

# Can sunshine prevent pneumonia?

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In 2008, a study funded by the World Health Organisation, UNICEF and the Gates Foundation estimated that Indonesia was among the top six countries in the world for the number of new cases of pneumonia in children under five, says University of Melbourne PhD student and physician, Dr Vicka Oktaria of Gadjah Mada University.

She is coordinating collaborative research with scientists from Australia and Indonesia, to see if there's a link between vitamin D deficiency and pneumonia in Indonesian children.

"But that estimate was based on an epidemiological model and most of the data is now 10 years old."

Research in other countries has linked the occurrence of acute respiratory disease with vitamin D deficiency, she says, and a recent study in Indonesia estimates that of children aged two years or older, between 35 and 47 per cent are lacking vitamin D. But the association between respiratory illness and vitamin D deficiency has never been studied directly in Indonesia.

The protocols for recruitment and management of the research are based on 40 years of collaborative research between the Murdoch Childrens Research Institute and Gadjah Mada into Rotavirus, the organism discovered by the Murdoch's Professor Ruth Bishop as a major cause of diarrhoea, the second most common cause of infant mortality worldwide.

At present, the two institutions are working together trialling a vaccine against Rotavirus developed at Murdoch, and much of the experience and many of the relationships forged in that study will be part of the current work.

"We trust each other," says Dr Margie Danchin of the Murdoch and the Royal Children's Hospital in Melbourne, who is co-leader of the work.

"This work would not have been possible without that trust."

The original collaboration started between Professor Bishop and Professor Yati Soenarto of Paediatrics at Gadjah Mada. Margie and Vicka met through their involvement in the Rotavirus vaccine trial.

Yati is a co-leader of the current work along with Margie and Professor Stephen Graham of the University of Melbourne, an international child health specialist who is Vicka's primary PhD supervisor.

Also co-leading the research and supervising Vicka's PhD are Gadjah Mada paediatric respirologist, Dr Rina Triasih; and Professor Julie Bines from the Murdoch.

The team also includes research assistants Rizka Dinari, Dr Sekarlangit, Dr Mike Lauda, Haris Meysitha Sari, and Dr Monika Putri Adiningsih.

The two studies will provide not only data, but also useful experience and training for the personnel in the Yogyakarta hospitals and health centres taking part, particularly in the diagnosis and management of [acute respiratory illness](#), such as pneumonia.

"It is challenging and not easy to diagnose such conditions," Vicka says.

If the study does provide solid evidence of a link between susceptibility

to acute respiratory disease and vitamin D deficiency, it should allow the researchers to build a case for a [vitamin](#) D supplementation trial from birth, potentially saving the lives of many small children.

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