UNIVERSITI TEKNOLOGI MARA

EFFECT OF *Ficus deltoidea var. kunstleri* (MAS COTEK) SUPPLEMENTATION ON SKELETAL DEVELOPMENT IN RATS FETUS

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Project submitted in fulfillment of the requirements for

the degree of

Bachelor of Medical Laboratory Technology (Hons.)

Faculty of Health Sciences

JULY 2019

DECLARATION

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

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ACKNOWLEDGEMENT

My first and foremost gratitude goes to the Almighty Allah SWT for all His Grace, Mercy and Guidance that giving me the ability to complete my final year research project successfully.

My deepest gratitude then goes to my supervisor, Dr. Wan Mazlina binti Md Saad for her constant encouragement, support, understanding, patience, critical inputs, advices and continuous guidance throughout this project that allow me to complete this project without difficulties. I would like to thanks my co-supervisor, Dr. Hussin bin Muhammad, Head of Unit Toxicology and Pharmacology, Institute for Medical Research (IMR) for funding this project, his advices, supports, time and helps during completion of this project. The encouragement and excellent guidance from both of them really helping me to complete this project and I am very grateful for having this opportunity to do research under their supervision.

I would like to appreciate the Faculty of Health Sciences, Medical Laboratory Technology Department, Postgraduate Department, and Institute for Medical Research for providing funding and facilities towards my project. I am also would like to appreciate all my lecturers that had taught me for four years as an MLT student. Special thanks from me go to every staffs of Medical Laboratory Department which includes Mrs. Iadah, Mrs. Khairussulhi, Mrs. Masmadianty and others for their kind assistances, guidance and valuable advices during my whole research work.

My gratitude also goes to Dr. Zolkapli and their staff from IMAGE center, Faculty of Pharmacy for providing necessary facilities and cooperation during this research work.

My sincere thanks to my fellow research teammates, Darnah Hashim, Nur Shafinaz and Ainza Suzila that had helping me throughout research by giving their supports, assistances, feedback, and knowledge in this project accomplishment. I am also thanking all my classmates (MLT Batch 2016-2019) for their supports and contribution.

Last but not least, I dedicated this project for my beloved father, Saharudin bin Abd Rahman and mother, Mrs. Rosni binti Abu Bakar including my siblings for their pray, love, moral supports, understanding, and encouragement throughout my endeavor. I also want to acknowledge those who have contribute directly or indirectly in this project accomplishment.

Thank you.

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ABSTRACT

Effect of *Ficus deltoidea var. kunstleri* (Mas Cotek) Supplementation on Skeletal Development in Rats Fetus

Supplementation of *Ficus deltoidea var. kunstleri* (FDVK) is known to be popular herbs using by old folks in treating of different illness. The information on the safety of FDVK taken during pregnancy is very limited. Hence, the study regarding FDVK developmental toxicity on the skeletal fetus including its safety for consumption during pregnancy requires investigation. Therefore, this study was aimed to investigate the effect of FDVK supplementation on skeletal development of fetuses during pregnancy. A total of 15 pregnant Sprague-Dawley rats were divided into three groups (n=5) consists of a negative control group and two FDVK supplementation groups. The negative control group rat's was administered with distilled water while the rats in other two groups were supplemented with FDVK aqueous extract at 1000 mg/kg and 2000 mg/kg body weight via oral gavage. The supplementation was given during gestation period from days 6 to 20.The pregnant rats were euthanized and necropsied on day 21. The fetuses were collected from gravid uterus and litter were cleared and stained with Alizarin Red S for skeletal evaluation. The result showed increase occurrence in FDVK aqueous extract supplementation including incomplete ossification of os frontale, sternebra 6 (xiphisternum), additional ossification of os interparietale and absence of hyoid bone. Even though statistically significant at one or more FDVK dose levels, the increased occurrence of these skeletal abnormalities was not dose dependent. All the skeletal abnormalities generally considered as variation except the missing bone considered permanent change in hyoid body that classified as malformation. It can conclude that FDVK may possibly cause delayed on bone ossification during embryogenesis particularly on hyoid bone, however further study need to be conducted to investigate the similar effect during post natal period.

Keywords: *Ficus deltoidea var. kunstleri*, developmental toxicity, pregnancy, skeletal