

Objectives: To quantify the use of elective caesarean section (ECS) for prevention of mother-to-child transmission of HIV (PMTCT) at an urban Kenyan maternity hospital, to describe mode of delivery decision making among HIV positive women, and to understand patient knowledge and attitudes regarding ECS for PMTCT. **Design:** Descriptive cross-sectional study. **Setting:** Pumwani Maternity Hospital in Nairobi, Kenya. **Subjects:** Participants. Two hundred fifty postpartum HIV -infected women. **Main outcome measures:** ECS delivery rate, correlates of mode of delivery decisions and ECS for PMTCT knowledge and attitudes **Results:** The rate of delivery by ECS for PMTCT was 4.0% (10/250), though 13.6% (34/250) planned this mode of delivery. Patient education regarding ECS for PMTCT was limited, and 64% (160/250) of participants had never heard of ECS. Planning ECS for PMTCT was positively correlated with attending clinic at PMH (OR=9.12, 95% CI: 2.94-28.28, $p<0.001$), knowledge of ECS (OR=27.22, 95% CI: 5.04-148.20, $p<0.001$) and having a history of abdominal surgery (OR=30.96, 95% CI: 6.32-205.02, $p<0.001$). Delivering by ECS was associated with planning this mode of delivery (OR=19.52, 95% CI: 3.69-103.23, $p<0.001$). Planning but not delivering by ECS was mostly due to labor before scheduled ECS (55.6%, 15/27) or poor patient understanding of the intervention (29.6%, 8/27). After education on ECS for PMTCT, 48.0% (120/250) of participants would consider elective caesarean section if offered, though cost represented a significant barrier to acceptability. **Conclusions:** Knowledge and utilization of ECS for PMTCT are limited and varied in this patient population. ECS may be an acceptable mode of delivery for some Kenyan women, especially if the burden of cost is removed. A clear policy on ECS counseling and utilization is urgently needed to ensure consistent and appropriate use of this PMTCT intervention in Kenya.