Neuropsychological functioning and pesticide exposure in children aged 6-11

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Abstract

Pesticide exposure has been linked with numerous health concerns in both adults and children, including problems with cognition and behaviour. Research in this area is complicated by different pesticide exposure profiles across different countries, and results may not generalise to a New Zealand context. The current study aimed to investigate the effects of pesticide exposure in New Zealand children. It extended previous research by studying more cognitive domains, thus providing a more thorough understanding of effects on cognitive functioning. Four hundred and forty three children from the Wellington and Hawkes Bay regions were assessed using subtests from the NEPSY-II, WISC-IV and TEA-Ch. Pesticide exposure was measured using questionnaire and dust sample data which served as proxies for both pre- and post-natal exposure.

Prenatal exposure was found to be significantly associated with lower memory scores, while postnatal exposure was associated with lower scores in working memory, facial memory and executive functioning. No effects were found for attention, motor speed, processing speed, verbal memory, and social perception. These results suggest the presence of effects of pesticide exposure on some aspects of child neuropsychological development in New Zealand. While the results are based on initial analyses, and are thus preliminary, the thesis will contribute to a larger project looking at pesticides and public health, and provide important information for regulators around public safety in the future.

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Wer ein Warum hat, kann Wie ertragen

(He who has a "why" can bear any "how")

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