

**Thesis Title**                    The study of measles antibody levels in  
   Thai children

**Name**                                Penchit Ngernprasertsri

**Degree**                             Master of Science in Public Health  
   (Infectious diseases)

**Thesis Supervisory Committee**

   Varanya Sangpetchsong, Ph.D.(Trop.Med.)

   Anong Pariyanonda, M.S.(Microbiology)

   Pipat Luksamijarulkul, M.S.(Public Health)

**Date of Graduation**            17 May B.E. 2533 (1990)

#### ABSTRACT

Measles is a health problem in our country and the vaccine coverage is still not high enough in the target population. The prevalence of measles antibody among children 0 to 14 years of age were then undertaken to assess the waning time of maternal antibody which would provide an appropriate period of vaccination. The relationship of antibody level and history of measles, the antibody prevalence between children living inside and outside sanitary districts and effect of family income to the antibody level were also included.

Sera from 786 children, age 0 to 14 years, who had never received measles vaccine in 4 amphurs, Suphan Buri province were

collected since July 31, 1984 to December 6, 1984 and measured the antibody level by ELISA.

It was demonstrated that the measles antibody was found since the child was born with the geometric mean of  $1:439.73 \pm 1.27$  and gradually low after one month of age until age 8 to 9 months (GM=  $1:317.48-1:319.86$ ). However the antibody was increased after 10 months of age and remain in the high level of approximately  $1:600$  to  $1:1000$  through 14 years old. The high degree of association between the presence of measles antibody and previous having measles by history was not only shown ( $p < 0.001$ ) but also had antibody level higher than those without history of measles ( $p < 0.001$ ). The subclinical measles infection as considered from the seropositivity was found 14.57 per cent.

The comparative study on the measles antibody of children living inside and outside sanitary districts was carried out. It was found that the geometric mean of children under 1 year, 5 to 9 years and 10 to 14 years of age in both areas were not significant different but the geometric mean of children 1 to 4 years of age living inside sanitary district was significantly higher than those outside sanitary district ( $p = 0.010$ ). However the geometric mean of all age groups was not significant different in both areas ( $p = 0.534$ ). In addition, the family income had no effect on measles antibody level ( $p = 0.070$ ).

From these findings, the optimum age for measles immunization could recommend in children age of 9 months.