

**ABSTRACT****Analysis of Dried Flower Extract of Roselle (*Hibiscus sabdariffa* linn) to Decreased Activity of serum gamma-Glutamyltransferase ( $\gamma$ -GT) and Levels of Serum Malondialdehyde (MDA) in Wistar strain male white rats (*Rattus norvegicus*) which Exposed to Cigarette Smoke**

This research to prove the dried flower extract of roselle could decrease activity of serum  $\gamma$ -GT and level of serum MDA on exposed to cigarette smoke and correlation between both that parameter.

The research design was true experimental research with randomized posttest only controls group design. Thirty-six Wistar strain male white rats (*Rattus norvegicus*) divided into six groups (each comprised six rats). Four groups with exposed to cigarette smoke from two cigarettes daily and given dried flower extract of roselle for four weeks. Two groups not exposed to cigarette smoke, which one group given dried flower extract of roselle and other given Na-CMC 0,5% for four weeks. After that blood collected and measurement of activity of serum  $\gamma$ -GT with Szasz method and levels of serum MDA with TBARS method.

Group with exposed to cigarette smoke and given dried flower extract of roselle 200 mg/kg weight (P2) decreased activity of serum  $\gamma$ -GT were significantly ( $6,923 \pm 0,873$  U/L) than non given dried flower extract of roselle ( $9,675 \pm 1,200$  U/L,  $p < 0,05$ ). There is positive weak correlation between activity of serum  $\gamma$ -GT and levels of serum MDA ( $r = 0,386$ ).

This research suggests that dried flower extract of roselle, 200 mg/kg weight, could reduce activity of serum  $\gamma$ -GT but could not reduce levels of serum MDA in *Rattus norvegicus* exposed to cigarette smoke. This research also suggests the relationship between activity of serum  $\gamma$ -GT and levels of serum MDA as a marker of oxidative stress.

**Keywords:** *dried flower extract of roselle, activity of serum  $\gamma$ -GT, levels of serum MDA.*