MUAC (+oedema) Programming for uncomplicated malnutrition treatment: MSF's Experience Session 1

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Guideline Update 2013: Management of Severe Acute Malnutrition in Infants and Children

Discharge Criteria

- The same anthropometric indicator that is used to confirm severe acute malnutrition should also be used to assess if a child has reached nutritional recovery i.e. if mid-upper arm circumference is used to identify that a child has severe acute malnutrition then mid-upper arm circumference should be used to assess and confirm nutritional recovery. Similarly, if weight-for-height is used to identify that a child has severe acute malnutrition then weight-for-height should be used to assess and confirm nutritional recovery.

- Mid-upper-arm circumference is equal or more than 125mm and they have had no oedema for at least 2 weeks.

- Percentage weight gain should not be used as a discharge criterion.

World Health Organization

MSF's MUAC (+oedema) Programming for uncomplicated malnutrition

Burkina Faso (Yako, Titao)

India (Bihar and Chattisgarrh)

South Sudan (Yida, Pamat, Kodock, Bentiu)

Sudan (Gedaref)

Mali (Timbuktu)

Chad (Bokoro)

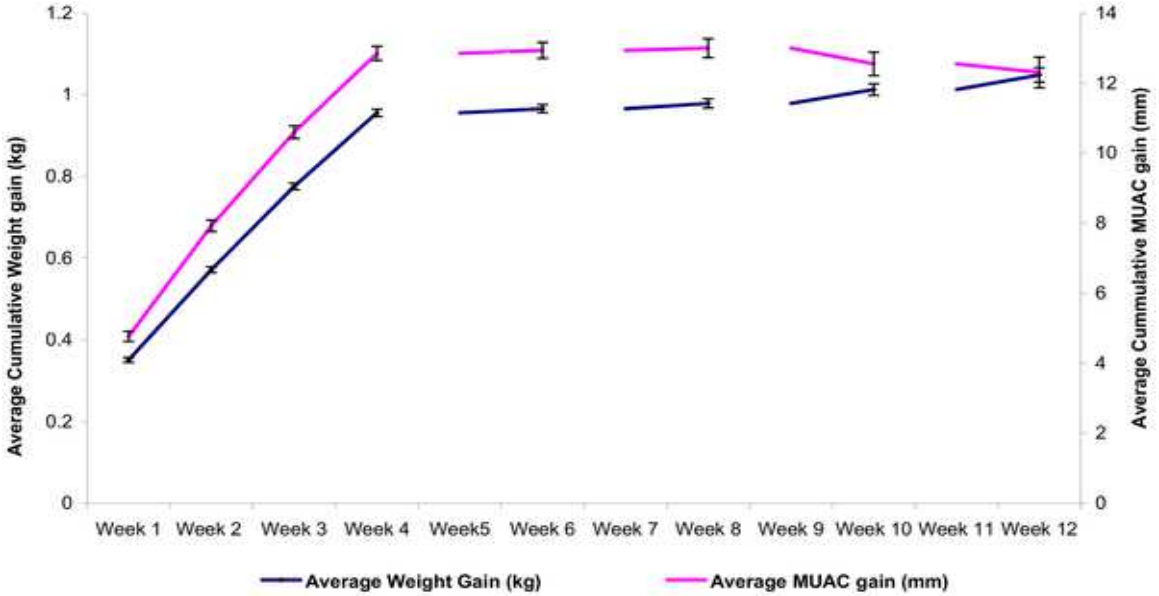
Central African Republic (Bossangoa)

