

INTISARI

Minyak atsiri Poh-pohan mengandung senyawa yang memiliki aktivitas antibakteri terhadap *Porphyromonas gingivalis* sebagai penyebab karies gigi. Tujuan penelitian ini untuk memperoleh komposisi optimum *orally dissolving film* berbasis gelatin dan tepung gandum. Minyak atsiri diformulasikan menjadi sediaan *orally dissolving film* yang merupakan sediaan polimer hidrofilik lembar tipis yang memungkinkan sediaan terlarut dengan cepat tanpa bantuan air atau dikunyah.

Poh-pohan dikoleksi dari wilayah Bukit Turgo, Pakem, Sleman, Yogyakarta. Minyak atsiri diperoleh dari hasil distilasi. Penelitian ini dilakukan dengan mengombinasikan gelatin-tepung gandum sebagai matriks. Pembuatan film dilakukan dengan *solvent casting method*. Kemudian dilakukan uji sifat fisik meliputi ketebalan, elongasi dan kuat tarik. Data yang diperoleh dioptimasi dengan program *simplex lattice design* dalam software *Design Expert* versi 11.

Hasil penelitian menunjukkan penggunaan tepung gandum dan gelatin sebagai matriks sediaan *orally dissolving film* minyak atsiri Poh-pohan akan meningkatkan elongasi, menurunkan ketebalan dan kuat tarik. Formula optimum ODF minyak atsiri Poh-pohan berada pada komposisi campuran 214,5 mg tepung gandum dan 85,5 mg gelatin.

Kata kunci: Poh-pohan, *Orally dissolving film*, Gelatin-Tepung gandum.

ABSTRACT

The essential oil of Poh-pohan contains a compound that has antibacterial activity towards *Phorphyromonas gingivalis*, a bacteria that caused dental caries. This study aims to obtain the optimum composition of an orally dissolving film based on gelatine and wheat flour. The essential oil was formulated into orally dissolving film form, part of hydrophilic polymer thin film. The form can dissolve without water or chewable.

Poh-pohan were collected from Bukit Turgo, Pakem, Sleman, Yogyakarta. The essential oil of Poh-pohan obtained from the result of distillation. This study was done by combining gelatine and wheat flour as the matrix. The film making was done with the solvent casting method. Then, physical properties are tested, including thickness, elongation, and tensile strength. The data obtained were optimized with simplex lattice design in software design expert 11 version.

The result of this study shows that the uses of wheat flour and gelatine as the matrix of orally dissolving film form of Poh-pohan essential oil will increase the film elongation, decrease the thickness and tensile strength. The optimum formula of ODF Poh-pohan essential oil contained 214,5 mg of wheat flour and 85,8 mg of gelatine.

Key note: Poh-pohan, *Orally dissolving film* , Gelatine -Wheat flour