SUPPLEMENTARY FEEDING PROGRAM

In refugee feeding situations, a supplementary feeding program (SFP) is often the most important nutrition-related component because it provides nutritional support to those vulnerable persons in the population whose diet might otherwise be deficient. Vulnerable persons are those whose calorie needs are relatively greater than those of the general population: young children; pregnant and lactating women; persons recovering from serious illnesses; and persons performing heavy labor. The intent is to provide to these persons at least one high-energy, low-bulk extra meal per day in an "on-site" setting.

Another major role of an SFP is to be the focal point for many, if not most, of the preventive community/public health activities in the camp. Such activities include programs such as family planning, parasite control, vaccination, ante-natal care, nutrition and health education, nutrition (and other disease) surveillance. An SFP also is a referral mechanism for therapeutic feeding for those malnourished persons who need more intensive nutritional rehabilitation.

Registration and Attendance

In a situation such as that existing in most DP camps and concentrations in El Salvador, registration cards are not needed for SFPs. The simplest way to check attendance is by a posted list which is checked daily as children enter the feeding center. This attendance list is not intended as a means of exclusion, but rather is intended to ensure that people are on the registration list. Since regular attendance is important, a well-run SFP must have an outreach program to seek out any registrants who miss more than one day of supplementary feeding. The goal should be 100% registration and 100% attendance of eligible persons.

Responsible Agency

The organization and running of a supplementary feeding center should be handled by an agency experienced in supplementary feeding. Since the Nutrition Area of the Maternal-Child Division of MSPAS has recent extensive experience in supplementary feeding programs (Annex 5), they should be intimately involved in the organization and ongoing evaluation of SFPs in DP camps.

Feeding Center Staff

Trained and experienced staff are needed to organize, supervise and initially run supplementary feeding centers. However, the principles of the feeding programs are simple enough so that desplazado staff should themselves be expected to rapidly learn and run the programs. These workers should be included in the current Jobs Program but should be encouraged to remain on the job for 2-3 months (plus an extra 2-3 weeks to overlap with replacements during their orientation and training).

Entry Criteria

Entry criteria for supplementary feeding vary according to the situation. Generally, however, in situations where the basic ration is as low as is currently provided (no more than 1800 calories), all children under 5 should be eligible for the program as well as all lactating women, all pregnant women, all those recovering from illness, and all those performing heavy labor. (This later group may be excluded from camp feeding if they continue to receive their additional food rations through the Jobs Program.)

Program Size

Supplementary feeding programs are most efficient if they have fewer than 500 recipients per feeding center. Camps with more than 500 SFP recipients should have more than one center.

For smaller population groups, a decision on a basic approach will have to be made. One option is for people who are near a town or a larger camp with an SFP to travel to that program. A second option is for a mobile feeding unit to visit several smaller camps at specified times during each day. Local circumstances can be allowed to dictate this choice and the related logistic decisions.

Search for Recipients

Publicity and registration for a supplementary feeding program should include an active search to ensure that all eligible persons are attending. Programs that do not use active searches often fail to reach those most in need of the program.

Meal Composition

Meals are usually served in liquid or porridge form and should be designed to provide 350-400 kcal and approximately 15-18 grams of protein per person per day. A number of formulations are available in standard references.

Commodity Needs

A feeding program of this size generally requires approximately 3 metric tons of food per thousand people per month.

Feeding Center Facilities

Since the goal of supplementary feeding is the provision of an "on-site" meal, a feeding center requires a large, dry, sheltered space where beneficiaries can sit and eat. In addition to this space, a nearby kitchen area which can be maintained for cooking under hygienic conditions is required. Other supplies include stoves, fuel, utensils, water, adequate drainage, garbage disposal, and space for food storage. Finally, a classroom or classrooms are required for the preventive health programs which will be linked to supplementary feeding. The construction of facilities for the SFPs can be included in projects for the Jobs Program.

Use of Donated Foods

SFPs also provide a mechanism for use of food donations which are either inappropriate for individual rations or too few in number to be distributed as part of the "food basket." Such foods can be mixed into the supplementary meals.

No Bottle Feeding

Bottle feeding of infants should not be allowed in SFPs; on the contrary, as part of good nutritional practice and appropriate nutrition education, the concept and practice of breast feeding should be promoted in as many ways as possible. Appropriate weaning techniques should also be taught.

Program Termination

SFPs should continue until there is a certainty that other adequate rations are available to the entire population.

Problems

All the problems of supplying food to large numbers of people (adequate quality, adequate quantity, adequate storage and adequate hygiene) are also potential problems in supplementary feeding centers. Close monitoring by the responsible organizations is required to maintain standards.

