

Study suggests a 'sibling vaccine' could prevent deaths of babies worldwide

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(Medical Xpress)—New research from the University of Warwick into a common virus which can be fatal for babies under six months suggests a strategy of vaccinating older siblings could reduce deaths and serious illness in young babies.

Respiratory syncytial virus (RSV) typically leads to mild, cold-like symptoms in adults and [older children](#) but can be more serious and even fatal in infants under the age of six months as it can lead to bronchiolitis and severe pneumonia.

The virus is commonly found all over the world. In the UK, outbreaks generally start in November or December and last four to five months, peaking over the Christmas and New Year period.

According to the Public Health England, 28 per 1000 hospital admissions in children aged under one year were attributed to RSV each year.

And figures cited by global health organisation PATH show that RSV is responsible for more than 30 million new acute lower respiratory infection episodes per year and up to 199,000 deaths in children under five years old, with 99 percent of these deaths occurring in low-resource countries.

A new study authored by Professor James Nokes of the School of Life Sciences at the University of Warwick analysed whole families to find

out how the virus entered households where a baby under one year old became infected.

The study, based in rural Kenya in collaboration with the KEMRI Wellcome Trust Research Programme, found that just over half of [babies](#) (54%) acquired the infection from someone within the household, whereas 32% acquired it from outside the household.

Older children were found to be the first case of the infection for around 73 % of households where infants became infected through someone within the household.

Professor Nokes said: "We found that quite a high proportion of the cases were introduced through elder sibling or cousins, in particular school-going children."

The study is the first to look at how RSV is introduced to households in a developing country context.

Its findings echo a similar study in the US in the 1970s which also suggested schoolchildren play an important role in bringing infection into household.

Dr Nokes said: "The virus is ubiquitous but this work hasn't been done in a developing country situation before.

"We now know that the same pattern we see in the industrialised world also occurs in low income countries."

The findings have implications for vaccination and other control measures both in the industrialised and the developing world.

Currently, it is not possible to deliver an RSV vaccine to very young

babies. An alternative that has been suggested is to immunise the other family members of babies who are up to six months old during the period when the [virus](#) is most active.

This is known as a 'cocoon' strategy as it does not directly inoculate the baby but instead focuses on those around the infant who are most likely to pass on infection.

"It's possible that you could vaccinate other members of the household, particularly the older siblings of the infant, even through a school vaccination programme," said Professor Nokes.

"If you are coming into the next RSV epidemic and we know a family has a small baby, you could give a vaccine to the older siblings."

Provided by University of Warwick

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