



MMS Bulletin # 119

Kampf gegen Mangel- und Unterernährung: Schlüssel zur Gesundheit in Entwicklungsländern

***Monitoring report of ambulatory healthcare facilities in
Guinea supported by Terre des hommes***

**Management of Moderate Acute
Malnutrition**

Von Jean-Pierre Papart

Terre des hommes (Tdh) supports several medical centres in Guinea in the management of malnutrition. The monitoring report of the different interventions shows, that contrary to severe wasting which needs “medical treatment, moderate malnutrition could be managed with local food cooked respecting local cultural habits.



Orphans come to Nanga Vhutshilo Positive Living in Soweto twice a day for meals. © Kristy Siegfried/PlusNews

The present system for the case management (CM) of acute malnutrition (AM) in Guinea comprises three types of facility for the provision of health services: therapeutic nutrition centres (CNT) for treating patients with phase I of complicated severe acute malnutrition (cSAM) with complications, ambulatory nutrition centres (CNA) for treating patients suffering from simple severe acute malnutrition (sSAM) without complications and phase II of cSAM, and supplementary nutrition centres (CNS) for treating patients with moderate acute malnutrition (MAM). All these facilities, together with the strategy for managing acute malnutrition, are the subject of a decision of the Ministry of Public Health (MSPH). This strategy is presented in an administrative protocol published in May 2008.

With the aid of Terre des hommes (Tdh), the two communal medical centres (CMC) of the commune of Ratoma (Ratoma and Flamboyant) and the healthcare centre of St Gabriel in the adjoining commune of Matoto introduced the new procedure for the management of sSAM in October 2007. In December 2008, two other healthcare centres (CS) of Lambandji and Wanindara were selected to accommodate CNA in the commune of Ratoma. Unlike the communal medical centres mentioned above, these two new CNA cannot yet provide monitoring data. The private centre of St. Gabriel has had a monitoring system in operation since January 2009, although the database has not yet been placed at our disposal for analysis.

However, it is known that this particular healthcare centre is frequently confronted with the problem of discontinuation of therapy. The main reason for this is that, unlike the four other CNA supported by Tdh, the centre at St. Gabriel has a reputation which extends far beyond the commune of Ratoma and even the city of Conakry. Many of the people arriving at this centre have travelled great distances to find relief for their ailments. They are attracted by the very reasonable charges (a flat rate which includes not only the consultation but also the laboratory and medicines). As a rule, parents do not recognise signs of malnutrition in their children and they come to the healthcare centre expecting treatment for illnesses rather than for malnutrition. The staff at the healthcare centre always identify cases of malnutrition, but when a child is diagnosed as suffering from acute malnutrition and the parents are told that therapy is necessary that will involve several weekly checkups (between 5 and 10), many of them fail to return to the centre after one or two follow-up visits, due to the distance they have to travel each time (up to 200 km).

In the commune of Ratoma, Tdh supports all the public health facilities, i.e. 2 communal medical centres (CMC) and 14 healthcare centres (CS). In the adjoining commune of Matoto, Tdh supports one private centre run by a religious organisation (St. Gabriel). Of these facilities, 5 have a CAN and 16 have a CNS (5 facilities have both a CAN and a CNS). In 6 of the 20 quarters of Ratoma, Tdh has also recruited and trained 32 community health workers (CHW), whom it also pays. In the context of nutrition, the CHW participate in the active screening of children for acute malnutrition (See Fig. 2), follow up cases where therapy has been discontinued and engage in the promotion of healthy nutrition (by means of culinary demonstrations). The health facilities check the nutritional status of the children referred to them by the CHW, as well as engaging in the “passive screening” of all the other children.

The nutritional activities of all the facilities supported by Tdh are shown below (Table 1).

