

ABSTRAK

NANDIA INTAN APRILIYA AYU LESTARI., 2024, FORMULASI GUMMY CANDY EKSTRAK RIMPANG TEMU KUNCI (*Boesenbergia Rotunda*) DAN UJI AKTIVITAS ANTIBAKTERI TERHADAP *Streptococcus Mutans*, SKRIPSI, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI, SURAKARTA. Dibimbing oleh Dr. apt. Ismi Rahmawati, M.Si dan apt. Anita Nilawati, M.Farm.

Rimpang tanaman temu kunci (*Boesenbergia rotunda*) mengandung senyawa flavonoid, alkaloid, terpenoid, tanin, dan minyak atsiri yang mempunyai aktivitas antibakteri terhadap *streptococcus mutans*. *Gummy candy* merupakan sediaan pangan berbentuk padat, memiliki rasa manis dan sensasi kenyal sehingga efisien untuk membantu mengatasi karies gigi. Tujuan penelitian ini untuk memformulasikan *gummy candy* ekstrak rimpang temu kunci serta menguji aktivitas antibakteri terhadap *Streptococcus mutans*.

Simplisia rimpang temu kunci diekstraksi dengan metode maserasi menggunakan pelarut 70%. Formula *gummy candy* ekstrak rimpang temu kunci konsentrasi 30% dibuat menjadi 3 formula yaitu F1, F2, F3 dengan variasi gelatin dan maltodekstrin berturut-turut 14,38% : 3,37%, 15% : 2,75%, dan 15,62% : 2,13%. Setiap formula diuji mutu fisik dengan parameter organoleptik, kadar air, kadar abu, uji kekenyalan, uji stabilitas, dan uji aktivitas antibakteri *gummy candy* ekstrak rimpang temu kunci terhadap *S. mutans* menggunakan metode ALT. Hasil data yang diperoleh dianalisis secara statistik menggunakan software SPSS.

Ekstrak rimpang temu kunci yang digunakan dalam formula yaitu konsentrasi 30%. Variasi gelatin dan maltodekstrin berpengaruh terhadap mutu fisik *gummy candy* ekstrak rimpang temu kunci. Penggunaan gelatin yang tinggi menambah kekenyalan pada *gummy candy*. Ketiga formula *gummy candy* ekstrak rimpang temu kunci memiliki aktivitas antibakteri. Ketiga formula *gummy candy* telah memenuhi syarat SNI, Formula tiga memiliki kekenyalan yang paling baik

Kata Kunci : *Gummy Candy*, Rimpang Temu Kunci, *Streptococcus Mutans*, ALT

ABSTRACT

NANDIA INTAN APRILIYA AYU LESTARI., 2024, GUMMY CANDY FORMULATION OF FINGERROOT RHIZOME (*Boesenbergia Rotunda*) EXTRACT AND ANTIBACTERIAL ACTIVITY TESTS ON *STREPTOCOCCUS MUTANS*, THESIS OF PROPOSAL, FACULTY OF PHARMACY, SETIA BUDI UNIVERSITY, SURAKARTA. Supervised by Dr. apt. Ismi Rahmawati, M.Si and apt. Anita Nilawati, M. Farm.

The rhizome of fingerroot (*Boesenbergia rotunda*) contains flavonoids, alkaloids, terpenoids, tannins, and essential oils which have antibacterial activity against *Streptococcus mutans*. Gummy candy is a food preparation in solid form, has a sweet taste and chewy sensation, making it efficient for treating dental caries. The purpose of this study was to formulate gummy candy from the rhizome extract of the fingerroot rhizome and to test its antibacterial activity against *Streptococcus mutans*.

The rhizome simplicia of the fingerroot was extracted by maceration method using 70% solvent. The gummy candy formula of the fingerroot rhizome extract concentration 30% was made into 3 formulas namely F1, F2, F3 with variations of gelatin and maltodextrin respectively 14,38% : 3,37%, 15% : 2,75%, and 15,62% : 2,13%. Each formula was tested for physical quality with organoleptic parameters, moisture content, ash content, elasticity test, stability test, and antibacterial activity test of gummy candy rhizome extract fingerroot *S. mutans* using the ALT method. The results of the data obtained were analyzed statistically using SPSS software.

The rhizome fingerroot extract used in the formula is a concentration of 30%. Variations of gelatin and maltodextrin influence the physical quality of gummy candy extract from ginger root rhizome extract. The high use of gelatin adds elasticity to gummy candy. The three gummy candy formulas of ginger rhizome extract have antibacterial activity. All three gummy candy formulas have met SNI requirements, Formula three has the best elasticity

Kata Kunci : Gummy Candy, Fingerroot, *Streptococcus Mutans*, ALT