

Management of At-risk Mothers and Infants under six months (MAMI): Update and direction

Summary of meeting report¹

A two-day meeting of the MAMI Special Interest Group (SIG)² was held on 12–13 December 2019, organised by Emergency Nutrition Network (ENN), co-chaired by ENN and London School of Hygiene and Tropical Medicine (LSHTM) and hosted by Médecins Sans Frontières (MSF) Operational Centre Brussels. It was attended by 45 delegates from a range of specialities and disciplines, including nutrition, maternal health, early childhood development (ECD), paediatrics and neonatology, working in relevant policy, research and programming at global, regional and country level.

The meeting objectives were to identify clear directions of travel on:

- A common vision and terminology for MAMI;
- Indicators to help identify at-risk infants;
- The collection of standardised MAMI programme data.

Day 1 focused on sharing MAMI approaches and implementation experiences, culminating in discussions around a shared MAMI vision, terminology and urgent technical questions. Day 2 examined cross-sector opportunities for MAMI in three priority areas (maternal and neonatal health, ECD, and maternal mental health) and action and evidence needed to improve identification of at-risk infants under six months old.

The introductory session revisited the MAMI Vision, articulated in 2017: **Every infant less than six months of age, at every community and health-service contact, is nutritionally assessed and appropriately supported to survive and thrive.** The MAMI approach links prevention and treatment, aiming for healthier infants while acknowledging the need to look after the mother and link with other services to do so. Anthropometry is part of the diagnostic process, but there are many causes of low anthropometry and clear markers of risk are needed to help identify infants who need support.

Country perspectives were shared on MAMI approaches and challenges from India, Ethiopia and Malawi.³ In all settings, there is a recognised need for earlier intervention before very sick infants present at hospital. The development of standard treatment guidelines for infants has moved things forward, but clear, evidence-based global guidance is needed for countries to effect the necessary institutional, policy and system development required to advance case identification and management. Another major challenge is how to accommodate care of sick mothers when infants present to paediatric care (and vice versa where a sick mother has a young infant). All countries are exploring entry points to integrate the mother-infant dyad, recognising

the need to leverage what exists and to link with child development and mental health services.

A panel discussion among programmers explored MAMI programme needs and shared experiences of field realities.⁴ Save the Children, Partners in Health and MSF have piloted the C-MAMI tool⁵ in Bangladesh, Rwanda and Iraq respectively. It has proved a valuable resource to catalyse case management. A common need in all contexts was to develop shorter, simpler field materials to support implementation, resulting in local adaptations of the tool. A common challenge is poor referral services for maternal mental health. A Bangladesh study found that the C-MAMI tool had greater success in identifying at-risk infants and achieving successful discharge, compared with villages where only inpatient care was offered.⁶ The need for a good package of post-discharge community care following inpatient care was also highlighted.

Presentations on 'Building bridges across sectors' explored MAMI opportunities to connect with maternal and neonatal health (LSHTM), ECD (Jimma University) and maternal mental health (WHO). Key considerations were raised around a 'global epidemic' in caesarean section rates that negatively impacts on breastfeeding, and physical barriers to breastfeeding in health facilities (e.g. mothers and infants not kept together). The nurturing care aspect of ECD supports caregivers of infants. Findings from a project were shared on a scalable, low-intensity psychosocial intervention with mothers to alleviate symptoms of pre- and postnatal depression.⁷

An update from WHO on relevant policy-guidance development concluded that more evidence from across continents, especially South Asia, is needed to inform update/development of global guidance on growth failure in infants under six months old. Recent studies suggest that it is important to know whether an infant is appropriate weight for gestational age, as this may define their needs. Important leverage/entry points for MAMI include the integrated management of childhood illness update currently underway and the universal health coverage agenda.

A summary of recent studies on anthropometric indicators (KEMRI Wellcome Trust, Kenya) was followed by experiences on their practical application in MAMI programming (GOAL). Reflecting the importance of non-anthropometric criteria to identify at-risk infants, Action Against Hunger presented on a systematic review of breastfeeding assessment tools⁸ and an evaluation of a baby-friendly space which found improvements in breastfeeding and maternal mental health out-

comes after two months. The study called for more evaluation and operational data to inform the evidence base around approaches and tools to support programming.

Over the two days, participants explored and debated the priority themes of the meeting. Modifications were proposed to the MAMI Vision and terminology, while urgent technical questions were prioritised around identification and treatment of low birth weight and pre-term infants, and issues in determining acute weight loss compared to small-for-age infants. Directions of travel were also determined regarding identification of at-risk infants and minimum programme data.

The meeting concluded with agreement to convene small working groups to take the identified steps forward and a list of seven overall priority actions for the MAMI SIG in 2020. To make the most of the current opportunities and momentum, this dynamic group identified an urgent need to scale up its way of working.

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The meeting report is available at: www.enonline.net/ourwork/research/mami

¹ Management of At-risk Mothers and Infants under six months (MAMI): A hope and a future. Meeting of the MAMI Special Interest Group, 12 and 13 December 2019. Meeting Report. ENN.

² The MAMI SIG is an established and growing community of practice of programmers, researchers and policy-makers, coordinated by ENN and co-chaired by ENN and LSHTM. www.enonline.net/ourwork/research/mami

³ Contributions from: Dr Ajay Khera, Public Health Specialist and Deputy Commissioner (In-charge) Child and Adolescent Health, Ministry of Health and Family Welfare, based in Delhi; with support from Abner Daniel, Nutrition Specialist at UNICEF India. Experiences from Ethiopia and Malawi comprised an informal question-and-answer discussion with Professor Tsinuel Girma, Department of Pediatrics and Child Health, Jimma University, Ethiopia and Dr Emma Cartmell, Malawi.

⁴ Panel comprised: Save Bangladesh, Partners in Health, Rwanda; KEMRI Wellcome Trust, Kenya; MSF Yemen/Iraq.

⁵ The C-MAMI tool provides a health worker with a format to assess, identify/classify and manage at-risk mothers and infants under six months old in the community who are nutritionally vulnerable, putting the latest WHO technical guidance into practice. It was developed as a first step to fill a gap in programming guidance and catalyse case management. www.enonline.net/c-mami

⁶ Islam MM, Arafat, Connell N, Mothabbir G, McGrath M, Berkley JA, Ahmed T and Kerac M. (2018). Severe malnutrition in infants <6 months – Outcomes and risk factors in Bangladesh: A prospective cohort study. *Maternal Child Nutrition*. 2018:e12642 <https://doi.org/10.1111/mcn.12642>

⁷ www.who.int/mental_health/maternal-child/thinking_healthy/en/

⁸ Breastfeeding assessment tools for nutritionally at-risk infants aged under 6 months old: a systematic review. C. Brugaletta, K. Le Roch, J. Saxton, C. Bizouerne, M. McGrath, A. Seal, M. Kerac. Pending peer review publication.