MAMI: Management of At-Risk Mothers & Infants aged <6m

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Every infant u6m,

at every community / health-service contact point,

is nutritionally assessed & appropriately supported to 

survive and thrive
INTERVENTIONS

• **BALANCES INDIVIDUAL & PUBLIC HEALTH PERSPECTIVE**
  → *Many* factors could underlie infant u6m ‘malnutrition’
  → tailored assessment / treatment for individual patient

• **LOW RISK intervention**
  → can afford sensitive rather than specific case def

• **SIMPLE**
  → Scalable model
  → For front-line community staff
  → Linking existing services

• **PLAUSIBLE / ACCEPTABLE**
  → Learning from previous success (IMCI)

http://www.ennonline.net/c-mami
Anthro. deficit = ‘a finding on exam’
→ just the START of a diagnostic process

e.g infant(s) with WAZ <3
“low wt-for-age.”?
“severely underweight?”
“malnourished?”
Anthro. deficit = ‘a finding on exam’ → just the **START** of a diagnostic process

All “malnourished”?  
All needing the same management? 

- Small but growing well 
- Small (or big!) but not growing well
Anthro. deficit = ‘a finding on exam’ → just the START of a diagnostic process

All “malnourished”? All needing the same management?

Small but growing well

BF failure

Underlying Disease / Disability
Anthro. deficit = ‘a finding on exam’ ➔ just the \textit{START} of a diagnostic process

All “malnourished”?

All needing the same management?

- Small but growing well
- BF failure \(1\)
- Underlying Disease
- BF failure \(2\)
Anthro. deficit = ‘a finding on exam’ → just the START of a diagnostic process

All “malnourished”?  

All needing the same management?

- BF failure
- Small but growing well
- Underlying Disease
- BF failure
  - 1
- BF failure
  - 2 (simple)
- BF failure
  - 2 (complex)
INTerventions

- **Balances Individual & Public Health Perspective**
  - Many factors could underlie infant u6m ‘malnutrition’
  - tailored assessment / treatment for individual patient

- **Low Risk Intervention**
  - can afford sensitive rather than specific case def

- **Simple**
  - Scalable model
  - For front-line community staff
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- **Plausible / Acceptable**
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http://www.ennonline.net/c-mami
MAMI
‘Labelling’ all small babies (as ‘SAM’)

Risks
- Exclusive breast feeding?

Benefits
- Vulnerable / at-risk infants
- BF support is key emphasis on feeding quality over size: treat the patient not the z-score!
The context (prevention types...)

- **Primary**: health promotion & other activities to prevent disease occurring.

- **Secondary**: early detection of disease, followed by appropriate intervention.

- **Tertiary**: reducing the impact of the disease and promote quality of life through active rehabilitation.
MAMI
Which anthropometric indicator?

Weight-for-age:
- WAZ <-3 and/or faltering growth
- Best identifies infants at high risk of death
- Captures 3 main groups:
  a. In-utero risk (LBW, prem, IUGR)
  b. Early growth failure <6 weeks
  c. Later failure
- Avoids SAM/MAM split
- SIMPLE / already done in GMP

MUAC in infants >6 weeks (coming soon!)

INTERVENTIONS

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  - *For front-line community staff*
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http://www.ennonline.net/c-mami
Guiding principles:

- “CHECKLIST” manifesto
- INTEGRATES IMCI & Nutrition (WHO 2013) guidance
- Considers support for MOTHER (+ family) as well as infants
- Individualised/tailored interventions

### ‘c-MAMI’ assessment / management tool

[https://www.ennonline.net/c-mami](https://www.ennonline.net/c-mami)

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#### 2. FEEDING ASSESSMENT

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<th>ASSESS</th>
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<td>Moderate Feeding Problem: C-MAMI criteria</td>
<td>C-MAMI Enrolment (Outpatient): Infant-Mother Pair</td>
<td>No Feeding Problem: C-MAMI criteria</td>
<td>Home Care</td>
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#### 2. FEEDING ASSESSMENT (continued)

| Assessed Condition | Feeding Condition | Assessment/Management | Action
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**Home Care**

- Praise, support, reassurance
- General advice/counseling on:
  - General age-appropriate feeding and nutrition recommendations
  - Routine healthcare services e.g., vaccinations, growth monitoring
- Advise return if new problem develops
‘c-MAMI’ assessment / management tool
https://www.ennonline.net/c-mami

Infant AND mother

TRIAGE: danger signs of very severe disease
(A) anthropometric/Nutritional Assessment
(B) breastfeeding Assessment
(C) clinical Assessment

