

Assessment of the Nutritional Situation in NRU's of Malawi, October – November 1996

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INTRODUCTION

Protein Energy malnutrition (PEM) is one of the commonest paediatric diseases. According to UNICEF (1) up to 17% of all childhood deaths in Malawi are directly related to malnutrition. In other words: more than 20,000 children die every year due to malnutrition. Malnutrition has also been found to be an underlying factor in a high percentage of other childhood deaths. According to WHO as much as 54% of all under 5 deaths are nutrition related (2,3). In Malawi, almost one third of children admitted with severe PEM die (personal communication from Queen Elizabeth Central Hospital and own unpublished findings). According to WHO the mortality due to malnutrition can fall below 5%, if treatment is adequate(4).

Recent research emphasises the importance of micronutrients in treatment of malnutrition(4). However undoubtedly the basic treatment for children with severe PEM is high energy food with an adequate protein content.

Children with severe PEM often lack appetite. Many of them initially require nasogastric tube feeding in order to ensure the necessary intake. In Malawi, as elsewhere, high energy milk (prepared from milk, sugar and oil) is the recommended protein and energy source for therapeutic feeding of these children. Antibiotics to treat intercurrent infections and micronutrients should be administered as well. However drugs are ineffective, if the nutritional situation of the child cannot be improved.

For more than 20 years the World Food Programme (WFP) has assisted the Government of Malawi with supplementary food for vulnerable groups, especially lactating mothers and malnourished children. At present the World Food Programme is phasing out its supplementary feeding programme at community level. Some districts still receive food supplements while in others the programme is already discontinued. The support of nutrition rehabilitation units (NRU's) will be continued until December 1997. At the beginning of 1997 it was not yet decided, if the assistance to NRUs through the WFP will continue after this date.

Since 1995 I have received numerous reports from NRUS, that supply is inadequate and that the NRUs found it difficult, if not impossible, to supply adequate nutrition treatment due to lack of food. The conducted survey aimed at quantifying these reports by assessing the situation in NRU's of District Hospitals and Mission Hospitals at a given time.

METHODS

A questionnaire (annex 1) was sent to all District Hospitals and the major Mission Hospitals in Malawi. A total of 31

institutions (District Hospitals, Mission Hospitals, Central Hospitals) were addressed. Questions concerned admission rates, bed occupancy rates and the food supply situation at the time of the survey. At the end of the questionnaire an open question asked for additions and further comments. The present food supply was correlated to the calculated needs according to the number of treated patients.

RESULTS

TABLE 1

Total number of children treated in the last year	13,176
Children treated on average per month and unit	27
Children admitted on average at any given time per month	1,189

31 health institutions with NRUs were addressed, 25 institutions answered: 16 District Hospitals, 6 Mission Hospitals, and 2 Central Hospitals. The reply rate of 80,65% was unexpectedly high.

Number of patients

During the last year a total of 13,176 children were treated in the 25 responding units. At any given time on average 1,189 children were admitted in these units (table 1).

Source of food

16 NRUs were situated in areas where community distribution through WFP was discontinued. All NRUs were still receiving food supplements through the WFP. 10 District/Mission Hospitals supplied food in addition to the WFP, other donors contributed in 2 places. Food bought by the hospitals consisted mainly of eggs, meat, fish, vegetables, groundnuts and rice.

Only four or 15% of all NRU's had all recommended basic nutrients for therapeutic feeding available

Availability of food

At the time of the survey 10 units had no milk, 18 units had no sugar, 1 unit had no oil, 18 units had no soya and 6 units had no likuni phala.

Only 6 units had milk as well as sugar and oil, but two of the units had waited over 2 months since last milk powder was supplied (table 3). On average 52 kg (range: 25 kg - 100 kg) of milk powder were supplied at the last distribution. The last sugar supply dated back on average 107 days (range: 37

days - 233 days) with an average amount of 63 kg (range: 20 kg - 150 kg) supplied at this occasion. The last oil was received on average 28 days (range: 0 days - 96 days) ago. The average amount delivered was 63 litres (range: 8 litres - 180 litres).

Available stock and calculated needs

The available stock at the time of the survey is given in table 4. The average availability of food was calculated as amount of food item per number of patients admitted on average per month. Only 12% of the monthly sugar and 21% of the

three months (this unit as well did not have the basic food items at the time of the survey!).

Several other comments were given: Most often it was mentioned that the WFP should continue to support the NRUS. Some units stated that food for therapeutic feeding should be supplied by the hospitals themselves. Additionally it was demanded that supplies should be delivered more regularly.

DISCUSSION

The survey gives a cross sectional picture of the nutritional situation in NRUs in Malawi in October/November 1996.

TABLE 2

Availability of various food items at the time of the Survey (October - November)

Item	Availability No of NRUS	Total Answers*
Milk powder	15	24
Sugar	7	25
Oil	23	24
Beans	21	24
Maize flour	21	24
Soya	7	25
Likuni phala	18	24
Other food	10	24
Sugar, oil, milk powder likuni phala	6	25

* The total differs because not all units answered all questions completely.

TABLE 3

Last supply of food items

Food Item	Median number of days since last supply (range)	Average supply kg (range)
Milk	36 (0-100)	52 (25-100)
Sugar	107 (37-233)	63 (20-150)
Oil	28 (0-96)	63 (8-180)

monthly powder needs were available at the time of the survey. There was about one and a half month supply of likuni phala (153%) and oil (155%) while the stock of beans (104%) and maize flour (94%) would have been sufficient for about one month, if distribution to all units would have been adequate (table 4).

