SPECIAL ARTICLE

Mutual Benefits of Linking CDD and Nutrition Programs *)

by

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Background

Diarrhea is one of the leading causes of illness and death in infants and children under five years of age in developing countries. An estimated 1,000 million diarrhea episodes occur each year in children. A recent review found an average of 3.3 episodes per year in children. Most of the diarrheal episodes occur in children in the first two years of life. The highest incidence is in the age group of 6 to 11 months, the period during which weaning foods are introduced into the child's diet. Diarrhea causes an estimated five million deaths in children under five years of age per year. About 80% of these deaths occured in children in the first two years of life. In addition to those deaths, diarrhea is a major contributor to malnutrition.

Undernutrition is also recognized as one of the most important single factors affecting child survival and development. Undernutrition contributes to high underfives morbidity and mortality. Diarrhea and malnutrition interact in a "vicious cycle": diarrhea leads to malnutrition, which then aggravates the diarrhea. Treatment of diarrhea and dehydration with fluids is effective, practical and easily done. But nutritional therapy (i.e. appropriate and adequate feeding) is a vital component of clinical and home management of diarrheas. There is considerable evidence that feeding speeds the recovery process during and after diarrhea and prevents growth faltering and malnutrition as consequences of diarrhea episodes.

The effect of diarrhea on growth can be seen in the growth curve of a child with recurrent diarrhea attacks, each of which causes acute weight loss and leads to overall flattening of the curve, thus showing the child's failure to grow.

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The reasons for this growth failure or weight loss include :

1. Decreased food intake because of loss of appetite, vomiting, food withholding by mother, giving diluted food and milk for prolonged diarrhea.
2. Decreased absorption of food.
3. Increased need for food.

This introduction indicates the importance of interaction between diarrhea and nutrition problem; and because of this linking CDD and nutrition programs is needed, for examples in the areas of training, supervision and growth monitoring activities.

CDD and Nutrition Programs

The strategy employed for the control of diarrheal diseases (CDD) focuses on the proper use of home fluids in the prevention of dehydrated diarrheal cases and the proper use of oral rehydration therapy (ORT) in the treatment of diarrhea with dehydration. ORT combines the administration of home fluid and or ORS with continued and increased feeding including breastfeeding, through diarrheal episode and referral when appropriate. The National CDD Program attempts to ensure the distribution of oral rehydration salts (ORS) to all community health centers, educate mothers and health workers in the techniques and benefits of home fluids and or ORS, and disseminate information to the public relevant to the values of ORT.

The Nutrition Program provides community based growth monitoring and nutritional first aid activities, along with health and nutritional counseling.

What CDD Programs can do in Nutrition

1. Identification of malnutrition in children with diarrhea by weighing them and determining weight for age using a growth chart; followed by nutritional management during and after the episode determined by the result. In Indonesia the Family Nutrition Improvement Program (UPGK) has been using weighing post at village level for more than 10 years. Efforts have been done to stimulate the community awareness and community participation through the establishment of community based integrated service posts at village level. This approach is called the Integrated Family Health Package or Integrated Health and Family Planning Approach or POSYANDU. It renders family health care package consisting of Family Planning, Maternal and Child Health, Nutrition, Immunization and Diarrheal Diseases Control in order to expedite the reduction of infant and underfive mortality. The implementation of services has been conducted at the previous community based post such as the weighing post, vaccination post or others. In doing so, the POSYANDU reduces the service delivery overlap in the village which used to have separate "posts" for child weighing, family planning and immunization. It is a major breakthrough in primary health care, and a major means of expanding access and coverage of key child survival and development services. By end-March 1988, there were approximately 200,000 POSYANDU to serve about 81 percent of all underfives. The ultimate objective is to have one integrated services post

(POSYANDU) for every 100 underfive in the countries. Every child has been weighed monthly and his weight has been recorded on a growth chart (or Indonesian's KMS). Compare the child's present weight with his last recorded weight. Water (fluid) loss during diarrhea causes loss of weight. Assessing weight loss is useful. Training and supervision play an important role in implementing this growth-monitoring program.

If a child has been weighed recently, his weight loss will give some idea about how much fluid he has lost. Weighing the child again later can help to assess his progress. However, it is more useful to rely on clinical signs than on weight loss determination to make a judgement about dehydration. Growth monitoring activities may form a necessary infrastructure for CDD activities, their linking also helps to achieve the nutritional goals of the growth monitoring effort.

2. Effort to improve feeding during and after diarrhea as part of diarrhea case management. Nutrition deficits caused by the diarrhea must be repaired. No physiological basis exist for ''resting the gut''. Poor nutrition is associated with more severe, more long-lasting and more frequently fatal diarrhea. The feeding component of effective diarrhea case management also includes the improvement of the basic weaning diet of the child.
3. Establishment of special follow-up procedures for children with diarrhea who are malnourished (nutritional screening) for example referring patients falling below a certain level to a growth monitoring program to follow up and ensure their growth is satisfactory. Referral criteria and open channels of referral between providers of treatment of diarrhea and nutritional rehabilitation programs can ensure that intensive nutritional management and education are available.
4. Development through research or study on :
   a. pre-diarrheal and post-diarrheal feeding practices
   b. current feeding practices during diarrhea as the basis for developing more effective recommendations and messages.
   c. special foods to be given during diarrhea and convalescence.
5. Activities of diarrhea-related public education information, education and communication may incorporate breast-feeding and proper weaning practices promotion.
6. Support for hospitals or DTU (Diarrhea Training Unit) to establish mechanisms to provide special food for diarrhea inpatients.

