

Lower sperm motility in men exposed to common chemical

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Men with higher exposure to the substance DEHP, a so-called phthalate, have lower sperm motility and may therefore experience more difficulties conceiving children, according to a Lund University study.

Phthalates is an umbrella term for a group of substances based on phthalic acid, some of which are suspected to be [endocrine disruptors](#). Many phthalates are found in soft plastics in our daily surroundings: wallpaper, sandals, nail polish, perfume, floors, carpets and more.

Since phthalate molecules leak out of plastics, we are exposed to it daily and absorb the chemicals through food, drink, skin contact and inhalation. Phthalate levels can be measured by a simple urine sample.

"We have studied metabolite levels of the phthalate DEHP (diethylhexyl phthalate) in urine as an indicator of exposure, as well as the [semen quality](#) of 300 [men](#) between the ages of 18 and 20. The results show that the higher [metabolite levels](#) the men had, the lower their sperm motility was", says Jonatan Axelsson, researcher at the Department of Laboratory Medicine, Lund University.

For the one quarter of the men with the lowest levels of exposure, 57 per cent of the [sperm cells](#) were moving forward, compared to 46 per cent for the quarter of the men with the highest levels of exposure.

The study is the only one of its kind that analyses the connection for the same metabolites in men from the general population, and that

simultaneously makes adjustments based on the concentration of the urine and how much time had passed since the last ejaculation. Men from the [general population](#) may be the most relevant to study, because men with fertility problems (who are usually studied) often have reduced semen quality, including sperm motility, which may be caused by many different things.

"There are other studies that support our findings with regard to the link between DEHP metabolites and sperm motility, but also studies that have not found any connection. Moreover, the substances break down in the body within a few days, so there is no cause for immediate concern. However, we should be aware that there may be a problem and that it can be an important issue for further research", says Jonatan Axelsson.

As previous research has reported that there is a linear connection also between [sperm motility](#) and chances of becoming pregnant, the findings could indicate that the more exposed one is to DEHP, the smaller the chances are of having children.

DEHP is already on the EU's list of substances with particularly hazardous properties, and since earlier this year, you need special authorisation to use substances when manufacturing goods and chemical products in the EU. However, this does not include imported goods.

More information: "Phthalate exposure and reproductive parameters in young men from the general Swedish population," *Environment International*, Volume 85, December 2015, Pages 54-60, ISSN 0160-4120, [dx.doi.org/10.1016/j.envint.2015.07.005](https://doi.org/10.1016/j.envint.2015.07.005)

Provided by Lund University

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