



A review on mouthwash

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Abstract

Mouthwashes are a very popular additional oral hygiene element and there are plenty of individual products, whose compositions are in a state of flux.

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Introduction:

Mouthwashes are a very popular additional oral hygiene element and there are plenty of individual products. There are two main types of mouthwash applications: preventive and therapeutic. A single product may possess a double function: antiplaque substances prevent as well as support the treatment of periodontal diseases, among others.

DEFINITION OF MOUTHWASH :

Mouthwashes (also called mouth rinses/mouthrinses, oral rinses or oral washes) are liquid, aqueous compositions mainly intended to prevent, relieve and cure oral conditions and maintain oral health .

FORMULATION OF MOUTHWASH

1. ****Active Ingredients****: These provide the therapeutic effects.

- ****Antibacterial agents****: Chlorhexidine gluconate (0.12%), cetylpyridinium chloride (0.05%), or essential oils.

- ****Fluoride****: Sodium fluoride (0.02%) for anticavity protection.

2. ****Solvent****: The primary liquid base.

- ****Water****: Purified water, acts as the main solvent.

3. **Humectants**: Prevent drying of the mouth.

- **Glycerin or Sorbitol**: Around 5-10%.

PROCEDURE :

1. **Preparation**:

- Measure and prepare all ingredients.

2. **Mixing**:

- Dissolve the active ingredients (chlorhexidine gluconate and sodium fluoride) in purified water.
- Add the humectant (glycerin) and mix thoroughly.
- Incorporate the flavoring agents and essential oils.
- Add the sweetener (xylitol) and preservatives (sodium benzoate).
- Adjust the pH using citric acid or sodium hydroxide as necessary.
- Add coloring agent if desired, ensuring even distribution.

3. **Final Adjustment**:

- Make up the final volume to 1000 mL with purified water.
- Ensure all components are fully dissolved and the solution is homogeneous

GENERAL EVALUATION METHODS

1. Microbiological Evaluation

- **Antibacterial Activity**

- **Agar Diffusion Test**: Measure the inhibition zones around mouthwash samples on bacterial culture plates.

- **Minimal Inhibitory Concentration (MIC)**: Determine the lowest concentration of mouthwash that inhibits bacterial growth.

- **Preservative Efficacy**:

- **Challenge Test**: Assess the mouthwash's ability to prevent microbial growth over time by inoculating it with known microorganisms and monitoring survival.

2. **Chemical Evaluation**

- **Active Ingredient Content**:

- **High-Performance Liquid Chromatography (HPLC)**: Quantify active ingredients such as chlorhexidine, fluoride, or essential oils.

- **pH Measurement**:

- Use a calibrated pH meter to ensure the mouthwash is within the desired pH range, typically 5.5 to 7.0.

3. **Physical Evaluation**

- **Appearance**:

- **Visual Inspection**: Check for clarity, color consistency, and absence of particulate matter

RESULTS OF EVALUATION :

Evaluation Method	Parameter Tested	Test Method
Microbiological Evaluation	Antibacterial Activity	Agar Diffusion Test
Inhibition Zone: 15 mm	Effective against <i>S. Mutans</i>	
	MIC	0.01%
inhibitory concentration		Minimum

CONCLUSION:

Mouthwash is a valuable adjunct to daily oral hygiene practices, offering a range of benefits that enhance oral health and overall well-being.

