

Background: In the South African triennial report on maternal death for 2008–2010, the overall rate of maternal mortality had increased compared with 2005–2007. Obstetrical hemorrhage was the most common avoidable cause of death. HIV infection was the most common contributory condition to causes of death. Of the nine South African provinces, Kwazulu-Natal had the highest number of maternal deaths. Research on the effect of HIV and postpartum hemorrhage (PPH) in Sub-Saharan Africa suggests an association but is inconclusive.

Methods: This study has a retrospective cohort design. Records from two Level I hospitals affiliated with the University of Kwazulu-Natal were selected. Delivery log books of all births at these two hospitals during 2013 were reviewed. A total of 482 charts were reviewed and 24 excluded for missing data; 458 charts were used for analysis. The women were aged 14–44 years, with a mean age of 24 years old. A linear regression model was computed to obtain odds ratios (OR).

Findings: 36.5% of women were HIV positive and 7.4% of women had PPH. Being HIV-positive was associated with postpartum hemorrhage (OR 2.200, 95% CI: 1.078 – 4.490). After adjusting for age, gravity, parity, institution and mode of delivery, HIV is still associated with PPH (OR 2.460, 95% CI: 1.126 – 5.375).

Interpretation: Parturients with HIV infection have increased odds of postpartum hemorrhage in district hospitals of Kwazulu-Natal. These results signify an association between HIV infection and a preventable cause of maternal mortality. Future research requires parsing out confounding factors versus HIV infection related physiology causing this association. Notably HIV infection increases odds of PPH despite mode of delivery. These results could impact obstetrical management of HIV positive women by prioritizing blood products during labor and delivery or earlier treatment of HIV in the antepartum. This study has limited external validity in that the results have been shown in a specific population.

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Quality of expanded program for immunization (EPI) and its determinants in seven selected zones of Ethiopia: A cross-sectional study

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Background: For immunization to be effective and increase acceptance by the community, provision of quality vaccination is critical.

Methods: The study domain was 63 rural districts in five regions with about five million people. Cross-sectional representative data from 1,597 mothers with children 12 to 23 months from 210 communities and the service delivery points serving those communities obtained in December 2014–January 2015 were used to assess the quality of vaccination and the factors associated with it. The quality of vaccination services was measured by the validity of doses

given, BCG scar formation, card retention, and client-provider interactions. While, valid doses was defined as doses that were administered when the child had reached the minimum age for the vaccine, and were administered with the proper spacing between doses. Multi-level logistics regression analysis was done to assess the factors associated with the quality of vaccination.

Findings: The valid vaccination coverage among children aged 12–23 months for each vaccine was as follows: BCG 83%; Penta1 69%; Penta3 57%; measles 50% and complete vaccination 36%. The drop-out rate between Penta1 and Penta3 was 10%. While, the proportion of children vaccinated with BCG had no BCG scar was 19%. More than a quarter of mothers were not told about the potential side-effects associated with vaccines. Nearly 28% of health facilities missed at least one EPI session in the six month time prior to the study. Complete vaccination with valid doses was lower in the households with poorest wealth quintile, high parity, maternal age between 20–34 years, and no maternal education. Facility level determinants including service interruption and defaulter tracing system were also independent predictors of complete vaccination with valid doses.

Interpretation: This study is unique in reporting the quality of vaccination services and their predictors in Ethiopia. Invalid vaccinations and lack of scar after BCG vaccination is likely to be due to lack of adequately screening before vaccination and poor injection technique, respectively. Therefore, close monitoring of vaccination sessions, uninterrupted schedule of vaccination sessions, and use of defaulter tracing mechanisms will improve the quality of vaccinations.

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Geographic access and relationship to unmet surgical need in Uganda: a geospatial analysis of a household survey on burden of surgical conditions in Uganda

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Background: Geographic access is one of the important factors to consider in planning healthcare services. Globally, about 5 billion people lack access to surgical care. We investigated the relationship between unmet surgical need and geographic access in Uganda.

Methods: This is a geographic information system (GIS) analysis of a nation-wide household survey on surgical conditions. A 2-stage cluster-randomized sample was designed in which 105 Enumeration