ABSTRAK

INDRI LESTARI. 27216532A. PROPOSAL SKRIPSI. PENGARUH VARIASI KONSENTRASI CARBOPOL 940 SEBAGAI *GELLING AGENT* SEDIAAN *ANTI-AGING* GEL EXTRAK ETANOL LIDAH BUAYA (*Aloe vera* L.) TERHADAP MUTU FISIK DAN STABILITASNYA. Pembimbing Dra. apt. SUHARTINAH, M.Sc. dan apt. RESLELY HARJANTI, S.Farm., M.Sc.

Paparan sinar UV di Indonesia yang tinggi menimbulkan penuaan dini. *Anti-aging* dari lidah buaya (*Aloe vera* L.) dipercaya mampu menghambat proses penuaan karena mengandung flavonoid, tanin, saponin, dan antraquinon yang kaya antioksidan. Studi ini bertujuan untuk memahami efek *anti-aging*, pengaruh variasi konsentrasi carbopol terhadap mutu fisik gel, formula gel yang mempunyai mutu fisik paling baik, serta formula terbaik yang memiliki efek *anti-aging* paling kuat dari zat aktif ekstrak etanol lidah buaya.

Ekstrak etanol 96% lidah buaya diolah dengan metode maserasi dan dipakai 1% ekstrak kemudian diformulasikan menjadi sediaan gel dengan variasi basis Carbopol 940 dengan variasi konsentrasi F1: 0,6%, F2: 1,2%, dan F3: 1,8%. Setiap formula dilakukan uji mutu fisik dengan parameter organoleptik, pH, homogenitas, viskositas, daya sebar, daya lekat. Uji stabilitas mutu fisik dengan metode *cyling test*. Uji iritasi dengan parameter udema dan eritema. Uji *anti-aging* memakai kulit punggung kelinci *New Zealand* dengan parameter kehalusan, kelembapan, keriput, yang dicek memakai *skin analyzer*. Data yang diperoleh diuji memakai metode *uji independent sample T-Test* dan dilanjutkan dengan *uji post hoc Turkey.*

Variasi carbopol 940 dalam F2 dengan konsentrasi basis 1,2%, memiliki mutu fisik dan stabilitas gel terbaik. Pengujian keamanan sediaan gel tidak mengiritasi, alhasil aman untuk dipakai. Konsentrasi basis carbopol 940 pada F2 dengan basis 1,2% serta terdapat penambahan ekstrak etanol lidah buaya sebesar 1% dalam sediaan memiliki uji aktivitas anti aging terbaik.

Kata kunci: *Aloe vera L., Anti-aging,* Gel

ABSTRACT

INDRI LESTARI. 27216532A. PROPOSAL SKRIPSI. THE EFFECT OF VARIED CONCENTRATIONS OF CARBOPOL 940 AS A GELLING AGENT IN AN ANTI-AGING GEL ETHANOL EXTRACT OF LIDAH BUAYA (*Aloe vera* L.) ON ITS PHYSICAL QUALITY AND STABILITY. Supervised by Dra. apt. SUHARTINAH, M.Sc. and apt. RESLELY HARJANTI, S.Farm., M.Sc.

High exposure to UV rays in Indonesia causes early aging. Anti-aging from *Aloe vera* L. is believed to be able to inhibit the aging process because it contains flavonoid, tanin, saponin, and antarquinon which are rich in antioxidants. This research aims to determine the anti-aging effect, the effect of variations in carbopol concentration on the physical quality of the gel, the gel formula that has the best physical quality, and the best formula that has the strongest anti-aging effect from the active substance of aloe vera ethanol extract.

The 70% ethanol extract of aloe vera is processed using the maceration method and 1% of the extract is used and then formulated into a gel preparation with a variation of Carbopol 940 base with varying concentrations of F1: 0.6%, F2: 1.2%, and F3: 1.8%. Each formula is subjected to a physical quality test with organoleptic parameters, pH, homogeneity, viscosity, spreadability, adhesive power. Physical quality stability test with synergistic parameters. Irritation test with edema and erythema parameters. The anti-aging test uses the back skin of New Zealand rabbits with the parameters of smoothness, moisture, wrinkles, which are checked using a skin analyzer. The data obtained was tested using the independent sample T-Test method and continued with the Turkey post hoc test.

The carbopol 940 variation in F2 with a base concentration of 1.2%, has the best physical quality and gel stability. Safety testing of gel preparations is non-irritating, so it is safe to use. The base concentration of carbopol 940 in F2 with a base of 1.2% and the addition of 1% aloe vera ethanol extract in the preparation has the best anti-aging activity test.

Key words: *Aloe vera L., Anti-aging,* Gel