

Supplemental material: Reflexivity Statement

The following content is structured according to Table 1 of Morton et al. [1]

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

This study is part of the evaluation of a novel approach to delivering a treatment of proven efficacy and cost-effectiveness to prevent malaria infection during pregnancy, a major public health problem in malaria-endemic countries in Africa, which are typically also low-income countries. Addressing the problem of malaria infection during pregnancy is a public health policy priority in these settings, while advancing knowledge on implementation strategies is a local research priority. This study directly addresses both priorities.

2. How were local researchers involved in study design?

The overall study was coordinated by researchers based in a high-income country (CE and YA in Spain). As a multi-country study, there was an in-country research team in each of the four countries where the study took place. This means there were a total of four local research teams: WL and MFM led the team in the Democratic Republic of the Congo (DRC); AMR and NMR led the team in Madagascar; CS, KM, NT and EM led the team in Mozambique; and MM, ON, HO and UJA led the team in Nigeria. The original study design was led by KM (who was also the lead of the Mozambique research team) in collaboration with CE. The original study design was then adapted and modified based on the contributions from the leaders of the local research teams. The final version of the study design was reached as a result of an in-person workshop that brought together all research teams to finalise and validate the study design, among other things.

3. How has funding been used to support the local research team?

Funding from the larger project has been used to support local research teams at all levels, including salaries or consultation fees (when appropriate) based on local rates, transport allowances and per diems during data collection activities, transcription and translation services (from local languages into French or English) when needed, and other resources dedicated to field research activities (i.e. stipends for field assistants and facilitators, printing materials, refreshments for focus group discussion participants, etc). Funding has also been made available to cover the publication fees of manuscripts led by local research teams.

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

All local researchers who collected data or were closely involved in data collection, as well as analysis are named as co-authors of this paper. Research assistants and field data collectors that supported the local researchers during fieldwork are acknowledged in the 'Acknowledgements' section.

5. Do all members of the research partnership have access to study data?

All members of the partnership have access to data.

6. How was data used to develop analytical skills within the partnership?

All in-country researchers participated in a qualitative research workshop that took place after the exploratory fieldwork phase, at the beginning of the study, which offered an overview of the qualitative research methods and data collection tools used in the study. The workshop was also focused on reviewing the data collected at that stage, and discussions were held on how to strengthen data collection and analysis approaches among countries, in order to ensure harmonisation, as well as contextualization of data interpretation. All researchers involved in the study were briefed on the conceptual frameworks that were introduced following these discussions, the use of which promoted an active involvement in the data analysis throughout the study. Following this initial workshop, workshops focused on analysis were carried out each subsequent year throughout the study. The workshops combined training to strengthen analytical skills with the sharing of country-specific findings (based on in-country research team's analysis of the data they collected) that subsequently supported cross-country analysis.

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

All members of the in-country research teams led the analysis of their respective datasets, thus generating the country-specific findings. Based on the study design, whereby different data collection phases were combined with periods of data analysis, two face-to-face workshops (and one remote due to COVID-19 international travel restrictions) gathering all in-country researchers were held throughout the study with the purpose of ensuring a sound comparative analysis of country data as well as promoting collective discussions among the teams. Researchers at the coordinating institution (YA/CE) helped to shape the analysis process to ensure that the interpretation of the study data was accurate and harmonized. Based on face-to-face discussions during workshops, remote meetings, and written interaction (by email), cross-country findings presented in the manuscript were validated by all members of the research teams. Research partners reviewed the manuscript and provided feedback at all stages of the study.

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

All research partners had sufficient writing skills to draft the required reports where country-specific analysis were presented. With regard to the drafting of the present manuscript, the high-income country researchers (YA and CE) benefited from the review provided by all co-authors, including those based in low-income countries. Research partners in low-income countries have in turn benefited from the reviews by the rest of co-authors (including the high-income country researchers) on the manuscripts they have led.

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

Beyond scientific manuscripts published as open access, reporting both cross-country and country-specific findings (the latter, being led by in-country researchers), meetings with national stakeholders from each country (i.e. national representatives from the Ministry of Health, National Malaria Control Program, WHO country offices, U.S. President's Malaria Initiative, UNICEF, etc.) were held throughout the study. The main purpose of these meetings, which were carried out at different stages of the study, was to disseminate and discuss the results from the various studies that constituted the evaluation component of the larger project. Specifically, research findings from the anthropological study, on which this manuscript is based, were presented by in-country researchers, who responded to questions and concerns from the audience. The fact that several meetings could take place before the end of the study allowed us to continuously engage local stakeholders and provided us with the opportunity to revise study questions and research interests.

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

All the leads of the in-country research teams based in low-income countries (WL, MFM, AMR, NMR, CS, KM, NT, EM, MM, ON, HO, and UJA) have been included as co-authors. As the lead of the original study design, KM was part of the senior authorship team and placed as a second-last author, following CE. As a reflection of their leadership and contribution to the study, the authorship team is predominantly composed of members based in low-income countries.

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

We have included early career researchers (YA, CE, AMR, NMR, EM, ON, HO, UJA) within the authorship team. Most are based in low-income countries.

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

Nine authors are female (YA, AMR, NT, HO, UJA, ER, CM, KMM, CE) and eight male (WL, MFM, NMR, EM, CS, ON, MM, FP).

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

Most of the researchers involved in this study are based in low-income countries. Some of them are senior researchers (most of which were the in-country Principal Investigators) not in need of training (MFM, CS, MM, KM, NT). The rest of the local research team members (WL, AMR, NMR, EM, ON, HO, and UJA) received training in the research approach, methods and analysis tools used in the study, either via the direct support of their in-country supervisors (i.e. the senior researchers), or via the aforementioned workshop-based trainings facilitated by the study coordinators based in a high-income country (CE and YA). Some of the training sessions were led by in-country research partners with outstanding experience in specific skills and/or research procedures.

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

This project has not directly contributed to improvements in local infrastructure.

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

Several procedures to ensure no risk for participants and researchers were set up:

- a. Ethical review was provided by the WHO Ethics Review Committee (Geneva, Switzerland), the Research Ethics Committee of the Hospital Clinic (Barcelona, Spain), the Ethics Committee of the School of Public Health at the University of Kinshasa (DRC), the Ethical Review Committee of Ebonyi, Ondo, and Niger States (Nigeria), the Biomedical Research Ethics Committee of the MoH (Madagascar) and the Institutional Health Bioethics Committee of the Centro de Investigação em Saúde de Manhiça (Mozambique).
- b. All participants in this study provided written informed consent before any data were collected.
- c. Collected data were anonymized and shared into storage platforms. Only those directly working on the data analysis had access to the datasets.
- d. Only research team members directly involved in data management procedures had access to information that could identify study participants.

- e. Research assistants and field data collectors were trained on key aspects of ethical research, including informed consent, maintaining privacy and confidentiality of data, etc.
- f. The project recommended the field research teams to be identified with visible kits/materials (e.g. helmets, t-shirts) and to closely monitor the safety situation in potentially challenging settings when circumstances required (i.e. poor transportation infrastructures especially during rainy seasons, community clashes...).

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. doi:10.1111/anae.15597