

## Abstrak

### FORMULASI DAN EVALUASI SIFAT FISIK SEDIAAN TABLET DISPERSIBEL EKSTRAK ETANOL DAUN SENNA (*Cassia angustifolia* Vahl.)

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**Latar Belakang:** Daun senna (*Cassia angustifolia* Vahl.) mengandung *sennoside* yang telah disetujui oleh FDA sebagai laksatif alami. Namun adanya permasalahan dalam penerimaan pasien seperti kurangnya kemampuan pasien dalam menelan tablet dalam bentuk utuh, maka diperlukan modifikasi bentuk sediaan tablet biasa menjadi tablet dispersibel. Tujuan penelitian ini adalah untuk mengetahui konsentrasi disintegran *sodium starch glycolate* (SSG) yang dapat menghasilkan tablet dispersibel ekstrak etanol daun senna dengan sifat fisik yang memenuhi syarat.

**Metodologi:** Penelitian ini merupakan penelitian eksperimental dengan variasi konsentrasi SSG sebesar 2, 4, dan 8%. Evaluasi granul meliputi uji *moisture content*, uji sifat alir, uji sudut diam, uji kompresibilitas, dan uji distribusi ukuran partikel. Evaluasi tablet meliputi uji organoleptik, uji keseragaman bobot dan ukuran, uji kekerasan, uji kerapuhan, dan uji waktu terdispersi. Formula terpilih adalah formula yang memenuhi syarat evaluasi sifat fisik granul dan tablet yang paling baik.

**Hasil Penelitian:** Ketiga formula dengan konsentrasi SSG berturut-turut 2%, 4%, dan 8% memenuhi syarat evaluasi granul. Formula I memiliki kekerasan 5,02 kg/cm<sup>2</sup> dan waktu terdispersi sebesar 3,2 menit. Formula II memiliki kekerasan 4,86 kg/cm<sup>2</sup> dan waktu terdispersi sebesar 3,1 menit. Formula III memiliki kekerasan 3,54 kg/cm<sup>2</sup> dan waktu terdispersi sebesar 2,6 menit. Hasil evaluasi sifat fisik tablet ketiga formula tidak berbeda signifikan sehingga semua formula dianggap memenuhi persyaratan evaluasi sifat fisik tablet.

**Kesimpulan:** Formula III dengan konsentrasi SSG 8% merupakan formula terpilih yang memenuhi syarat sifat fisik granul dan tablet yang paling baik.

**Kata kunci:** *Cassia angustifolia* Vahl., Konstipasi, Tablet dispersibel

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## Abstract

### **FORMULATION AND EVALUATION OF PHYSICAL PROPERTIES OF SENNA LEAF (*Cassia angustifolia* Vahl.) ETHANOL EXTRACT DISPERSABLE TABLETS**

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**Background:** Senna leaves (*Cassia angustifolia* Vahl.) contain sennoside which has been approved by the FDA as a natural laxative. However, there are problems in patient acceptance such as the patient's lack of ability to swallow tablets in their entire form, so a modification of the usual tablet dosage form is needed to become dispersible tablets. The purpose of this study was to determine the disintegrant concentration of sodium starch glycolate (SSG) which can produce senna leaf ethanol extract dispersible tablets with physical properties that meet the requirements.

**Methods:** This study was an experimental study with variations in SSG concentrations of 2, 4 and 8%. Granule evaluation includes moisture content test, flow property test, angle of repose test, compressibility test, and particle size distribution test. Tablet evaluation includes organoleptic test, weight and size uniformity test, hardness test, friability test, and dispersed time test. The selected formula is the formula that meets the best evaluation requirements for the physical properties of granules and tablets.

**Results:** The three formulas with sodium starch glycolate concentrations of 2%, 4%, and 8% respectively fulfilled the granule evaluation requirements. Formula I has a hardness of 5,02 kg/cm<sup>2</sup> and a dispersion time of 3,2 minutes. Formula II has a hardness of 4,86 kg/cm<sup>2</sup> and a dispersion time of 3,1 minutes. Formula III has a hardness of 3,54 kg/cm<sup>2</sup> and a dispersion time of 2,6 minutes. The results of the evaluation of the physical properties of the three formulas did not differ significantly so that all formulas were considered to meet the requirements for evaluating the physical properties of the tablets.

**Conclusion:** Formula III with SSG concentration of 8% is the selected formula that meets the requirements for the best physical properties of granules and tablets.

**Keywords:** *Cassia angustifolia* Vahl., Constipation, Dispersible tablets

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