Hairspray warning for pregnant women

New research suggests that exposure in the workplace to hairspray may increase a woman’s chance of giving birth to a child with the common birth defect hypospadias. Changes in health protection legislation could be required to protect women working in jobs involving such exposures, such as in the beauty and hairdressing industries.

Hypospadias is a common birth defect which is thought to affect up to 1 in 250 newborn boys in Europe, although estimates vary. It causes the urinary opening to be in the wrong position for boys and, in severe cases, may reduce fertility and require surgery. Although the exact causes are not known, it is thought that phthalates in the hairspray may have a role to play. Phthalates are a type of industrial compound suspected to be endocrine disruptors. Endocrine disruptors interfere with the body’s natural hormonal system.

The study found that exposure to hairspray in the workplace may increase the risk of giving birth to a child with hypospadias by two-to-three fold. Researchers examined links between hypospadias and mothers’ occupations in pregnancy. The findings suggest that women reporting exposure to hairspray in the workplace, including women working in the beauty and hairdressing industries as well as a range of other jobs, may be exposed to an occupational health hazard. They also found a threefold higher risk of the birth defect among boys born to women who had been in jobs judged possibly or probably to involve exposure to phthalates.

Some phthalates are already banned in other products, such as baby care products and toys, both in the EU and the US. At the time of the study, they were present in hairspray and a wide range of other cosmetics, though since 2005 in the EU (but not the US) certain phthalates have been removed from these products under regulations concerning substances classified as carcinogenic, mutagenic or toxic for reproduction (CMR).1

The study suggests the possibility that phthalates may also exert their influence on unborn children through their mothers. The researchers stress that further research is required to understand exactly how this might happen. However, if the results are confirmed by other studies, changes to health protection legislation could be required.

The study included 471 UK women who had given birth to children with hypospadias between 1997 and 1998. The researchers conducted interviews in which the women were asked about their occupation and diet during pregnancy, as well as exposure to 26 occupational substances, which included printing ink, disinfectants, paints and pesticides, as well as hairspray. The women were asked to estimate exposure times as well as which substances they were in contact with. The results were compared to a control group of 490 women who had given birth to babies without the defect.

In addition to identifying hairspray in the workplace, and jobs involving possible or probable exposure to phthalates, as possible risk factors for hypospadias, the researchers found that women who took folate supplements during the first three months of pregnancy had a one third lower risk of hypospadias. This supports widespread recommendations for pregnant women to take folate supplements to reduce the risk of spina bifida, a birth defect that can cause problems with the spinal cord and nervous system, in their children.


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