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Urinary Bisphenol A: Its relation to food intake and packaging in Egyptian children

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Introduction & Aim: Bisphenol A (BPA) is a high production volume industrial chemical used in manufacturing of polycarbonate and other plastic products and epoxy resin that line food can. The aim of this study is to analyze whether increased consumption and packaging of different food types in a sample of Egyptian children will be associated with higher urinary levels of BPA or not.

Subjects & Methods: A random sample of 305 children and adolescents from 2-18 years old of different social levels were included. Three public and two private Egyptian schools were chosen using a list of random numbers. Forty-nine (49) pre-schoolers were enrolled in the study. Personal history as well as anthropometric measurements including weight, height, waist and hip circumference was taken and BMI was calculated. Urine samples were collected from 297 children and adolescents. Urinary BPA was categorized into quartiles (<1.3 ng/mL, 1.3–<2.6 ng/mL, 2.6–4.9 ng/mL and >4.9 ng/mL).

Results: Higher BPA levels were found in elder children ≥12 years (p=0.01). Increased different food types consumption or food packaging is not associated with increased urinary BPA levels. Chips consumption only is significantly associated with increased urinary BPA levels (p=0.046). There is no significant relationship between water usage or storage and urinary BPA levels.

Conclusion: Food consumption has no effect on urinary BPA levels except for chips.

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