Consistent ketogenic therapy ratio does not mean consistent fatty acid intake

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Ketogenic Therapy (KT) is a high-fat, low-carbohydrate, adequate-protein diet administered to patients with intractable epilepsy. KT is defined by the KT ratio which is grams of fat: grams of protein + grams of carbohydrate. Patients with similar clinical characteristics often respond differently to the same KT ratio. One factor may be that the therapy administered differs among patients. Due to the nature of KT, our primary focus was fatty acid intake. Published reports suggest fatty acids of different chain length with different patterns of saturation/desaturation variably affect seizures. Since it is assumed that KT administered via feeding tube is more consistent in composition than KT administered orally with table foods, diet diaries were collected for 6 tube-fed pediatric patients receiving KT at a ratio of 3.5:1. Dietary intake was analyzed using the Nutrition Data System for Research program. Patients had been receiving KT from less than 1 year to more than 9 years when prescribed the 3.5:1 ratio, and no patient received a single product as their sole source of food. Fatty acid intake varied from 3 to 9 fold in terms of saturation/desaturation pattern and varied even more with chain length. Trans fatty acid intake ranged from 0 to 11% of total fat. KT ratio does not adequately assess KT potency or the parameters of KT which may impact patient response.