

Nutritional Concerns in Children with ASD

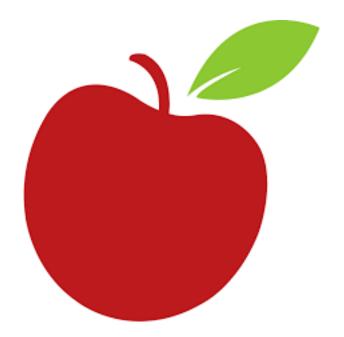
Sydney Abbott, MS, RD

Pediatrics TeleECHO: April 24, 2019



Outline

- Weight Management
- Nutrients of Concern
- Selective Food Intake
- Edible Reinforcements





Obesity

- Adolescents with autism are 1.5-2 times as likely to be obese compared with typically developing peers ^{1,2}
- Considerations:
 - Atypical physical activity patterns
 - Screen time
 - Food based reinforcers
 - Restrictive food preferences³
 - Psychotropic Medications



Tips & Tricks

- 5 or more servings of fruit and vegetables
- 2 hours or less screen time
- 1 hour or more moderate intensity physical activity
- 0 sugar sweetened beverages



















Underweight

- 4.5% of children with autism are underweight ^{1,2}
- Considerations:
 - Selective diets
 - Increased activity level
 - Stimulant medications
 - Constipation



Nutrition Supplements











Nutrients of Concern⁴

- Vitamins A, D, K
- Calcium, Potassium
- Fiber
- Protein
- Sodium





Selective Food Intake

- Food Selectivity: Sensory aversions, brand rigidity, environmental impacts, frequent single food intake⁵
- Children with selective food intake are less likely to consume a nutritionally appropriate diet⁶
- Intervention: Behavioral approach in a team based setting⁷



Food Reinforcers

- Using food as a reward:^{9,10}
 - Disrupts natural hunger and satiety cues
 - Increases the appeal of the food used as a reward
 - Associates food with feelings of success

Sensory reinforcers can be as or more effective than food reinforcers¹¹



References

- 1. Phillips KL, Schieve LA, Visser S, Boulet S, Sharma AJ, Kogan M, Boyle CA, Yeargin-Allsopp M. Prevalence and impact of unhealthy weight in a national sample of US adolescents with autism and other learning and behavioral disabilities. Maternal and Child Health Journal. February 2014.
- 2. Curtin C, Anderson SE, Must A, Bandini L. The prevalence of obesity in children with autism: A secondary data analysis using nationally representative data from the National Survey of Children's Health. BMC Pediatrics. 2010;10:11–15.
- 3. Schreck KA, Williams K. Food preferences and factors influencing food selectivity for children with autism spectrum disorders. Res Dev Disabil. 2006;27:353–363. doi: 10.1016/j.ridd.2005.03.005.
- 4. Susan L. Hyman, Patricia A. Stewart, Brianne Schmidt, Usa Cain, Nicole Lemcke, Jennifer T. Foley, Robin Peck, Traci Clemons, Ann Reynolds, Cynthia Johnson, Benjamin Handen, S. Jill James, Patty Manning Courtney, Cynthia Molloy, Philip K. Ng. Nutrient Intake from Food. Pediatrics Nov 2012, 130 (Supplement 2) S145-S153; DOI: 10.1542/peds.2012-0900L
- 5. Bandini LG1, Anderson SE, Curtin C, Cermak S, Evans EW, Scampini R, Maslin M, Must A. Food selectivity in children with autism spectrum disorders and typically developing children. J Pediatr. 2010 Aug;157(2):259-64. doi: 10.1016/j.jpeds.2010.02.013. Epub 2010 Apr 1.
- 6. Sharp WG1, Berry RC, McCracken C, Nuhu NN, Marvel E, Saulnier CA, Klin A, Jones W, Jaquess DL. Feeding problems and nutrient intake in children with autism spectrum disorders: a meta-analysis and comprehensive review of the literature. J Autism Dev Disord. 2013 Sep;43(9):2159-73. doi: 10.1007/s10803-013-1771-5.
- 7. Addison, L. R., Piazza, C. C., Patel, M. R., Bachmeyer, M. H., Rivas, K. M., Milnes, S. M., & Oddo, J. (2012). A Comparison of Sensory Integrative and Behavioral Therapies as Treatment for Pediatric Feeding Disorders. Journal of Applied Behavior Analysis, 45(3), 455-471.
- 8. Rollins BY, Loken E, Savage JS, Birch LL. Research report: Measurement of food reinforcement in preschool children. Associations with food intake, BMI, and reward sensitivity. Appetite. 2014; 72:21-27.
- 9. Alonso M, Woods SC, Pelchat M, Grigson PS, Stice E, Farooqi S, Chor SK, Mattes RD, Beauchamp GK. Food reward system: Current perspectives and future research needs. Nutr Rev. 2015; 73(5):296–307.
- 10. Lu J, Xiong S, Arora N, Dubec L. Using food as reinforcer to shape children's non-food behavior: The adverse nutritional effect doubly moderated by reward sensitivity and gender. Eat Behav. 2015; 19:94-97.
- 11. Rincover A, Newsom CD. The relative motivational properties of sensory and edible reinforcers in teaching autistic children. J Appl Behav Anal. 1985; 18(3): 237–248.



Questions