

**EFFECT OF GUAVA FRUIT (*Psidium guajava L.*) EXTRACT TO THE
MOTILITY AND VIABILITY SPERMATOZOA OF RATS
(*Rattus norvegicus*) EXPOSED TO CIGARETTE SMOKE**

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ABSTRACT

The purpose of this research was to investigate and observe about the effect of guava fruit extract (*Psidium guajava L.*) to the motility and viability spermatozoa of rats exposed to cigarette smoke. The study was a completely randomized experimental design. The sample is about 25 rats which criteria 2-3 month old, male, 200 gr weight. Group of negative control (K-) was given CMC Na 0.5% 2 ml/head without exposed by cigarettes smoke, group of P0 was exposed with cigarette smoke and given CMC Na 0.5% 2 ml/head, treatment groups P1, P2 and P3 treated with guava fruit extract (*Psidium guajava L.*) at dose of 18,9 mg extract/kg weight, 37,8 mg extract/kg weight, 56,7 mg extract/kg weight and exposed to cigarette smoke. The result of the research to quantity of spermatozoa by Anova test showed the significant connection ($\alpha = 0.05$) between control group and treatment group. The result showed that guava fruit extract (*Psidium guajava L.*) has potential improved the motility and viability spermatozoa exposed to cigarette smoke. Dose 56,7 mg extract/kg weight give the best effect in repair and increasing motility and viability spermatozoa. Preferable if we want to know more about the influence of cigarette to the quality of sperm, we will need a HOS (*hyposmotic swelling*) test to know about integrity of plasma membrane spermatozoa.

Keywords: Guava fruits extract, motility, viability, spermatozoa, *Rattus norvegicus*