



Research article

Formulation and evaluation of metronidazole lozenges for oral thrush

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Key words: Metronidazole, Lozenges, Oral thrush, In-vitro release, Eudragit.

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Vol. 6 (3), 05-10, Jul-Sep, 2019.

Abstract

Background: Metronidazole is an antimicrobial medication used for the treatment of a variety of parasitic and bacterial infections of the vagina, gynecological area, skin, intra-abdominal cavity, blood, bone, joint, nervous system, and heart. Metronidazole are market as tablet, capsule, cream, lotion, gel, and injection dosage form but still there is a need for new dosage forms which acts effectively and locally. The lozenges dosage forms will increase bioavailability, reducing gastric irritation and increase onset of action. Preparing lozenges dosage forms will provide suitable choice for geriatric and pediatric patients who can't swallow tablets formulation. **Objective:** This study aimed to formulate metronidazole as lozenges to improve delivery of drug to treat oral thrush. **Methods:** Lozenges were formulated using heating and congealing technique. Chocolate, Cherry and Eudragit E100 were used to mask bitter taste of metronidazole. Quality control tests were done to assess the formulated lozenges physically and chemically. **Results:** The quality control results revealed that the formulated lozenges had good quality as the content of metronidazole in lozenges was found 100.25 ± 0.25 , their average weight ($4.3g \pm 0.19$), while the mean thickness and diameter of lozenges were ($5.29 \text{ mm} \pm 0.23$) and ($25.24 \text{ mm} \pm 0.18$) respectively. The in-vitro drug release of MTZ-Chocolate and MTZ-Cherry show rapid release (86.92% & 82.5%) respectively in 10minute, while MTZ-Eudragit show slow release 106.43% in 50 minutes. FTIR Spectral study revealed compatibility of MTZ with eudragit and other excipient. **Conclusion:** The moulded lozenges can provide an attractive alternative formulation of metronidazole medicament for oral thrush.