Methods of Evaluation

In addition to complying with the various standards set out above, regular evaluation of SFPs should include several types of simple data analysis:

1. Registration coverage: The number of registrants should be compared to the number of people in each vulnerable group to determine the percent of coverage. Coverage should approach 100% in each group, especially in camps as small as the DP camps in El Salvador. The camp census and ante-natal registration should provide numbers of eligibles that can be used to calculate coverage.

   % Coverage = # participants/# eligibles X 100

2. Daily Coverage: The number of people showing up each day should be compared to the number who are registered. At least 95% of the people should show up each day; no registrant should miss more than one day of supplementary feeding in a row.

   Daily attendance = # persons attending/# registered X 100

3. Percent Malnourished: Using standard criteria, nearly all children should quickly reach and remain above the cutoffs for malnutrition (80% or greater of the median weight-for-height and/or 13.5 cm or greater for arm circumference). Failure to reach or maintain these standards in a child who is attending regularly

is an indication for investigation for a medical problem (e.g., tuberculosis).

4. Birth Weights: Infants born to mothers who were in supplementary feeding after the third month should be above 3000 grams. On a monthly or quarterly basis, both the mean birth weights of newborns and the percent of low birth weight children (less than 2500 grams) should be calculated. Improvement over time should be noted for each.

5. Mean weight gain of breast-fed infants: Under four months of age, mean weight gain can be calculated on a monthly basis. Supplementary food must be given to all infants beginning at 4-6 months of age. Breast-feeding rates for young infants should approach 100%.

6. A Salter scale (or equivalent hanging spring balance) and a height/length measuring board must be used for weighing and measuring children at monthly intervals. Larger camps should have these easily available so that new registrants can be weighed and measured at registration.

7. Attendance records (including monthly measurement data) should be maintained in the feeding center and evaluated for all recipients.

8. Growth parameters of all children in supplementary feeding should be plotted on "Road-to-Health" or other growth charts and given to the mothers as part of their nutrition health education. In addition, these data should be provided to those who are running nutrition surveillance for the camp.

9. All children in SFPs must be fully vaccinated for their age or should be in the process of "catch-up" vaccination. Pregnant

women must be given their tetanus (or diphtheria-tetanus) vaccinations if late enough in their pregnancy. Feeding centers where staff are lax with vaccination policy can be the sites of spread of serious or potentially fatal illnesses such as measles.

10. Specific recommendations and further details of supplementary feeding programs can be found in the two books listed in the Bibliography (Section 9)

THERAPEUTIC FEEDING PROGRAMS

Acknowledgement of malnutrition among children of desplazados comes from a number of sources including the Project HOPE background paper, conversations with the Ministerio de Salud Publica y Asistencia Social (MSPAS), earlier references to nutrition in El Salvador, and the team's observations in camps.

Once a young child falls to a certain nutritional status, usual family feeding patterns or even supplementary feeding programs may not be sufficient for nutritional rehabilitation, and a more intensive feeding program is often required. The following principles apply to therapeutic (or intensive) feeding programs (TFPs):

1. Any of several criteria can be used for admission to a therapeutic feeding program. Weight-for-height less than 70% of the mean or arm circumference (AC) less than 12 cm. are reasonable cutoffs; clinical criteria (marasmus or kwashiorkor) can be used as well.

2. Although reduced feeding may be needed in the first few days, the important parameter is the frequent provision of foods of high nutritional value. Successful therapeutic feeding requires provision of 150-200 kcal and 2-3 grams of protein per kilogram per day.

3. Nutrition authorities agree that food is the specific intervention to be used to treat protein-energy malnutrition (PEM).

4. Hospitals may not be the best place for malnourished children because of the need for frequent feeding and for education and participation of the mothers. Information and impressions gathered during brief visits to several hospitals suggest that

therapeutic feeding programs using the relatively strict criteria described in this section are not currently available to most patient populations in El Salvador. Several hospitals we visited do not allow mothers to stay around-the-clock unless the child is still breastfed.

5. Initial feeding of children should be under the close supervision of personnel qualified and experienced in nutritional rehabilitation, but should include teaching of the mothers. Within several days to a week, feeding can be given by the mothers under the supervision of auxiliary personnel.

6. Initial feeding of seriously malnourished children should be in liquid form. This is most easily done on a milk-based diet (dried skim milk, sugar, oil and water). At the beginning, this should be given in small amounts (based on weight) but frequently (every three to four hours) around the clock. Liquid preparations should not be kept for more than 6 to 8 hours.

7. Therapeutic feeding facilities should be equipped with scales and height boards. Children should be weighed on admission and daily thereafter for the first 7 to 10 days; after that time, weekly weights (until recovery is complete) are essential.

8. Only essential medicines should be given. Efforts directed toward appropriate feeding are usually much more important.

9. Within the constraints of the vaccine cold chain, measles vaccine should be given as soon as possible after admission to any child who has not previously received it.

