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**EFFECTS OF *Brucea javanica* SEED EXTRACT ON THE
NUMBER OF EMBRYOS AND OVARIAN STRUCTURE
IN FEMALE ICR MICE MODEL.**

By

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DECLARATION

I hereby declare that this thesis is my original work and has not been submitted previously or currently for my other degree at UiTM or any other institutions.

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ABSTRACT

Effects of *Brucea javanica* Seed Extract On The Number of Embryos and Ovarian Structure in Female ICR Mice Model.

Brucea javanica is a plant species of the family *Simaroubaceae* which is widely used as traditional medicine. Previous studies have reported that it is good at treating various ailments such as cancer, amoebic dysentery and inflammatory disease. However, so far there is yet any scientific evidence available on the potential effects of *Brucea javanica* on the female reproductive functions. Hence, the aim of this study is to investigate the effect of *Brucea javanica* seeds extract on the number of embryo production and ovarian histology. Twelve female ICR mice were randomly divided into four groups (three treatment groups and control group) with three members in each group. All groups were kept under similar conditions. *Brucea javanica* were prepared in 500, 800 and 1000mg/kg/day/doses and orally administered every day for twenty-one days. Distilled water was used for control group. At the end of treatment, the female mice were mated with male mice to get the copulation plug. Then, the female mice were killed after the plug was seen. Oviduct and ovary were collected for embryo retrieval and histological examination respectively. All mice in treatment groups showed not significantly reduced number of embryo produced. The ovarian histology also showed no obvious structural changes when compared to control group. However, treatment with *Brucea javanica* seems to reduce number of follicles but increased in the number of corpus luteum. In a conclusion, the results obtained from this study indicated that *Brucea javanica* seeds extract does give an effect on the female reproductive functions.

CHAPTER 1

INTRODUCTION

1.1 Research Background

Since ancient time, the usage of herbal medicine in all human races as a source of medicine cannot be denied at all. Based on the World Health Organization (WHO), the reliance of medicinal herbs in the developing countries are estimated at 80% of the population (Kuipers, 2014). There has been a growing interest on the clinical use of natural products on reproductive functions. Previous studies suggested that the use of traditional medicine can give significant effect on the female reproductive functions (Hasan, Qaragholi, & Abdull-wahed, 2014; Toyin et al., 2014).

Most of the studies related with herbal medicine are looking into other diseases such as diabetes, atherosclerosis and cancer. Among the herbal plants studied, *Brucea javanica*, a plant species of the family *Simaroubacea*. Previous studies have reported that it is good at treating various ailments such as cancer, amoebic dysentery and malaria (Lin et al., 1990; Subeki et al., 2007). However, so far there is yet any scientific evidence to support the ethnopharmacological reputation of *Brucea javanica* on female reproduction. Hence, the aim of this study is to investigate the effect of *Brucea javanica* seeds extract on the female reproductive function.

1.2 Problem statement

Herbal beverage production is an expanding and profitable business in many countries rich in herbal plants resources. Many believe that herbal medicine as practiced traditionally is better than modern medicine due to the usage of natural products and