ABSTRACT

EFFECT OF 3% AND 9% GELATIN BINDERS ON CHOLESTEROL LEVEL REDUCTION OF EFFERVESCENT CHITOSAN GRANULE SUSPENSION CRAB SHELL (Scylla serrata) IN VITRO

Fitriyatul Hasanah

Chitosan has several benefits for humans, one of which is in the field of health, namely it is used to lower cholesterol and lose weight because chitosan can absorb fat in the body and reduce total serum cholesterol levels between 5.8-42.6% and lower LDL (bad cholesterol) between 15.1-35.1% while increasing the composition of the ratio of HDL cholesterol (good cholesterol) to LDL, so that it can reduce blood cholesterol levels effectively and safely. This study aims to find out if the suspension of effervescent granules of chitosan extract of mangrove crab shells can reduce cholesterol levels. The reduction of cholesterol levels in this study was carried out by in-vitro testing using a UV-Vis spectrophotometer at a wavelength of 412 nm using a Lieberman-Burchad reagent. The positive control used was simvastatin 10mg. The results of chitosan characteristics have met all the requirements, namely the organoleptics in chitosan are brownish-white, powdery, and odorless. Degree of deacetylation: 81%±77.33, moisture content: 9.3%±0.47, ash content: 5.9%±0.41, ninhydrin has a purple color. Tests performed in vitro on effervescent granule suspension formulations showed an average % decrease in cholesterol levels, F1 valued at 31,1%±8,72 and F2 valued at 32,7% ±19,5. In the test, the two formulas have good normality values and are qualified, and the independent test values can be said to have no significant differences, in the homogeneity test, the two formulas have homogeneous values. Chitosan has cholesterol-lowering activities. F2 has a larger percentage than F1 because the concentration of gelatin in F2 is greater than F1 which is 9%. Where the concentration of gelatin as a binding agent will affect the physical properties of the granules because gelatin has water-soluble properties so that it can accelerate the dissolution of the active ingredient, namely chitosan, which will affect the % cholesterol reduction.

Keywords: *Mangrove crab shells; Chitosan; Lowering cholesterol; effervescent granule suspension; Test in vitro.*