	Children monitored	MAM	SAM
2008	87,739	9,316 (10.6%)	1,953 (2.2%)
2009	101,197	9,371 (9.3%)	2,259 (2.2%)

Table 1: Nutritional activities of the health facilities of Ratoma (+ St. Gabriel)

The case management protocol for sSAM foresees weekly checkups until the child has attained and maintained the target weight (which corresponds to 85% of the median to the “weight-for-height” index) at two consecutive weekly checkups (option 1), as well as prescribing ready-to-use therapeutic alimentation. Another possibility is that the child simply attains the target

weight of 85% of the median according to the “weight-for-height” index without the follow-up control one week later (option 2). Tdh has adopted the new approach for the management of sSAM using ready-to-use therapeutic alimentation since December 2007.

Since 2005, Tdh has been supporting similar health measures for the management of moderate acute malnutrition (MAM). These consist likewise of a weekly anthropometric check-up until the child attains 85% of the median according to the “weight-for-height” index; at the same time, the mothers and children concerned attend culinary demonstrations (2-3 times a week). Afterwards the children receive mashed food (but never RUTF). Every day, a large quantity of nutritious mashed food is prepared and distributed to all the children who have come to the centre for a consultation, as well as any children who have come specially to receive this food. Depending on availability, there is also a weekly distribution of premixes (CSB, sugar, oil, salt) on the day of the check-up for children with MAM. For the monitoring period covered by this report (January 2008 – December 2009) and the two CMC of Ratoma and Flamboyant, the inputs for the premixes were provided by the World Food Programme (WFP) from September 2008 until March 2009. As far as concerns the duration of therapy for sSAM, both the current options can also be applied to MAM – namely: option 1 (monitoring up to the second check-up after the child has attained 85% of the median according to the “weight-for-height” index) or option 2 (attainment of 85%). Although option 2 is less reliable, this is normally the preferred option in the facilities which we support.

A first training workshop was recently organised under the auspices of the WHO on the subject of the new nutrition curves. Yet, still today, the anthropometric instrument frequently used to admit children to therapy for acute malnutrition is an NCHS unisex curve which is applied according to height, taking the mean of the indexes for boys and girls. This unisex curve is still used in many West African countries. Given that, for each height, the male weight median is higher than the female weight median, this unisex curve is thus more sensitive and less specific for girls than for boys. In other words, it tends to admit girls to therapy who are less seriously affected than the boys.

Data used for the monitoring report

Between 1 January 2008 and 31 December 2009 (24 months) the two CMC of the commune of Ratoma (Ratoma and Flamboyant), which are supported by Tdh under the mother-and-child health/nutrition programmes, treated a total of 4,406 children under five suffering from acute malnutrition. Of these, 1,479 (33.6%) had SAM and 2,927 (66.4%) had MAM. The weight-for-height index (WHO standards) scores for all children admitted for therapy for SAM and MAM are shown in the print version of the MMS bulletin.

The present report only concerns children with MAM (the subject of the second meeting of WHO experts, 23-26 February 2009). This sample represents about one-sixth of the cases treated in 2008 and 2009 in the 16 public health facilities of Ratoma and the centre of St. Gabriel in the commune of Matoto (Table 1).

Monitoring report

What is the anthropometric profile of the children treated for MAM?

Based on the anthropometric instrument of a local weight-for-height index (NCHS unisex curve), the average weight deficiency is 23% (i.e. the percentage of the median at admission is 77%) without differentiating between the sexes ($p=0.602$). However, if we apply the NCHS bi-sex weight-for-height index using the same data, we arrive at the average z score of -2.7 for boys and -2.3 for girls, which is a very significant difference ($p<0.001$). The same applies if we use the new WHO curves: -3.3 for boys and -2.8 for girls ($p<0.001$). By using the new WHO curves we would have had 4.8% without acute malnutrition, 50.7% with MAM and 44.4% with SAM. With the NCHS bi-sex curves we would have had 12.6% without acute malnutrition, 70.5% with MAM and 16.9% with SAM.

In about 20% of the cases (no matter which anthropometric instrument is used), MAM is associated with stunting.

How reliable is the diagnosis of acute malnutrition?

The criterion for identification of MAM is less than 80% of the median of the weight-for-height index. Of the 2,927 cases treated as MAM at these two centres during the same period, 32 (1.1%) were false positive diagnoses (+) and two (0.1%) should have been treated as SAM.