+ for mother/carer only:
(D) depression/Anxiety/Distress (+Social issues)
‘c-MAMI’ assessment / management tool
https://www.ennonline.net/c-mami

ANY / ALL contact points:

WAZ/MUAC (+/- BF qn)
SCREEN

cMAMI tool

Complicated malnutrition → Inpatient

‘At-risk’ → OP support

Low-risk → home

Reassure

Home
Many problems → simple solutions
(deliverable at community-level)

<table>
<thead>
<tr>
<th>Image</th>
<th>Symptoms/Signs of Good Practice</th>
<th>Good Practice: Yes or No</th>
<th>Counselling and Support Actions</th>
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<tr>
<td></td>
<td>1. Infant’s mouth wide open</td>
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<td>2. Lower lip turned outwards</td>
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<td>3. Chin touching breast</td>
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<td>4. More areola visible above</td>
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<td>5. Below the mouth</td>
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**Note:** A good position is comfortable for the mother.

**Show mother how to position the infant:**
- Infant’s body should be in a straight line (head, neck, trunk, and legs).
  - Illustrate how vital this is by asking the mother/caregiver to drink or eat something herself with her head and neck flexed forward or turned to the side: swallowing will be difficult. Try the same with head/neck/body straight or tipped very slightly back – swallowing is much easier. Infants will similarly swallow much easier when held straight.
  - Infant’s body should be facing the breast.
  - Infant should be held close to mother.
  - Position infant nose to nipple as infant is brought onto breast.
  - Mother should support the infant’s whole body, not just neck and shoulders.

See video: [http://globalhealthmedia.org/portfolio-items/breastfeedingpositions/?portfolioID=10861](http://globalhealthmedia.org/portfolio-items/breastfeedingpositions/?portfolioID=10861)

**Show mother how to help the infant attach deeply:**
- Touch her infant’s lips with her nipple.
- Wait until her infant’s mouth is opening wide.
- Move her infant quickly onto her breast, aiming the infant’s lower lip well below the nipple, so that the nipple goes to the top of the infant’s mouth and infant’s chin will touch her breast.

See video: [http://globalhealthmedia.org/portfolio-items/breastfeeding-attachment/?portfolioID=10861](http://globalhealthmedia.org/portfolio-items/breastfeeding-attachment/?portfolioID=10861)

- If infant not alert/doesn’t open mouth, hand express drops of milk and apply on infant’s lips to stimulate mouth opening.
- If latch is inadequate, try alternative positions.
- If not able to attach well immediately, demonstrate breastmilk expression and feeding by a cup.

FUTURE E-TOOLS → More sophisticated support
Other (complex) issues:
- “Right relationships & links with other (existing) services

Health services
(maternal/family)
- acute disease,
- Chronic (TB, HIV, NCD)
- DISABILITY

Mental Health
(maternal/family)

Social Services
(welfare, employment, domestic violence)

Nutrition
(IYCF, CMAM, Other)
→ MOTHER as well as Infant

OTHER?
e.g. environment – physical, socio-political
“Longpath” thinking:
→ ‘Goldilocks’ zone of infant growth

Too slow  ➔ 🙁 (risk death/illness in short term)

“Just right”  ➔ ?? 😊 ??

Too rapid  ➔ 😞 (risk NCD  ➔ adult prem. death & disability)

In ONE generation or over several?
“Longpath” thinking: Teleos (purpose)
THRIVE as well as survive

What’s measurable / WHAT MATTERS

Development

→ Education, human potential/capacity

Body Composition

→ later life NCD / disability/prem. death


Key messages

Challenge → Opportunities ("Chopportunities")

1. Low anthro (WAZ/MUAC) is a SIGN/SYMPOTOM
   - NOT a final diagnosis → individualized assessment/Mx is important

2. Coverage / community → capacity → impact
   - MAMI treatment for high-risk infants <6m a GAP in nut services
   - Simple, scalable interventions are key
   - cMAMI tool:
     - Offers simple solutions to common problems (focus on BF support)
     - is link / entry point to other services
     - Draws on lessons from CMAM, IMCI

3. ‘Longpath’ thinking
   - transgenerational: growth “just right”
   - teleos – ultimate purpose = mortality, health, development, NOT size
To discuss:

- Infants <6m in current (SAM) guidelines
  → Next update when?
- Infants <6m in local IM(N)CI guidelines
- Current IYCF capacity
- Current links btw nutrition<>other services
- Weight-for-age (MUAC) as main indicator of at-risk
- **Does YOUR country have interest/capacity for leading on implementation / evaluation of cMAMI?**