Children with autism spectrum disorder (ASD) experience substantially more feeding problems compared to children without ASD, putting this population at an increased risk for nutrient deficiencies. These deficiencies can often be compounded by “elimination diets” which many parents provide in an effort to reduce their child’s symptoms. Little to no research exists to demonstrate the effectiveness of nutrition education interventions in children with ASD, warranting the need to find ways to optimize their diet and ultimately their growth and development. Thus, the purposes of this study were to assess the types of foods provided by parents for lunch to children with Autism Spectrum Disorder attending a summer camp and to determine if a parental nutrition education intervention was effective in improving the dietary intake of children with ASD. The parents of 21 children (6-12 years) with ASD were invited to participate in the nutrition education intervention, and 12 attended the session. Parents completed a pre-, peri-, and post-test food frequency questionnaire (FFQ) to measure the dietary intake of their children and to monitor changes. The results indicated a statistically significant difference in the frequency of daily sweet ($x^2 = 6.75, df = 2, p = .034$) and snack ($x^2 = 6.75, df = 2, p = .021$) consumption by children with ASD. Nutrition education interventions administered by registered dietitians can improve the dietary intake of children with ASD.