Lessons Learned

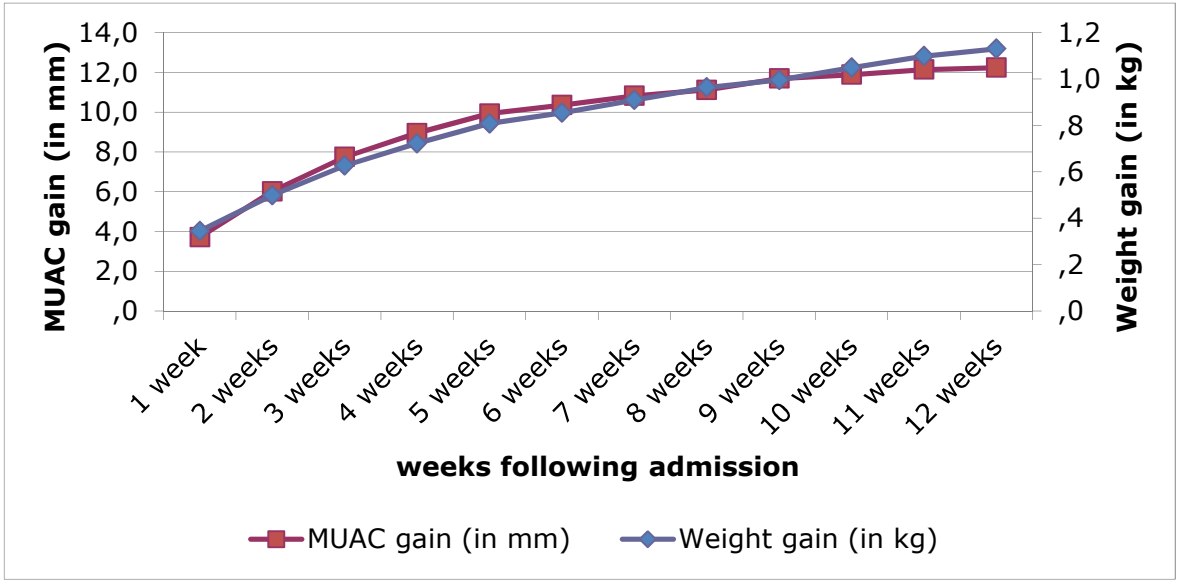
- Feasible to use MUAC as both an admission and discharge criterion.
- Easier, faster and more proactive in emergencies/ conflicts where limited staff/actors, multiple health priorities, and access constraints coexist
- Coherency in referrals and management
- MUAC threshold according to:
  - context
  - prevailing mortality rate
  - available resources

MUAC and Weight Gain

Burkina Faso
(2007-2009)



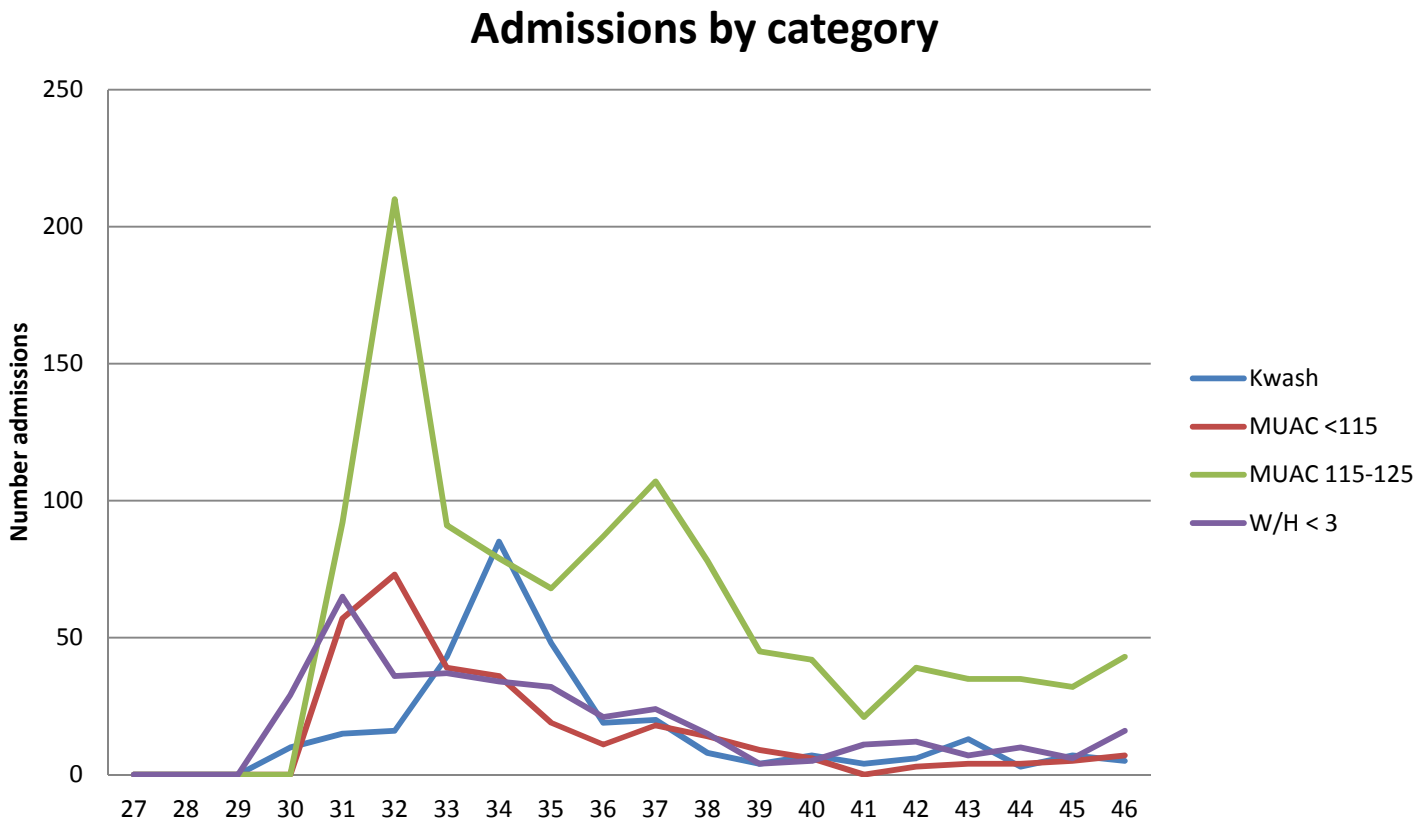
India
(2009-2011)