10. Children who fail to gain weight in an appropriate TFP should be further investigated for occult diseases such as tuberculosis.

Options for Meeting the Need

One option is to set up therapeutic feeding centers as components of supplementary feeding programs. Thus, a voluntary organization which is running an SFP might also consider creating a TFP nearby. One drawback of this option is that the small size of most camps would mean that few children would be treated within any one center; thus many resources would be used to treat few children. Also, personnel would not gain experience as rapidly as if larger centers were used.

A second option is to work through the Nutrition Unit of the Ministerio de Salud Publica y Asistencia Social (MSPAS) to train hospital and health center nursing and medical staff to do intensive feeding. This would mean dealing with at least two current major obstacles. One is the set of rules in most hospitals preventing non-lactating mothers from staying with their children. A second and related problem is that the treatment model currently used in hospitals and health centers for malnutrition appears to be a medical one with emphasis on intravenous fluids. Medical staff would need to be educated about the importance of frequent small feedings and other principles as described above.

Recommendations

Because of the utility of a ripple effect of this program to the non-displaced-person population of El Salvador, it is recommended that a combination of these two approaches be tried. Optimally, an experienced feeding agency could come in and work with the Nutrition Unit of MSPAS to set up supplementary feeding programs and to train both MSPAS and their own nursing staff in principles of supplementary and therapeutic feeding. These MSPAS nurses, having thus been trained in nutrition, could subsequently act as trainers for nursing staff in hospitals and in-patient health centers in the rest of El Salvador.

Thus, although the first priority of the program would be the displaced persons (at least in part because their nutritional status is arguably worse than that of most other population subgroups within the country), such a program would measurably add to the capabilities and staff of the nutrition component of the Ministry of Public Health in a way that would ultimately benefit many other Salvadoran children.

Methods of Evaluation

Evaluation of the therapeutic feeding programs within the camps should be done on the basis of the usual outcome criteria of nutrition-related deaths (see "Nutrition Surveillance").

NUTRITION SURVEILLANCE SYSTEM

Authorities generally agree that nutrition surveillance systems (based on measurements of height, weight, age and, in some cases, arm circumference and rates of breast feeding) are important components of any national health/nutrition program. These data are aggregrated and compared with various national or international standards to determine the frequency of malnutrition among the various segments of the population and to provide directions for improving the nutritional status of the population. With the help of the U.S. Government, GOES developed a nutrition surveillance system during the 1970s. That system needs to be strengthened at this critical period.

Options for Meeting the Need

There are several options for meeting the need for nutrition-related data. The first is to create a nutrition surveillance system similar to that which existed in El Salvador several years ago, that is, regular measurements of random samples of the population at risk (who, in this case, are desplazados). This system has the disadvantage of being relatively expensive in terms of resources, although a number of the components of the earlier system are still present. The INCAP survey planned for March 1984 (Annex 11) could be used as a springboard for this effort.

A second option might be regular (yearly?) surveys of the population combined with interim data collection based on supplementary feeding programs.

A third alternative would be a system based on the growth monitoring of the at-risk population if the population coverage of SFPs were high enough.

A fourth option is a focused investigation of high-risk occurances, that is, collection of simple data on nutrition-related deaths and nutrition-related hospitalizations (Annex 3) and collection of birth weight information on children born in the camps. These data would provide information which would have immediate utility in terms of improving programs.

Recommendations

A combination of the SFP-based growth monitoring and the investigation of nutrition-related disease and death is recommended. As the MSPAS gradually re-expands its nutrition programs (including a nutrition surveillance system), and as the nutritional status of vulnerable groups in the camps improves, the program can gradually be switched over to (and perhaps become the model for) a standard national nutrition surveillance program.

Although much of the initial data collection must be done by staff of organizations outside MSPAS, it is essential that the nutrition staff of the Maternal-Child Health Division of the MSPAS be involved in the design and evaluation of this system.

GROWTH MONITORING

The need to monitor the growth of children during early childhood has been identified by many authorities and, most recently, by UNICEF as the growth monitoring aspect of their GOBI initiative. As mentioned in the sections on supplementary feeding and nutrition education, growth monitoring provides a way by which a health worker and a mother can observe the growth of the child and compare the observation(s) to an expected rate of growth. This is usually done by use of "Road-to-Health" cards, (available from UNICEF) or other growth charts. These cards, which also function as immunization records for children, are kept by the family. The child's growth, intended to be measured approximately monthly, is plotted on the growth chart.

Recommendation

It is recommended that this relatively simple and inexpensive program (including distribution of cards and education of mothers) be included within the context of nutrition education and SFPs. This is a recommendation that might also be considered by the MSPAS and by other GOES agencies as part of the UNICEF GOBI initiative.

Methods of Evaluation

A growth monitoring program could easily be evaluated during immunization or other surveys by counting the proportion of families which have growth monitoring information for their children. An alternative would be a simple questionnaire of the mothers within the supplementary feeding program to obtain some sense of the level of understanding of growth monitoring.

