

Magnitude and determinants of obstetric case fatality rates among women with direct causes of maternal deaths in Ethiopia

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Abstract

Background: In sub-Saharan Africa, maternal death due to the direct obstetric complications remain a gigantic health threat for women. Higher direct obstetric case fatality rate indicates poor quality of obstetric care. In Ethiopia, literature about the magnitude and determinants of the direct obstetric case fatality rate is scarce. Therefore, this study was aimed at assessing the magnitude and determinants of the direct obstetric case fatality rate among women who were admitted to hospitals with the direct obstetric complications in Ethiopia.

Methods: A large national dataset available at the Ethiopian Public Health Institute was analysed to address the objective of this study. In 2016, the institute conducted a national survey in which data about maternal and neonatal health indicators were collected from all health facilities available in Ethiopia. However, this analysis was made only to the maternal health data of all hospitals available in Ethiopia. Descriptive statistics were employed to present hospitals specific characteristics and the magnitude of direct obstetric case fatality rates. Logistic regression analysis was performed to examine determinants of the magnitude of the direct obstetric case fatality rate. Degree of association was measured using an adjusted odds ratio with 95% confidence interval at $p \leq 0.05$.

Result: Overall, 323,824 live births were conducted at hospitals and 68,002 women experienced direct obstetric complications. Prolonged labour (23.4%) and hypertensive disorder (11.6%) were the two leading cause of obstetric complications occurred. Among women who experienced obstetric complications, 435 were died, making the crude direct obstetric case fatality rate 0.64% (95% CI: 0.58-0.70%). Pregnancy induced hypertension (27.8%) and maternal haemorrhage (23.9%) were the two leading causes of maternal deaths. The direct obstetric case fatality rates varied considerably with the complications that occurred; highest in postpartum haemorrhage (2.88%) followed by ruptured uterus (2.71%). Considerable regional variations observed in the direct obstetric case fatality rate; ranged from 0.27% (95% CI: 0.20-0.37%) at Addis Ababa city to 3.82% (95% CI: 1.42-8.13%) at the Gambella region. Type of hospitals, managing authority and payment required for the service were significantly associated with the magnitude of the direct obstetric case fatality rate.

Conclusions: The high direct obstetric case fatality rates of several obstetric complications can be an indication for poor quality of obstetric care at hospitals. The government of Ethiopia need to focus on the maternal and reproductive health quality improvement initiatives.

Key words: Major direct causes, maternal deaths, case fatality rate, Ethiopia, hospitals