

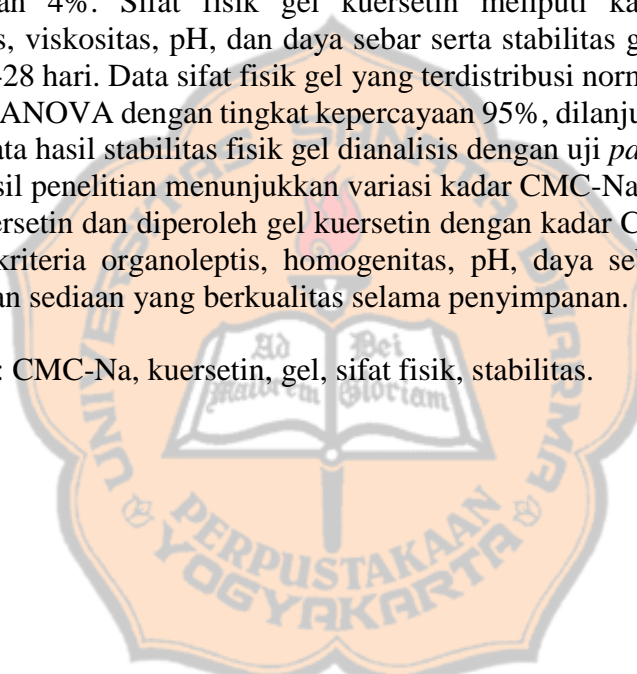
ABSTRAK

Kuersetin diketahui memiliki manfaat farmakologis sebagai anti-inflamasi, antioksidan, dan antibakteri sehingga memiliki potensi menjadi sediaan topikal. Salah satu sediaan topikal yang dapat digunakan adalah gel. *Carboxymethylcellulose Sodium* (CMC-Na) sebagai *gelling agent* memiliki karakteristik fisik yang unik yang dapat mempengaruhi kualitas fisik gel kuersetin. Penelitian ini bertujuan untuk mengamati pengaruh CMC-Na pada sifat fisik dan stabilitas fisik gel kuersetin. Selain itu, dalam penelitian ini diharapkan dapat dihasilkan formula yang menghasilkan gel kuersetin yang memenuhi spesifikasi mutu yang telah ditetapkan.

Pada penelitian ini dibuat 4 formula dengan variasi kadar CMC-Na: 1%, 2%, 3% dan 4%. Sifat fisik gel kuersetin meliputi karakter organoleptis, homogenitas, viskositas, pH, dan daya sebar serta stabilitas gel diamati pada hari ke-1 dan ke-28 hari. Data sifat fisik gel yang terdistribusi normal dianalisis dengan uji *one-way ANOVA* dengan tingkat kepercayaan 95%, dilanjutkan dengan analisis *post hoc*. Data hasil stabilitas fisik gel dianalisis dengan uji *paired-samples T-test*.

Hasil penelitian menunjukkan variasi kadar CMC-Na mempengaruhi sifat fisik gel kuersetin dan diperoleh gel kuersetin dengan kadar CMC-Na 2,02% yang memenuhi kriteria organoleptis, homogenitas, pH, daya sebar, viskositas serta menghasilkan sediaan yang berkualitas selama penyimpanan.

Kata kunci: CMC-Na, kuersetin, gel, sifat fisik, stabilitas.



ABSTRACT

Quercetin is known of its many pharmacological benefits as a topical anti-inflammatory, antioxidant, and antibacterial. Therefore, quercetin is potential to be formulated as a topical dosage form such as a gel. Carboxymethylcellulose Sodium (CMC-Na) as a gelling agent, has unique physical characteristics that can affect the physical quality of quercetin gel. This study aimed to observe the effects of CMC-Na on the physical properties and physical stability of quercetin gel. Ultimately, the formulation was expected to show a good quality of quercetin gel.

In this study, four formulas were made with variations of CMC-Na levels. The physical properties of quercetin gels such as organoleptic characteristics, homogeneity, viscosity, pH, and spreadability, and gel stability were observed on the 1st and 28th days. The data on the physical properties of the gels which were normally distributed were analyzed using the one-way ANOVA test with a 95% confidence level, followed by post hoc analysis. Gel physical stability data were analyzed by paired-samples T-test.

The results showed variations of CMC-Na were affected the physical properties of quercetin gel. Quercetin gel containing 2% CMC-Na showed preparations with a good quality during storage.

Keywords: *CMC-Na, quercetin, gel, physical properties, stability.*

