

Bisphenol A and educational level in the Murcia-cohort in the Spanish European Prospective Investigation into Cancer and Nutrition (EPIC).

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Objective: To evaluate the relationship between serum BPA and educational level in EPIC-Murcia study.

Methods: 8,515 healthy volunteers, recruited in 1992-1996 and followed-up for over 20 years. The analysis included a random sub-cohort of 988 participants with data on BPA or educational level. Data on the highest education attained, dietary and life-style variables were collected in face-to-face interviews. Weight, height and waist circumference were measured using standard methods.

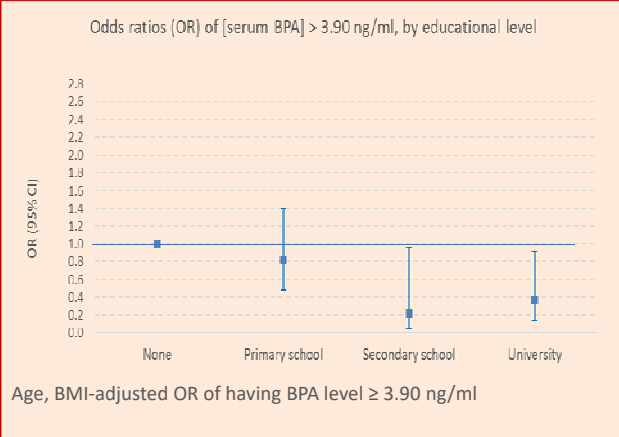
Serum BPA concentrations were measured in frozen serum samples using UHPLC-MS/MS. Geometric means (95% confidence intervals) were calculated by educational level and sex, and differences evaluated with Kruskal-Wallis tests. Sex-specific logistic regression models were applied to estimate the odds ratio (OR) of presenting higher BPA concentrations (upper quartile), by educational level, adjusted by age and body mass index (BMI).

Results: 70% of the sample had detectable BPA concentrations (LOD: 0.2 ng/ml). The geometric mean was 1.11 ng/ml (P75=3.90 ng/ml).

Women with higher educational level had significantly lower BPA concentrations in univariate analyses ($p < 0.001$). Multivariate logistic models showed that women with higher education were less likely to have higher concentrations of BPA (OR University=0.36, 0.14-0.92), with a significant inverse trend across categories (OR per-category change=0.69, 0.52-0.91). No associations were found in men.

Conclusion: Our results showed an inverse independent association between serum BPA concentrations and educational level in women.

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Concentration of BPA by educational level and sex in Epic-Murcia study

	Men		Women	
	Geometric mean	95% CI	Geometric mean	95% CI
None	0.98	0.78 - 1.23	1.41	1.18 - 1.68
Primary school	1.17	0.89 - 1.55	1.22	0.89 - 1.66
Secondary school	1.34	0.92 - 1.94	0.64	0.34 - 1.20
University	0.88	0.64 - 1.21	0.56	0.37 - 0.85
<i>P</i> (Kruskal-Wallis)	0.357		< 0.001	

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