy bacteria
(b) To act as an astringent
(c) To deodorise
(d) To have a therapeutic effect by relieving infection or preventing dental caries. [7]
Usually mouth washes are an antiseptic solution intented to reduce the microbial load in the oral cavity which further leads to halitosis additionally herbal rinses act as saliva substitutes to neutralize acidic pH and reduce bad breath by keeping mouth moist with a pleasant taste.

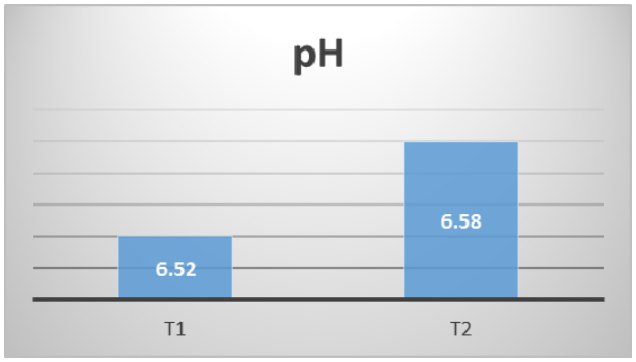
2. Methodology
Chemical analysis of samples:
- **Determination of total acidity:** This was determined by the method described by AOAC(2000) 15 ml of each sample was measured into a conical flask and 10 ml of distilled water was added together with a drop of phenalphthalein indicator and was titrated with 0.1ml of NaOH to an end point of colour change. [62]

Total titrable acidity (TTA):-Titre value × 100 / weight of sample used

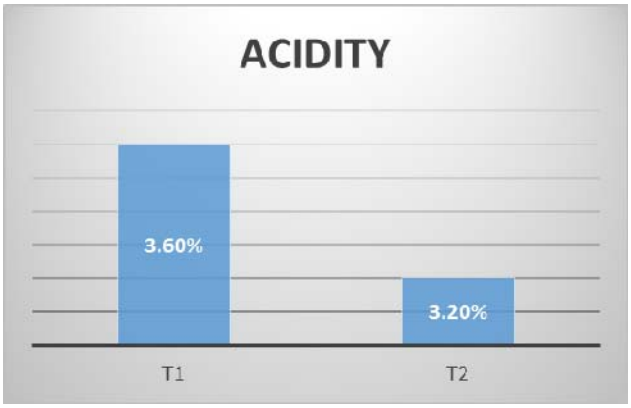
- **Measurement of pH of the samples:** The pH of the sample was determined using a pH meter,10 ml of each sample was weighed into a beaker containing 25 ml of distilled water.it was allowed to stand for 30 minutes with constant stirring. The pH meter was standardised using buffer solution but electrode was inserted into the samples and reading taken. [62]

3. Results & discussion
- In case of titrable acidity and pH of samples variants shows more than 5 pH, hence. Acidity also slows down, it has been revealed that sample T_2 is more basic with utmost less titrable acidity i.e. 3.2% (acidity) and 6.58 (pH.)

3.1 Graphical representation of pH of Mouth rinse



3.2 Graphical representation of total acidity of Mouth rinse



4. Summary & conclusion

The findings revealed that chemical analysis of sample T2 was agreeable pH is 6.58 which is suitable for good oral prophylaxis and acidity is less as it is directly proportional to the pH hence results indicated that purely aloe based mouth rinse is best suited in all the attributes as aloe Vera contains OXYD-8 compound which oxidizes the mouth and create a stable environment for healthy collagen to develop which kill the oral bacteria.

5. References

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