

National ban on mothballs containing naphthalene may prevent brain damage in babies

February 7 2011

In a letter published in this month's *Medical Journal of Australia*, leading medical specialists at the University of Sydney have called on the Australian Pesticides and Veterinary Medicines Authority to review the safety of mothballs containing naphthalene, due to the proven risk of brain damage in babies with the genetic condition of G6PD deficiency.

Professor William Tarnow-Mordi, Director of the WINNER Centre for Newborn Research, said [babies](#) affected with this condition can develop massive breakdown of their [red blood cells](#) within hours of being wrapped in clothing stored with mothballs containing naphthalene.

"This can result in severe jaundice and kernicterus, a form of [brain damage](#) associated with profound disability," he said.

"The lifetime costs of caring for a baby with kernicterus are many millions of dollars. Kernicterus has occurred in at least three babies with G6PD deficiency in Australia in the last three years, one of whom died. One of the cases was associated with exposure to naphthalene."

"The European Union banned the supply of naphthalene products in 2008. In 2003, the European Chemicals Bureau linked naphthalene with kernicterus and deaths in babies, and with several occupational health risks. We are working with the Australian Pesticides and Veterinary Medicines Authority and Office of Chemical Safety and Environmental

Health in the Department of Health and Ageing, who are reviewing whether similar action should be taken in Australia."

"[Health Authorities](#) in Australia already inform parents about the dangers of mothballs with naphthalene," Professor Tarnow-Mordi said. "Without further measures, more babies could sustain brain damage or die. A total ban on mothballs with naphthalene may now be the safest course".

One in 20 Australians of Asian, African, Middle Eastern or Mediterranean descent has a [genetic variation](#) leading to G6PD deficiency. Australians of predominantly Anglo Saxon or Indigenous background are less commonly affected, but naphthalene can also cause red cell breakdown in individuals without G6PD deficiency.

Clinical Associate Professor in Neonatal Medicine Nicholas Evans said: "The exact incidence of severe jaundice and kernicterus in Australia is the subject of a study funded by the Cerebral Palsy Foundation, through the Australian Paediatric Surveillance Unit."

In Australia mothballs containing naphthalene already carry a warning on the label that they harm young children. However, neonatal specialists of the Australian and New Zealand Neonatal Network unanimously agreed in Melbourne last November that labels give insufficient protection.

The NSW and Victorian Poisons Information Services each receive over one call per week about children exposed to naphthalene in mothballs. From 2004 to 2010, 435 calls were logged in NSW.

Some mothballs contain a chemical related to naphthalene, paradichlorobenzene, which also causes red cell breakdown. Less toxic moth repellents exist. UK stores have replaced naphthalene with natural products like camphor, sandalwood and lavender to protect clothes from

moths.

More information: www.mja.com.au/

Provided by University of Sydney

Citation: National ban on mothballs containing naphthalene may prevent brain damage in babies (2011, February 7) retrieved 28 April 2024 from <https://medicalxpress.com/news/2011-02-national-mothballs-naphthalene-brain-babies.html>

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