

## ABSTRAK

Nelawati, A'yunin. 2013. *Pengaruh Pemberian Vitamin E pada Tikus (*Rattus norvegicus*) Bunting yang Dipapar Asap Rokok Subakut Terhadap Berat Badan Bayi Lahir Aterm*. Tugas Akhir, Program Studi Kebidanan Fakultas Kedokteran Universitas Brawijaya. Pembimbing: (1) dr. Soemardini, MPd. (2) dr. Bambang Prijadi, MS

Vitamin E adalah antioksidan yang dapat melindungi tubuh dari radikal bebas. Asap rokok menghasilkan radikal bebas di dalam tubuh. Paparan asap rokok selama kehamilan dapat mengakibatkan hambatan pertumbuhan janin dan berat badan lahir rendah (BBLR). Penelitian ini bertujuan untuk mengetahui pengaruh pemberian vitamin E pada tikus (*Rattus norvegicus*) bunting yang dipapar asap rokok subakut terhadap berat badan bayi lahir aterm. Penelitian ini menggunakan 20 tikus bunting yang dibagi menjadi 5 kelompok; kontrol negatif (P0), kontrol positif (P1), kelompok dengan 3 dosis vitamin E (P2:100, P3:200, P4:400 mg/kgbb/hari). Vitamin E diberikan hari pertama hingga hari ke-19. Asap rokok dipaparkan pada hari ke-6 hingga hari ke-19. Tikus dibedah pada hari ke-20, bayi tikus ditimbang dan dihitung rata-rata berat badan lahirnya. Hasilnya adalah terjadi penurunan berat badan rata-rata  $p=0,044$  ( $p<0,05$ ) pada P1 dibanding P0. Pada P2 terjadi peningkatan rata-rata berat badan lahir yang signifikan  $p=0,003$ . P3 dan P4 didapatkan masing-masing  $p=0,085$  dan  $p=0,467$  yang berarti peningkatan tersebut tidak signifikan. Kesimpulan pada penelitian ini adalah pemaparan asap rokok subakut dapat menurunkan berat badan lahir rata-rata, pemberian vitamin E dosis 100 mg/kgbb/hari dapat meningkatkan berat badan lahir secara signifikan, dan pemberian vitamin E dosis 200 dan 400 mg/kgbb/hari tidak signifikan meningkatkan berat badan rata-rata.

Kata kunci: vitamin E, berat badan lahir aterm, asap rokok, tikus (*Rattus norvegicus*)

## ABSTRAC

Nelawati, A'yunin. 2013. *Effect of Vitamin E Supplementation in Pregnant Rat (*Rattus norvegicus*) Exposed With Subacute Cigarett Smoke on Aterm Birth Weight.* Final Assignment, Midwifery Program, Faculty of Medicine, Brawijaya University. Supervisors: (1) dr. Soemardini, MPd. (2) dr. Bambang Prijadi, MS

Vitamin E is an antioxidant that have able to protect the body from free radicals. Cigarette smoke exposure have produce free radicals. Cigarette smoke exposure during pregnancy can cause miscarriage, intrauterine growth restriction, and low birth weight. The aim of this study was to investigate the effect of vitamin E supplementation in pregnant rat exposed with subacute cigarett smoke on aterm birth weight. Twenty pregnant rats were randomly divided into 5 groups, as follows: group that was neither exposed to cigarette smoke nor treated by vitamin E (P0), group that was exposed to cigarette smoke without vitamin E supplementation (P1), three groups that was treated with 3 different doses of vitamin E (P2 = 100, P3 = 200, P4 = 400 mg/rat/day). Vitamin E is given on day 1 to day 19. Exposure of cigareete performed on day 6 to day 19. On day 20 of gestation, the rat dissected, fetal rats have be pondered and the average birth weight have be calculated. The result showed that P1 decreased significantly compared to P1 with  $p=0,044$  ( $p<0,05$ ). P2 significantly increased the average of birth weight with  $p=0,003$ . P3 and P4 showed result with  $p=0,085$  and  $p=0,465$ , which means the increased was not significant. In conclusions, subacute cigarette smoke exposure will reduce the average of brith weight, vitamin E supplementation with dose 100 mg/rat/day have been able to significantly increase the average birth weight and vitamin E supplementation with dose 200 and 400 mg/rat/day have not been able to significantly increase the average of brith weight.

Key words: Vitamin E, aterm birth weight, cigarett smoke, rat (*Rattus norvegicus*).