# INTISARI

**Latar belakang.** Penurunan kadar asam folat darah menimbulkan banyak efek samping diantaranya perubahan mental, penurunan fungsi kognitif, anemia megaloblastik, hiperhomosistein, dan perburukan kendali kejang, Penelitian mengenai efek samping asam valproat terhadap kadar asam folat belum menunjukan hasil yang konsisten. Sebagai obat anti epilepsi (OAE) lini pertama pada anak, penelitian pada populasi anak penyandang epilepsi di Indonesia perlu dilakukan.

**Tujuan.** Untuk mengetahui hubungan antara durasi terapi OAE asam valproat dan kadar asam folat darah pada anak penyandang epilepsi.

**Metode.** Penelitian potong lintang dilakukan pada bulan Oktober-November 2021 di poliklinik neurologi anak RSUP. Dr. Sardjito Yogyakarta. Subjek 28 anak penyandang epilepsi yang mendapatkan monoterapi asam valproat, diperiksa kadar serum asam folat setelah puasa selama 10 jam. Hubungan antara durasi terapi asam valproat dan kadar asam folat dianalisis dengan uji korelasi *Pearson* dan *Spearman's*. Analisis multivariat regresi linier dengan metode *backward* dilakukan terhadap faktor-faktor perancu yang tidak dapat direstriksi. Nilai $p<0,05$ dianggap bermakna secara statistik.

**Hasil.** Sebanyak 28 subjek penelitian dengan median usia 5,1 (1,6-11,9) tahun, telah mendapatkan terapi asam valproate sejak usia 2,91 ± 2,51 tahun, dengan rerata durasi terapi asam valproat 31,04±19,47 bulan. Diperoleh rerata kadar asam folat sebesar 19,5 ± 6,47 ng/ml. Tidak ada hubungan antara durasi terapi dan kadar asam folat ($r = 0,045$, $p= 0,819$).

**Simpulan.** Penyandang epilepsi dengan monoterapi asam valproat memiliki kadar asam folat yang berada pada rentang normal. Durasi terapi asam valptoat tidak mempengaruhi kadar asam folat.

**Kata kunci** : Asam valproat, durasi, kadar folat, epilepsi, anak

# ABSTRACT

**Background.** Folic acid deficiency may cause various side effects, such as altered mental status, declining cognitive function, megaloblastic anaemia, hyperhomocysteinemia and worsening seizure control. Previous studies regarding the side effects of valproic acid on folic acid levels have not shown consistent results. As a first-line antiepileptic drug (AED) in children, research on Indonesian children with epilepsy need to be conducted.

**Objective.** To determine the correlation between duration of valproic acid therapy and serum folate level in children with epilepsy.

**Method.** The cross-sectional study was conducted in October-November 2021 at the pediatric neurology outpatient clinic of Dr. Sardjito General Hospital, Yogyakarta. Subjects of 28 children with epilepsy who had been treated with valproic acid monotherapy were examined for serum folate levels after a 10-hours period of fasting. The correlation between the duration of valproic acid therapy and folic acid level was analyzed using Pearson's and Spearman's correlation tests. Multivariate linear regression analysis with backward method was performed on non-restricted confounding factors. Results were considered statistically significant when p value of <0.05 was obtained.

**Results.** A total of 28 research subjects were recruited, with a median age of 5.1(1.6-11.9) years old, had been treated with valproic acid since 2.91±2.51 years of age. The mean duration of treatment was 31,04±19,47 months. The mean folic acid level was 19.5±6.47 ng/ml. There was no correlations between duration of therapy with folic acid levels (r = 0,045, p= 0,819).

**Conclusions.** Children with epilepsy who were treated with monotherapy of valproic acid had folic acid levels within normal range. Duration of valproic acid therapy did not influence the folic acid level.

**Keywords:** Valproic acid, duration, folate level, epilepsy, children