

Correlation between compliance assessment using diary counts with ketone records in children <2 years of age with Infantile epileptic spasm syndrome and parent's knowledge and understanding of diet therapy



Sheffali Gulati¹, Aakash Mahesan¹, Anuja Agarwala¹, Vishal Sondhi², Kanak Gupta¹,

Gautam Kamila¹, Prashant Jauhari¹, Biswaroop Chakrabarty¹

¹Centre of Excellence and Advanced Research for Childhood Neurodevelopmental Disorders, Child Neurology Division, Department of Pediatrics, All India Institute of Medical Sciences, New Delhi, India; ²Department of Pediatrics, Armed Forces Medical College, Pune, India



Introduction

- Diet therapy is an important modality for treatment of drug refractory epilepsy
- Assessing compliance is an integral part of any diet therapy and manual record keeping is the gold standard although cumbersome

Objectives

- To assess if there are any correlation between knowledge and understanding of diet therapy among parents and compliance assessment via manual recording in children <2 years of age with West syndrome

Materials & Methods

- This is a prospective study of **43 children** with west syndrome who had been started on ketogenic diet starting from 2:1 ratio on day 1 and hiking upto 3:1 on day 3 with a minimum duration of 6 weeks
- At 6 months the parents' knowledge and understanding of diet therapy were assessed based on a **25-question questionnaire** and their **manual record diary** of no. of feeds given and urine ketosis were collected and compared
- A knowledge and understanding score 17(70%) and above was considered as adequate and compliance score more than 80% with 2+ ketosis was considered as good compliance

Results

- Among the 43 children enrolled, one patient withdrew consent before starting and four patients had lost to follow up
- Among the remaining **38 patients**, good compliance score was seen in **35/38(92%)** while satisfactory knowledge and understanding score was seen only in **23/38(61%) patients(p=0.001)**
- "KD is a low fat, high protein, moderate-carbohydrate diet" and "Carbohydrates are the main dietary source converted into ketone bodies" were the questions frequently erred by >75% of the respondents.
- 16 out of 38 questions had >70% correct response rates

CONTACT US:

Prof Sheffali Gulati, MD, FRCPCH (UK), FAMS, FIAP, FIMSA;

www.pedneuroaiims.org , sheffaligulati1@gmail.com

twitter: @GulatiSheffali; Skype: sheffaligulati_1

Conclusion

- Although cumbersome, compliance assessment using **daily diary counting along with urine ketone** are gold standard methods
- Parents needs good self-motivation and follow-up for success of diet therapy
- More periodic assessments of parent's knowledge and understanding of diet therapy may help further improve compliance

References

1. Sondhi V, Agarwala A, Pandey RM, Chakrabarty B, Jauhari P, Lodha R, et al. Efficacy of Ketogenic Diet, Modified Atkins Diet, and Low Glycemic Index Therapy Diet Among Children With Drug-Resistant Epilepsy: A Randomized Clinical Trial. JAMA Pediatr. 2020 Oct 1;174(10):944.(Corresponding Author: Sheffali Gulati)
2. Dressler A, Benninger F, Trimmel-Schwahofer P, Gröppel G, Porsche B, Abraham K, et al. Efficacy and tolerability of the ketogenic diet versus high-dose adrenocorticotrophic hormone for infantile spasms: A single-center parallel-cohort randomized controlled trial. Epilepsia. 2019 Mar;60(3):441–51.

Comparison between compliance assessment with ketone record and questionnaire

