

Certain jobs dads do linked to higher risk of birth defects

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Several types of job carried out by future fathers may be linked to an increased risk of birth defects in their babies, suggests research published online in *Occupational and Environmental Medicine*.

Previous research has linked certain [occupations](#) with a higher risk of birth defects in offspring. But it has tended to lump together very different types of defects and occupations, in order to achieve large sample sizes, with the attendant potential to skew the results, say the authors.

They base their findings on data from the ongoing US National Birth Defects Prevention Study, which is investigating a range of potential [risk factors](#) for major birth defects in a large population sample.

They obtained the job histories of just under 1000 [dads](#) who had had a child with one or more birth defects born between 1997 and 2004, and those of just over 4000 dads whose kids did not have [congenital abnormalities](#), via telephone interviews with their partners.

This included defects among stillborn babies, and those that were aborted, as well as in live born children.

Jobs were then classified into 63 groups, based on assumed exposure profiles to chemicals or other potential hazards within the job itself and within the profession/industry.

Job classification was restricted to the three months before conception and the first month of pregnancy, considered to be the critical period for [susceptibility](#) to damage passed on in the father's sperm.

Particular mathematical methods were used (Bayesian analysis) to take account of the statistical difficulties associated with analysing small sample sizes in numerous categories of risk exposure and more than 60 different categories of birth defect.

Most (90%) of the dads had had only one job during this four month period. The most common groups of jobs were those in management/admin; sales; and the [construction industry](#).

Their analysis showed that nearly a third of job types were not associated with any increased risk of [birth defects](#). These included architects and designers; healthcare professionals; dentists; firefighters; fishermen; car assembly workers; entertainers; smelters and foundry workers; stonemasons and glass blowers/cutters; painters; train drivers/maintenance engineers; soldiers; commercial divers.

But certain types of jobs seemed to be associated with an increased risk of having a child with a birth defect in three or more categories.

These included: mathematicians, physicists, computer scientists; artists; photographers and photo processors; food service workers; landscapers and groundsman; hairdressers and make-up artists; office and admin support workers; office and admin support workers; sawmill operatives; those working with petrol and gas; those working in chemical industries; printers; those operating cranes and diggers; and drivers.

Jobs associated with specific types of defect included artists (mouth, eyes and ears, gut, limbs, and heart); photographer and photo processors (cataracts, glaucoma, absence of or insufficient eye tissue); drivers

(absence of or insufficient eye tissue, glaucoma); landscapers and groundsmen (gut abnormalities).

The authors did not attempt to look at particular exposures to chemical or other potentially harmful hazards, but they conclude that their findings reflect those of other research on dads' roles in fetal damage and may help to inform further study on specific occupational harms.

Provided by British Medical Journal

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