

 <p>ISSN (O): 2320-5407 ISSN (P): 3107-4928</p>	<p>Journal Homepage: - www.journalijar.com</p> <h2>INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)</h2> <p>Article DOI: 10.21474/IJAR01/23445 DOI URL: http://dx.doi.org/10.21474/IJAR01/23445</p>	
--	---	---

RESEARCH ARTICLE

THE MATERNAL AND CHILD HEALTH HANDBOOK: A PILOT STUDY IN SIERRA LEONE

Mary Augusta Mamakoh Fullah¹ and Kiyomi Koroma²

1. Department of Public Health, Texila American University, Guyana, South America.
2. Japan International Cooperation Agency, Freetown, Sierra Leone.

Manuscript Info

Manuscript History

Received: 10 March 2026
Final Accepted: 12 April 2026
Published: May 2026

Key words:-

Child Health, Continuum of Care ,
Home-based Record, Maternal Health,
Pilot Study, Sierra Leone

Abstract

The Maternal and Child Health Handbook (MCHHB) is a home-based record designed to improve continuity of care across maternal, neonatal, and child health services. In Sierra Leone—where maternal, neonatal, infant, and under-five mortality remain high (443/100,000; 31/1000; 72/1000; 122/1000 – DHS 2019)—the Ministry of Health and Sanitation piloted the MCHHB from 2021–2022 in Moyamba, Pujehun, and Western Rural Districts. This baseline survey assessed client characteristics, health-seeking behaviour, and understanding of MCH information before full rollout. A mixed-methods approach used questionnaires and interviews in five intervention and two control facilities, targeting 500 clients (470 intervention; 76 control). Findings showed 41% were illiterate, 64% had their first pregnancy before 18 years, and 29% had multiple abortions or stillbirths. ANC knowledge and practices were higher among MCHHB users than controls (81% vs. 68% knew their next ANC date and purpose). Only 1% of intervention clients lacked understanding of MCH information compared with 54%–61% of controls. Male involvement was also greater (husbands/partners: 81% vs. 38%). Overall, the MCHHB improved client knowledge, communication with health workers, and continuity of care, though challenges such as early pregnancy, high parity, socio-cultural barriers to family planning, and unstable incomes persist. The study recommends stronger training and supervision of frontline workers, supportive environments for handbook use, community health worker follow-up, and portable technologies such as ultrasound to enhance maternal care.

"© 2026 by the Author(s). Published by IJAR under CC BY 4.0. Unrestricted use allowed with credit to the author."

Introduction:-

The maternal and child health handbook is an integrated home base record which covers all the stages of maternal and newborn and child health care services. It combines antenatal, postnatal, and child health records into one booklet, empowering families with health knowledge and improving continuity of care including ANC, delivery, post-natal care, child immunization, growth monitoring, nutrition and health education. The process started with a stakeholders meeting including WHO, UNICEF, Nutrition program, CH/EPI program, RH, program and later Social

Welfare. The Maternal and Child Health (MCH) Handbook is a globally recognized tool that integrates health records and education for mothers and children, and Sierra Leone is set to officially launch its version in 2025. Studies show it enhances maternal engagement, increases health service utilization, and improves outcomes in maternal and child health. Originally, the MCH Handbook was first developed in Japan in the 1940s, the MCH Handbook has since been adopted in over 156 countries. Asia: Widely used in countries like Indonesia, Cambodia, and Vietnam, often supported by JICA (Japan International Cooperation Agency).

In 2018, the World Health Organization (WHO) published guidelines recommending home-based records for maternal, newborn and child health. During the guideline and indicators development process, it was proven that implementation challenges persist in many countries especially in Africa. In addition, based on monitoring of home-based record indicators through the WHO/UNICEF joint reporting form, country surveys, such as Demographic and Health Surveys (DHS) and Multiple Indicator Cluster Surveys (MICS), as well as country assessments, such as Missed Opportunities for Vaccination (MOV), face issues related to ensuring sustainability of home-based records for their communities. Implementation studies on the maternal and child health (MCH) handbooks have shown that the success of home-based records within a country depends on the quality of their implementation and this led to the development of the guide “Strengthening implementation of home-based records” for maternal, and child health a guide for all implementers in 2023. In 2018, the World Health Organization (WHO) published guidelines with recommendations on home-based records for maternal, newborn and child health.

