A randomized comparison of household survey modules for measuring stillbirths and neonatal deaths in five Health and Demographic Surveillance sites.

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Background

Annually, approximately 2.6 million stillbirths and 2.6 million neonatal deaths occur globally. Many underlying causes of stillbirths and neonatal deaths (SB&ND) are similar. Data on SB&ND are lacking in many settings, however, they can be collected in surveys using either a full birth history (FBH) or full pregnancy history (FPH) module. Limited evidence exists about comparability of time to administer questions and mortality estimates computed between modules. This study aimed to undertake a randomized comparison of FBH with additional questions on pregnancy losses (FBH+) versus a FPH module and to examine the variation in capture of SB&ND.

Methods

This was a cross-sectional multi-site study which compared FBH+ and FPH for retrospective recording of SB&ND. Women were randomised to be interviewed using either FBH+ or FPH. Stillbirth rates (SBR) and neonatal mortality rates (NMR) were computed for each module. Site specific risk ratios (SSRR) with 95% confidence intervals (CI) were calculated for comparison of mortality estimates between modules using Generalized Estimating Equations with an exchangeable correlation matrix. The SSRR were combined using meta-analysis with random effects to obtain overall estimates. Evidence for heterogeneity between sites was assessed.

Results

A total of 69,176 women consented. 34,371(49·7%) were randomized to FPH and 34,805(50·3%) to the FBH+. There was little difference between the mean time to administer questions in FBH+ (9.1 minutes) and FPH (10.5 minutes). The SBR was 15.2/1000 and 17.4/1000 total births for FBH+ and FPH respectively. SBR was 21% (95% CI (-10% - 62%)) higher in FPH than in FBH+. There was strong evidence of heterogeneity across the sites (I-squared=80·9% (p<0.001)). The NMR was similar in FPH (25.1/1000 births) and FBH+ (25.4/1000 births) with no evidence of heterogeneity between the sites (I-squared=0.0% (p=0.48)).

Conclusion

There were no programmatically important differences in time to administer each survey module. Capture of stillbirths was higher in FPH.

Words [300]

Ethical statement

This study obtained ethical approval from the London School of Hygiene & Tropical Medicine ethics committee (12218) and each country's relevant ethical committees.

Keywords: Full Birth History, Full Pregnancy History, Meta-analysis, Mortality estimates, Household survey.