Abstrak

FORMULASI GRANUL *EFFERVESCENT* VITAMIN C MENGGUNAKAN BAHAN PENGISI SERBUK SERAT AMPAS KELAPA

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Latar Belakang: Ampas kelapa merupakan hasil samping proses pembuatan minyak kelapa dan memiliki zat gizi. Ampas kelapa diisolasi menggunakan larutan alkali mengandung 72,15% serat pangan. Serat merupakan bahan pengisi yang sering digunakan. Vitamin C berfungsi sebagai antioksidan dan efektif mencegah radikal bebas. Penelitian ini bertujuan untuk mengetahui karakteristik fisik serbuk serat ampas kelapa dijadikan sebagai bahan pengisi sediaan farmasi dan diformulasikan menjadi granul e*ffervescent* vitamin C.

Metodologi: Granul *effervescent* dibuat 3 formula dengan variasi serbuk serat ampas kelapa FI (4%), FII (4,25%), FIII (4,5%) menggunakan metode granulasi basah. Serbuk serat ampas kelapa diuji morfologi, pH dan, waktu alir,. Granul diuji sifat fisik dan penetapan kadar zat aktif sediaan menggunakan spektrofotometri UV-Vis.

Hasil Penelitian: Hasil penelitian menunjukkan bahwa serbuk serat ampas kelapa memiliki bentuk partikel persegi tak beraturan; pH 6,43; kecepatan alir 4,73 g/detik. Hasil evaluasi granul *effervescent* menunjukkan ketiga formula memenuhi persyaratan. Kecepatan alir (4-10 g/detik), sudut diam (31^0-35^0), susut pengeringan (2%-5%), pH (5-7), waktu larut (<5 menit), indeks kompresibilitas (11%-15%), kandungan lembab (<5%), dan kadar zat aktif (90%-110%). Variasi serbuk serat ampas kelapa tiap formula mempengaruhi kecepatan alir dan waktu larut secara signifikan.

Kesimpulan: Serbuk serat ampas kelapa dapat dijadikan sebagai bahan pengisi alternatif sediaan farmasi dan dapat diformulasikan menjadi sediaan granul *effervescent.*

Kata Kunci: serbuk serat ampas kelapa, vitamin C, granul *effervescent*, spektrofotometri UV-Vis

Abstract

FORMULATION OF VITAMIN C *EFFERVESCENT* GRANULES COCONUT FIBER POWDER AS FILLING MATERIALS

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Background: Coconut pulp is a by-product of the process making coconut oil, and contains various nutrients. Coconut pulp fiber isolated using an alkaline solution contains 72.15% food fiber. Fiber is the fillers that is often used. Vitamin C functions as an antioxidant and effectively prevents free radicals that can damage cells or tissues. The aims of thes study to determine the physical characteristics of coconut pulp fiber powder used as pharmaceutical filler ingredients and formulated into vitamin C *effervescent* granules.

Methodology: *Effervescent* granules were made in 3 formulas with different concentrations of FI pulp fibers (4%), FII (4.25%), FIII (4.5%) using the wet granulation method. Coconut pulp fiber powder was tested for morphology, organoleptic, pH, flow time. The granules were tested for physical properties and the determination of levels of the active substance preparations using UV-Vis spectrophotometry.

Results: The results showed that the coconut pulp fiber powder has an irregular square particle shape, pH 6.43, flow rate 4.73 g / sec. Effervescent granule evaluation results show that all three formulas meet the requirements. Flow velocity (4-10 g/sec), rest angle (31^0-35^0), drying shrinkage (2%-5%), pH (5-7), dissolution time (<5 minutes), compressibility index (11%-15%), moist content (<5%), and active substance content (90%-110%). The difference in the concentration of coconut pulp fiber powder in each formula influences the flow rate and solubility time significantly.

Conclusion: Coconut pulp fiber powder can be used as an alternative filler for pharmaceutical preparations and can be formulated into *effervescent* granule preparations.

Keywords: coconut pulp fiber powder, vitamin C, *effervescent* granules, UV-Vis spectrophotometry