ABSTRAK

Anemia besi (Fe) dan folat sering dijumpai dalam kehamilan dapat berdampak pada kadar glukosa darah yang tinggi dan berlanjut menjadi diabetes mellitus gestasional. Suplementasi zat besi dan asam folat menjadi diperlukan untuk mencegah anemia, namun masih ada kontroversi pemberian dosis Fe dan asam folat yang tepat. Penelitian tentang efek suplementasi Fe dan asam folat dalam variasi dosis pada kondisi anemia terhadap kadar glukosa darah maternal masih terbatas. Tujuan penelitian ini mengetahui pengaruh pemberian Fe dan asam folat selama kehamilan terhadap kadar glukosa darah puasa.

Penelitian eksperimen dengan rancangan *posttest only control group design* yang dilakukan pada 20 ekor tikus wistar bunting. Jumlah kelompok ada 4 yang dibagi secara random. Keempat kelompok diberi pakan defisiensi Fe dan asam folat, kelompok 1 tanpa suplementasi Fe dan asam folat, kelompok 2, 3 dan 4 masing-masing diberi Fe dan asam folat dengan dosis 1,8 mg + 2,3 µg; 3,6 mg + 4,5 µg, dan 5,4 mg + 6,8 µg. Suplementasi Fe dan asam folat dilakukan selama 20 hari. Hasil pengukuran kadar glukosa darah puasa dianalisis dengan uji one way anova dan post hoc LSD.

Kadar glukosa darah puasa (mg/dl) pada kelompok 1, 2, 3 dan 4 masing-masing 134,65±3,42; 97,41±2,50; 89,62±1,93; dan 82,17±3,17. Hasil *uji one way anova* diperoleh nilai p=0,000 (p<0,05) menunjukkan ada perbedaan kadar glukosa darah antar kelompok.

Kesimpulan: Pemberian Fe dan asam folat selama masa kehamilan berpengaruh terhadap kadar glukosa darah puasa tikus wistar bunting.

Kata kunci: Zat Besi, Asam Folat, Kadar Glukosa Darah Puasa.

ABSTRACT

Background: Iron (Fe) and folate anemia are common in pregnancy that can increase blood glucose levels and lead to be a gestational diabetes mellitus. This study was aimed to investigate the effect of iron and folic acid supplementation in combination on fasting glucose levels in pregnant rats.

Methods: In vivo experimental study using post test only control group design. Twenty pregnant Wistar rats were divided into 4 groups. Group C was negative control (without Fe and folic acid content). D½, D1, D1½ were treated with iron and Folic Acid deficiency diet suplemented with 1.8 mg Fe + 2.3 µg of folic acid, 3.6 mg Fe + 4,5 µg of folic acid and 5,4 mg Fe + 6,8 µg of folic acid respectively. Glucose levels were evaluated on day 20 of pregnancy. The results of measurements of fasting blood glucose levels were analyzed by one-way ANOVA and post hoc LSD.

Result: the levels of glucose the four groups were 134.65 ± 3.42; 97.41 ± 2.50; 89.62 ± 1.93; and 82.17 ± 3.17 mg/dl respectively. There was a significant differences in fasting blood glucose levels among all groups (p

<0.05). There was a difference in glucose level between the controls and treatment groups ($p<0.05$)
Conclusion: The supplementation of Fe and folic acid during pregnancy effect on the fasting blood glucose levels in pregnant Wistar rats.

Keywords: Iron, Folic Acid, Fasting Blood Glucose Levels.