

INTISARI

Peningkatan jumlah radikal bebas membahayakan kesehatan manusia sehingga dibutuhkan asupan pangan fungsional tambahan yang mengandung antioksidan. Belum banyak dilakukan pengembangan pangan fungsional dalam bentuk *herbal hard candy*, sehingga dilakukan pengembangan *herbal hard candy* ekstrak bunga krisan berbasis xylitol-glukosa. Bunga krisan memiliki aktivitas antioksidan yang tergolong kuat. Penelitian ini bertujuan untuk mengetahui aktivitas antioksidan ekstrak bunga krisan dan *prototype herbal hard candy*. Selain itu, untuk melihat pengaruh penggunaan xylitol-glukosa terhadap karakteristik fisik dan atribut sensoris *herbal hard candy* serta dibandingkan dengan basis sukrosa-glukosa yang dibuat.

Bunga krisan diekstraksi dengan maserasi dan diuji aktivitas antioksidan dengan ABTS. Selanjutnya pembuatan *herbal hard candy* dan dilakukan uji karakteristik fisik serta sensoris dengan uji hedonik. *Prototype herbal hard candy* dibuat berdasarkan analisis hasil uji dengan *simplex lattice design* dan dilakukan uji aktivitas antioksidan dengan ABTS, dan verifikasi dengan *one sample t-test*.

Aktivitas antioksidan ekstrak bunga krisan dan *prototype herbal hard candy* tergolong kuat dengan nilai IC_{50} masing-masing $62,83 \pm 1,72 \mu\text{g/mL}$ dan $69,69 \pm 1,07 \mu\text{g/mL}$ sehingga berpotensi untuk dikembangkan dalam bentuk *herbal hard candy*. Kombinasi xylitol-glukosa yang digunakan tidak berbeda signifikan dengan pembanding dari aspek *fracture*, tampilan, warna, aroma, kejernihan, rasa, tingkat keasaman, dan sensasi dingin. Terdapat kemungkinan perbedaan signifikan pada aspek *hardness*, *crispiness*, *crunchiness*, tingkat kemanisan, dan keberterimaan secara keseluruhan serta nyata berbeda signifikan pada aspek tekstur hasil uji hedonik. Oleh karena itu, kombinasi xylitol-glukosa yang digunakan memiliki karakteristik fisik dan hedonik yang mirip dengan pembanding. *Prototype herbal hard candy* memiliki kombinasi xylitol 18,28 gram dan glukosa 76,72 gram.

Kata Kunci : bunga krisan, *herbal hard candy*, xylitol, ABTS (2,2-azinobis-3-ethylbenzothiazoline-6-sulphonic acid)

ABSTRACT

The increased number of free radicals endangers human health, so additional functional food intake containing antioxidants is needed. There has not been much development of functional foods in the form of herbal hard candy, so the development of herbal hard candy with chrysanthemum flower extract based on xylitol-glucose was carried out. Chrysanthemum flowers have a strong antioxidant activity. This study aims to determine the antioxidant activity of chrysanthemum flower extract and the prototype herbal hard candy. Additionally, to observe the effect of using xylitol-glucose on the physical characteristics and sensory attributes of herbal hard candy and compare it with the sucrose-glucose base that was made.

Chrysanthemum flowers were extracted using maceration and tested for antioxidant activity with ABTS. Next, the production of herbal hard candy was carried out, and physical and sensory characteristics were tested using a hedonic test. The herbal hard candy prototype was created based on the analysis of test results using the simplex lattice design, which was tested for antioxidant activity with ABTS and verified with a one-sample t-test.

The antioxidant activity of chrysanthemum flower extract and the herbal hard candy prototype is classified as strong, with IC_{50} values of $62,83 \pm 1,72 \mu\text{g/mL}$ and $69,69 \pm 1,07 \mu\text{g/mL}$, respectively, making them potential candidates for development into herbal hard candy. The xylitol-glucose combination used did not differ significantly from the control in terms of fracture, appearance, color, aroma, clarity, flavor, sourness, and cooling. There is a possibility of significant differences in hardness, crispiness, crunchiness, sweetness, and overall acceptability, as well as a markedly significant difference in the texture aspect based on the hedonic test results. Therefore, the xylitol-glucose combination used has physical and hedonic characteristics similar to the comparator. The herbal hard candy prototype has a combination of 18.28 grams of xylitol and 76.72 grams of glucose.

Keywords: chrysanthemum flower, herbal hard candy, xylitol, ABTS (2,2-azinobis-3-ethylbenzothiazoline-6-sulphonic acid)