Improving Young Child Feeding in Eastern and Southern Africa

Household-Level Food Technology

Proceedings of a workshop held in Nairobi, Kenya, 12-16 October 1987
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Editors: D. Alnwick, S. Moses, and O.G. Schmidt

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Alnwick, D.,
Moses, S.,
Schmidt, O.G.,
IDRC. Regional Office for Eastern and Southern Africa, Nairobi KE
UNICEF, New York, N.Y. US
Swedish International Development Authority, Stockholm SE


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Abstract

The weaning period, that is the period in a young child's life when supplementary foods are introduced to complement breast milk, poses great nutritional risk to children in developing countries. By the end of the second year of life, one-third of children in eastern and southern Africa are chronically malnourished. The following factors contribute to the growth faltering commonly observed in weaning-age children: low nutrient intake, high incidence of diarrheal disease (often caused by contaminated weaning foods), and recent declines in duration and intensity of breastfeeding.

Food scientists, nutritionists, and health planners working in Africa and South Asia met in an international workshop to examine household-level food technologies that hold promise for improving nutrition of infants and young children. After reviewing current knowledge of breastfeeding and weaning practices in eastern and southern Africa, participants discussed the use in weaning diets of fermented foods and germinated flour, for both improved nutrient intake by young children and decreased risk of food contamination. Research that should be conducted into the effectiveness of the food technology was identified and its diffusion at the community level discussed.

This publication contains the proceedings, conclusions, and recommendations of the workshop. It is directed at scientists and health planners who are involved in nutrition research and developing programs to improve feeding of infants and young children in developing countries.

Résumé

Le sevrage, c'est-à-dire la période où l'on commence à donner des aliments solides à un jeune enfant en complément du lait maternel, présente de graves risques nutritionnels pour les enfants dans les pays en développement. Dès la fin de leur deuxième année, le tiers des enfants en Afrique orientale et australe souffrent de malnutrition chronique. Les facteurs suivants sont à l'origine du retard de croissance que l'on retrouve couramment chez les enfants en âge d'être sevrés : carence nutritionnelle, forte prévalence des maladies diarrhéiques (qui s'expliquent souvent par la contamination des aliments) et diminution récente de la durée et de l'intensité de l'allaitement maternel.

Des spécialistes des sciences de l'alimentation, des nutritionnistes et des planificateurs de la santé travaillant en Afrique et en Asie se sont réunis dans le cadre d'un atelier international afin d'examiner des technologies alimentaires applicables au niveau des ménages qui semblent prometteuses pour améliorer la nutrition des nourrissons et des jeunes enfants. Après avoir examiné les connaissances actuelles en matière d'allaitement au sein et les pratiques de sevrage en Afrique orientale et australe, les participants ont discuté de l'utilisation, au cours du sevrage, d'aliments fermentés et de farine germée, tant pour améliorer l'apport nutritionnel chez les jeunes enfants que pour diminuer les risques de contamination des aliments. Ils ont également discuté des recherches qu'il y aurait lieu d'entreprendre sur l'efficacité des technologies alimentaires et sur leur diffusion dans la collectivité.
Cette publication fait un compte rendu des discussions de l’atelier et présente ses conclusions et ses recommandations. Elle s'adresse aux scientifiques et aux planificateurs de la santé qui participent à des recherches en matière de nutrition et à l’élaboration de programmes visant à améliorer l'alimentation des nourrissons et des jeunes enfants dans les pays en développement.

Resumen

El periodo de destete, es decir, aquel periodo en la vida de un niño en que se introducen en su dieta alimentos suplementarios para complementar la leche materna, representa un gran riesgo nutricional para los niños de países en vías de desarrollo. Hacia el final de su segundo año de vida, un tercio de los niños en África oriental y del sur muestran síntomas de malnutrición crónica. Los siguientes factores contribuyen al crecimiento vacilante que se observa comúnmente en los niños que se encuentran en edad de dejar la lactancia materna: baja ingestión de nutrientes, alta incidencia de diarrea (a menudo causada por alimentos para el destete contaminados), y nuevas disminuciones en la duración e intensidad de la alimentación proveniente del pecho de la madre.

Científicos del campo de los alimentos, especialistas en nutrición y planificadores de la salud que trabajan en África y en el Sur de Asia se reunieron en un taller internacional para examinar las tecnologías de alimentos que se utilizan en el hogar y que prometen buenos resultados en el mejoramiento de la nutrición de lactantes y niños pequeños. Después de analizar el conocimiento que existe actualmente sobre la alimentación recibida a través del pecho de la madre y las prácticas que se utilizan para el destete en el oriente y sur de África, los participantes discutieron el uso en dietas para el destete de alimentos fermentados y harina germinada para que los niños puedan ingerir nutrientes mejorados y haya una disminución en el riesgo causado por la contaminación de los alimentos. Se identificó la investigación que se debe realizar sobre la efectividad de las tecnologías de alimentos y se discutió su difusión en el seno de la comunidad.