Outcomes MUAC for admission and discharge

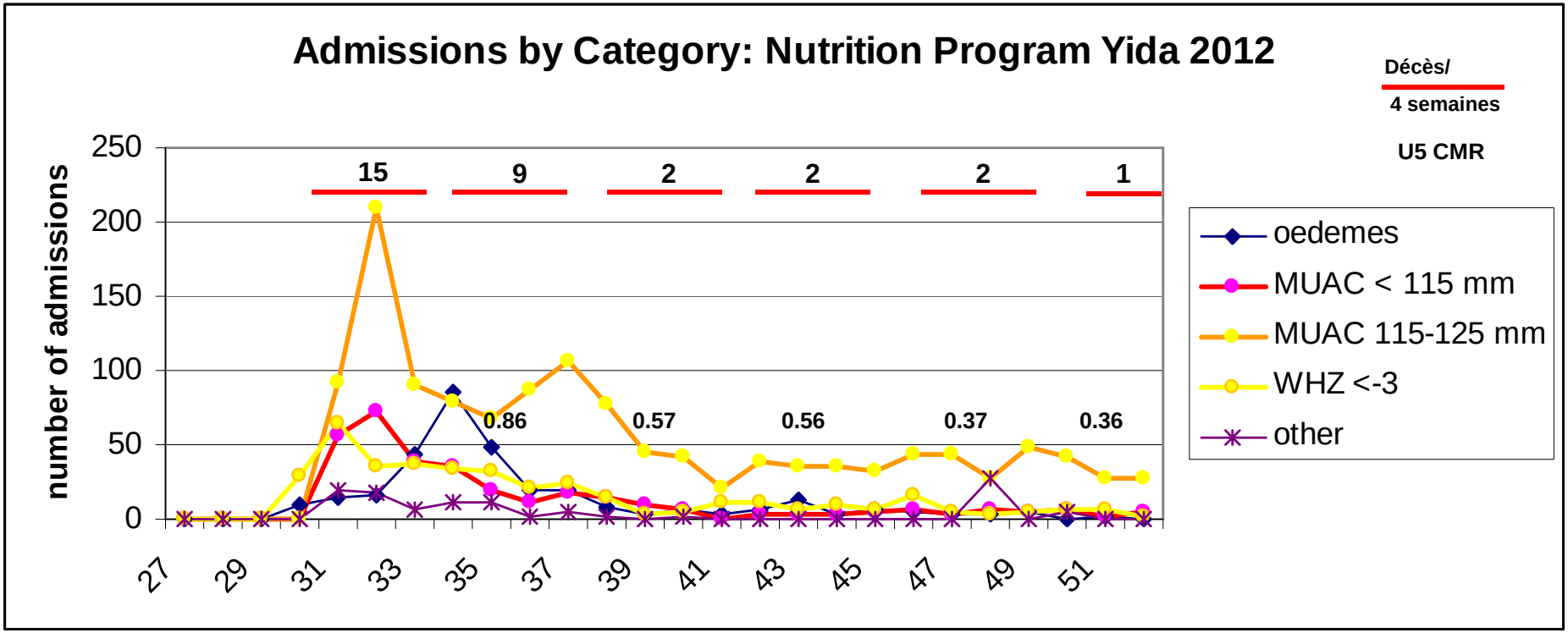
Program	Yida, South Sudan (2012)	Northern Mali (2012)	Burkina Faso (2009-2011)	Bihar, India (2009-2011)	Kodock, South Sudan (May-July 2014)	Kodock, South Sudan (August-Sept 2014)	Bokoro, Chad (2014)
Admissions criteria	<125 mm (if 125-135 mm, then WHZ -3)	<125 mm	>120 mm	<115 mm	<125 mm	<125 mm	<120 mm
Discharge criteria	≥ 125 mm and min 3-week stay	≥ 125 mm and min 3-week stay	≥ 124 mm and min 3-week stay	≥120 mm	≥ 125 mm 2 consecutive measures and min 3-week stay	≥ 125 mm 2 consecutive measures and min 3-week stay	≥ 125 mm
Recovered	89%	88.3%	91.6%	61.0%	59.0%	83.0%	75.1%
Defaulters	5.4%	10.3%	4.8%	33.1%	39.0%	14.0%	15.3%
Deaths	1.4%	1.3%	1.1%	0.9%	1.0%	1.0%	2.5%

