

Contents

SCN Nutrition Policy Paper No. 21

WHO, UNICEF, and SCN Informal Consultation on Community-Based Management of Severe Malnutrition in Children

Claudine Prudhon, André Briend, Zita Weise Prinzo, Bernadette M.E.G. Daelmans, and John B. Mason, guest editors

Foreword —A. Briend, C. Prudhon, Z. Weise Prinzo, B. M. E. G. Daelmans, and J. B. Mason S3

Background papers

A review of methods to detect cases of severely malnourished children in the community for their admission into community-based therapeutic care programs —M. Myatt, T. Khara, and S. Collins S7

Efficacy and effectiveness of community-based treatment of severe malnutrition —A. Ashworth S24

Key issues in the success of community-based management of severe malnutrition —S. Collins, K. Sadler, N. Dent, T. Khara, S. Guerrero, M. Myatt, M. Saboya, and A. Walsh..... S49

Local production and provision of ready-to-use therapeutic food (RUTF) spread for the treatment of severe childhood malnutrition —M. J. Manary S83

The sustainability of community-based therapeutic care (CTC) in nonemergency contexts —V. Gatchell, V. Forsythe, and P.- R. Thomas S90

Proceedings

Proceedings of the WHO, UNICEF, and SCN Informal Consultation on Community-based Management of Severe Malnutrition in Children —C. Prudhon, Z. Weise Prinzo, A. Briend, B. M. E. G. Daelmans, and J. B. Mason..... S99

List of participants S105

Publication note

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Foreword

Putting the management of severe malnutrition back on the international health agenda

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Key words: Severe malnutrition, child nutrition disorders, therapy, community

Severe malnutrition, defined by severe wasting (weight-for-height < -3 z-scores or $< 70\%$ of the median National Center for Health Statistics/World Health Organization [NCHS/WHO] reference) and/or the presence of nutritional edema, is a life-threatening condition requiring urgent treatment. How many lives would better treatment of severe child malnutrition save?

The prevalence of severe malnutrition is estimated as around 2% in the least-developed countries and 1% in other developing countries [1], which translates to about 10 million severely malnourished children at one time. About 10 million children under five die each year [2, 3]. Some 4 million of these are neonatal deaths, which are not generally preventable by addressing severe malnutrition, but a significant proportion of the remaining 6 million may be preventable in this way. Malnutrition, severe or otherwise, is estimated to be a contributing factor in over 50% of child deaths [4], and it is estimated that the reduction in child mortality and morbidity (i.e., loss of disability-adjusted life-years [DALYs] averted) if malnutrition were eliminated would be at least one-third [5]. No direct estimates are available of the contribution of severe malnutrition to child deaths. However, the figure suggested by Collins et al. [6] in this volume of possibly 1 million child deaths (out of 6 million) associated with severe

malnutrition is certainly possible. This estimate should be compared with those from other sources of data [7], but nevertheless its order of magnitude suggests that severe malnutrition in children is an important public health problem.

Moderate malnutrition contributes more to the overall disease burden than severe malnutrition, since it affects many more children, even if the risk of death is lower [8]. Moreover, *preventing* all forms of malnutrition remains the priority. However, existing prevention programs are imperfect, especially in the poorest countries or in countries undergoing an emergency crisis, and the prevalence of moderate plus severe malnutrition (as underweight) persists at around 25% and is falling only slowly. Many children still go on to become severely malnourished, even when prevention programs are in place, and these children will require treatment. Hence therapeutic programs are still needed as “safety nets” in parallel with prevention programs.

Thus, extensive benefit would ensue from more effective and widely available treatment of severe malnutrition. Yet until recently, developing and applying better treatment methods has had low priority—severe malnutrition can almost be regarded as a neglected disease. For example, in the *Lancet* series on child survival, management of severe malnutrition is not mentioned as a potentially lifesaving intervention [3]. Similarly, international agencies have expressed a strong commitment to achieving Millennium Development Goals (MDGs); in this context, goal 1 (to eradicate extreme poverty and hunger) and goal 4 (to reduce child mortality) are the most relevant. However, large-scale programs of treatment targeted toward severely malnourished children are not yet widely supported. Few countries, if any, even among those with a high prevalence of malnutrition, have a clear national policy aiming at detecting and treating severely malnourished children.

A possible reason for this apparent neglect is that until recently there was no clearly effective treatment strategy to prevent deaths from severe malnutrition on a large scale. Well-understood and evidence-based

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methods of treatment now exist. These have been systematically developed through research and development of protocols and suitable products, followed by extensive efficacy testing under controlled conditions; and now the experience of widespread field implementation—as yet mainly in emergencies—leads to recommendations, as laid out in this publication, for routine adoption, under both emergency conditions and other appropriate circumstances.

