

ABSTRACT

**ANALGESIC EFFECT OF ESSENTIAL OIL OF *Zingiber aromaticum* IN
MICE**

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Introduction: *Zingiber aromaticum* is used as traditional medicine to reduce pain (Handayani, 1994). Zerumbone and caryophyllene oxide contained in essential oil of *Zingiber aromaticum* has analgesic effect (Respati, 2010). Zerumbone inhibits *inducible nitric oxide synthase* (iNOS), cyclooxygenase-2 (COX2), and production of nitric oxide (NO) dan prostaglandin E2 (PGE2) (Chien *et al.*, 2016). This study aims to observe analgesic effect of essential oil of *Zingiber aromaticum* using hot plate test

Method: Essential oil was extracted from Stahl distillation. Twenty five mice were acclimatized for a week then divided into 5 groups. Each group was given DMSO 10%, essential oil at the dose of 0,1 mL/kg, 0,2 mL/kg, 0,4 mL/kg, and acetyl salicylic at the dose of 13 mg/20 g. Latency period was measured every 5 minutes for an hour.

Result: Statistical analysis shown significant difference in minute 15 ($p = 0,012$), 55 ($p = 0,02$), dan 60 ($p = 0,02$). Latency period is not related to dose of essential oil. This may be caused by hot plate test sensitivity to COX inhibitor, variance of mice responses, and mice learning to repeated exposure from hot plate test.

Conclusion: There is no analgesic effect of essential oil of *Zingiber aromaticum*.

Keywords: Hot plate test, essential oil, *Zingiber aromaticum*