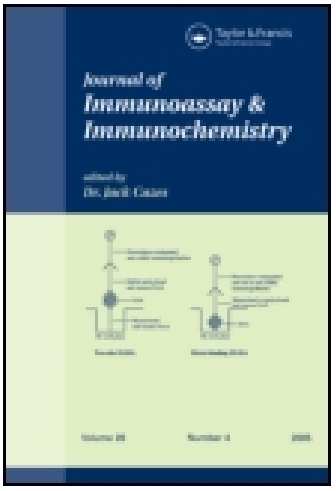

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Measles Vaccine Potency and Sero-Conversion Rates among Infants Receiving Measles Immunization in Ilorin, Kwara State, Nigeria

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MEASLES VACCINE POTENCY AND SERO-CONVERSION RATES AMONG INFANTS RECEIVING MEASLES IMMUNIZATION IN ILORIN, KWARA STATE, NIGERIA

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□ *This study was designed to assess the seroconversion rate of measles vaccine among infants receiving measles immunization in Ilorin, Nigeria. The pre- and post-measles vaccination sera of the children were tested using the Haemagglutination Inhibition test. The measles vaccines administered at the immunization centre were also tested for their potency using in-vitro titration method. Only 286 (71.5%) of the vacinees returned to give post-vaccination samples. All the infants screened had low pre-vaccination measles antibody titers. Thirty one (8.0%) of the infants had measles prior to vaccination. The seroconversion pattern showed that 196 (68.6%) of the infants developed protective antibody titers. Low seroconversion rate reported in this study was due to low vaccine potency. The titers of vaccines with low potency ranged between* $log10^{-1.0}$–$log10^{-2.25}$ *TCID/per dose. This was beside other non specific antiviral substances exhibited virus neutralizing activity. Only 3 (50%) of the 6 vaccine vials tested had virus titers of* $log10^{-3.25}$ *to* $log10^{-3.5}$*, which fell above the cut-off point recommended by the World Health Organization for measles vaccines. The sero-conversion rate of 68.6% observed among vaccinees is far lower than the immunity level of 95% required stopping measles transmission in an endemic community. Failure of 31.4% of these infants to sero-convert post vaccination can be attributed partly to administration of sub-potent vaccines. There is need for improvement and maintenance of effective vaccine cold chain system in Nigeria. There is need also for periodic monitoring of post-vaccination antibody titers as well as vaccine potency status in order to ensure development of protective seroconversion rates.*

Keywords measles vaccine, sero-conversion, developing countries, potency, infants, immunization, Nigeria

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