

## Preventative measures in mom's third trimester may avert anemia in newborns

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Swedish researchers determined that administering anti-D antibodies (immunoglobulins) to pregnant women who were Rhesus D (RhD) negative could prevent hemolytic disease in the infant. Findings published in *Acta Obstetrica et Gynecologica Scandinavica*, a journal of the Nordic Federation of Societies of Obstetrics and Gynecology, indicate that providing anti-D prophylaxis to mothers without the anti-D antigen (protein) during the 28-30 week of pregnancy may prevent the Rh blood disorder in newborns.

Hemolytic disease is a type of anemia caused by a higher than normal destruction of [red blood cells](#). This anemia occurs in the fetus or newborn when there is Rh incompatibility between the mother (Rh-negative) and baby (Rh-positive), and the mother produces antibodies against the infant's blood cells. Medical evidence shows that since postnatal anti-D prophylaxis was introduced in the 1960s, prevention of RhD immunization and hemolytic anemia decreased from 13% to 1%. The rate of hemolytic anemia has been further reduced to 0.3% in countries offering routine antenatal anti-D prophylaxis.

"In Sweden, where routine [preventative measures](#) for Rh incompatibility are not part of prenatal care, nearly one percent of pregnant women had anti-D antibodies, placing infants at risk for a potentially life-threatening blood condition," explains lead study author, Dr. Eleonor Tiblad from Karolinska University Hospital in Stockholm, Sweden. "Our study looked to resolve the issue of when RhD screening should take place in pregnancy and when is the most optimal time to administer routine

antenatal [preventative therapy](#)."

For this retrospective study, researchers used data from [transfusion medicine](#) registers, medical records, the Swedish Medical Birth Register and the National Perinatal Quality Register. All immunized [pregnant women](#) in Stockholm who were treated at Karolinska University Hospital between 1990 and 2008 were included in the study. Currently routine antenatal anti-D prophylaxis is not in place in Sweden. Post delivery anti-D prophylaxis has been in use in the country since 1969, but only during pregnancy when there is a risk of fetomaternal hemorrhage.

Of the 290 RhD immunized women in the study, 51% were sensitized with their first child and 33% with the second child. Anti-D antibodies developed during the second or third trimester in 73% of study mothers, while 21% produced the antibodies at term or post-delivery. Researchers report that in subsequent pregnancies 56% of newborns required treatment for [hemolytic anemia](#).

"Most RhD negative women become sensitized with their first or second born child. The majority of immunizations occur before delivery and the frequency of hemolytic disease in subsequent pregnancies is high," concludes Dr. Tiblad. "Based on our findings, at least half of the cases of anemia could have been avoided by adding anti-D prophylaxis at the beginning of the third trimester."

**More information:** [dmmsclick.wiley.com/click.asp? ...  
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