BREAST FEEDING PROMOTION

Again, this particular project was identified as part of the UNICEF GOBI initiative. It similarly fits in with the concept of support of breast feeding which is inherent in the provision of supplementary foods to breast-feeding women by the supplementary feeding programs.

In developing countries such as El Salvador and in other situations of poor sanitation, breast feeding assumes a crucial role in protection against life-threatening infections (which is in addition to its role as the optimal source of nutrition during infancy).

Recommendation

Options include both targeted education using standard techniques and a supplementary feeding program for lactating women.

These actions are recommended as part of the adoption of a local version of the UNICEF GOBI program.

Method of Evaluation

This project can be evaluated on the basis of baseline and follow-up breast-feeding rates at various ages in a population; such data are to be collected as an integral part of any nutrition surveillance program.

NUTRITION SURVEY OF NON - CAMP DISPLACED PERSONS

Background

There is currently a limited amount of data on the nutritional status of desplazados who are not living in camps or camp-like situations. Improvement of this data base is needed for rational decision making on future food and other aid for this group of people. Although the planned INCAP nutrition survey may provide some information in this regard, the specific need is still for nutritional status data on children of registered desplazado families who are living among urban populations. In order to meet this need, it is recommended that a survey be conducted of nutritional status of randomly selected desplazado families and nearby "control" families.

Sampling

A randomly-selected list of names can be compiled from the CONADES DP registration lists which are kept in the various alcaldes' offices in urban and suburban San Salvador. (Selection of alcaldes or areas should be done on a random basis as well.) Once the selection has been done, the home can be visited, a brief questionaire filled out and nutritional measurements on children from 6 months to 5 years (height-weight-age-arm circumference) taken.

Information on the questionnaire would include length of time in the current location, number of people in the family, whether the father of the children is living in the household, current occupational status (fully employed, partly employed or unemployed), whether the family has received food aid within the last month, whether there had been recent deaths in the family and, if so, what was the age and cause.

Sample Selection

A sample of 100 DP families and 100 control families should be sufficient to more precisely define nutritional status of registered desplazados in the San Salvador area.

Control families may be obtained by having the interviewers go to the house next to the DP family and then to each subsequent house/champa until family is found which is not a registered DP. That family will be a control family. The same questionnaire and measurements should be done for each control family. The questionnaire should clearly note which families are registered desplazados and which are controls.

Data Analysis

The major points of interest are the proportion of children who are malnourished (by the usual measurement criteria) and the number of deaths that have recently occurred in the households. Comparisons can be both between desplazados and controls and within the desplazado group itself.

For this latter comparison, one might consider looking at the number of deaths of malnourished children as a function of whether someone in the family is employed or as a function of how long the family has been living in San Salvador. One may also look for a relationship between presence of the father in the home and malnutrition (or recent mortality). A number of other analyses are possible.

The purpose of these analyses would be to identify "risk factors" within families which indicate high risk of malnutrition or infant mortality. In such a way, target groups for programs such as supplementary feeding or improvement of the general food basket can be more clearly identified.

Survey Team

There are several possibilities for composition of the survey team. One is the various food distribution inspectors whom USAID may be proposing to hire. This survey would provide some simple nutrition training for them and would orient them to the situation of desplazados not in camps. A second possibility is a team composed of staff funded by USAID* and trained by staff of the nutrition unit at MSPAS.

Survey Design

A statistician and nutritionist should be involved in the sample selection and survey questionnaire design.

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* (As previously noted, Mr. E. Valle, a current embassy employee has experience as a CDC-trained nutrition survey team supervisor.)

CURATIVE HEALTH

ONGOING VACCINATION PROGRAM

There is an international concensus that programs of vaccination against polio, measles, diphtheria, pertussis (whooping cough) and tetanus are needed for all children (and, in the case of neo-natal tetanus, for pregnant women). In addition, the need for neo-natal BCG is generally recognized. These have been acknowledged by UNICEF (as part of the GOBI Program), World Health Organization (as part of their Expanded Program on Immunization), and by virtually every other recognized international authority. The need for these vaccines exists even in the absence of reliable data on the incidence of these illnesses because, wherever data have been sought, these diseases have universally been found to be major sources of illness, disability and death for children. Vaccination programs may, in fact, be the single most effective public health measure that one can organize.

The vaccination program using the combined resources of MSPAS, CONADES and the USAID Program Unit has recently completed a program in many of the DP camps. Remaining components are being turned over to MSPAS.

Evaluation of the Program

Evaluation of the program was done in terms of numbers of doses purchased, distributed and given to children. In two post-campaign surveys, vaccine coverage was determined but results were disappointing.

