News Section | Sexual Health

# **Exposure to organochloride pesticides alters** semen quality: Study

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A University of Granada study has shown that exposure to organochloride pesticides alters semen quality.



Two in 10 young people in South East Spain have poor sperm density, which involves requiring more time to accomplish fertilization. The most common means of exposure to pesticides is food and other household products.

According to the study, combined exposure to organochlorides significantly alters semen quality in young people from South East Spain.

Having a low number of spermatozoa taking the levels established by the World Health Organization (WHO) as a reference can delay fertilization.

The starting point was the hypothesis that organochlorine pesticides cause alterations in semen quality parameters, as they alter homeostasis of male hipotalamus-hypophysis-gonads axis. The risk increases with exposure to different pesticides, even in low concentrations.

The results obtained showed that young people from South East Spain scores in a medium position—tending to the highest positions— with the semen quality reported in other European countries. Semen quality was measured after the total spermatic number (TSN) and the total sperm motility.

Semen quality has been found to be influenced by many factors as lifestyle –education level and job–, physical and biochemical parameters –obesity, sexual hormone levels, lipids in blood, etc– and environmental exposure.

The most common means of exposure to pesticides among the general population is through food and other household products. All the samples analysed had at least one pesticide in considerable concentrations, and the average number of pesticides detected was 11, ranging between 4 and 17. Most of the participants (62 pc) had residues of 10-14 different pesticides in the blood.

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While exposure to certain organochlorides proved to increase total spermatic number and total sperm motility levels, other pesticides have the adverse effects and are associated to a reduction in these levels. This might be due to the fact that some pesticides are considered to be slightly estrogenic endocrine disruptors—as it is the case of endosulfan sulphate, lindane and p,p-DDT—, while others combine their clearly antiadrogenic activity to a weak estrogenic activity—as it is the case of p,p-DDE and vinclozolin.

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