

Coverage and Timeliness of Birth Dose Vaccination in Sub-Saharan Africa: A Systematic Review and Meta-Analysis

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Abstract

Background: Depending on the epidemiological context of each country, three vaccines are recommended by the World Health Organization (WHO) to be administered as soon as possible after birth (birth vaccines); namely, BCG, zero dose of oral polio vaccine (OPV0), and birth dose of hepatitis B vaccine (HepB-BD). The timely administration of these vaccines immediately after birth might pose significant challenges in sub-Saharan Africa, where about half of childbirths occur outside health facilities. We therefore conducted a systematic review and meta-analysis to estimate the coverage rate of these vaccines at a specific timing in neonates in sub-Saharan Africa. **Methods:** We searched PubMed, Embase, CINAHL, and Web of Science for studies conducted in sub-Saharan Africa and published up to March 31, 2017, which provided a coverage rate of the birth vaccines at any specific time points within 28 days after birth. Two investigators independently screened the titles and abstracts and extracted data from the eligible full-text articles. This study was registered in PROSPERO (CRD42017071269). **Results:** Of 7283 articles identified, we finally included 31 studies with 204,111 infants in the meta-analysis. The pooled coverage rates at day 0-1 after birth were 14.2% (95% CI: 10.1-18.9) for BCG and 1.3% (0.0-4.5) for HepB-BD. No data were available for OPV0 at day 0-1. The coverage at day 28 was 71.7% (63.7-79.2) for BCG, 60.8% (45.8-74.7) for HepB-BD, and 76.1% (67.1-84.0) for OPV0. No significant difference in the vaccine coverage was observed between infants born in healthcare facilities and those born outside facilities. **Conclusions:** The rates of vaccine coverage immediately after birth were very low for BCG and HepB-BD, and no data for OPV0. We need additional data to better define barriers and facilitators for the timely administration of the birth vaccines in sub-Saharan Africa, since the delay in its provision may increase the burden of these vaccine-preventable diseases.



Biography

Oumar Bassoum holds a Pharm.D from Cheikh Anta Diop University (Dakar, Senegal) and a Master in Nancy School of Public Health (France). Since 2015, he teaches epidemiology at the Faculty of Medicine, Pharmacy and Odontology and at the Institute of Health and Development (Dakar, Senegal). He has over ten publications in peer-reviewed journals. At the same time, he is finishing his Ph.D. in Public Health which deals with vaccination coverage at birth and its determinants in Senegal.

Publications

- Evaluation of Prescribing Indicators in a Paediatric Population Seen in an Outpatient Consultation at the Gaspard Kamara Health Centre in 2019 (Senegal)
- Epidemiological profile study of COVID-19 in West African countries: Nigeria, Senegal, Mauritania, Cape Verde and Mali
- Connaissances, attitudes et pratiques de la population de la région de Dakar sur la COVID-19
- Knowledge Attitudes, Practices and Factors Associated with Blood Donation in the Fatick Health District in 2019 (Senegal)
- Facteurs associés à l'autonomie de décision des femmes pour leur santé au Sénégal

[4th World Congress on Vaccines & Immunization](#) | London, UK | June 09, 2021

Citation: Bassoum Oumar, Coverage and Timeliness of Birth Dose Vaccination in Sub-Saharan Africa: A Systematic Review and Meta-Analysis, Vaccines 2021, 4th World Congress on Vaccines & Immunization, London, UK, June 09, 2021.