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**THE EFFECTS OF KACIP FATIMAH (*Labisia pumila*) EXTRACT ON
KIDNEY, LIVER AND UTERUS OF WHITE RAT (*Rattus norvegicus*)**

By

Siti NurTahirah binti Jaafar

**Research Report submitted in partial fulfilment of
the requirements for the degree of
Bachelor of Science (Biological Sciences)**

**Department of Biological Sciences
Faculty of Science and Technology
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**PENGAKUAN DAN PENGESAHAN LAPORAN
PROJEK PENYELIDIKAN I DAN II**

Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk:

“The effects of Kacip Fatimah (*Labisia pumila*) extract on, kidney, liver and uterus of White Rat (*Rattus norvegicus*)” oleh Siti NurTahirah bt. Jaafar, No. Matrik UK 6112 telah diperiksa dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Sains Biologi sebagai memenuhi sebahagian daripada keperluan memperolehi Ijazah Sarjana Muda Sains (Sains Biologi), Fakulti Sains dan Teknologi, Kolej Universiti Sains dan Teknologi Malaysia.

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ABSTRACT

Labisia pumila (Kacip fatimah) is a small woody plant well-known for uterine involution among traditional practitioners. It is believed that the decoction of boiling Kacip fatimah can fasten uterine involution processes post-partum and help mothers to regain their strength after birth. This study was conducted to determine the effects of boiled Kacip fatimah and petroleum-ether extraction of the plant on uterus, liver and kidney of non-pregnant white rat. Petroleum-ether extract of Kacip fatimah was used for TLC (Thin Layer Chromatography) and Column Chromatography techniques. Under TLC, the most effective solvent system that formed clearly spot from roots and leaves were of 40% hexane and 60% dietil ether. There were six visible colours of phytochemical compound obtained in roots of Kacip fatimah by using column chromatography. Histopathological changes in the uterus and serum progesterone and estrogen level were studied in white rats (*Rattus norvegicus*) following subcutaneous injections of water decoction and petroleum-ether extract of crude Kacip fatimah. High significant changes ($p < 0.05$) were noted in the thickness of endometrium wall, numbers and perimeter of endometrial glands in all treated groups on day 1, 3 and 7. The level of serum progesterone and estrogen in all groups were not significant ($p > 0.05$) and no correlation ($p > 0.05$) was noted between the numbers of the glands and the hormone levels. Lesions such as hyaline degeneration and fibrins were noted in kidneys and liver of Group D, E and F treated with different concentrations of petroleum-ether extract of Kacip fatimah.

ABSTRAK

Kacip Fatimah (*Labisia pumila*) terkenal sebagai pokok ubatan yang diamalkan oleh pengamal ubatan tradisional untuk sistem peranakan. Dipercayai bahawa air rebusan Kacip fatimah boleh mempercepatkan proses penyembuhan system peranakan dan memberi tenaga kepada ibu yang melahirkan bayi. Kajian ini dijalankan adalah untuk mengenalpasti kesan air rebusan Kacip fatimah dan ekstrak Kacip fatimah daripada petroleum-eter kepada uterus, hati dan ginjal tikus putih. Ekstrak Kacip Fatimah daripada petroleum eter dijalankan melalui teknik kromatografi lapisan nipis dan kromatografi berperingkat. Di bawah kromatografi lapisan nipis, sistem pemisahan yang paling tepat yang menghasilkan titik yang jelas di atas kertas kromatografi lapisan nipis untuk akar dan daun ialah 40% Hexane dan 60% Dietil Eter. Terdapat 6 warna kompon kimia yang kelihatan di dalam ekstrak akar Kacip Fatimah dengan menggunakan kromatografi berperingkat. Perubahan histologi dalam uterus dan perubahan paras serum progesterone dan estrogen dikaji dalam tikus putih (*Rattus norvegicus*) dengan memberi suntikan air rebusan dan ekstrak akar Kacip Fatimah daripada petroleum eter di bawah kulit tikus tersebut. Terdapat perbezaan yang nyata ($p < 0.05$) didapati pada ketebalan dinding uterus, bilangan dan ukur lilit kelenjar uterus dalam kumpulan rawatan pada hari pertama, ketiga dan ketujuh. Paras serum progesterone dan estrogen dalam semua kumpulan tidak mempunyai perbezaan yang nyata ($p > 0.05$) dan tiada korelasi ($p > 0.05$) di antara bilangan kelenjar dan paras hormon. Terdapat kecederaan tisu dikenalpasti pada ginjal dan hati bagi kumpulan rawatan D, E dan F yang disuntik dengan ekstrak Kacip fatimah daripada petroleum-eter.