

## Pesticide residue intake linked to poor semen quality in men

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### Parviz Kavoussi, MD



Parviz Kavoussi, MD, is an expert in erectile dysfunction, sexual medicine and male infertility. He is in practice with his infertility specialist father and brother where they pride themselves in being a family that helps others start their families.

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(dailyRx News) Mom's advice to eat plenty of veggies still rings true, but men might want to do so with some caution. High-pesticide fruits and vegetables might damage men's sexual health.

A new study from Harvard found that men who ate vegetables and fruits with the highest levels of pesticide residues had lower sperm counts and fewer normal sperm.

"So, men trying to have children should be careful where they are getting their fruits and vegetables," said Parviz Kavoussi, MD, a urologist and expert in male infertility and sexual medicine in Austin, TX, in an interview with dailyRx News. "We think the best option is to consume organic products to minimize these exposures for couples trying to conceive. Based on these studies, it will be especially important for men with borderline fertility to avoid such exposures, as these changes in semen parameters may drop them into a subfertile range."

Dr. Kavoussi was not involved with the current study.

This is the first study to connect pesticide residues and semen quality, said lead study author Dr. Jorge E. Chavarro, an assistant professor of nutrition and epidemiology at the Harvard T. H. Chan School of Public Health in Boston, in a press release.

"These findings should not discourage the consumption of fruit and vegetables in general," Dr. Chavarro said. "In fact, we found that consuming more fruits and vegetables with low pesticide residues was beneficial. This suggests that implementing strategies specifically targeted at avoiding pesticide residues, such as consuming organically-grown produce or avoiding produce known to have large amounts of residues, may be the way to go."

Pesticide residues are found in measurable amounts on many conventionally grown fruits and vegetables. Pesticides are used to kill insects.

Dr. Chavarro and team studied data from 155 men who participated in a reproductive health study between 2007 and 2012. That study included analysis of semen samples and data about the patients' diets.

These researchers classified the fruits and vegetables as high or low to moderate in pesticide residues. The high-pesticide group included peppers, spinach, strawberries, apples and pears. The low group included peas, beans, grapefruit and onions.

Data on pesticides came from the US Department of Agriculture Pesticide Data Program.

Men who ate more than 1.5 servings of fruits and vegetables with high levels of pesticide residues had lower sperm counts than men who ate the least of the high-pesticide fruits and vegetables. The high-pesticide eaters also produced a smaller amount of semen and had fewer normal sperm.

All of these factors may affect men's fertility.

However, men should still eat their veggies for good reproductive health, Dr. Chavarro and team said. Men who ate higher amounts of fruits and vegetables with low to moderate amounts of pesticide residues had a higher percentage of normal sperm than those who ate less of the same vegetables.

"Overall nutritional strategies for men trying to conceive is to consume a reasonably healthy, well balanced diet," Dr. Kavoussi said. "A low fat, low cholesterol diet is important for fertility as well as overall health. Optimizing body composition has been shown to optimize male fertility in multiple studies. Keeping the pounds off helps to make healthier sperm cells, minimized heat effect from the body to the testicles, and optimizes the testosterone to estrogen ratio in men, which is also important for optimal fertility."

Dr. Chavarro and team noted that the men in this study already had reproductive problems. Their findings don't necessarily apply to all men.

In an editorial about this study, Dr. Hagai Levine, visiting scientist from Hebrew University-Hadassah, Israel, and Professor Shanna H. Swan, professor of preventive medicine at the Icahn School of Medicine at Mount Sinai in New York, wrote, "Despite the relatively small sample size and exposure assessment limitations, the paper makes a convincing case that dietary exposure to pesticides can adversely impact semen quality. While this finding will need to be replicated in other settings and populations, it carries important health implications."

The study and editorial were published online March 30 in the journal *Human Reproduction*.

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