Esta publicación contiene las actas, conclusiones y recomendaciones del taller. Está dirigida a científicos y planificadores de la salud que participan en la investigación nutricional y en programas de desarrollo para mejorar la alimentación de lactantes y niños en los países en desarrollo.
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DO WE NOW HAVE SOME REAL SOLUTIONS FOR YOUNG CHILD MALNUTRITION?

Ted Greiner

International Child Health Unit, Uppsala University, S-75185 Uppsala, Sweden

Abstract The problem of nutrition in developing countries can be divided into four major categories: micronutrient deficiencies, malnutrition related to breastfeeding and bottle feeding, malnutrition related to other aspects of young-child feeding, and maternal malnutrition. No major progress has been made in alleviating any of these; during the past decade or two, however, there has been some progress in deciding where the most promising solutions may lie. The exception here is the third category, which poses a nutrition problem that is the most widespread and the most difficult to solve. The field of nutrition has changed so much in its analysis of the causes of young-child malnutrition and in its prescriptions for solutions, that it is losing credibility in many quarters. It can hardly be said that the "nutrition factor" is taken seriously today in the development planning of most countries. The two technologies discussed at this conference - germinated flour and fermentation - are considered by many to be far superior to most approaches so far tried for improving the diet of the young child. If this proves to be the case, there will be hope that the "nutrition factor" may yet come into its own.

The field of nutrition is at risk of getting a bad name. We nutritionists receive a great deal of training; we hold extensive discussions and workshops; we recognize the importance of, and attempt to implement, an intersectoral approach to the complex causes of nutrition problems. Where, however, can we view the fruits of this labour - of this activity and investment? Is there, for example, any tangible proof of the impact of our work on levels of malnutrition? Can it indeed be said that we are needed at all? I suspect that the field of nutrition is at a juncture in its evolution: its survival as a factor in the development process could depend on a successful exploration and dissemination of the new technologies discussed at this workshop.

Problems and Progress

To justify a dramatic statement such as this, I must begin by dividing the major nutrition problems of the developing world into
four categories: micronutrient deficiencies, malnutrition related to breastfeeding and bottle feeding, malnutrition related to other aspects of young-child feeding, and maternal malnutrition (other than micronutrient deficiencies).

Although nearly all these problems are closely linked to poverty or scarcity of resources, we tend to think of them as being amenable to purely technical solutions, at least in the short and medium term. With good planning and satisfactory levels of outside financial assistance, most developing countries could, to a great extent, eradicate these problems. Potential solutions include nutrient supplementation, food fortification, agricultural or gardening interventions, and nutrition education. It is gratifying to see in recent years that certain organizations - the ACC/SCN, the International Vitamin A Consultative Group, and the International Consultative Group on Iodine Deficiency Disorders - have begun to develop concrete plans for seeking funding sources and, in general, for pursuing an advocacy approach toward implementing some of these long-overdue solutions.

Potential solutions for malnutrition related to breastfeeding and bottle feeding can be divided into three categories: protection of breastfeeding where traditional patterns are still strong; support of breastfeeding where the modernization process threatens traditional confidence in it; and promotion of breastfeeding in industrialized settings where its value is no longer appreciated.

In recent years, some progress has been made in protecting breastfeeding. This progress is the result of the World Health Organization (WHO)/United Nations Children's Fund (UNICEF) International Code of Marketing of Breast-Milk Substitutes and of other initiatives - principally those of UNICEF, the International Baby Food Action Network (IBFAN), and some national governments. More work, however, is needed in this area: one important example would be the establishment of measures to restrict the availability of feeding bottles, particularly those made of plastic.

In the "support" category, some effort is underway in terms of training health-workers and lobbying for increased maternity benefits for working women. The "support" side of the triangle, however, is still neglected: breastfeeding mothers' voluntary groups often constitute the only available source of support for women who are breastfeeding. For women with particular problems, the ideal may lie in the combined support of both a health professional and a breastfeeding counsellor, whether paid or voluntary. Although some faltering has appeared in the last year or two, breastfeeding promotion has made progress in industrialized countries and, recently, in some developing countries. In conclusion, we are beginning to identify and even to implement some of what needs to be done, but we are far from being able to say that we have eliminated much of the malnutrition caused by inappropriate bottle feeding.

The last two categories of nutrition problems - malnutrition related to young child feeding and maternal malnutrition - are associated with a lack of adequate food intake, although microbial and parasitic infections often play a large role. I believe it to be a fair generalization to say that among the people who suffer from these types of nutrition problems, the common factor is a lack of control over personal food intake. People who for this reason are vulnerable
are those who are institutionalized, those who are too young to feed themselves, and those who cannot grow or buy enough food. There will be no purpose served in continuing to tell poor pregnant women to eat more if they intentionally restrict their diets to get smaller newborns and, as they believe, easier deliveries. Even for them, however, as for those pregnant women to whom we give food supplements, our real goal is to improve not so much the nutritional status of the mother, as that of the newborn. As long as the mother gets enough space between births and can afford the food, she will in the long run probably recover her nutritional status. I do not believe that sane people go hungry because they are too stupid to eat.

