

FORMULATION OF LOZENGES CONTAINING LEMON BALM (*Melissa officinalis* (L.) EXTRACT AND THEIR QUALITY ASSESSMENT

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SUMMARY

Background: Lemon balm (*Melissa officinalis* (L.) is a plant which is valued for its wide range of biological activities, including antinociceptive, stress relieving, antioxidant, and many others [1]. It is important to always experiment with innovative and customer-friendly pharmaceutical forms to model and evaluate, such as lozenges which can be chewable or hard [2]. In this work, we have formulated lozenges containing dry lemon balm extract, and evaluated their quality.

Aim of the study: To model lozenges with dry lemon balm (*Melissa Officinalis* (L.) extract and to evaluate their quality.

The objectives of the study:

1. To chose the excipients and bases for various type of lozenges containing dry lemon balm extract
2. To prepare and model lozenges with chocolate, gelatin and honey base, and describe the production process.
3. To evaluate the quality of prepared lozenges.

Methods: Lozenges were prepared by melting the excipients in the water bath, and incorporating dry lemon balm extract in the mixture, then pouring in the molds and leave to harden. The quality was assessed by evaluating the weight uniformity of prepared lozenges, and their disintegration time, as well as organoleptic properties.

Results: three types of lozenges with 2.5% dry lemon balm extract were prepared. The first batch was prepared using chocolate base with cocoa butter, cocoa powder and sugar, and peppermint essential oil. The second batch was

prepared using gelatin, glycerol, glucose syrup and peppermint essential oil. The third batch was prepared using honey and sucrose as syrup base and then caramelized. All lozenges were sweet and the organoleptic properties were acceptable. In vitro disintegration test showed that chocolate and honey base increases the disintegration time comparing to the gelatin lozenges.

Conclusions

1. The excipients and bases chosen for lozenges containing dry lemon balm extract were chocolate, gelatin and honey, which are acceptable for lozenges and possess good taste for the consumer.
2. Three types of lozenges with dry lemon balm extract, while melting the excipients in water bath and the dry lemon balm extract was added in the mix, and then poured into silicon molds to harden.
3. The prepared lozenges were good tasting, and organoleptic properties were evaluated positively, their mass was uniform and the disintegration test *in vitro* has shown that excipients chosen have impacted the disintegration time.

References

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2. Pundir, S., & Verma, A. (2014). Review on lozenges. *Journal der pharmazie Forschung*, 2(1), 1-10.