During the guideline development process, it was found that implementation challenges persist in many countries. In addition, based on monitoring of home-based record indicators through the WHO/UNICEF joint reporting form (JRF), country surveys, such as Demographic and Health Surveys (DHS) and Multiple Indicator Cluster Surveys (MICS), as well as country assessments, such as Missed Opportunities for Vaccination (MOV), many countries face issues related to ensuring availability of home-based records for their communities. Implementation studies on the maternal and child health (MCH) handbooks, an integrated home-based record for maternal, newborn and child health, have shown that the success of home-based records within a country depends on the quality of their implementation. Together, these led to the development of the guide “Strengthening implementation of home-based records for maternal, newborn and child health: a guide for country Programme managers” jointly by the WHO, United Nations Children’s Fund (UNICEF) and Japan International Cooperation Agency (JICA) in 2023. Since its launch, Programme managers from at least 22 countries across the world (e.g. AFRO, EURO, SEARO, WPRO) have been made aware of the guide and have had practical discussions on strengthening the implementation of home-based records in their countries.

African countries such as Kenya, Nigeria, Liberia and Ghana have piloted or implemented versions of the handbook, adapting it to local health systems and literacy levels. Regional implementation often faces hurdles like low literacy levels, limited health infrastructure, and the need for culturally tailored content.

In Sierra Leone, The MCH handbook was developed in consultation with relevant stakeholders taking into consideration all MCH issues but specifically ANC, EPI and Child Health including under-fives and above. The book was pretested in Western Area Urban and piloted in three districts (Moyamba, Pujehun and Western Area Rural) from 2021 to 2022 and the result was presented to the authorities of the Ministry of Health. The Ministry of Health then agreed to use this book as the MCH handbook for mother and child services as the pilot highlighted the usefulness of the handbook for a more accessible health information for families, especially regarding emergency preparedness and risk awareness. The handbook’s introduction in Sierra Leone marks a significant step toward achieving Sustainable Development Goals related to maternal and child health. The Ministry of Health plans to roll out the MCH Handbook in 2025, replacing the current Antenatal Care (ANC) card and Under-5 card.

Sierra Leone’s maternal mortality rate was 717 per 100,000 live births in 2019, with neonatal and under-five mortality rates at 31 and 122 per 1,000 live births, respectively. The MCH Handbook is a standardized document tool to replace the Antenatal Card and under five cards which is being used for the recording of vital information on mother and child health care services. It is an evidence-based strategy for the effective continuum of care for mother and child health services. This book is being used in more than 156 countries including Ghana, Nigeria, and South Africa. In this view, the ministry deemed it fit to introduce the MCH Handbook into the health care delivery service as a means of holistic reduction in the mortality rates among our mothers, neonates and children.

The first step was to develop a Sierra Leone Home Based Book which involved several activities as follows:

- Development of the draft MCH HB
- Pretest of the draft MCH HB
- Plan for the Pilot test
- Development of Conceptual framework of the MCH HB
- Technical team visited Ghana for technical exchange
- Pilot test for 15 months: Pujehun District (3 PHUs), Moyamba District (1 PHU), Western Rural (1PHU)
- Conducted periodical stakeholder meeting and regular monthly visits
- Review Pilot test results
- Revision of the MCH HB based upon the Pilot Test results
- Printing of the MCH HB
- Launching of the National version of the MCH HB by the Minister of Health in 2023
- Seeking fund for the printing of the MCH HB for national distribution

Objectives of the Pilot Study:-

The MCH Handbook pilot study focused on Six core objectives:

1. Strengthen the link between maternal and child health services from pregnancy through age five.
2. To improve access and availability of individual MCH information which allows health workers to understand patient health status and histories.
3. To share information for referrals and counter referrals.
4. Improve parental knowledge through health education.
5. Promote self-learning and self-monitoring.
6. To advocate for male involvement in maternal and child growing period

Methods:-

Study Design:-

The pilot utilized a quasi-experimental design with target and control facilities, allowing for comparison between health facilities implementing the MCH Handbook and those utilizing standard tools.

Implementation Structure:-

Coordination was established through:

- Directorate of Reproductive and Child Health (RCH)
- Chief Nursing and Midwifery Officer's Office (CNMO)
- Directorate of Primary Health Care (PHC)



[Figure 1: Flowchart of Pilot Implementation Structure]

Distribution Criteria:-

Eligible clients were:

- Pregnant women on their first ANC visit
- Able and willing to complete the continuum of care
- Capable of engaging family participation
- Permanent residents within facility catchment areas

Table 1: MCH Handbook Eligibility Criteria

Target & Control Facilities		
	Name of PHU	Distribution No.
Target Facilities	Potoru CHC	120 booklets
	Moyamba Junction CHC	80 booklets
	Waiima MCHP	40 booklets
	Vaama Barri MCHP	40 booklets
	Waterloo CHC	220 booklets
Control Facilities	Gbundapi CHC	50 samples
	Gandorhun CHC	30 samples

