

## Immunological Profile of Children Aged 5 To 15 in the Health District of Ouahigouya after Introduction of the Menafrivac® Vaccine in 2010 in Burkina Faso

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### ABSTRACT

**Introduction:** Due to their severity and frequency, meningitis is a major public health concern in developing countries, particularly in the African meningitis belt. Our study consisted of studying the immunological profile of children aged 5 to 15 in eight villages in the Ouahigouya health district in Burkina Faso.

**Methodology:** It was a prospective study for descriptive purposes of the immunological profile of children aged 5 to 15 in the Ouahigouya health district. Saliva samples were taken in 2017 and 2018, stored in aliquots then sent in 2019 to OSLO for the titration of IgA and IgG antibodies directed against serogroups A, C, W and Y of *Neisseria meningitidis*. The ELISA technique, the principle of which is based on the assay in multiplex microspheres, was used as a method for the quantification of the antibodies. Data were analyzed using Microsoft office Excel 2019 software, SPSS 20.0 software, and MedCalc14.8.1 software.

**Results:** The average age of the 129 children in our study was 9.8 years and there was a predominance of women (52.7%). The majority of children in the Ouahigouya health district (80.6%) had been vaccinated by MenAfriVac. This conjugate vaccine, in addition to protecting against meningococcus serogroup A, would induce the production of protective IgA and IgG antibodies against serogroups C, W and Y.

**Conclusion:** After seven years of vaccination, it seems that vaccine protection is relatively strong, i.e., 97%, 56.1%, 60.6% and 66.7% respectively for serogroups A, C, Y and W. A study in larger scale would be desirable to confirm this conclusion.

**Keywords:** MenAfriVac, *Neisseria meningitidis*, Antibodies, Immunity, Burkina Faso

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