This is a significant advance. Until recently, the WHO recommendation was to admit severely malnourished children to the hospital as inpatients for a period of at least a month [9]. The limitations of a hospital-based approach for a condition affecting large numbers of children, particularly when hospital capacity is poor, have been recognized for more than 30 years [10, 11]. Moreover, hospital stays of several weeks for a child and mother are disruptive for families, especially when the mother has other children at home or when her labor is essential for the economic survival of the household. As a result, hospital-based management of severe malnutrition was perceived as efficacious, but not effective, on a large scale, either as part of routine health services or in emergencies [12].

However, although some of these problems could in principle be overcome by a community-based approach, this was rarely effective until new products and procedures started to be tested in the 1990s, as discussed by Ashworth [13] in this issue of the *Food and Nutrition Bulletin*. The situation is now ready to change with the implementation of effective community-based intervention strategies for the management of severe malnutrition in children without complications, which hitherto had required hospital care.

The first step in this potential transformation came with the development of new therapeutic diets. Previously, high-energy milk products had been used, even when the child had enough appetite to take nonliquid foods. As an alternative, ready-to-use therapeutic foods (RUTF) were developed in the form of energy-dense pastes or biscuits containing no water so they would not support bacterial growth (which is a major drawback of milk-based liquid diets). These were shown to be efficacious in producing rapid weight gain [14, 15], and they can be used in the community. This combination of safer therapeutic foods and their feasible use in the home has begun to transform the way severe malnutrition is managed in the community in both emergency and nonemergency settings [16]. Addition of adapted mineral and vitamin supplements to the local diet also seems to increase the efficacy of programs based on the use of locally available nutrient-rich foods, but this approach requires further research to determine its effectiveness [17].

The local production of RUTF is described in the paper by Manary in this volume [18]. The energy-dense RUTF products were tested in a number of experi-

mental settings and shown to be efficacious for the treatment of severe malnutrition. Mortality rates were low and rapid rates of recovery were achieved that were comparable to or even higher than those achieved with earlier approaches. A proviso is that severe malnutrition with complications, especially when the appetite is poor, does not respond well and still requires inpatient treatment, including liquid diets. The efficacy studies are described and synthesized in the paper by Ashworth in this volume [13].

Large-scale community-based approaches using RUTF were first implemented in emergency settings, where agencies “voted with their feet” in the last 2 years by dramatically increasing the number of severely malnourished children they could treat [19]. Data from these real-life, nonexperimental programs necessarily only allow less rigorous evaluation, but the indications are that the impact, in terms of mortality reduction and success of rehabilitation, is extensive. The implementation and results of these programs are described by Collins et al. in this volume [6].

It is likely that the same approach can be used successfully on a large scale in communities in non-emergency settings, as well as in conjunction with hospital-based treatment of children with complications, and this has the potential to vastly increase the coverage of effective treatment of severely malnourished children. However, upscaling these programs at a national level in countries with the highest prevalence of severe malnutrition will represent a challenge that should not be underestimated. From the experience of a nongovernmental organization, the paper by Gatchell et al. in this volume [20] described issues to be addressed for the community-based management of severe malnutrition to be sustainable. Nonetheless, community-based health and nutrition programs today have considerable coverage [21], and being based on local health workers and community organizations, they may well provide a route for wider adoption of RUTF for treatment of severe malnutrition where it is a significant problem; put the other way, a missing component of such programs has been the ability to treat severe (uncomplicated) cases without referral and admission, and RUTFs may fill this gap.

This special issue of the *Food and Nutrition Bulletin* reports on a WHO/UNICEF/Standing Committee on Nutrition (SCN) meeting on community-based management of severe malnutrition in children that took place in Geneva on November 21–23, 2005, and brought together some 50 international experts and representatives from the World Food Programme (WFP), the United Nations High Commissioner for Refugees (UNHCR), the Red Cross, research institutions, major international nongovernmental organizations, and representatives of ministries of health. It describes the recent developments and the emerging consensus taking place in this rapidly evolving area. As

a background for discussion, WHO commissioned five papers, which examined the current state of knowledge concerning the following:

- » Methods to detect cases of severely malnourished children in the community;
- » Efficacy and effectiveness of community-based treatment of severe malnutrition;
- » Key issues in the success of community-based management of severe malnutrition;
- » Local production and provision of RUTF for the treatment of severe malnutrition;
- » Sustainability of programs of community-based management of severe malnutrition.

The papers are published in this issue together with the meeting report. Field guidelines will be developed based on the general principles, conclusions, and recommendations derived from this meeting, which, if

implemented on a large scale, will prevent thousands of child deaths. Let us hope that these developments will contribute to putting the detection and treatment of severe malnutrition on the international agenda for child survival—and to successfully treating many more malnourished children than are reached today.

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