

ABSTRACT

IN VITRO TESTING FOR REDUCING COLESTEROL LEVELS CHITOSAN EFFERVESCENT GRANULES SUSPENSION OF MANGROVE CRAB SHELLS (*Scylla serrata*)

(Dosage Comparison of Chitosan 45 mg: 55 mg)

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*Mangrove crab shells (*Scylla serrata*) have a high chitin content, 50% - 60% of the chitin is processed into chitosan as an anti-cholesterol. Chitosan does not dissolve in water so it can be made effervescent granule suspension using the wet granulation method FI chitosan 45 mg and FII chitosan 55 mg. The aim was to determine the effect of a comparative dose of 45 mg and 55 mg chitosan in a suspension of mangrove crab shell chitosan effervescent granules to reduce cholesterol levels in vitro. The method used was the Lieberman Burchard test with simvastatin as a positive control. Data were analyzed using the Shapiro Wilk test and Levene test then analyzed using the independent t-test to determine significant differences. The results of chitosan evaluation are organoleptic tests; water content test $9.3\% \pm 0.57$; ash content test $5.93 \pm 0.45\%$; purple positive ninhydrin test; distillation degree test $81\% \pm 9.47$. The maximum wavelength obtained was 412 nm with the linear equation $y = 0.00073x - 0.0759$ $r^2 = 0.991$ The percent reduction in FI cholesterol levels was $12.71\% \pm 3.71$ lower than FII $21.06 \pm 5.16\%$ and control positive $17.96 \pm 2.03\%$. Effect of chitosan is increasing the excretion of neutral sterols and reducing cholesterol. Chitosan 55 mg reduces total cholesterol levels lower than chitosan 45 mg, although there is no significant difference. Suggestions for further research could be to use a different solvent to dissolve chitosan because chitosan dissolves in acid solutions.*

Keyword : chitosan, in vitro, effervescent, lieberman burchard, cholesterol.