

## Comparison of classical ketogenic diet and polyunsaturated fatty acid ketogenic diet in refractory childhood epilepsy management - a randomised control trial

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### Abstract

#### Introduction

Ketogenic diet (KD) is a ratio specific, high-fat, low carbohydrate and normal protein diet, which is predominantly used in refractory epilepsy. Refractory epilepsy is the type of epilepsy in which 3 or more consecutive anti-epileptic drugs (AEDs) are failed to produce substantial reduction in seizures. The purpose of this current Randomized Controlled Trial (RCT) was to compare the efficacy and tolerability of Classical ketogenic diet (CKD) group and Polyunsaturated Ketogenic Diet (PUFAKD) group in children aged 2 to 20 years, suffering from refractory epilepsy.

#### Methods

95 children, who fulfilled the inclusion and exclusion criteria, diagnosed and confirmed by the neurologist (epilepsy specialist) were randomized to receive either CKD or PUFAKD. Both saturated and unsaturated fat sources were used in CKD such as clarified butter, butter and refined vegetable oils. PUFAKD was composed of only high polyunsaturated fatty acids (omega-6 and omega-3 at 2.8:1 ratio). The sources of fat in PUFAKD were sunflower and sea cod liver oil. Daily seizure frequency were measured at 3rd, 6th, 9th and 12th months. Withdrawal of treatment were documented. Side effects such as vomiting, nausea, constipation were noted via structured questions during the follow up. Urine ketone levels were measured by 'keto-diasticks' as 2+, 3+, 4+ and 4++ value, where 4+ and 4++ being recorded as best ketone levels. Lipid profile also assessed at the baseline and at 12th months.

Ketogenic diet and epilepsy (Ph.D.) with 5 years of experience in nutrition.

#### Speaker Publications:

1. A Research Perspective On Effect Of Green Tea Extract in Preventing Aflatoxin Induced Hepatocellular Carcinoma: Application of Nutrition, Bioinformatics and Genetics in The Field of Food Toxicology
2. Micronutrient Supplementation, Dietary Intervention and Resulting Body Weight Gain of Severe Acute Malnourished Children – A Pilot Project Study of OJUS Medical Institute with Existing ICDS Project in Nasik District, Maharashtra
3. DNA Profiling And Nutrigenomics Overview On Athletic Performance: A Sports Nutrition Perspective
4. Role of Functional Probiotic Food Groups in Enhancing CD4 Cell Profile of HIV Infected Population – A Short Systematic Review
5. Public Health Burden of Botulinum Neurotoxicity – A Research Perspective to Evaluate the Antitoxin Efficacy of Thearubigin Extract of Black Tea.

[2nd International Conference on Maternal, Fetal and Neonatal Medicine](#); Webinar – October 16-17, 2020.

#### Abstract Citation:

Subhasree Ray, Comparison of classical ketogenic diet and polyunsaturated fatty acid ketogenic diet in refractory childhood epilepsy management - a randomised control trial, Fetal Medicine 2020, 2nd International Conference on Maternal, Fetal and Neonatal Medicine; Webinar – October 16-17, 2020. <https://fetalmedicine.pediatricsconferences.com/>



#### Biography:

Subha Sree Ray working with Reliance Industries Limited, India as Group Corporate Dietitian, Certified Diabetes Educator from International Diabetes Federation, a specialist in