Over the past two years, a number of comprehensive evaluations of the vaccination program have been done and their findings

suggested that, although there are difficulties with components of the program, particularly vaccine transports and storage (the "cold chain") managed by MSPAS, large numbers of these DP children who would not otherwise have received vaccine were vaccinated.

The evaluation team's analysis of survey data was inconclusive in terms of outcome of the vaccination program. However, based on small numbers of measles cases, there is a suggestion that, at least in recent years, fewer measles deaths may have occured among DP children than among marginal zone inhabitants. Similarly, there is a trend toward fewer measles deaths this year as compared to previous years. Not surprisingly, the number of cases found in our small surveys is insufficient for this trend to reach statistical significance.

Our concensus on the vaccination program component is that the effort was useful within the constraints caused by an inadequate cold chain and the need to coordinate efforts with the understaffed and underfunded MSPAS.

Recommendations for vaccine-related activities have been provided in several previous reports by CDC Consultants to USAID/El Salvador and will not be repeated in detail here. A summary of recommendations is attached. In terms of priorities among the recommendations, one would obviously have to start with the "cold chain", a continuing problem in El Salvador. For support of not only the DP population but also other children in the country, USAID should collaborate with the Pan American Health Organization/OPS in continuing to aggressively encourage the MSPAS to improve vaccination program capabilities.

The development of a simple surveillance system among these DP populations would allow an additional opportunity for USAID to provide strong recommendations to MSPAS. The occurrence and

documentation of death or hospitalization from any of the vaccine-preventable diseases among supposedly vaccinated DP pop- ulations should be an occasion for investigation (see sample investigation form - Annex 15). If disease occurs in an unvaccinated person, the investigation and follow-up response should focus on the reason that the person was not vaccinated and on measures to prevent similar occurrences in the future. If the disease occurs in a person who was vaccinated, then the investigation should focus on the cold chain. It appears vaccine-preventable diseases serious enough to cause hospitalization or death are uncommon enough so that each case can be investigated and that the results of the investigation, with appropriate recommendations from health staff working with DPs, can be afforded to the administrators of the vaccination program at MSPAS. This type of evaluation and feedback loop is particularly appropriate since the ultimate goal of vaccinations programs is to reduce unnecessary mortality and serious morbidity. They also imply that surveillance of these diseases needs to receive high priority in even a simple surveillance system.

Finally, although the vaccination program is about to become the responsibility of MSPAS, the Program Unit of USAID is encouraged to continue taking a constructive leadership role in seeing that the appropriate vaccination reaches DP and other needy populations. For a variety of reasons, USAID appears to be in a unique position to act as a broker for technical assistance for MSPAS.

Options for Meeting the Need

One alternative for meeting the ongoing need for these vaccinations is by strengthening the MSPAS vaccination programs. The system for transporting and storing vaccines in such a way that their biological activity is preserved ("cold chain") still appears to be a major problem for MSPAS, and efforts to improve the MSPAS

capabilities in this area would enhance not only the health of desplazados but also the health of other children in El Salvador.

A supplementary proposal is for the provision of vaccines and a cold chain to support vaccine distribution to organizations, such as Cruz Verde and ICRC, which have access to populations in disputed areas.

An additional option is that provision of vaccines could most effectively be carried out through SFPs where these facilities exist. This includes not only facilities for desplazados, but also SFPs elsewhere in El Salvador. In this regard, a practice that has been used successfully in other locations is the requirement of an up-to-date vaccination card (Road-to-Health card) for a child to be included in supplementary feeding. This requirement is not intended to be exclusionary; on the contrary, it is intended to make sure that all children have appropriate documented vaccinations.

At this time, as vaccination resources are in the process of being transferred from the AID Program Unit to MSPAS, the improvement of the MSPAS vaccination program is of great importance. We suggest that appropriate staff at USAID, the Pan American Health Organization (PAHO) and MSPAS discuss the feasibility of requesting through PAHO or through WHO/Geneva a six-month (or longer) assignment of a technical adviser to perform a complete formal evaluation or, if recently done, to begin implementation of recommendations to provide training and other upgrading of the vaccination program. Areas for consideration include cold chain improvements, staff training, staffing, collaboration with other agencies for vaccination of desplazados, development of an ongoing evaluation program, etc. Such a technical advisor, if assigned, should be assigned specifically to MSPAS rather than to USAID or to PAHO. Prior to such an assignment, however, there must be an explicit commitment by USAID or some other

agency to provide funding for needed capital improvements and there must be an explicit agreement for MSPAS to act on the staffing, training and cold chain recommendations.

Several specific recommendations to MSPAS for improving the vaccine cold chain include:

1. Order vaccines only twice each year.
2. Eliminate the aspect of airport storage
3. Impose a 3-4 month life for vaccines sent to the regional levels. (The San Vicente warehouse had DTP vaccines two hears past their expiration date)
4. Discard reconstituted vaccines after one day. If refrigerated, polio vaccine can be kept for 3 or 4 days.
5. Connect vaccine storage freezers and refrigerators to reliable emergency power plants in all regions.

