Young infants are not sufficiently protected against measles

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Young infants appear to have a gap in their protection against measles, from around two to three months old until they are vaccinated at 12 months of age, finds new research published in the British Medical Journal today.

This is because the level of antibodies infants get from their mother drops over time, leaving them susceptible until they are vaccinated.

These findings underline the importance of measles vaccination at around 12 months of age and support ongoing research into earlier vaccination.

The study involved 207 healthy women-infant pairs recruited from five hospitals in the Province of Antwerp, Belgium from April 2006.

Medical records were used to divide women into two groups: those who had been vaccinated against measles during infancy and those with naturally acquired immunity from measles infection earlier in life.

Levels of measles antibodies were measured from blood samples taken during week 36 of pregnancy, at birth (cord blood), in all infants at 1, 3 and 12 months, and randomly at either 6 or 9 months.

Vaccinated women had significantly fewer antibodies than did naturally immune women. Similarly, infants of vaccinated women had significantly lower antibody levels than infants of naturally immune

women.

The presence of maternal antibodies lasted a median time of 2.61 months - 3.78 months for infants of naturally immune women and 0.97 months for infants of vaccinated women.

At six months of age, over 99% of infants of vaccinated women and 95% of infants of naturally immune women had lost their maternal antibodies. And at 9 and 12 months, no positive samples were left in either group.

The researchers found no significant impact of breastfeeding, birth weight, educational level, caesarean section or day care attendance on the duration of maternal antibodies.

This study describes a very early susceptibility to measles in both infants of vaccinated women and women with naturally acquired immunity, say the authors. If future studies show that measles vaccines can be offered with success at an age of less than nine months, policy makers could consider moving forward the routine measles vaccination programme.

For the moment, they suggest early vaccination should be considered during an outbreak or after contact with siblings with measles, and for infants travelling or migrating to endemic areas.

"Most importantly, we confirm the extreme importance of timely administration of the first dose of measles vaccine," they conclude.

Provided by British Medical Journal