

**PERBEDAAN RERATA KADAR 2-METHOXYESTRADIOL  
PADA EARLY ONSET PREEKLAMPSIA BERAT  
DENGAN LATE ONSET PREEKLAMPSIA BERAT**

**TESIS**



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**2020**

## ABSTRAK

**Pendahuluan** : Tingginya angka kematian ibu tersebut dianggap sebagai pertanda adanya masalah pada status kesehatan dan pelayanan kesehatan di suatu negara. Preeklampsia termasuk dalam *triad of mortality*, yaitu selain perdarahan dan infeksi sebagai penyebab kematian ibu. *2-Methoxyestradiol*(2-ME) adalah metabolit estradiol yang diproduksi dengan bantuan *Catechol-O-methyltransferase* (COMT). Pada wanita yang mengalami preeklampsia, level dari 2-ME rendah dan ekspresi dari protein COMT juga berkurang.

**Tujuan** : Mengetahui perbedaan rerata kadar *2-Methoxyestradiol*(2-ME) antara *early onset* preeklampsia berat dengan *late onset* preeklampsia berat.

**Metode** : Penelitian ini bersifat observasional analitik dengan desain *cross sectional comparative* yang dimulai dari bulan September 2019 sampai bulan November 2019. Pengambilan sampel dilakukan secara *Consecutive sampling*, Sampel penelitian ini terdiri dari 2 kelompok, yaitu kelompok ibu hamil dengan usia kehamilan lebih dari 20 minggu sampai 34 minggu dengan *early onset* preeklampsia berat dan kelompok ibu hamil dengan usia kehamilan lebih dari 34 minggu dengan *late onset* preeklampsia berat di IGD PONEK RSUP Dr. M. Djamil Padang dan RS Jejaring. Pemeriksaan kadar 2-ME dilakukan di Laboratorium Biomedik Fakultas Kedokteran Universitas Andalas. Sampel serum yang digunakan pada penelitian ini diencerkan sebanyak 400 kali. Setelah itu dilakukan pemeriksaan kadar *2-Methoxyestradiol*(2-ME) dengan metode RT-PCR assay.

**Hasil** : Rerata kadar *2-Methoxyestradiol* (2-ME) serum maternal pasien *early onset* preeklampsia berat lebih rendah jika dibandingkan dengan rerata kadar *2-Methoxyestradiol* (2-ME) serum maternal pasien *late onset* preeklampsia berat.

**Kesimpulan** : Terdapat perbedaan yang bermakna secara statistik antara rerata kadar *2-Methoxyestradiol* (2-ME) serum maternal pasien *early onset* dengan *late onset* preeklampsia berat ( $p < 0,05$ ).

**Kata kunci** : Preeklampsia, *2-Methoxyestradiol*, *Catechol-O-methyltransferase*

## ABSTRACT

**Introduction** : The high rate of maternal mortality is considered a sign of problems with health status and health services in a country. Preeclampsia is included in the triad of mortality, which is in addition to bleeding and infection as causes of maternal death. 2-Methoxyestradiol (2-ME) is an estradiol metabolite produced with the help of Catechol-O-methyltransferase (COMT). In women with preeclampsia, the level of 2-ME is low and the expression of the COMT protein is also reduced.

**Objective** : To determine the difference in mean levels of 2-Methoxyestradiol (2-ME) between early onset severe preeclampsia and late onset severe preeclampsia.

**Methods** : The study is an observational analytic study with a cross sectional comparative design starting from September 2019 to November 2019. Sampling was carried out by consecutive sampling, the sample of this study consisted of 2 groups, namely a group of pregnant women with gestational age of more than 20 weeks to 34 weeks with early onset severe preeclampsia and a group of pregnant women with a gestational age of more than 34 weeks with late onset severe preeclampsia in ER PONEK RSUP Dr. M. Djamil Padang and Network Hospital. Examination of 2-ME levels was carried out at the Biomedical Laboratory of the Faculty of Medicine, University of Andalas. The serum samples used in this study were diluted 400 times. After that, the level of 2-Methoxyestradiol (2-ME) was examined using the RT-PCR assay method.

**Results** : The mean serum levels of 2-Methoxyestradiol (2-ME) in the maternal serum of patients with early onset severe preeclampsia were lower than the mean serum levels of 2-Methoxyestradiol (2-ME) in patients with late onset severe preeclampsia.

**Conclusion** : There is a statistically significant difference between the mean levels of 2-Methoxyestradiol (2-ME) serum maternal between early onset patients and late onset severe preeclampsia ( $p < 0.05$ ).

**Keywords** : Preeclampsia, 2-Methoxyestradiol, Catechol-O-methyltransferase

