

# Medication nonadherence patterns among children with epilepsy associated with socioeconomic status

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An examination of medication adherence among children with newly diagnosed epilepsy found that nearly 60 percent showed persistent nonadherence during the first 6 months of therapy, and that lower socioeconomic status was associated with higher non-adherence, according to a study in the April 27 issue of *JAMA*.

Epilepsy, a disorder of recurrent unprovoked seizures, affects 325,000 children younger than 15 years in the United States. "Because of epilepsy's common occurrence, the narrow therapeutic and safety margins of antiepileptic medications, and the recognized complications of medication non-adherence in adults with [epilepsy](#), identifying the rates, patterns, and predictors of non-adherence in children with epilepsy is imperative. The onset and evolution of antiepileptic drug nonadherence in children with newly diagnosed epilepsy remains unknown," according to background information in the article.

Avani C. Modi, Ph.D., of Cincinnati Children's Hospital [Medical Center](#), Cincinnati, and colleagues conducted a study to identify and characterize [medication adherence](#) trajectories over the first 6 months of therapy for children with new-onset epilepsy using electronic monitors and to identify sociodemographic and epilepsy-specific predictors of adherence trajectories. The study included 124 children (2-12 years old) with final data collection through September 2009. Adherence was measured electronically with a system in which the cap of the

medication bottle contained a microelectronic circuit to register the dates and times the bottle was opened and closed.

Of the children in the study, 58 percent demonstrated persistent nonadherence during the first 6 months of therapy. The researchers identified 5 different adherence patterns with group-based trajectory models. The 5 groups, based on severity and course of non-adherence, were severe early nonadherence (n= 16; 13 percent), severe delayed nonadherence (n = 8; 7 percent), moderate nonadherence (n= 16; 13 percent), mild nonadherence (n = 32; 26 percent), and near-perfect adherence (n = 52; 42 percent).

"The adherence pattern of most patients was established by the first month of therapy. [Socioeconomic status](#) was the sole predictor of adherence trajectory group status, with lower socioeconomic status associated with higher non-adherence," the authors write.

"Socioeconomic status was the only significant predictor of nonadherence and may help identify patients at highest risk. Given that nonadherence is frequent, may compromise the benefits of drug therapy, may complicate interpretation of clinical response, and can be addressed through evidence-based interventions, clinicians should consider routinely assessing adherence to antiepileptic drug therapy in all [children](#) with [epilepsy](#)."

"...the rate of nonadherence over the course of the first 6 months of therapy is concerning and suggests a need for intervention studies that aim to optimize adherence early in the course of therapy," the researchers conclude.

**More information:** *JAMA*. 2011;305[16]1669-1676.

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