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**An Analysis of Risk Factors for Incomplete Immunization for Children aged 12 to 59 months in six West African countries: Examination of Demographic and Health Survey**

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Background: Every year, thousands of children remain unimmunized or partially immunized, especially in developing countries. Therefore, it appears important to examine factors associated with children incomplete immunization in order to guide policy makers to improve immunization coverage.

Objectives: To determine socio-demographic factors associated with incomplete immunization in CÃ´te dâ€™Ivoire, Ghana, Burkina Faso, Mali, Guinea, and Liberia.

Method: It is a cross-sectional study which examined factors associated with incomplete immunization of children aged 12 to 59 months. We used Demographic and Health Surveys data conducted in Mali in 2006, Liberia in 2007, Ghana in 2008, Burkina Faso in 2010, CÃ´te dâ€™Ivoire in 2011, and Guinea 2012. Spearman correlation analysis was performed. Univariate analysis was performed. Variables with a p-value less than .05 in the univariate analysis were included in the multivariate analysis. Multivariate analysis was performed to determine factors associated with incomplete immunization. The measure of association was the odds ratio (OR) with 95% confidence interval (CI). Data were analyzed using SPSS 20.

Results: Findings showed that in Burkina Faso, Cote dâ€™Ivoire, Guinea, Mali, and Liberia, children born at home were respectively 2.19 (OR=2.19, CI=1.89-2.55), 1.79 (1.50-2.13), 1.96 (1.62-2.36), 1.68 (1.52-1.85) and 1.72 (1.46-2.03) more likely to be not fully immunized compared to those born in health facilities. In Cote dâ€™Ivoire, Guinea, and Mali, children living in urban area were respectively 26% [OR (CI) = 0.74 (0.61-0.90)], 32% [0.68 (0.51-0.90)], and 15% [0.85 (0.76-0.95)] less likely to be not fully immunized compared to those living in rural area. In Burkina Faso, Cote dâ€™Ivoire, Ghana, and Guinea, children of women could not read were respectively 1.43 (CI=1.13-1.82), 1.64 (1.32-2.05), 1.50 (1.17-1.91), and 1.50 (1.14-1.98) more likely to be not fully immunized compared to children of literate women. In Burkina Faso, Cote dâ€™Ivoire, Guinea, Mali, and Liberia children, children of women who did not have access to media were respectively 1.38 (CI=1.19-1.61), 1.25 (1.05-1.51), 1.34 (1.10-1.62), 1.37 (1.22-1.54), and 1.27 (1.46-2.03) more likely to be not fully immunized compared to children of women who had access to media. Children of Christian women or Muslim women were less likely to be not fully immunized compared to children of women with no religion.

Conclusion: Birth place, living place, literacy, access to media, and religion were associated with incomplete immunization in most of the West African countries. Health officials should take into account this factors in making immunization strategies to improve immunization coverage in West Africa.