

**PENGARUH KONSENTRASI GELATIN SEBAGAI BAHAN PENGIKAT  
TERHADAP KEKERASAN DAN WAKTU LARUT TABLET HISAP  
EKSTRAK ETANOL DAUN SIRIH (*Piper betle* L.)**

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**INTISARI**

**Latar Belakang:** Daun sirih (*Piper betle* L.) mengandung senyawa flavonoid memiliki aktivitas antibakteri. Tablet hisap ekstrak daun sirih salah satu alternatif untuk mencegah timbulnya plak dan karies gigi. Gelatin merupakan bahan pengikat dengan kemampuan pengikat cukup tinggi menghasilkan tablet yang cukup keras sehingga dapat mempertahankan bentuk tablet dan proses melarut tablet hisap.

**Tujuan Penelitian:** Mengevaluasi karakteristik fisik kekerasan tablet dan waktu larut tablet hisap ekstrak etanol daun sirih dengan variasi konsentrasi gelatin sebagai bahan pengikat.

**Metode Penelitian:** Ekstrak daun sirih diperoleh secara maserasi dengan pelarut etanol 70%. Tablet hisap ekstrak daun sirih dibuat secara granulasi basah dengan variasi konsentrasi 2,5%, 5% dan 7,5% gelatin sebagai bahan pengikat. Data evaluasi kekerasan dan waktu larut tablet di analisis dengan One way Anova ( $p < 0,05$ ).

**Hasil Penelitian:** Berdasarkan hasil evaluasi fisik kekerasan dan waktu melarut dan uji kesukaan gelatin 7,5% formula terbaik

**Kesimpulan:** Kenaikan konsentrasi gelatin sebagai bahan pengikat menaikkan kekerasan dan memperlama waktu melarut tablet hisap.

**Kata kunci:** daun sirih, gelatin, tablet hisap

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**EFFECT OF GELATIN CONCENTRATION AS A BINDING MATERIAL  
ON THE HARDNESS AND DISSOLUTION TIME OF SUCTION TABLET  
ETHANOL EXTRACT OF BETEL LEAF (*Piper betle* L.)**

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***ABSTRACT***

**Background:** Betel leaf (*Piper betle* L.) contains flavonoids antibacterial activity. Betel leaf lozenges are an alternative to prevent plaque and dental caries. Gelatin is a binder with a relatively high binding capacity to produce tablets that are hard enough to maintain tablet shape and the process of dissolving lozenges.

**Objective:** Evaluate the physical characteristics of tablet hardness and dissolving time of lozenges of betel leaf ethanol extract with various concentrations of gelatin as a binder.

**Methods:** Betel leaf extract obtained by maceration with 70% ethanol solvent. Betel leaf extract lozenges were made by wet granulation with various concentrations of 2.5%, 5% and 7.5% gelatin as a binder. Evaluation data of tablet hardness and dissolving time were analyzed by One way Anova ( $p < 0.05$ ).

**Result:** Based on the results of the physical evaluation of hardness and dissolving time and the preference test for 7.5% gelatin the best formula.

**Conclusion:** Increasing the concentration of gelatin as a binding agent increases the hardness and prolongs the dissolving time of the lozenges.

**Keywords:** betel leaves, lozenges, gelatin.

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