What nutrition programs can do to help diarrhea case management and prevention :

1. Teach good diarrhea case management to children whose weight has failed to increase (growth failure) because of an episode of diarrhea in the past month, detected by growth monitoring. In Indonesia UPGK has provided ORT and other proper diarrhea case management as part of the nutrition improvement package to all previous weighing posts (now called POSYANDU).
2. Distribute ORS through this weighing post. The nutrition cadre training includes the preparation and use of oral rehydration therapy (home available fluids and or ORS) and explanations on the danger of dehydration due to diarrhea. In Indonesia pre-packaged ORS is provided annually to every weighing post for distribution by community health worker. Apart from that, sources of ORS include the CDD program. INPRES (Instruction of President), Health Insurance and local budget funds.
3. Take care of diarrhea patients. Special educational efforts and follow-up visits are done by community health worker.
4. Give special diarrhea treatment teaching to all children who are malnourished, because they are more likely to have severe diarrhea. Again growth-monitoring can be used to follow-up such patients.
5. Nutrition programs have generally already focused on activities which are important in prevention of diarrhea such as breast-feeding promotion, improving weaning diets, etc. Successful promotion of breast-feeding in Indonesia includes :
   a. Changing hospital policies regarding nurseries and rooming in.
   b. Working with midwives and obstetricians and establishing ''Breast-feeding Promotion Organization''.
   c. Reducing unnecessary physician recommendations to give formula and educating physicians regarding breastfeeding techniques and support.
6. Nutrition programs could be encouraged to include messages on proper food preparation and storage, and handwashing before eating.

CDD and Nutrition Programs

There have always been linkages between CDD and Nutrition Programs in the implementation of intervention activities. In the aforementioned paragraph, the Nutrition Program training course for health personnel and community health worker covered oral rehydration therapy. The provision of ORS may also be included in the nutrition packages. The CDD also taught the importance of continued and increased nutritional feedings (including breastfeeding) during and after diarrhea episode. In Indonesia, the CDD and Nutrition Programs have been linked as part of the development of a 5 program community based integrated service post (POSYANDU). In this village post a mother can receive instructions in home fluid use, ORS mixing, or the need for continuous breast-feeding. A mother at this same post can also have her baby weighed, the growth chart updated and Vitamin A and iron tablets dispensed to her.

This POSYANDU system has improved access to both service and strengthened the working linkage between the two. Ways for improved quality of services at this post need to be examined by improving cadres performance through more appropriate training and by improving the supportive (including ORS supply) and supervisory skills of professional health center workers.

ORT corner at Health Center can be used for feeding programs or nutritional rehabilitation for a malnourished child with diarrhea who needs special attention or special intervention. In some countries, where women organization is very strong, for example PKK (Indonesia) has been participating in this activity. Diarrhea and nutritions information usually constitutes only a part of the information system and Indonesia has established an integrated recording and reporting system but many countries do not wish to develop such a system.

CDD and nutrition must depend on the preservice educational institutions to teach new doctors, nurses, or pharmacists how to manage diarrhea and nutritional problems. Indonesia has pioneered in the development of Medical Education on Diarrheal Diseases Control Program.

At national level, in fact CDD programs began as relatively autonomous units and is under General Communicable Diseases Control Program. But effort to coordinate with other programs and sectors has been implemented. Indonesian experiences show the effectiveness of this, for example, the CDD working group consisting of interprograms under Ministry of Health, the Secretariat for the Integrated Health and Family Planning Package, Child Survival Center Team. The CDD is also a member of working group in the Nutrition Program for example in the ROVITA project (Oral rehydration therapy and vitamin A project) etc.

Recommendations for Improving Linkages

1. To integrate CDD and nutrition activities with other child survival or primary health care efforts, in order to reduce the cost and the service delivery overlap at village level, to reduce demands on management and to accomplish multiple objectives with minimal additional effort. It is a major breakthrough in primary health care, and a major means of expanding access and coverage of key child survival and development services.
2. To integrate CDD and nutrition training with other child survival and development effort i.e. EPI (Extended Program an Immunization) or ARI (Acute Respiratory Infection).
3. To improve the relationship between growth chart monitoring and oral rehydration therapy services at weighing post. Operational systems need to be tested that provide weighing post cadres with the means to immediately provide ORT instruction when growth failure and recurrent diarrhea are identified. Under such systems CDD and nutrition activities would become more interactive.
4. To improve the delivery of educational messages by both the CDD and nutrition activities at the village level services, for example at weighing post. Clearer or better understood educational messages will assist both mothers and cadres or volunteers to understand the relationship between CDD and nutrition activities. Information about breastfeeding, weaning practices, ORT, etc. are common in messages delivered by both activities. Cadres can put as much emphasis on feeding during and after diarrhea as they presently do with ORT technique. Health worker or cadres need to clarify the meaning of the rather complicated growth card in very practical terms for the mothers.
5. To improve the exchange of information between volunteers weighing babies and marking growth charts with volunteers dispensing ORS and information about ORT. One such improved system could allow for a meeting with relevant volunteers to anticipate common requirements, compare results, and ensure that certain participants received proper instructions.
6. To continue Government and Donor countries co-operation in the CDD program as part of Child Survival and Development Program. To continue, for some countries, the provision of ORS sachets through direct distribution at service points or through Family Nutrition Improvement Packaged Program.

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