

Dietary habits in Rett syndrome

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Disturbance in chewing, swallowing and digestive motility is known to predispose patients with Rett syndrome (RTT) to feeding and nutritional abnormalities (1). However, it is unclear whether energy and nutrients intake is sufficient and/or balanced in RTT. *MECP2*-RTT patients (n=19, mean age: 13.1 yr), non syndromic neurodevelopmental disorders (NSNDS) (n=12, mean age 13.3 yr) and healthy controls (n=13, mean age 13.0 yr) participated to the study. The dietary intake survey was conducted using a 24-hr recall method through parents' interviews. Daily intakes of total energy and nutrients were analyzed using WinFoods software (Medimatica, Teramo, Italy). The daily energy intake was significantly lower in the RTT population (RTT: 1433 Kcal/day; NSNDS: 2184 Kcal/day; controls 1911 Kcal/day, p<0.001), with a higher lipid (RTT:39.7%; NSNDS: 33.0%; controls 29.9%, p=0.001), lower carbohydrate (RTT: 42%; NSNDS: 52.5%; controls 50.2%, p=0.001), low fiber (RTT: 9.8 g; NSNDS: 14.0 g; controls 15.7 g p=0.007) and low water (RTT: 406 mL; NSNDS: 989 mL; controls 1154 mL, p=0.001) intakes. Reduced phosphate, iron, niacin, thiamine, B6 vitamin intakes were also observed (p<0.024). Supplementation with ω -3 polyunsaturated fatty acids (ω -3 PUFAs) (Norwegian Fish Oil, Italian importer: Transforma AS Italia) led to reduced total cholesterol (102.1 mg vs. 265.5 mg, p=0.002), saturated fatty acids (11.4 g vs. 18.9 g, p=0.015), C16:0 palmitic acid (5.4 g vs. 8.4 g, p=0.029), C18:0 stearic acid (1.7 g vs. 2.9 g, p=0.032), and C20:4 arachidonic acid (0.045 g vs. 0.14 g, p=0.035). RTT presents important dietary challenges that should be addressed on a case-by-case setting.

References

- 1 Isaacs JS et al. Eating difficulties in girls with Rett syndrome compared with other developmental disabilities. *J Am Diet Assoc.* 2003;103(2):224-30. Schwartzman F et al.
- 2 Eating practices, nutritional status and constipation in patients with Rett syndrome. *Arq Gastroenterol.* 2008;45(4):284-9.

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