Project Activities:-**Key activities included:**

- Development and pre-testing of the Sierra Leone version of the MCH Handbook
- Selection of pilot facilities
- Training of health workers
- Baseline and end-line studies
- Monthly supervision and quarterly monitoring
- Review workshops for maternal and child phases

Findings:-**Characteristics of Clients:-**

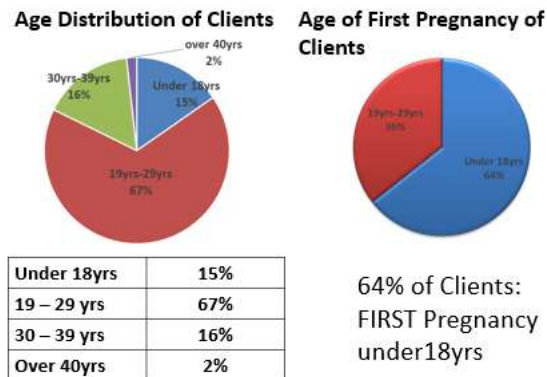
The demographic and reproductive characteristics indicated:

- High teenage pregnancy rates: 64% had their first pregnancy under 18 years
- Low income and limited formal education
- High parity among many clients



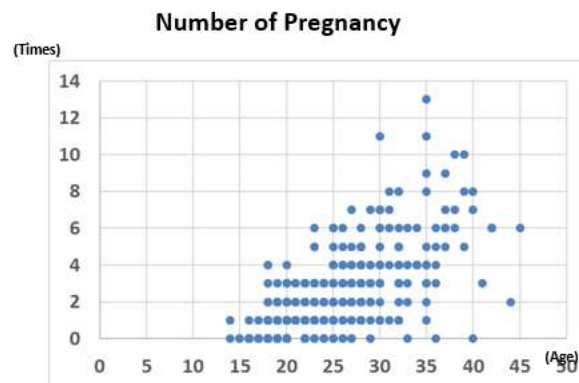
[Fig2: Socio-demographic Characteristics of Participants]

Characteristics of Clients 2



[Figure 3: Age Distribution of Clients]

Characteristics of Clients 3



[Fig 4: Reproductive History of Clients]

[Table 2: Number of Pregnancies per Client]

Characteristics of Clients 4

Number of Pregnancy in Past	n=494	Average Interval of Pregnancy	N=339
None (Primipara)	22%	Less than 1 year	1%
1-3 times	57%	1-2 years	17%
4-6 times	16%	2-4 years	48%
7 times above	4%	More than 4years	34%

Abortion/Still Birth Experience (Multiple Abortion/Still birth)	62% (29%)
Lost Child Experience	18%
Experienced both above	2%

These characteristics reflect the complex socio-economic realities that directly influence maternal and child health outcomes.

Case Stories Highlighting Key Concerns:-

The pilot study identified several critical stories illustrating systemic gaps and social determinants of health.

Case 1: Hawa – High Parity and Lack of Family Planning Support:-

Hawa, 30 years old, had her 12th pregnancy, with only six surviving children. Her husband refused family planning due to religious misconceptions. The family habitually gave away children to relatives in , perpetuating high-risk fertility patterns.

Implication:

Cultural and religious barriers significantly impede uptake of family planning services.

Case 2: Fatmata – Limited Risk Awareness:-

Fatmata, 24, experienced repeated pregnancies driven by partner expectations. She underwent an unsafe abortion at 18 weeks and returned with another pregnancy at 12 weeks shortly afterward.

Implication:

Lack of knowledge of health risks and limited reproductive autonomy contribute to unsafe maternal health outcomes.

Case 3: Baby Mohamed – Breastfeeding Challenges:-

Baby Mohamed's mother had a medical condition preventing breast milk production. Her two previous babies died from severe malnutrition due to lack of access to infant formula. The pilot team provided powdered milk from personal funds, enabling Baby Mohamed to survive and thrive.

Implication:

There is a **critical absence of systematic support** for infants of mothers with lactation-limiting medical conditions.

Case 4: Waterloo CHC – Systemic Implementation Challenges:-

The Waterloo CHC lost its status as a target facility due to inconsistent record keeping, lack of training cascade, and poor client follow-up. High client volumes and fragmented ANC service flow reduced opportunities for proper MCH Handbook use.

Implication:

Urban high-volume facilities require different implementation strategies compared to rural settings.

