UNIVERSITI TEKNOLOGI MARA

THE EFFECT OF *Ficus deltoidea* var. *Kunstleri* (MAS COTEK) SUPPLEMENTATION ON SKELETAL OF RATS FETUS

DARNAH BINTI HASIM

Project submitted in fulfilment of the requirements
for the degree of
Bachelor of Medical Laboratory Technology
(Hons.)

Faculty of Health Sciences

July 2019

DECLARATION BY STUDENT

Project entitled "The Effect of *Ficus deltoidea* var. *Kunstler*i (Mas Cotek) Supplementation on Skeletal of Rats Fetus" is a presentation of my original research work. Whenever contribution of others are involved, every effort is made to indicate this clearly, with due reference to literature, and acknowledgement of collaborative research and discussion. The project was done under the guidance of Project Supervisor, Dr Wan Mazlina Md Saad. It has been submitted to the Faculty of Health Sciences in partial fulfilment of the requirement for the Degree of Bachelor in Medical Laboratory Technology (Hons).

Student's signature:

.....

(DARNAH BINTI HASIM)

2015859316

940501-01-6204

Date: …….

ACKNOWLEDGEMENT

First of all, I would like to express my thankful and grateful towards Allah SWT for all His Mercy and Protection that He has gave me the strength, ability and guidance to complete my final year research project. I would like to express deepest gratitude to my supervisor, Dr Wan Mazlina Md. Saad and Co-supervisor, Dr Hussin Muhammad for being such great guidance and advice along with full hearted support, and for being so patient and understanding that enable me to complete this project successfully. In addition, I express my appreciation to final year project coordinator, Dr Emida Mohamed for all hard work and guidance throughout the research exploration. I would like to thank Dr Zolkapli Eshak, Head of Department of Imaging Centre (iMACE) for provide us all necessary facilities that help us in completing this project.

I am highly indebted to Department of Medical Laboratory Technology, Postgraduate Study of Faculty of Health Sciences, UiTM Puncak Alam and Institute of Medical Research (IMR), for providing necessary facilities and resources in completing this endeavour. Also, thanks to all laboratory staffs including Mrs Iadah, Mrs Masmadianty and many others for their helps and constant supervision during this undertaking.

A million thanks to my teammates Nurhanisah, Nur Shafinaz and Ainza Suzila for sharing an ideas, support and be a booster to each other to finish up this project. Besides, thanks to all my classmates (DMLT Batch 2015-2019) for their contribution and their good-natured support.

An honourable thanks goes to my parents, Hashim bin Sudin, Patimah binti Bachik and all my siblings for their love, understanding and moral support in completing my final year project. Thank you so much for being such a wonderful family to me and always supporting me.

TABLE OF CONTENTS

ABSTRACT

The effect of *Ficus deltoidea* var. *Kunstleri* (Mas Cotek) supplementation on skeletal of rats fetus

Ficus deltoidea (*F. deltoidea*) traditionally known as 'Mas Cotek' in Malaysia and has a long history of traditional medicine used by Malays to treat various of diseases and as health tonic. Data on *F.deltoidea* safety for pregnant women and their babies are still not available. The study was conducted to study the effect of aqueous extract of *Ficus deltoidea's* leaves supplementation following 15 days on skeletal of rats fetus. Fifteen pregnant Sprague Dawley rats were randomly sorted into non-supplemented control and supplemented groups (250 and 500 mg/kg/day) of standardized aqueous extract of *F.deltoidea* on gestation days 6-20 (n=5). At gestation day 21, caesarean section was performed and half of fetuses from each litter with a total of 90 fetuses (n=30) were cleared and stained with Alizarin Red S for skeleton evaluation. The result showed some skeletal variation however *Ficus deltoidea* did not affect the occurrence of skeletal abnormalities. Standardized aqueous extract of *Ficus deltoidea* increase a few skeleton variation such as absence of hyoid body, dumbbell shaped thoracic vertebra and incomplete ossification of frontal and fingers. These skeletal abnormalities are non-dose dependent manner. Overall the result of the current findings suggested that supplementation of *Ficus deltoidea* aqueous extract did not result in any fetal death, prenatal growth retardation, or structural malformation in their offspring and probably safe to be taken as it does not have any teratogenic risks.

Keyword: *Ficus deltoidea,* Alizarin Red S, skeletal, Sprague Dawley