

Increasing BPA levels in urine associated with worsening male sexual function

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Increasing Bisphenol-A levels in urine are associated with worsening male sexual function, according to a Kaiser Permanente study appearing online in the *Journal of Andrology*.

Increasing urine [BPA](#) level is associated with decreased sexual desire, more difficulty having an erection, lower ejaculation strength and lower level of overall satisfaction with sex life, researchers said. The five-year study examined 427 workers in factories in China, comparing workers in BPA manufacturing facilities with a control group of workers in factories where no BPA was present.

BPA is an ingredient in manufacturing polycarbonate plastic and epoxy resins and is now contained in a wide variety of consumer products from [baby bottles](#), plastic containers, and the resin lining of cans for food and beverages, to dental sealants. People can be exposed to BPA by using BPA-containing products.

In a previous related study, Kaiser Permanente researchers measured BPA exposure based on work history and environmental BPA exposure in the workplace. This new study measured urine BPA among participants and examined the correlation between their urine BPA level and their reported problems of sexual dysfunction.

"This is the first human study to show that high urine BPA is associated with lower male sexual function," said study lead author De-Kun Li, MD, PhD, a reproductive and perinatal epidemiologist at Kaiser

Permanente's Division of Research in Oakland, Calif. "Also, even among men exposed to BPA from only environmental sources (no occupational exposure and with average BPA level lower than the average observed in the American population), there were indications of an increased risk of sexual dysfunction." He explained that although the estimates in the environmentally exposed group were not statistically significant due to small sample size, this finding may enhance the understanding of the BPA effect in human populations with low-dose environmental exposure and have important public health implications.

The researchers observed a dose-response association between increasing urine BPA level and declining male sexual function. The observed negative association was consistent across all categories measuring male sexual dysfunction.

This study is the second part of Kaiser Permanente's ongoing research to look at BPA's reproductive effect in humans. Both studies are the first to look at BPA's reproductive effect in humans. The adverse effect of BPA on the male reproductive system previously had been examined in animal studies only.

The study was conducted among 427 male workers in four regions of China where high levels of BPA exposure existed. These regions were chosen because there were factories where BPA or epoxy resin was manufactured. Researchers also identified workers from factories with no occupational exposure to BPA in the work environment in the same regions. Many participants provided urine samples that were tested for BPA concentration using high-performance liquid chromatography. Male [sexual dysfunction](#) levels were ascertained using standard male sexual function inventories and through in-person interviews. Through the in-person interviews, researchers also ascertained information about potential confounders including demographic characteristics, factors that may influence sexual function -- including smoking, alcohol use, chronic

diseases, exposure to other chemical and heavy metals -- and occupational history.

The researchers explained that BPA is suspected from animal research to be a highly suspect human endocrine disrupter, likely affecting both male and female reproductive systems.

"Toxins in the environment contribute to diseases and health conditions. Preventing those environmental exposures requires evidence, and this study greatly enhances our understanding of the health effects of BPA," said Kathy Gerwig, Kaiser Permanente's vice president of Workplace Safety and environmental stewardship officer.

Provided by Kaiser Permanente

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