Call for further study on meningococcal vaccine

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Epidemiologist Dr Mahomed Patel said that an analysis of historical patterns of meningococcal incidence should also be examined to better understand, and further prevent, the bacterial infection.

"The meningococcal vaccine has been effective since its introduction in 2003, but the disease incidence rate is still higher than 20 years ago. We could do better," Dr Patel said.

In a paper published in the *Medical Journal of Australia*, Dr Patel argues that although the vaccine is an important part of controlling meningococcal infections, its impact on the body's natural bacterial balance has not been adequately studied.

He identifies examples where the vaccines against two other bacterial infections – pneumococci and Haemophilus influenzae type b – were followed by an increase in the bacterial strains not covered by the vaccine. "It's not unlikely that this may occur with the meningococcal vaccines, so the more we know about the broader role of the meningococcus bacteria in the throat, the better," Dr Patel said.

About 10 percent of the population carries the meningococcal bacteria and less than one per cent of these people develop disease. The routine vaccination for one type of meningococcus bacteria, Type C, was introduced Australia-wide in 2003, costing $41 million in its first year.

Before the vaccine was introduced, about 1 person per 100,000 in

Australia developed meningococcal disease due to Type C bacteria each year. A new vaccine for a different strain, Type B, has been introduced in New Zealand and is likely to be used here in the near future.

Dr Patel argues that the pattern of meningococcal disease over time should also inform control options. In his paper he found that in periods of upheaval – the World Wars and the Depression – epidemics of meningococcal disease occurred around the world. Many cases also occurred in the 1950s at the time of mass migrations from Europe to Australia, New Zealand and North America.

The only epidemics in Australia after this period were among poverty-stricken Indigenous communities in central Australia in 1972 and again in 1987. In the 1960 to 1970s, incidence across Australia fell, but rose again since the late 1980s until the introduction of the vaccine.

"This information is useful for understanding ongoing trends. Combined with knowledge of the effect of the vaccine on the bacteria, this could be powerful information for more effectively reducing infections."

Source: Research Australia