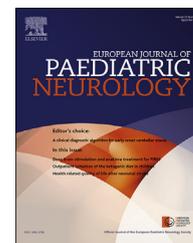




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Editorial

Outpatient initiation of the ketogenic diet



Since 1921 the children and adults with drug-resistant non-surgical epilepsies have been treated with ketogenic diets (KDs) - high fat, normoproteic, low carbohydrate diets.¹ As a result of the analysis of the current knowledge on efficacy and safety of the 4 most used KDs (the classic KD, the modified Atkins diet, the medium chain triglyceride diet, and the low glycemic index treatment), The International Ketogenic Diet Study Group (IKDSG) concluded that KDs should be strongly considered in a child who has failed 2 antiseizure drugs; it is the treatment of choice for Glut1DS and PDHD; it can be offered early for Angelman syndrome, Dravet syndrome, FIRES, infantile spasms, epilepsy with myoclonic-atonic seizures, and tuberous sclerosis complex.²

Although, excepting status epilepticus,³ there is evidence and guidelines supporting outpatients initiation over the age of 12 months,⁴ without fasting,^{4,5} with proper parental education, a recent survey conducted by the IKDSG revealed that 80% of the centers still routinely begin the classic KD in the hospital to better follow the children, promptly operate the necessary adjustments, and train the parents to be able to properly manage KD at discharge.²

In their recent retrospective observational non-inferiority study,⁶ the authors compared the inpatient versus outpatient initiation of the KDs by evaluating effectiveness (defined as $\geq 50\%$ seizure reduction), safety (numbers of emergency visits and complications) and economic impact (total costs of treatment). This is the first economic study, as no cost-efficiency analysis comparing inpatient and outpatient initiation of the KDs was previously performed.

The authors studied a population of 105 patients uniformly treated with strictly protocolled regimens of KDs between 2001 and 2017 (43 inpatient and 62 outpatient) and proved no difference as efficacy at three months (61% of outpatients versus 63% of inpatients). Outpatient administration of KDs was non-inferior in terms of safety comparing to inpatient initiation. Discontinuation at 3 months was present only in the inpatient group (12%) and was due to low efficacy (n = 2), adverse reactions (n = 2), restrictiveness (n = 1). It is interesting to show that the inpatient patients group had more consultations in the first month after

discharge comparing to the outpatient group (parents necessitated more support), most probably related to longer exposure to the diet calculation and preparation for the parents of the outpatient group (median initiation period of 27.5 days) comparing to the inpatient group (median 8 days hospitalization duration).

The total health care costs per patient were definitely much higher for the inpatient group (8195 €) comparing to the outpatient group (2901 €); indirect costs should be also considered such as absence days from work of parents. The quality of life of the whole family (patient, parents and siblings) continuing normal life with absent admittance stress may be maintained by outpatient KD initiation.

This study brings new arguments for outpatient initiation of the KDs, including the classical KD, in non-emergency and >12 month old patients, showing no worse effectiveness and safety, while carrying lower health care costs.

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