Clearly, most maternal undernutrition is closely linked to poverty, and I suspect that the Women in Development movement's emphasis on income generation and on securing resource control for women is also the right long-term strategy for solving maternal undernutrition. In the short term, however, it can be seen that where income generation requires physical exertion on the part of women, then nutritional status must be made a first priority.

Failures and Hopes

Although we now seem to know a certain amount about how to deal with problems in the other categories, the relentless statistics on young-child malnutrition continue to stare at us, as though from the eyes of the starving children they represent.

Through the 1960s and the first half of the 1970s, the field of nutrition attracted growing attention and mobilized an impressive array of donor agencies: United Nations (UN) bodies, agricultural research stations, and even private industry collaborated on approaches to the many problems. The protein quality and quantity of grains was being improved; field trials of amino-acid fortification were under way; and factories to produce low-cost, high-protein weaning foods were beginning to appear. In 1973, Alan Berg published The Nutrition Factor, which described these and other promising nutrition interventions. The book announced that the time had come when nutrition could no longer be ignored. Its integral role in many aspects of the development process demanded that the "nutrition factor" begin to receive the attention it deserved in development planning.

Meanwhile, the foundations of much of this enterprise began to come into question. In 1974, Donald McLaren published in Lancet an article entitled "The great protein fiasco." In terms as provocative as his title, he marshalled evidence from several easily available sources to show that pure protein deficiency simply was not a problem. Take almost any common diet in the world, increase the amounts eaten to the point where energy needs are met, and you will almost always find that the "protein gap" will disappear. (Cassava-dominated diets are an exception. It is important to keep this in mind in the present context: because germination and fermentation technologies may increase the feasibility of making such a diet energy sufficient, the potential is created for a pure protein deficiency.) What you achieve by increasing the protein content of an energy-deficient diet is to a great extent merely the nitrogen enrichment of urine! Most of the extra, relatively expensive protein is burned for energy.
Although after the appearance of McLaren's article attention and funding were being quietly withdrawn from protein programs, enthusiasm was growing for nutrition planning. Systems analysis revealed that the right kinds of intersectoral cooperation could produce solutions, provided that there was political will to catalyze the process. In the meantime, a vacuum began to develop in the international nutrition field. For one thing, this field began to have less and less in common with industry (which, behind the scenes, has a lot to say about the direction of development assistance). Worse still, free-enterprise champions looked on with horror as activists and UN officials seemed to join forces in accusing industry of being part of the cause of the decline in breastfeeding. (One wonders whether this might have proven to be a boon to the current vaccination campaign, in which drug companies, refrigerator manufacturers, development agencies, UN organizations, and ministries of health all work together toward a shared goal.)

In any case, the effect of this vacuum may have been to shift more attention to micronutrient deficiencies. Regarding young-child malnutrition, attention has focused increasingly on better measuring and monitoring of growth and of nutritional status. In casting about for solutions to the problem, we nutritionists had an admittedly sparse fund of successful experience from which to draw. The most widely available journal articles and weaning-foods manuals advised us to develop recipes from local ingredients, and to recommend multimix porridges. This seemed to call upon our expertise in devising "balanced diets," something with which all Western-trained nutritionists and home economists are familiar. Why not teach people to group foods into categories of importance for achieving nutritional goals? Food quadrants and food groups entered curricula, showed up in health education teaching materials, and took root even in countries where they had no relation to local diets or concepts of foods. I suffered inwardly as I listened to the head of a health-education department in one African country: it appears that they were confused over the fact that despite the "proven success" of their nutrition-education message (studies had shown that all the mothers knew the importance of the three food groups), levels of malnutrition were remaining high, and were indeed increasing! When are we going to learn that what young children in resource-poor settings need is more food, and that anything that turns attention away from this fact is harmful?

This does not mean that we should give people food for their children. For a long time, we have found tempting the idea of merely shifting food from areas of surplus (North America and Europe) to areas of scarcity. Gradually, however, we are learning that food aid, when used for anything more than emergency purposes, is only likely to compound the problem.

Instead, we must look for ways to help poor mothers enrich the energy density of the food they feed their young children. We must look for ways to help busy mothers feed their young children more often. We must reduce levels of diarrhea, so that mothers who live in septic environments can help their children to retain more of the food they eat. We must not fool ourselves into thinking that anything will completely solve the terrible problems of young-child malnutrition until the poor, especially women, are given better opportunities for earning a living, are relieved of some of the crushing burden of work done merely to survive, are helped to space their children, and are
assured of security in their old age. Neither should we throw up our hands and join those who say that nutrition as a field of endeavour has nothing to offer: this workshop, presenting as it does new ideas about the use of traditional methods of food preparation in solving child-feeding problems, may some day be viewed as a turning point for the field of nutrition.

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