

Normal values for satiety drinking test in healthy children between 6- 18 years. Shava U, Srivastava A, Mathias A, Yachha SK, Poddar U. Department of Pediatric Gastroenterology, Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow, India

Objectives: Impaired gastric accommodation occurs in 40–50% patients with functional dyspepsia (FD). Satiety drinking test (SDT) is a reproducible, non-invasive method to assess gastric accommodation. Normal values of SDT in healthy controls are available for the Caucasian population but not in Indian children. The aim of this prospective study was a) to establish the normal values for the SDT in Indian children b) to study the effect of demographic factors and c) to compare it with the data in Caucasian children.

Methods and materials: Prospective study from January 2014 to December 2014. Normal children (6-18 y) were enrolled after a detailed clinical evaluation. Demographic and anthropometry was noted. For the SDT, children were asked to drink a nutrient drink (Ensure, 0.94 kcal /mL) at a constant rate of 15 mL/min in children 6-12 years of age and 30 mL/min in 13-18 years at 5-min intervals. Subjects scored their fullness using a scale graded 0–5 [0 = no symptoms; 1 = first sensation of fullness (threshold); 2 = mild; 3 = moderate; 4 = severe; 5 = maximum or unbearable fullness]. Maximum satiety drink volume was taken when a score of 5 was reached. Thirty minutes after completing the test, subjects scored their symptoms of bloating, fullness, nausea and pain using a visual analogue scale (VAS).

Results: A total of 45 [30 boys, median (range) age was 13.0 (6-18) years] healthy subjects were enrolled. There was no significant difference between boys and girls in age and anthropometric scores. The median (range) satiety drink volume and calorie intake were 360 (120-1080) mL and 343 (113-1015) kcal. The 10th and 90th centiles of satiety drink volume were 240 mL and 744 mL. Significant correlation was found between satiety drink volume and age { $r=0.32, p=0.02$ }, height { $r=0.33, p=0.02$ } and postprandial symptom score { $r=0.39, p=0.008$ }. There was no difference in the satiety drink volume (365 mL vs. 360mL; $p=0.06$) or calorie intake (343 vs. 338 Kcal; $p= 0.06$) between boys and girls. In the Belgium study in children (mean age 10.3 ± 0.4 years), the average satiety drink volume in boys and girls was 370 ± 25 ml and 347 ± 41 mL.¹

Conclusion: The study provides normative values for the SDT in Indian children between 6-18 years of age. The values in Indian children are similar to that reported in Caucasians. This data can be used for assessment of gastric accommodation in children with FD.

References

1. Hoffman I, Vos R, Tack J. Normal values for the satiety drinking test in healthy children between 5 and 15 years. *Neurogastroenterol Motil* 2009; 21, 517- 521.