Number of feeds and general comments

The number of feeds given to children in the NRU ranged from 2-10 with an average of six. Eleven units gave less than 6 feeds. 6 units reported that they had sufficient food supply during the last three months, (however all of them did not have the needed basic food items at the time of the survey!) but only 1 unit expected sufficient food supply for the next

Obviously it cannot be generalised for other time periods. However, personal experiences and communication as well as the pessimistic answers on the chances for supply in future point to the fact that the food shortage is an ongoing problem and that the survey results do not reflect an exceptional situation.

Answers to questions on the availability of food carry the danger of bias in a society with widespread lack of resources including food. Respondents may feel that exaggerating the needs may improve chances for more supply.

Education in adequate case management is necessary

Annex 1

Nutrition Questionnaire

Unit:

Date:

DHO/Officer in Charge signature:

Is your district still under the supplementary programme of WFP at NRCs in your district yes no

Number of malnourished children treated in the NRU of your Hospital in the last year

Average number of children in

the NRU per month

Amount of food available today date:

- milk powder
- sugar
- oil
- beans
- maize flour
- soya
- likuni phala
- others (specify)

Who supplies the food in your NRU usually? WFP Hospital Others (specify)

Last receipt of milk powder date: amount: payed by

Last receipt of sugar date: amount: payed by

Last receipt of oil date: amount: payed by

Number of feedings per day given to severely malnourished children in your NRU what food is given?

Do you think the nutrition supply for children in your NRU was sufficient during the last 3 months yes no

Do you think the nutrition supply for children in your NRU will be sufficient in the next 3 months? yes no

Any suggestions and remarks

Dates of last supply are retrospective and therefore may be not always well remembered. However the answers varied considerably with almost all respondents stating sufficient flour supply and giving detailed answers on their present stock. It is therefore unlikely that this bias has strongly influenced the results.

The supply of food items - especially milk and sugar for NRUs in Malawi was found to be irregular and unpredictable. Only 4(15%) of NRUs were able to give adequate therapeutic feeding at the given time - even though all units were still under the programme of the WFP. It is not surprising that mortality rates on severe PEM remain high under such conditions.

The last supply of food varied considerably in amount and delivery date for all units. The last sugar supply dated back to more than 3 months on average, but 223 days in one unit. With such delivery system, planning for procurement of additional food is not possible. 10 units tried to improve the situation by buying items such as eggs, meat, and groundnuts. These commodities are expensive. The protein and energy needs of malnourished children are better covered by high energy milk, which is recommended in the Malawian treatment guidelines.

The number of feeds varied from 2-10 per day with a high number of units providing less than 6 meals. Frequent feeds need to be introduced in all units - if nutritional rehabilitation shall become successful. Education in adequate case management is necessary to ensure adequate number of feeds and adequate diet for nutritional rehabilitation. At the same time it may help to prevent unnecessary costs like those for eggs and meat. Educational programmes can only be successful, if sufficient nutrients are available. Several units recommended to budget for food in the district. This seems reasonable. For severely malnourished children food is a basic therapeutic agent and therefore should be considered as a medical supply. Only if district and mission hospitals will budget for food monthly, a regular supply may be achieved in future.

Considering the present difficult financial situation of the health services in Malawi, continuing donor support through the WFP or other donors seems necessary. Donations should be supplied monthly and in fixed quantities in order to allow

for proper planning for purchase of additional supplies.

SUMMARY

Protein Energy Malnutrition (PEM) is a major health problem in Malawi. Mortality due to severe PEM is high. The survey aimed at assessing the present situation concerning food availability in nutrition rehabilitation units of District and Mission Hospitals of Malawi. It was found that only 4 units (15%) had the requirements to allow for adequate nutrition rehabilitation. At the time of the survey especially milk powder and sugar was missing. Food supplies arrived irregularly and unpredictably. Proper nutrition rehabilitation under these circumstances is not possible. Poor case management is discussed as one of the causes for high mortality due to PEM. Budgeting of nutrition requirements through the district is recommended.

In view of the difficult financial situation of the health services continuing support through the WFP or other donors could help to improve the situation. Ongoing education in appropriate case management of severe PEM is necessary to improve survival and may as well help to avoid unnecessary costs.

References

1. Situation Analysis in Malawi: Why do children die? Workshop for Parliamentarians on Politics For Development, Blantyre, 1-2 February 1996.
2. Pattern of mortality in childhood; Puffer R.T.; Serrano C.V.; PAHO, Washington DC 1973; Scient. Publ. No. 262.
3. The World Food Summit: Micronutrient Malnutrition - Half of the World's Population affected. WHO Press Release WHO 78, 13 November 1996.
4. Why have mortality rates for severe malnutrition remained so high? WHO Bulletin of the World Health Association, 1996, 74(2) 223-229.

TABLE 4

Food requirements and availability at the time of the survey

Item	Recommended amount of food supply per child and day (according to WFP)	Food stock at the time of the survey (kg)	Food requirements for one month on average (kg)	Availability in percent
Milk	0,12 kg	891	4281	21
Sugar	0,075 kg	331	2675	12
Oil	0,061 kg	3326	2140	155
Beans	0,2 kg	7425	7134	104
Maize flour	1,5 kg	50464	53505	94
Likuni phala	0,1 kg	5468	3567	153