

ABSTRAK

YOLANDA PRETY ANGGRIA KURNIAWATI, 2023, FORMULASI DAN UJI AKTIVITAS ANTIBAKTERI *GUMMY CANDY* EKSTRAK BUAH ANDALIMAN (*Zanthoxylum acanthopodium* DC) TERHADAP BAKTERI *Streptococcus mutans*, SKRIPSI, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI, SURAKARTA. Dibimbing oleh Dr. apt Ismi Rahmawati, M.Si. dan apt. Muhammad Dzakwan, M.Si.

Buah andaliman (*Zanthoxylum acanthopodium* DC) memiliki kandungan senyawa alkaloid, terpenoid, steroid, saponin, tanin serta flavonoid yang memiliki aktivitas antibakteri terhadap *Streptococcus mutans*. *Gummy candy* adalah salah satu varian permen yang memiliki tekstur lebih lembut, dapat dikunyah saat dikonsumsi dan disukai berbagai kalangan sehingga lebih efisien membantu mengurangi karies gigi. Penelitian ini bertujuan memformulasikan *gummy candy* ekstrak buah andaliman (*Zanthoxylum acanthopodium* DC) yang memiliki aktivitas antibakteri terhadap *Streptococcus mutans*.

Serbuk buah andaliman diekstraksi dengan metode maserasi menggunakan pelarut etanol 70%. Pembuatan *gummy candy* 3 formula dengan konsentrasi 30% yaitu FI, FII, dan FIII menggunakan perbandingan gelatin dan maltodekstrin berturut-turut 80,9% : 19,1 %, 84,5% : 15,5%, dan 88% : 12,%. *Gummy candy* setiap formula diuji mutu fisik dengan parameter organoleptik, kadar air, kadar abu serta uji stabilitas (rasa, bau, warna dan kekenyalan). Pengujian aktivitas antibakteri dilakukan dengan metode ALT. Hasil data yang didapat dianalisis secara statistik.

Formula *gummy candy* ekstrak buah andaliman yang dibuat variasi gelatin dan maltodekstrin berpengaruh terhadap mutu dan stabilitas fisik. Penambahan gelatin tinggi menghasilkan kekenyalan yang baik. Ketiga formula memiliki aktivitas antibakteri *Streptococcus mutans* sediaan. Formula III *gummy candy* memiliki mutu, stabilitas fisik dan aktivitas antibakteri terhadap *Streptococcus mutans* yang paling baik.

Kata Kunci : *Gummy Candy*, Buah Andaliman, *Streptococcus mutans*, ALT.

ABSTRACT

YOLANDA PRETY ANGGRIA KURNIAWATI, 2023, FORMULATION AND ANTIBACTERIAL ACTIVITY TEST OF GUMMY CANDY EXTRACTS OF THE SINCHUAN PEPPER (*Zanthoxylum acanthopodium* DC) AGAINST *Streptococcus mutans* BACTERIA, THESIS , FACULTY OF PHARMACY, SETIA BUDI UNIVERSITY, SURAKARTA. Supervised by Dr. apt Ismi Rahmawati, M.Si. and apt. Muhammad Dzakwan, M.Si.

The Sichuan pepper (*Zanthoxylum acanthopodium* DC) contains alkaloids, terpenoids, terpenoid, steroid, saponins, tannins, and flavonoids which have activity antibacterial against *Streptococcus mutans*. *Gummy candy* has a softer texture, can be chewed when consumed, and is liked by various groups, making it more efficient in helping reduce dental caries. This purpose of this study was to formulate *gummy candy* the sichuan pepper extract (*Zanthoxylum acathopodium* DC) which has antibacterial activity against *Streptococcus mutans*.

The Sichuan pepper powder was extracted by maceration method using 70% ethanol solvent. The preparation of 3 *gummy candy* with concentration 30% formulas namely FI, FII, and FIII uses a ratio of gelatin and maltodextrin successively 80,9% : 19,1 %, 84,5% : 15,5%, dan 88% : 12,%. *Gummy candy* for each formula was tested for physical quality with organoleptic parameters, moisture content, ash content and stability test (taste, semell, color and elasticity). Antibacterial activity testing using the ALT method. The results of the data can be analyzed statistically.

The *gummy candy* formula of andaliman fruit extract made from variations of gelatin and maltodextrin has an effect on quality and physical stability. The addition of high gelatin produces good elasticity. All three formulas have antibacterial *Streptococcus mutans* activity. Formula III *gummy candy* has the best quality, physical stability and antibacterial activity against *Streptococcus mutans*.

Kata Kunci : *Gummy Candy*, The Sichuan pepper, *Streptococcus mutans*, ALT.