One additional useful recommendation recently being emphasized by the World Health Organization program is that children should be vaccinated even if they have mild illnesses. Vaccines are effective in mildly ill children.

Methods of Evaluation

The simplest form of evaluation would be a once-a-year coverage survey which could be done at different times in different parts of the country. Thus, permanent teams could be created whose only job would be to do surveys in various parts of the country. This type of survey could easily be combined with, or become a component of, a nutrition survey.

An additional form of evaluation is a count of the number of cases, hospitalizations or deaths from these various diseases, along

with a simple investigation to determine if the child was in fact vaccinated and, if not, why not. By identifying program deficiencies in this way (Annex 15), such simple investigations would act to ensure universal vaccination in future years for the Salvadoran population.

ORAL REHYDRATION PROGRAM

The need for an oral rehydration program is based on experiences in many developing countries including El Salvador. Diarrhea is a major cause of illness and death in this country and an oral rehydration program is a potentially critical factor in prevention of mortality.

Further Recommendations

It is recommended that the oral rehydration program of the MSPAS be augmented in terms of funding and staff with an understanding that the Ministry initially will give high priority to camp *desplazado* populations.

It is important that the oral rehydration salts continue to be purchased at the lowest cost (so the greatest number of people can be served) and that the salts fit the standard for oral rehydration. The ORS used in the AID project meet this standard.

This program of ORS distribution should continue to have an educational component, teaching both inexperienced health workers and mothers the proper use of these salts and other appropriate measures such as the need to continue breast feeding for their children who are not yet weaned and the ability to recognize impending dehydration.

Methods of Evaluation

Evaluation of this program should compare local formulation and costs of the oral rehydration solution versus the UNICEF packets as the standard, the number of packets distributed, the number of diarrhea deaths, whether any children who died were given oral

rehydration solutions, the number of hospitalizations for diarrhea, and whether the hospitalized children were given oral rehydration solutions prior to admission.

Oral Rehydration Salts

Current evaluation techniques for the Oral Rehydration Salts (ORS) component of the Jobs Program are process rather than outcome oriented. Given the current lack of comprehensive surveillance information available to the program staff (or to the MSPAS), reliance on such evaluation mechanisms are understandable. In addition, there have been numerous failed attemps to design an evaluation program for oral rehydration salts in field settings. Thus far, although they are known to work in a laboratory or investigative situations, success in the field has not been completely documented.

Three items for evaluation of the oral rehydration component can be suggested:

1. Once a simple surveillance system has been put in place to record, among other things, numbers and causes of hospitalizations and numbers and causes of deaths, program administrators -- and field staff -- would be in position to begin evaluation based on "system failures"; that is, simple data sheets to collect information on children who either die with diarrhea or are hospitalized with diarrhea can be designed and put into use (Annex 2). Such information as age, duration of diarrhea before hospitalization or death, whether ORS was given and for how long, any weights recorded, any information as to specific cause of diarrhea, can be collected. At the same time, field staff who distribute oral rehydration salts should start collecting simple information on recipients such as age, duration of diarrhea before referral for oral rehydration, and case outcome. Program staff will

then be in position to calculate such indicators as coverage overall success rate for oral rehydration, success rate as a function of patient age, success rate as a function of time before referral, and association of success at various ages with continuation of breast feeding. By focusing on such characteristics, potential gaps in the delivery system can be defined and action taken.

2. Cost and Composition of Oral Rehydration Salts.

The UNICEF ORS packet costs approximately US 0.08 and represents the standard and internationally accepted formulation for the salts. One of the brands of rehydration salts manufactured in El Salvador is said to cost nearly three times this much and is formulated without sodium bicarbonate -- an important component. Based on these standards (cost and composition), the program may be evaluated in terms of the costs of packages versus the available initial packets and what percent of packets given out conform to the internationally accepted rehydration formula.

3. Parents Knowledge.

Using standard but simple assessments techniques, the knowledge, attitudes and practices of mothers who received the ORS packets and instructions for their use can be tested. Specific goals for percentage of correct answers on various sections of the assessments can be set and, based on the results, field instructions for use of the salts can be modified accordingly. The practice and value of providing oral rehydration salts in the field situation, although not yet documented satisfactorily, is accepted by consensus. This (ORS) aspect of the program should be continued and should be evaluated more carefully as other health and nutrition services for DP's are being put into place. In addition, much of the maternal education in the use of ORS can be done within the context of a

Supplementary Feeding Program, as discussed in detail elsewhere in this report.

