ABSTRACT

Sayu Trisya Anggun Yunita. 24020120120029. Histological Structure of the Spleen of Male *Sprague Dawley* Rats After Addition of Neem Leaf (*Azadirachta indica* A). Ethanol Extract Nanochitosan. Under the guidance of Agung Janika Sitasiwi and Sri Isdadiyanto.

Herbal medicines became the focus of research and studied in the field of science because they were considered safer than allopathic medicines. The neem plant was one of the alternative herbal medicines widely studied because it had active compounds with pharmacological activity that were good for the body's immune system. This active compound was unstable and easily damaged by various factors, such as temperature and pH, thus affected the efficiency of drug delivery. Nanochitosan encapsulation techniques could increase efficiency in drug delivery. The aim of the study was to analyze the effect of added neem leaves ethanol extract nanochitosan on the histological structure of the spleen of male *Sprague Dawley* rats. The study used a Completely Randomized Design (CRD) with 4 treatment goups, included a control goup with distilled water 2 ml/rat/day (P0), nanochitosan 2 ml/rat/day (P1), ethanol extract of neem leaves 2 ml/rat/day (P2) and nanochitosan ethanol extract of neem leaves 2 ml/rat/day (P3), each treatment was repeated 3 each. The structures observed included white pulp diameter, white pulp area and germinal center diameter. Data were tested and analyzed by ANOVA with 0,05 significance level. The results of this research were that the addition of neem leaves ethanol extract nanochitosan had no significant difference in the histological structure of the spleen of male *Sprague Dawley* rats (P>0,05). The conclusion of this research was that added neem leaves ethanol extract nanochitosan potentially maintained the histological structure of the spleen of male *Sprague Dawley* rats.

Keywords: *Medicinal plants, drug delivery, white pulp, germinal center*