**FORMULATION OF ANTI-DANDRUFF LEMON JUICE SHAMPOO ON ACTIVITIES OF ANTIFUNGAL *Pityrosporum ovale***

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**ABSTRACT**

*Pityrosporum ovale* is one of the microorganisms assumed to be the main cause of dandruff. Anti-dandruff shampoo on the market usually contains a chemical called selenium sulfide. This has a bad effect if it is used for a long time. That is the cause of finding a solution for making shampoo with traditional or natural ingredients that can be used as an alternative with dandruff problem. One of the natural plants well-known in the community as a cure for dandruff is lemon. Lemon contains alkaloids, saponins, tannins and flavonoids which have activities as anti-fungi. In the research, researchers used lemons known as lemon pon-k4, which in terms of usability and price far from common lemons. The objective of the research was to determine the anti-dandruff activity of pon-k4 lemon juice against *Pityrosporum ovale* fungi which would be formulated in the form of shampoo.

This research was experimental starting from the selection of lemons, screening tests, KHM testing, preparations of shampoo using 3 different concentrations, testing anti-fungal activity against *Pityrosporum ovale* and evaluation of shampoo preparations including organoleptic test, homogeneity, pH examination, specific gravity, viscosity, irritation test , high foam and clean power of shampoo. The data was is in the form of qualitative data and quantitative data, where quantitative data was then tested statistically using the one way ANOVA method using SPSS version 23.0 software.

The results showed that KHM testing of the data was obtained, namely concentrations of 100 mg / ml, 300 mg / ml and 500 mg / ml which would be used in making F1 10% shampoo, F2 30% and F3 50%. Antifungal activity in lemon juice shampoo preparation had an average diameter of the *Pityrosporum ovale* inhibition zone is F1 8.73 mm, F2 15.96 mm, F3 20.40 mm and market comparison (Selsun blue) 15.40 mm, the statistics of lemon juice shampoo differ significantly (P <0.05). Evaluation of shampoo preparation was not found in phase separation, wherein the four shampoo formulations were stable at storage for 8 weeks. So it could be concluded that the lemon juice shampoo which had a very strong ability to inhibit the anti-dandruff activity of *Pityrosporum ovale* was F3 with a concentration of 50%.

***Keywords: Lemon juice, shampoo, anti-fungal, Pityrosporum ovale.***