Implementation of an international standardized set of outcomes indicators in pregnancy and childbirth in Kenya: Utilizing mobile technology to collect patient-reported outcomes

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Abstract

Background: Limited data exist on health service outcomes during pregnancy and childbirth in low- and middle-income countries. This is a pilot of an innovative data collection methodology using mobile health by collecting patient-reported outcome measures (PROMs) selected from the ICHOM Pregnancy and Childbirth Standard Set in Nairobi, Kenya.

Methods: Pregnant women in the third trimester were recruited at three primary care facilities in Nairobi and followed prospectively throughout delivery and until six weeks postpartum. PROMs were collected via mobile surveys at three antenatal and two postnatal time points. Outcomes included incontinence, dyspareunia, mental health, breastfeeding and satisfaction with care. Hospitals reported morbidity and mortality. Descriptive statistics on maternal and child outcomes, survey completion and follow-up rates were calculated.

Results: In six months, 204 women were recruited: 56% delivered at referral hospitals and 14% completed the postnatal visit. The completion rates for the five PROM surveys ranged from 38-92%. Urinary incontinence was reported by 13% and 64% of patients ante- and post-partum respectively. Dyspareunia was reported by 29% in the antenatal period. Symptoms of depression increased from antenatal to postnatal period. At six weeks postpartum, 86% of women breastfeed exclusively. Most women that completed the survey were very satisfied with antenatal care (53%), delivery care (50%), and post-natal care (60%).

Conclusion: We have demonstrated that it is feasible to use mobile technology to follow women throughout pregnancy, track their attendance to pre-natal and post-natal care visits and obtain data on PROM. This is the first time that mobile technology is used to collect scale PROM in a low-resource setting. The data provide insight into the quality of maternal care services provided and will be used to identify and address gaps in access and provision of high quality care to pregnant women.

Keywords: pregnancy, childbirth, outcomes, value-based healthcare, mobile health, survey, patient-centered