

Authors

Zeina Ali Siam
Harvard University

Margaret McConnell
Harvard School of Public Health

Ginger Golub
Country Director, Kenya

Claire Rothschild
University of Washington

Jessica Cohen
Harvard University

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BMJ Open Accuracy of patient perceptions of maternity facility quality and the choice of providers in Nairobi, Kenya: a cohort study

Zeina Ali Siam,¹ Margaret McConnell,² Ginger Golub,³ George Nyskora,⁴ Claire Rothschild,⁵ Jessica Cohen⁶

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¹Harvard School of Arts and Sciences, Harvard University, Cambridge, Massachusetts, USA
²Harvard School of Public Health, Harvard University, Boston, Massachusetts, USA
³Country Director for Poverty Action, Nairobi, Kenya
⁴Center for Health Solutions, Kenya, Nairobi, Kenya
⁵Department of Global Health and Population, Harvard University, Boston, Massachusetts, USA
⁶University for Poverty Action, Nairobi, Kenya

Correspondence to: Ms Zeina Ali Siam, zsiam@hsph.harvard.edu

ABSTRACT
Objective: This study aimed to assess the accuracy of pregnant women's perceptions of maternity facility quality and the association between perception accuracy and the quality of facility chosen for delivery.
Design: A cohort study.
Setting: Nairobi, Kenya.
Participants: 180 women, surveyed during pregnancy and 2 to 6 weeks after delivery.
Primary outcome measures: Women were surveyed during pregnancy regarding their perceptions of the quality of all facilities they were considering during delivery and then, after delivery, about their ultimate facility choice. Perceptions of quality were based on perceived ability to handle emergencies and complications. Delivery facilities were assigned a quality index score based on a direct assessment of performance of emergency, signal functions, skilled provider availability, medical equipment and drug stocks. 'Accurate perceptions' was a binary variable equal to one if a woman's ranking of facilities based on her quality perception equaled the index ranking. Ordinary least squares and logistic regressions were used to analyse associations between accurate perceptions and quality of the facility chosen for delivery.
Results: Assessed technical quality was modest, with an average index score of 0.65. 44% of women had accurate perceptions of quality ranking. Accurate perceptions were associated with a 0.269 higher delivery facility quality score ($p=0.029$, 95% CI: 0.066 to 0.472) and with a 14.3% point higher probability of delivering in a facility in the top quartile of the quality index ($p=0.015$, 95% CI: 0.029 to 0.269).
Conclusions: Patient misperceptions of technical quality were associated with use of lower quality facilities. Larger studies could determine whether improving patient information about relative facility quality can encourage use of higher quality care.

INTRODUCTION
Sixty-six per cent of maternal deaths in 2015 took place in sub-Saharan Africa, a substantial percentage of which result from conditions that are treatable or preventable with high-quality care such as infections and postpartum haemorrhage.^{1,2} Nearly one-third of

Strengths and limitations of this study

- This study measured pregnant women's perceptions of maternity facility quality in the informal settlements of Nairobi, Kenya, where most women deliver in facilities, but facility quality varies widely.
- This is one of the first studies to quantify information asymmetry in low- and middle-income countries, through measuring the accuracy of pregnant women's perceptions of technical quality of delivery facilities.
- This study measured perception accuracy longitudinally, so that perceptions were captured prior to facility choice.
- Limitations of the study include the relatively small sample size and the possible limited generalisability to populations outside the urban poor in Nairobi, Kenya.

deaths in the first 24 hours of life are attributable to a lack of simple measures such as skin-to-skin contact and proper cleaning of the umbilical cord, and around 75% of maternal deaths are due to preventable and/or treatable causes.^{3,4}

Recent studies show high variability in maternity facility quality levels in the context of Africa and highlight inadequate quality as a major challenge to maternal and newborn mortality reductions.^{5–10} One study found that nearly 90% of maternal care facilities in five African countries lacked the capacity to perform Caesareans.¹¹ Other multicountry studies have found that high coverage of basic essential services may not be enough to reduce delivery-related mortality without improving the technical quality of care received.^{12,13} In Nairobi, Kenya, hundreds of widely varying maternity facilities operate. These facilities are not well-regulated and many do not meet minimum quality standards.¹⁴

Several studies from Africa provide evidence that, while women have strong

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Accuracy of patient perceptions of maternity facility quality and the choice of providers in Nairobi, Kenya: a cohort

study

Objectives: This study aimed to assess the accuracy of pregnant women's perceptions of maternity facility quality and the association between perception accuracy and the quality of facility chosen for delivery.

Design: A cohort study.

Setting: Nairobi, Kenya.

Participants: 180 women, surveyed during pregnancy and 2 to 4 weeks after delivery.

Primary outcome measures: Women were surveyed during pregnancy regarding their perceptions of the quality of all facilities they were considering during delivery and then, after delivery, about their ultimate facility choice. Perceptions of quality were based on perceived ability to handle emergencies and complications. Delivery facilities were assigned a quality index score based on a direct assessment of performance of emergency 'signal functions', skilled provider availability, medical equipment and drug stocks. 'Accurate perceptions' was a binary variable equal to one if a woman's ranking of facilities based on her quality perception equalled the index ranking. Ordinary least squares and logistic regressions were used to analyse associations between accurate perceptions and quality of the facility chosen for delivery.

Results: Assessed technical quality was modest, with an average index score of 0.65. 44% of women had accurate perceptions of quality ranking. Accurate perceptions were associated with a 0.069 higher delivery facility quality score ($p=0.039$; 95%CI: 0.004 to 0.135) and with a 14.5% point higher probability of delivering in a facility in the top quartile of the quality index ($p=0.015$; 95%CI: 0.029 to 0.260).

Conclusions: Patient misperceptions of technical quality were associated with use of lower quality facilities. Larger studies could determine whether improving patient information about relative facility quality can encourage use of higher quality care.

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