SUPPLEMENTARY FILE 5 – Author reflexivity statement

Structured reflexivity statement to be completed with manuscript submissions from international research partnerships involving researchers from high- and low-to-middle-income countries.[1] This describes 15 questions that should be addressed by corresponding authors on behalf of an international research partnership. The questions are intentionally open-ended and designed to address specific components of equitable research partnership. It may be that not all questions can be addressed (e.g. a small project with minimal or no funding) but researchers should be able to describe individual components that they have considered when developing their partnership.

Q1. How does this study address local research and policy priorities?

Caesarean section (CS) rates are an important indicator of the quality of maternity care, but only include women with live births in the denominator.[2] National CS rates in low- and middle-income countries are derived from the Demographic Health Survey (DHS), a population-based household survey, which, prior to 2022, did not capture mode of birth data for women reporting stillbirths. The Ghana Maternal Health Survey (GMHS) 2007 and 2017 are two of the few population-based surveys capturing maternity care data for women with stillbirths.[3, 4] The GMHS were intended to serve as a source of data on maternal health and death for policymakers and the research community.

We performed a secondary analysis of GMHS data to unveil CS rates in women experiencing stillbirth and the associated factors. Analyses were done with the help of co-author TB, consultant obstetrician gynaecologist at the Korle-Bu Teaching Hospital in Accra, who, at the time, was finalizing his PhD at the Julius Centre in Utrecht, the Netherlands.[5]

As CS is generally contra-indicated in women with stillbirth, our findings may inform policy-makers on where and why these CS happen, and aid in intervention development to improve accessibility to and timely use of CS. This is in alignment with the Sustainable Development Goals 3.1 and 3.2 supported by the Ghanian government.

Q2. How were local researchers involved in study design?

This study was a secondary analysis of data obtained from the DHS program.[6] Data collection for the GMHS was done as a collaborative effort between the Ghana Statistical Service (GSS), Ghana Health Service of the Ministry of Health and the DHS program, using local interviewers and supervisors and provide their training. For a detailed description of the data collection methods, see the GMHS reports. [3,4]

Q3. How has funding been used to support the local research team(s)?

As our study was a secondary analysis of GMHS data, no funding has been used to support local research teams. The DHS program is funded by United States Agency for International Development.

Q4. How are research staff who conducted data collection acknowledged?

The research staff working on GMHS 2007 and 2017 have been acknowledged in the “Acknowledgements” section of our manuscript.

Q5. How have members of the research partnership been provided with access to study data?

GMHS data are already made publicly available by the Ghana Statistical Service. [5] All members of the research partnership had access to these data.

Q6. How were data used to develop analytical skills within the partnership?

Data analysis was conducted by the primary author (SZ). He received formal training on DHS data analysis and interpretation from co-authors AC and LB.

Q7. How have research partners collaborated in interpreting study data?

GMHS data and findings were reviewed and discussed among all authors through in person discussions and by email. SZ, AC and LB worked on the manuscript during the "Write your paper based on Demographic and Health Survey (DHS) data on reproductive and child health" course on DHS data analysis at the Institute of Tropical Medicine in Antwerp, Belgium. TB provided critical insights related to interpretation of findings for the Ghanian context, such as interpretation of regional differences in CS rates and its associated factors, and to develop feasible recommendations. The DHS program has provided approval for use of GMHS data, but did not collaborate in data interpretation.

Q8. How were research partners supported to develop writing skills?

Within the research team, senior academic co-authors (LB, JR, TA) supported SZ by providing several rounds of feedback to develop and refine writing skills.

Q9. How will research products be shared to address local needs?

The study will be published as open access and shared with the DHS Program. Findings will be discussed at Korle Bu teaching hospital in Ghana among obstetrics & gynaecology residents and staff members, and presented to the Ghana Medical Association.

Q10. How is the leadership, contribution and ownership of this work by LMIC researchers recognised within the authorship?

The leadership, contribution, and ownership of this work by LMIC researchers is acknowledged through the 4th author (TB) within the authorship. TB provided critical interpretation of results in the context of Ghana, which is acknowledged in the contributor statement in the manuscript.

Q11. How have early career researchers across the partnership been included within the authorship team?

The first (SZ), second (AC) and third author (TB) are early career researchers. SC is a predoctoral researcher, while AC and TB are postdoctoral researchers.

Q12. How has gender balance been addressed within the authorship?

Two authors identify as female and four authors as male.

Q13. How has the project contributed to training of LMIC researchers?

The DHS program provided training for interviewers and supervisors as preparation for data collection. Our secondary analysis did not implement training for LMIC researchers.

Q14. How has the project contributed to improvements in local infrastructure?

The project has not directly contributed to an improved infrastructure.

Q15. What safeguarding procedures were used to protect local study participants and researchers?

We used secondary anonymized data which have gone through rigorous procedures for data collection and quality. We abided by the DHS program stipulations on data storage and reporting.

During data collection through the DHS program, data were anonymous and stored on a password-protected computer in the GSS central office. DHS interviewers were trained prior to and supervised during data collection. Approval to use DHS data is granted by the DHS program after an application had been reviewed.

References

[1]. Morton B, Vercueil A, Masekela R et al. Consensus statement on measures to promote equitable authorship in the publication of research from international partnerships. Anaesthesia. 2022;77(3):264-276.
[2]. Zethof S, Christou A, Benova L, et al. "Too much, too late": data on stillbirths to improve interpretation of caesarean section rates. Bull World Health Organ. 2022;100(4):289-91.
[3]. Ghana Statistical Service (GSS), Ghana Health Service (GHS), and Macro International. 2009. Ghana Maternal Health Survey 2007. Calverton, Maryland, USA: GSS, GHS, and Macro International.
[4]. Ghana Statistical Service (GSS), Ghana Health Service (GHS), and ICF. 2018. Ghana Maternal Health Survey 2017. Accra, Ghana: GSS, GHS, and ICF.
[5]. Beyuo TK. Optimizing care and patient experience of preeclampsia in low- and middle-income countries - the case of Ghana. 2022. Julius Centre, Utrecht University, PhD dissertation. Available from: https://dspace.library.uu.nl/handle/1874/423842.
[6]. The DHS program. Data. 2023. Available from: https://dhsprogram.com/data/. Accessed: 27-4-2023