



## **BIOAUTOGRAPHIC EVALUATION OF PLANTAGO MAJOR IN THE PREVENTION OF DENTAL CARIES**

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### **ABSTRACT**

This study aimed to evaluate the efficacy of *Plantago major* L. extract (Plantaginaceae) against *Streptococcus mutans*, a bacterium crucial in the formation of biofilms and the development of dental caries. Research has explored this medicinal plant as a natural alternative to overcome the limitations of conventional caries control methods. The investigation was conducted using an in vitro model, using the methods of broth microdilution and bioautographic diffusion to evaluate the antimicrobial activity.

The results were compared with those obtained for chlorhexidine, widely used as a reference in antimicrobial control. *P. major* extract formed consistent inhibition zones, although smaller than those produced by chlorhexidine, highlighting its potential as a natural antimicrobial agent. The descriptive values revealed that the mean inhibition zones were  $14.98 \pm 0.22$  mm for the group treated with 1% chlorhexidine,  $12.35 \pm 0.31$  mm for 0.12% chlorhexidine, and  $9.95 \pm 0.41$  mm for *P. major* extract.

It was concluded that *P. major* extract is a viable therapeutic option, with significant benefits for oral health. The findings reinforce the need to continue exploring herbal therapies, especially in the face of increasing microbial resistance, and provide a basis for the development of new clinical studies that deepen this therapeutic approach.

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