

**UNIVERSITI SAINS MALAYSIA  
GERAN PENYELIDIKAN UNIVERSITI PENYELIDIKAN  
LAPORAN AKHIR**

**THE EFFECT OF TUALANG HONEY VERSUS HONEY COCKTAIL  
(HC 124) ON SAFETY, PHYSIOLOGICAL AND  
PSYCOSEXUAL CHANGES AMONG POSTMENOPAUSAL  
WOMEN**

**PENYELIDIK**

**PROFESOR MADYA DR. NIK HAZLINA NIK HUSSAIN**

**PENYELIDIK BERSAMA**

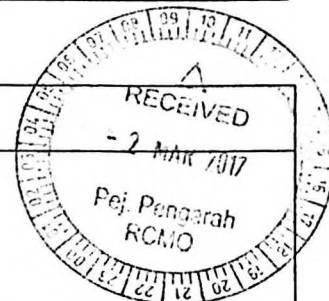
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**2017**



**RU GRANT  
FINAL REPORT FORM**

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<b>A</b>	<b>PROJECT DETAILS</b>
<b>i</b>	<p><b>Title of Research:</b></p> <p><b>The Effects of Tualang honey versus Honey Cocktail (HC 124) On Safety, Physiological and Psychosexual Changes among Postmenopausal Women</b></p> <p>(Kajian Keberkesanan Madu dan Produk Lebah (Honey Cocktail) Dari Segi Keselamatan, Perubahan Fisiologikal dan juga Psikoseksual dalam Kalangan Wanita yang telah Menopaus)</p>
<b>ii</b>	<p><b>Account Number:</b></p> <p>812098</p>
<b>iii</b>	<p><b>Name of Research Leader:</b></p> <p>Prof. Dr Nik Hazlina Nik Hussain, Women's Health Development Unit, School of Medical Sciences, Health Campus, USM</p>
<b>iv</b>	<p><b>Name of Co-Researcher:</b></p> <ul style="list-style-type: none"> <li>i. Prof. Dr Siti Amrah Sulaiman, Dept. Of Pharmacology, School of Medical Sciences, Health Campus, USM</li> <li>ii. Assoc. Prof. Dr Azidah Abdul Kadir, Dept. Of Family Medicine, School of Medical Sciences, Health Campus, USM</li> <li>iii. Assoc. Prof. Dr Norhayati Mohd. Noor, Dept. Of Family Medicine, School of Medical Sciences, Health Campus, USM</li> <li>iv. Mrs. Intan Idiana Hassan, School of Health Sciences, Health Campus, USM</li> <li>v. Mrs. Norhanita Shukri@Nasir, Women's Health Development Unit, School of Medical Sciences, Health Campus, USM</li> </ul>
<b>v</b>	<p><b>Duration of this research:</b></p> <ul style="list-style-type: none"> <li>a) Start Date : 15/02/2012</li> <li>b) Completion Date : 14/02/2015</li> <li>c) Duration : 3 years</li> <li>d) Revised Date (if any) : 31/08/2016</li> </ul>

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**B ABSTRACT OF RESEARCH**

*(An abstract of between 100 and 200 words must be prepared in Bahasa Malaysia and in English. This abstract will be included in the Report of the Research and Innovation Section at a later date as a means of presenting the project findings of the researcher/s to the University and the community at large)*

**Introduction:**

Beehive products such as royal jelly and bee bread have been reported to contain higher minerals, vitamins, free fatty acid and amino acids compared to honey alone. Hence, a combination of beehive products known as Honey Cocktail may provide additional values to Tualang Honey.

**Objective:**

To investigate the effects of Tualang Honey (TH) versus Honey Cocktail (HC) (a mixture of honey, bee bread and royal jelly) on safety, physiological (cardiovascular, anthropometric measurements, hormonal profile and bone densitometry) and psychosexual changes (psychosexual and quality of life) among postmenopausal women.

**Methods:**

A randomized, double blinded two-armed parallel study involving 100 postmenopausal women aged 45 to 65 was conducted in the ratio of 1:1 into either 20 g/day of TH or HC for twelve months duration. Safety profile [(Renal Function Test (RFT) and Liver Function Test (LFT)], cardiovascular parameters [(systolic blood pressure (SBP), diastolic blood pressure (DBP), total cholesterol (TC), triglycerides (TG), high density lipoprotein (HDL), low density lipoprotein (LDL) and fasting blood sugar (FBS), anthropometric measurements [body mass index (BMI), waist circumference (WC), body fat percentage (Fat%)], hormonal profile [follicle stimulating hormone (FSH), luteinizing hormone (LH), estradiol (E2) and testosterone(T)], bone densitometry (T-score), psychosexual changes (self-administered FSFI and WHQ) were assessed at baseline, six months and 12 months. RMANOVA and ANCOVA were performed with SPSS version 22.0 was used for data analysis. Duration of menopause was controlled as covariate for hormonal analysis. Meanwhile, for T-score analysis, duration of menopause and E2 level were controlled.

**Results:**

There were no significant differences between the groups in serum creatinine, alanine amino transferase and aspartate aminotransferase level at baseline, 6 months and 12 months. However, there were significant improvements in the BMI ( $p < 0.001$ ), WC ( $p < 0.001$ ), Fat% ( $p < 0.001$ ), E2 levels ( $p = 0.043$ ) and T-score ( $p = 0.047$ ) in HC group compared to TH group at 12 months. There were significant improvements in DBP ( $p = 0.014$ ), FBS ( $p = 0.017$ ) and FSH ( $p = 0.006$ ); in TH group compared to HC group at 12 months. Other parameters were not significantly different. There was a significant improvement in the overall FSFI scores ( $p = 0.016$ ) in the HC group compared to the TH group at 12 months. For WHQ, there were reductions in somatic symptoms and memory domains in the HC group by 203 and 32.73 at