Feasibility, efficacy and tolerability of the ketogenic diet in children with drug-resistant epilepsy in South Vietnam

Nguyen Thuy Minh Thu[1,2], Nguyen Le Trung Hieu[1,2], Pierre Jallon[1], Sylvie Nguyen The Tich[3], Christian M Korff[4]

Ho Chi Minh City University of Medicine and Pharmacy[1]

Number 2 Children's Hospital, Ho Chi Minh City[2]

Hospital Salengro, CHU Lille[3]

Geneva University Hospitals[4]

ABSTRACT

Background: According to the World Health Organization, more than 50 million people worldwide suffer from epilepsy. Most of them live in limited resource countries, which have a great treatment gap. The keto diet is an effective and a cheap treatment, especially for patients with drug-resistant epilepsy. Its efficacy has been demonstrated by numerous studies throughout the world, especially in Asia. However, no such studies have been conducted in Vietnam so far.

Objectives: The purpose of this study is to verify the feasibility of this therapy, the incidence of side effects and its effectiveness by reducing the rate of seizures and their duration.

Methods: This is a prospective descriptive study, set up at Nhi Dong 2 Hospital (Children's Hospital No. 2, in Ho Chi Minh City, South Viet Nam), led from June 2019 to October 2021. Patients included suffered from drug-resistant epilepsy and were on a ketogenic diet for a minimal duration of 1 year.

Results: Forty-five children with variable causes to their epilepsy were included. The diet was considered as feasible in 97.8% of the cases. The tolerance rate was 82.22% (1st month), 75.56% (3rd months), 55.56% (6th months), 48.89% (9th months), 40% (12th months), respectively. The incidence of side effects was 44.44%. Median duration of seizures was from 3 minutes at the beginning of the diet and 2.25 minutes after 12 months with the diet. Fifteen patients experienced a 50% reduction in seizure frequency after 12 months of dieting. Among them, five (11.1%) patients were seizure-free.

Conclusion: This study demonstrated the feasibility, good tolerance, and efficacy of the ketogenic diet in children with drug-resistant epilepsy, followed in a children's hospital in South Viet Nam.