Medical Xpress

Toddlers from socially-deprived homes most at risk of scalds, study finds

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(Medical Xpress)—Toddlers living in socially-deprived areas are at the greatest risk of suffering a scald in the home, researchers at The University of Nottingham have found.

The study, published in the journal *Burns*, showed that boys aged between one and two years old and those with multiple siblings were statistically more likely to suffer a hot water-related injury, while children born to mothers aged 40 years and over were at less risk than those with teenage mums.

The results could help GPs and Health Visitors identify those children most at risk of a scald and prevent injuries by targeting education and advice, referrals for home safety checks and recommendations for safety equipment at those most in need.

Dr Elizabeth Orton, co-author of the study in the University's Division of Primary Care, said: "It would be impossible for this study to show the whole picture as there is some information on potential risk factors which is unavailable through primary care records. For example, how well safety practices are observed, such as cooking with pans on the rear cooker rings out of reach of children or ensuring that baths are always supervised while being filled.

"However, the results from our research offer significant insight into those groups who are at most risk, which would enable GPs to deliver targeted interventions to patients during clinical consultations and hopefully reduce the pain and misery of scalds for many children."

Scalds are a common injury in children, accounting for half of all burns in pre-school youngsters. They can cause terrible pain and need prolonged treatment, often leaving both physical and psychological scars. These types of injury also represent a significant economic burden to the NHS—the British Burn Association calculated that a serious bath water scald needing intensive care treatment could cost more than £170,000.

Most scalds are preventable and safety equipment such as thermostatic mixer valves for bath taps are both cost-effective and successful in reducing injury, however to date there has been a lack of information on groups most at risk to allow doctors to target accident prevention measures effectively.

The Nottingham researchers used information routinely collected by GP patient records to study children born between January 1988 and November 2004 and their mothers—a total of more than 180,000 mother-child pairs and 986 cases of scald injuries—to assess common factors among those who needed treatment after suffering a scald.

In the children they looked at the sex of the child and their age at the

time of injury and the number of siblings. In their mothers they assessed age at childbirth, any history of depression during pregnancy or the first six months after the birth of their child and whether they drank alcohol to a harmful or hazardous extent.

They also looked at whether they lived in a deprived household, based on their postcode, and the number of adults living in the home.

They then compared them to a control group of children from a previous study exploring risk factors for childhood fractures, poisonings and thermal burns.

Their results showed that:

- Boys were 34 per cent more likely to have a scald injury
- Age played an important role in scalds—toddlers aged one to two years of age were two and a half times more likely to suffer a scald than a child under a year old
- Children with multiple siblings had a higher chance of suffering a scald—3rd born children were twice as likely to be injured as first or 2nd born children
- A decreased risk of scald to children with older mothers—with children born to mothers aged 30 to 40 years were 30 per cent less likely to suffer a scald than a child born to a mum aged under 20 and this increases to 70 per cent less likely if the mum is over 40
- Children living in a single parent household are 26 per cent more likely to have a scald compared to children in two-parent households
- Children living in deprived households are 80 per cent more likely to have a scald compared to those in the least deprived households

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The paper, Risk Factors for Scald Injury in Children Under 5 Years of Age: A Case-Control Study Using Routinely Collected Data, is available online on the *Burns* website at dx.doi.org/10.1016/j.burns.2013.03.022

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