Yida, South Sudan (2012)



Early detection: Admission of kids with MUAC < 115 started to decrease after 6 weeks

Yida, South Sudan: Mortality Trends



Deaths: Nut status at adm	
Oedèmes	2
MUAC <115mm	15
MUAC 116-125mm	3
WHZ < -3Z	2
Others	1
Unknown status	8

MUAC < 115 mm **13%** of admissions

65% among deaths of known anthropometric status;

minimum **48%** of all deaths

MUAC + oedema programs: More proactive in conflict settings

Simplified and expanded criteria for uncomplicated malnutrition

Criteria of admission	Discharge criteria
▪ -MUAC<125 mm or ▪ -Presence of bilateral œdema (“+”)	▪ Clinically well ▪ Minimum 3 weeks in the program ▪ MUAC > 125 mm on 2 consecutive measurements ▪ No oedema for 1 week minimum

MUAC	Product / day
< 115	2 RUTF / day
> 115	1 RUTF (or RUSF) / day

Conclusions

Reasons for MUAC-only as admission and discharge

- Faster and easier than WHZ in emergencies
- Better detection of younger children at high risk of death
- Facilitates coverage
- More adapted to community
- Gender independent
- Avoid discharging children who may still be malnourished

Reasons for an expanded criteria

- High mortality, severe food insecurity
- Available resources
- Earlier identification to reduce morbidity and mortality
- In contexts with high morbidity, risky to send children home ~115 cut-off
- Access constraints for organizations and caretakers
- Sliding MUAC scale adapt to context

Discussion points

- Use of MUAC as single criteria of admission and/or discharge:
  - What are the benefits/risks?
  - What are the costs?
  - What are the concrete implications for different stakeholders?
    - Ministries of Health/NGOs/UN agencies?
    - Field vs. coordination level issues?
    - What if partners use different criteria? (e.g. RUSF/RUTF? antibiotics?)
- Further research needed: what is the best MUAC cut off for admission and discharge?
  - *MUAC 120 vs 125 for admission? Or higher to reach all MAM? According to context…*