What is the performance record of MAM case management?

The national case management protocol of malnutrition stipulates that children should not be discharged before they have attained 85% of the median of the weight-for-height index (see “option 2” above).

	Status at discharge (according to protocol)		
	Discontinuation	Recovery (85%)	Total
2008	7.6% (106)	92.4% (1,297)	1,403
2009	4.4% (65)	95.6% (1,425)	1,490
	5.9% (171)	94.1% (2,722)	2,893

Table 2: Annual rates of recovery / discontinuation of therapy for MAM

According to this criterion, 5.9% discontinue the therapy and 94.1% attain the anthropometric criterion for recovery. The rate of discontinuation of therapy varies little between Ratoma and Flamboyant ($p=0.867$). On the other hand, the overall performance again improved in 2009, compared to 2008 ($p<0.001$) (Table 2).

The mean time needed for a child before it attains 85% of the median is 3 weeks. However, this is only a mean time frame, since some children need longer than others (Graph 2a in the print version of the MMS bulletin). This average time frame did not change from 2008 to 2009. In 2009, the average time needed to attain 85% of the median was similar for both CMC (2.8 weeks at Ratoma and 3.2 weeks at Flamboyant). However, this was not the case in 2008 (2.6 weeks at Ratoma and 4.2 weeks at Flamboyant) (Graph 2b in the print version of the MMS bulletin).

Children suffering from MAM who attain 85% of the median of the weight-for-height index put on an average of 8.6g/kg/day. There may be considerable fluctuations, depending on the communal medical centre and the year in question.

The average duration of therapy is about 6 days longer than the time needed for the child to attain its target weight. Unfortunately, this time shrank from 4½ weeks in 2008 to 3½ weeks in 2009 (i.e. option 2 is more often chosen than option 1). The duration of therapy remains longer at Flamboyant than at Ratoma. Seen over the entire therapy period, the average weight gain was 6.3g/kg/day.

What is the impact on the distribution of food?

Today there are good arguments for distributing food to children suffering from MAM in situations where food supplies are unreliable (food insecurity). The political problems that have arisen in Guinea over the past few years, as well as the rising prices of basic foods, have prompted the World Food Programme (WFP) to provide food aid. This support made it possible to distribute premixes (CSB, oil, sugar, salt) to children suffering from MAM between August 2008 and March 2009. We investigated the impact of combining an educational approach with the distribution of premixes where food supplies are unreliable – firstly, on the success rate, and secondly, on the time needed for a child to attain the target weight.

In children with MAM who benefited not only from therapy but also from the distribution of premixes (between August 2008 and March 2009) there was no significant difference in the rate of recovery or the rate of discontinuation of therapy ($p=0.102$) (see Table 3). The time needed to attain the target weight was, however, slightly shorter ($p<0.001$) in children who had received premixes – namely, 2.9 weeks as against 3.1 weeks in those who had not received any premixes.

Status at discharge
(according to protocol)

	Discontinuation	Recovery (85%)	Total
Without distribution of premixes	5,4% (96)	94.6% (1,698)	100% (1,794)
With distribution of premixes	6,8% (75)	93.2% (1,023)	100% (1,098)
	5.9% (171)	94.1% (2,721)	100% (2,893)

Table 3: Rates of recovery / discontinuation of therapy according to the distribution or non-distribution of premixes

Conclusions

The good coordination between the main health facilities and the communal health assistants in the field of screening, nutritional and medical therapy, and the monitoring of children suffering from MAM has led to positive results (higher rate of recovery and low rate of discontinuation of therapy). The mean weight gain during therapy (6g/kg/day) is satisfactory.

The regular (weekly) distribution of premixes to the mothers of children suffering from MAM is only really necessary in cases of food insecurity.

Limiting the use of RUTF to sSAM– and not offering it for MAM – has the advantage of persuading the mothers of children suffering from MAM that it is in their power to safeguard their child’s nutritional condition and that not everything depends on a “medical” product.

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