PREVENTION OF RESPIRATORY DISEASES

Studies from at least two developing countries have suggested that persons who live in houses where cooking occurs with inadequate ventilation have higher incidences of respiratory disease than those who live in other types of housing.

Although the team had no opportunity to collect data to support this contention in El Salvador, there are clearly many champitas with smokey interiors housing displaced persons.

Options for Meeting the Need

1. Improve ventilation of houses. Obviously some of this improvement would have to be built into general housing improvements.

2. Introduce use of appropriate technology (Lorena or other) stoves which burn fuel more efficiently.

Recommendation

It is recommended that action on this need be coordinated with actions taken on the housing needs.

Evaluation

The ongoing surveillance system will permit evaluation of respiratory disease-related death and hospitalization before and after the improvements in stove and ventilation arrangements.

HEALTH EDUCATION FOR MOTHERS

In this context, health education includes nutrition education as well as education on personal hygiene issues, hand-washing and diarrhea prevention, need for vaccinations, family planning education, and prevention of parasitic infestations. USAID/El Salvador is currently evaluating the potential for a large education program (to include a health and nutrition component) aimed at desplazado and cooperativa populations.

Recommendation

One common way for an education program to be run is through SFPs; that is, supplementary feeding-related education might include at any one time both a health education topic and a nutrition education topic. Within this program, topics could be rotated so that, over a six-month period, all would be covered.

Such a program be included in the proposed supplementary feeding. One might consider, for example, involving the local providers of vaccines in this vaccination aspect of health education and similar collaborations for other aspects. Relevant USAID staff should be involved in early discussions on this crucial component of the health and nutrition program.

Method of Evaluation

Evaluation of this component would be by standard health education evaluation techniques, i.e. questionnaires and other tests of knowledge.

INTESTINAL PARASITE DISEASE TREATMENT AND PREVENTION

Intestinal parasites are commonly reported illnesses in El Salvador and, as such, may contribute to some of the nutritional deficiencies in the population. Parasite Control Programs using two days of oral mebendazole are currently being done by curative staff of CONADES. These campaigns are relatively inexpensive ($8,000.00, or about US $.46 per person.) However, programs of parasite treatment or prevention based only on drugs have not be shown to be successful over the long term, i.e., to have any lasting effect either on the parasite burden or on nutritional status.

Parenthetically, it should be noted that the MSPAS had its own anti-parasite campaigns prior to the current conflict; these have now been terminated or reduced in scope.

Options for Meeting Needs

1. Regular anti-parasite campaigns, as currently run, using mebendazole.

2. Education of population about parasites, including how they are spread.

3. Improvements in sanitation.

4. Provision of education about use of shoes or rubber sandals.

5. Increase in the food supply.

Recommendation

A combined program using all these options is worthwhile. The

current program of anti-parasite drugs is already funded and funding will presumedly continue. Improvements in sanitation are recommended as are health and sanitation education aimed specifically at parasites. This should also include education about wearing shoes. (Shoes or sandals are an item which one might suggest for those organizations from the United States who wish to donate either money or material assistance.) Alternatively, the production of rubber sandals is something that might be considered within DP communities and is an activity which might help fill this particular need, while at the same time providing income.

It should be pointed out that the importance of an increased food supply is that, even in the face of infections with either hookworm (which causes blood loss and subsequent iron deficiency anemia) or ascariasis (which will cause some malabsortion of nutritients through several mechanisms), an adequate diet, along with some supplementation in iron, will result in a normal nutritient status. That is, a well-fed person can be normally nourished even if they have either or both these infections. These infections are problematic mostly because they aggravate preexisting deficiency states or border-line states.

Evaluation

Parasite surveys are not recommended at this time, because the recommended course of action will not change no matter what a survey finds. After a comprehensive program (including all above items) has been in place for some time, then, perhaps, an assessment should be done. However, this latter is a low priority need.

UNICEF GOBI PROGRAM

A UNICEF Program to improve the health of children is called GOBI. This acronym is composed of the following elements:

Growth Monitoring;
Oral Rehydration;
Breast Feeding; and
Immunization (Vaccination).

Each of these components is included in this set of recommendations for health and nutrition programs for displaced persons. These activities, as they are taken on, could easily be coordinated within the context and structure of a GOBI Program, were the MSPAS and UNICEF to agree to begin one in El Salvador.

Recommendation

It is recommended that the possible utility of a UNICEF GOBI Program be discussed with GOES officials and, if acceptable to them, with UNICEF. In this way, UNICEF could help extend the GOBI aspects of the program to larger segments of the Salvadoran population. Involvement of USAID in pushing for a GOBI program (beyond such conversation) is not recommended at this time.

HOSPITALIZATION SURVEILLANCE

The rationale for this type of surveillance is similar to that of mortality surveillance; that is, this data will help pinpoint areas of preventable morbidity.

