Use of glycemic load to monitor carbohydrates in patients on ketogenic therapy
Anh-Thu Le1, Peggy R. Borum1; 1Food Science & Human Nutrition Department, University of Florida, Gainesville, FL 32611-0370

The ketogenic therapy (KT) has historically been used to treat patients with intractable epilepsy. It consists of a high fat to adequate protein and minimum carbohydrate (CHO) ratio. The glycemic load (GL) is a value calculated from the amount of CHO consumed and the effect of those CHO on plasma glucose. Foods with simpler CHO have higher GLs and foods with complex CHO have lower GLs. Traditionally, the type of carbohydrates being given to KT patients is not monitored. This study’s purpose was to determine if this monitoring would be valuable.

In this study, diet recalls from 15 pediatric patients on KT were obtained and analyzed by the University of Minnesota’s Nutrition Data System (NDS). The GLs (with both glucose and white bread as references), total CHO CHO/kg/day and GL/kg/day were averaged. Linear regressions were done for total CHO vs. GL and for CHO/kg/day vs. GL/kg/day.

Total CHO vs. GL had an $r^2$ of 0.7971 and p-value 0.0004 and CHO/kg/day vs. GL/kg/day had an $r^2$ of 0.8283 and a p-value of 0.0001. The linear regressions reveal significant correlation between CHO and GL and CHO/kg/day and GL/kg/day, but do not account entirely for all the data. For example, one patient received 34.4 g CHO per day and had a GL of 16.7 whereas another patient who received 21.5 g CHO per day had a higher GL of 21.1.

These data indicate monitoring the types of carbohydrates given to patients on KT may be beneficial.

Character count with no spaces: 1186