

# Women with polycystic ovary syndrome may be more vulnerable to BPA

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A recent study accepted for publication in The Endocrine Society's *Journal of Clinical Endocrinology & Metabolism (JCEM)*, found higher Bisphenol A (BPA) levels in women with polycystic ovary syndrome (PCOS) compared to controls. Furthermore, researchers found a statistically significant positive association between male sex hormones and BPA in these women suggesting a potential role of BPA in ovarian dysfunction.

BPA is a very common industrial compound used in food and drink packaging, plastic consumer products and dental materials. PCOS is the most common endocrine disorder of women of reproductive age and is characterized by excessive secretion of androgens which are masculinization-promoting hormones. The syndrome raises the risk of obesity, type 2 diabetes, infertility and heart disease.

"Our research shows that [BPA](#) may be more harmful to women with hormonal and fertility imbalances like those found in PCOS," said Evanthia Diamanti-Kandarakis, MD, PhD, study co-author and professor at the University of Athens Medical School in Greece. "These women should be alert to the potential risks and take care of themselves by avoiding excessive every-day consumption of food or drink from plastic containers."

In this study, researchers divided 71 women with PCOS and 100 healthy female control subjects into subgroups matched by age and body composition. Blood levels of BPA were nearly 60 percent higher in lean

women with PCOS and more than 30 percent higher in obese women with the syndrome when compared to controls. Additionally, as BPA levels increased, so did concentrations of the male sex hormone testosterone and androstenedione, a steroid hormone that converts to testosterone.

"Excessive secretion of androgens, as seen in PCOS, interfere with BPA detoxification by the liver, leading to accumulation of blood levels of BPA," said Diamanti-Kandarakis. "BPA also affects androgen metabolism, creating a vicious circle between androgens and BPA."

**More information:** The article, "Endocrine disruptors and polycystic ovary syndrome (PCOS): Elevated serum levels of Bisphenol A in women with PCOS," appears in the March 2011 issue of *JCEM*.

Provided by The Endocrine Society

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