

Risk Factors for Maternal Death in an Urban Tertiary Hospital in Kenya: A Case-Cohort Study

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Abstract

Objective: To evaluate the risk of maternal death following the intensification of Maternal and Perinatal Death Surveillance (MPDSR) activities and the substitution of dinoprostone for misoprostol for labour induction. **Design:** Case-cohort **Setting:** Kiambu County Referral Hospital(KCRH), Kiambu County, Kenya **Population or Sample:** Mothers delivering at KCRH during January 2018 - December 2021 **Methods:** We recruited all 58 mothers who died between January 2018 and December 2021 as cases. A random subcohort of 232 mothers who did not die was selected from a retrospective cohort study of 411 mothers as controls. Multiple logistic regression was used to model the determinants of maternal mortality adjusted for intensified MPDSR activities and labour induction agents. **Main Outcome Measures:** Adjusted odds ratio of maternal mortality for mothers induced with misoprostol versus dinoprostone and for delivery prior to and after the intensification of MPDSR activities. **Results:** Factors associated with increased risk maternal mortality included: unemployment (AOR 1.83; 95% C.I.: 0.52 – 7.50), singlehood (AOR 3.47; 95% C.I.: 0.59 – 17.9), labour induction with misoprostol (AOR 7.17; 95% C.I.: 0.72 - 182), multiparity (AOR 3.11; 95% C.I.: 1.37 – 6.98, p = 0.006), or being pre-term (AOR 4.79; 95% C.I.: 1.56 – 15.7, p = 0.007). **Conclusions:** The risk of maternal mortality did not decrease with the intensification of MPDSR activities but increased with the use of misoprostol to induce labour. **Funding:** Ministry of Health (Kenya), Transforming Health for Universal Health Coverage

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