Family screening of malnutrition by MUAC

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ALIMA - background

• Created in 2009 in Paris
• Medical Care - 56 programs in 13 countries
  Treated 2,600,000 patients.
• Innovation and research - 10 research projects
• A unique alliance – with a network of local and national medical organisations.
• ALIMA Australia
ALIMA and BEFEN

Well Being of Mothers and babies
MUAC (Mid Upper Arm Circumference)

- Severe Acute Malnutrition (SAM) 0-116mm
- Moderate Acute Malnutrition (MAM) 115-125 mm
- Normal 125-265 mm
In 2011, ALIMA had the idea of training mothers to measure their own children’s MUAC.

ALIMA was responding to recurring medical and operational problems of:

1. Late admissions (leading to complications)
2. Poor program coverage (often <50%)
Mothers Understand And Can do it (MUAC): a comparison of mothers and community health workers determining mid-upper arm circumference in 103 children aged from 6 months to 5 years.

MUAC I: Mothers can classify MUAC correctly

Result

(n = 103 mother/infant couples)

→ Perfect agreement

→ Errors only at limits

→ No difference:
  - Left or right arm measures
  - Estimation vs measure of the mid-point of the arm


The Alliance for International Medical Action
MUAC II: Study at scale  (May 2013 – April 2014)

Mothers screening for malnutrition by mid-upper arm circumference is non-inferior to community health workers: results from a large-scale pragmatic trial in rural Niger.
MUAC II: Results-MUAC distribution at admission

N Mothers = 12,893
N CHWs = 36

Median MUAC of mothers zone vs CHW zone was 1.6 mm higher (95% CI = 0.65; 1.87) (p = 0.007) for children admitted by MUAC
## MUAC II: Results (Hospitalisation, Agreement, Cost)

<table>
<thead>
<tr>
<th></th>
<th>Zone Mères</th>
<th>Zone RECOs</th>
<th>Risk Ratio [95%CI]</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hospitalisations all admissions:</strong></td>
<td></td>
<td></td>
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<tr>
<td>At admission</td>
<td>2.33%</td>
<td>9.01%</td>
<td>0.26 [0.17;0.38]</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>During treatment</td>
<td>7.22%</td>
<td>11.84%</td>
<td>0.61 [0.47;0.79]</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td><strong>For admissions with MUAC&lt;115 mm:</strong></td>
<td></td>
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<tr>
<td>At admission</td>
<td>0.70%</td>
<td>7.75%</td>
<td>0.09 [0.03;0.25]</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>During treatment</td>
<td>7.73%</td>
<td>13.32%</td>
<td>0.58 [0.40;0.85]</td>
<td>0.002</td>
</tr>
<tr>
<td><strong>MUAC agreement at health centre</strong></td>
<td>75.4%</td>
<td>40.1%</td>
<td>1.88 [1.69; 2.10]</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td><strong>Cost total (en USD)</strong></td>
<td>8 600</td>
<td>21 980</td>
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</tr>
<tr>
<td><strong>Cost per child &lt;5 years</strong></td>
<td>1.04</td>
<td>3.00</td>
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</tbody>
</table>
MUAC II: Conclusions

→ Bringing Family MUAC to scale is feasible and should be incorporated in CMAM (community management of acute malnutrition) programming and training guidelines

→ Family MUAC strategy will be most effective in programs that integrate SAM/MAM treatment (e.g. Maust et al in Sierra Leone)
Family MUAC: Changing ALIMA’s policy/practice

Number of people trained in Family MUAC by ALIMA and its partners, 2015-2017

- Niger
- Burkina Faso
- Chad
- Mali
- Nigeria
- Cameroon

The Alliance for International Medical Action
Family MUAC: Niger

→ Training Guidelines available at:

http://alima-ngo.org/empowering-mothers-prevent-malnutrition/