Options for Meeting Need

The strategy for meeting this need includes collection of basic epidemiologic information on desplazado patients hospitalized (age, sex, cause, numbers of days in hospital, outcome). A simple system of this type can be set up based on monthly data collection from the hospital or health center to which patients are usually referred (Annex 2). The staff person involved in surveillance would be responsible for this data collection process.

The team recommends a system of this sort be set up once surveilance workers are identified. (See related issue under "Mortality Surveillance")

Evaluation

Once each year, at the time of a nutrition or vaccination survey, information on hospitalizations could be collected from households and compared with the hospitalization surveillance system data. Sources of major discrepancies should be identified and corrected.

MORTALITY SURVEILLANCE DATA

One of the major goals of a relief program is to prevent unnecessary mortality. Information collected by a simple mortality surveillance system can help to pinpoint problems which may be amenable to solution.

Options for Meeting Need

The simplest option for this need is to count each death within the DP population and to conduct a simple investigation. The system must include those patients referred from a camp who died in the hospital. Its basis is to identify preventable causes of death and to act on lessons learned from each. One limitation of this system is a problem of hospital referral follow-up if the referral is not a near by facility.

Although this data can be acted on most easily and effectively at the camps where preventable mortality is occurring, there should be some central site for collection and analysis of data for as many desplazado populations as can be placed into a surveillance system.

It is recommended that a simple mortality surveillance system based on information on a simple data sheet (Annex 2) be implemented as part of an overall disease and nutrition surveillance system. A highly trained person is not needed; an auxiliary health worker who is careful and thorough is sufficient.

With the census data available for each camp, this mortality data will allow the calculation of age-specific, sex-specific, and cause-specific mortality rates. The age groups most useful

for these calculation are the following functional ones: less than 1 month (neonatal mortality), less than one year (infant mortality), 0-4 years (under 5 mortality), 5-9 years, 10-14 years, 15-44 years, (child-bearing and working age), 45-64 years, and 65 years or over.

Evaluation

The simplest way to evaluate the thoroughness of this system is through collection of information on recent mortality at the time of the subsequent nutrition or vaccination survey and to compare these data with the information collected over the intervening time.

COMMUNICABLE DISEASE SURVEILLANCE DATA

These data are useful for some illnesses in order to institute control programs. Because the MSPAS has an ongoing disease surveillance system, infectious disease surveillance efforts for displaced persons should be compatible with and, insofar as possible, supportive of that system.

Options for Meeting Need

The preferred option for communicable disease surveillance is to work through MSPAS. One option that may be tried is for USAID to provide funding for training of MSPAS workers at the regional level, part of whose responsibility would be collection of data from desplazado camps or population concentrations. Alternatively, consideration might be given to modifying the surveillance form to collect desplazado-specific data (i.e., is this person a desplazado?).

Another option might be for USAID to support training of several computer staffers once the MSPAS computer system is installed.

A third option is training of auxiliary-level health workers to do simple epidemiology. These persons might collect information on the various data systems described in the surveillance, collate it at regular (monthly?) intervals and forward it to the MSPAS Regional Office and to whatever central office is collecting information on desplazados.

In negotiation with the MSPAS on the system, it should be kept in mind that those interested in desplazado health may be collecting information on more items than the MSPAS system will be interested in.

Recommendations

It is recommended that USAID fund the salaries and training of auxilary-level or mid-level epidemiology workers who will be employees of the Epidemiology Unit of MSPAS. An understanding of the special needs of desplazado camps would have to be agreed upon with MSPAS in terms of the workers' needs to collect information on malnutrition, mortality, etc.

In addition, at some point in the future, it would be worth supporting the visit to MSPAS of a consultant experienced in both communicable disease surveillance and computer usage. This person could help design an efficient computer-compatible surveillance system for the Epidemiology Unit of MSPAS and make recommendations for staff training for the optimal use for such a system. Presumably, some of this activity will be programmed into the Health Revitalization Project.

DENTAL CARE

A great need for dental care, especially for children, was noted in all the inspection team field trips.

Options for Meeting Need

Three options should be considered to resolve the need for dental care for displaced persons:

1. Expand the services of MSPAS in this sector. Additional funds could be provided to the MSPAS to provide for dental care specifically focused on the displaced persons. This could be part of the Health Systems Revitalization project or could be through specific funds provided by AID/RP to MSPAS.

2. Assign responsibility to a voluntary agency. A voluntary agency with experience in providing dental services could be requested to provide these services to displaced persons both in the camps and in the heavily-impacted departmental towns. One advantage of such a program is that portions of the costs would be borne by the voluntary agency.

3. People-to-people programs. Many of the people-to-people programs supported by AID (such as Partners of the Americas, Sister Cities, etc.) could be requested to consider sending dental teams to service specific settlements on a periodic basis. Again, one advantage would be that a portion of the costs would be met by the people-to-people program.