Discussion:-

The pilot demonstrated that the MCH Handbook has strong potential to:

- Enhance maternal knowledge
- Improve continuity of care
- Strengthen family involvement

However, barriers such as staff training gaps, socio-cultural factors, inadequate resource allocation, and high facility workload hinder optimal utilization. High-risk cases highlight the need for complementary interventions such as structured nutritional support, improved family planning acceptance strategies, and targeted urban facility approaches.

Recommendations:-

1. Scale nationwide implementation with emphasis on consistent trainings, supervision and Monitoring.
2. Develop strategies for urban settings, where workload and system flow differ greatly from rural settings.
3. Introduce support schemes for non-lactating mothers, ensuring no newborn is left behind.
4. Strengthen family planning engagement, particularly addressing religious and cultural misconceptions.
5. Enhance community engagement to promote continuity of care and behaviour change.
6. Integrate digital monitoring tools to improve record completeness and data accuracy.
7. Revise Facility Register form to align with new ANC/PNC protocol
8. Each programme (especially many clients said “Problem to understand”) to review Health Education illustrations in MCH HB

9. Establish implementation structure and modification rules for MCH Handbooks
10. Secure Copy Right for MCH HB to avoid any malpractice
11. Provide plastic pouches to clients for safekeeping of MCH Handbook

Conclusion:-

The Maternal and Child Health Handbook is a promising tool for improving maternal and child health outcomes in Sierra Leone. The pilot project demonstrates its potential impact while underscoring the need for strategic, context-specific implementation. Ensuring systematic support, family involvement, and strong health facility engagement will be critical as the country moves towards nationwide rollout. No pregnant woman should be left behind.

Acknowledgments:-

Ministry of Health and Sanitation (MOHS), JICA, Directorate of RCH, CNMO's Office, PHC Directorate, health workers in target and control facilities, and community participants.

References:-

1. Nishimura, E., Rahman, M. O., Ota, E., Toyama, N., & Nakamura, Y. (2023). Role of Maternal and Child Health Handbook on Improving Maternal, Newborn, and Child Health Outcomes: A Systematic Review and Meta-Analysis. *Children*, 10(3), 435
2. Wignarajah, S., Bhuiyan, S. U., & Gugathasan, A. (2022). The MCH Handbook and its Influence on Health Behaviors: A Literature Review. *European Journal of Environment and Public Health*, 6(1)
3. Carandang, R. R., Sakamoto, J. L., Kunieda, M. K., et al. (2022). Effects of the MCH Handbook and Other Home-Based Records on Mothers' Non-Health Outcomes: A Systematic Review. *BMJ Open*, 12(6)
4. Bhuiyan, S. U., et al. (2017). MCH Handbook and Its Effect on Maternal and Child Health Care: A Systematic Review. *Journal of Community Medicine & Public Health*
5. Musa, J., Kayode, T., et al. (2025). Review of Maternal and Child Health Policies: Successes, Challenges and Gaps. *GSC Advanced Research and Reviews*
6. Bhuiyan, S. (2025). Impact of MCH Handbook in the Healthcare System. *Thai Journal of Public Health*
7. Wignarajah, S., Bhuiyan, S. U., & Gugathasan, A. (2022). The MCH Handbook and its Influence on Health Behaviors: A Literature Review. *European Journal of Environment and Public Health*, 6(1)
8. Carandang, R. R., Sakamoto, J. L., Kunieda, M. K., et al. (2022). Effects of the MCH Handbook and Other Home-Based Records on Mothers' Non-Health Outcomes: A Systematic Review. *BMJ Open*, 12(6)
9. Bhuiyan, S. U., et al. (2017). MCH Handbook and Its Effect on Maternal and Child Health Care: A Systematic Review. *Journal of Community Medicine & Public Health*
10. JICA (2018). Maternal and Child Health Handbook Project: Lessons from global implementation. Japan International Cooperation Agency.
11. Wignarajah, S., et al. (2021). The MCH Handbook and its influence on health behaviours: A literature review. *European Journal of Environment and Public Health*.
12. WHO (2020). Digital health tools for maternal and child health: Opportunities and risks. World Health Organization.
13. Ghana Health Service reports or UNICEF Ghana archives(2020)
14. WHO publication<https://www.who.int/publication/i/item/9789241550352>
15. . *European Journal of Environment and Public Health* (2022), Influence of the MCH Handbook on health behaviours: A global literature review MCH Handbook Research Portal
16. WHO (2018), WHO recommendations on home-based records for maternal, newborn and child health
17. Nigeria Implementation Study (2021) Feasibility of MCH Handbook integration into Nigeria's primary health care system. Searchable via ResearchGate or local health ministry publications.
18. MCH Handbook Research Portal: <https://www.mchhandbook.com/research-publications/>