

**Assessment of Knowledge and Practices
of Providers and Mothers
Regarding Common Childhood Illnesses**

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STANDARD CASE MANAGEMENT/IMCI KNOWLEDGE AND PERFORMANCE EVALUATION OF MINISTRY OF HEALTH PERSONNEL WORKING IN HOPE's TARGET AREA IN THE BOCA COSTA, SAN MARCOS, GUATEMALA

Introduction

During the year 2000 and 2001, Project HOPE/Guatemala staff carried out training in the Standard Case Management of MOH providers in eight municipalities in the Health Area of San Marcos. Those trained included eight physicians, 14 professional nurses, 12 rural health technicians (RHTs), six sanitary inspectors, and 43 auxiliary nurses.

In September 2001, HOPE and the MOH carried out an assessment of the knowledge and performance of a sample of four physicians, two professional nurses, and 15 auxiliary nurses in standard case management.

General objective

To determine the quality of services provided by health workers according to IMCI criteria.

Specific objectives

1. To evaluate the knowledge and performance of providers in managing diarrhea, ARIs, malnutrition and anemia cases.
2. To identify training needs for future IMCI activities.

Methodology

A sample convenience was used, involving the staff of seven health centers and four health posts. Participants included four physicians, two professional nurses, and 15 auxiliary nurses. Two tools were used, one assessing knowledge and the other practice information. The information was obtained by MOH? supervisors and HOPE staff? (a physician and two professional nurses from HOPE's Child Survival Project).

Results

1. General data:

All providers asked for the name of the patient and the complaint that motivated the visit, and 18 (85%) providers asked the child's age. Only eight (38%) providers weighed the child and took his/her temperature.

2. Assessing child nutrition:

Ten (48%) providers checked the child for signs of malnutrition- visible emaciation. A third of the providers determined weight-for-age in the NCHS graph, classified the child accordingly, gave the correct treatment, and provided maternal education

12 providers (54%) knew that emaciation and edema in hands or feet are signs of severe malnutrition. When asked the age children should start complementary feeding, 18 (85%) stated at six months. 14 providers (67%) said they would advise a mother with a malnourished child (8 months of age) to breastfeed, and feed the child three additional

meals a day. Three providers mentioned Incaparina, a locally available commercial weaning mix. When asked about the frequency of feeding a 14-month old, 20 (95%) mentioned three meals plus two snacks a day.

3. Exploration of general danger signs:

18 (85%) providers looked for danger signs such as inability to drink, and checked respiratory rates. Ten providers (48%) measured the child's temperature. Ten providers observed if the child was abnormally sleepy. More than half of the providers checked for stridor and other signs of respiratory distress. Approximately 70% of providers classified danger signs well, gave the correct treatment, counseled the mother.

4. Cough and/or difficult breathing:

19 (90%) asked if the child had a cough or difficult breathing, asked about the duration of such symptoms, counted the number of breaths per minute, checked for chest in-drawing, and abnormal sounds. The same number of providers classified cases correctly, gave the appropriate treatment and counseled the mother.

20 (95%) of the health workers stated that fast breathing is the most sensitive sign to diagnose pneumonia. The same percentage knew the IMCI cut-offs for fast breathing by age group. They also knew that the sign for severe pneumonia is chest in-drawing.

5. Ear infections:

Only half of the providers supervised checked for ear infections; eight asked the mother if the child had had an earache, and two asked for the duration of the symptom. Four providers checked the ears. Ten classified the cases correctly, gave the correct treatment, and counseled the mother

6. Throat Pain:

Only 11 providers evaluated the child for throat pain, tested the ability or willingness to drink, examined for secretion on the tonsils and for an inflamed throat, and checked for painful, engorged lymph nodes. All of these 11 providers classified cases correctly, gave the child the proper treatment and counseled the mother

7. Diarrhea:

17 (71%) providers were supervised seeing children with diarrhea, 13 asked for the duration of the diarrheal episode, and seven asked if there was blood in the stools. 14 (82%) providers classified diarrhea cases correctly, but only five gave the correct treatment, and counseled the mother.

13 (60%) providers classified the diarrhea episodes by its duration (>2 wks: persistent diarrhea).

8. Assessing dehydration status:

Of the 21 health workers, only nine (43%) assessed the level of dehydration of the child (sunken eyes and other signs). Of these nine providers, eight classified the level of dehydration correctly, gave the appropriate treatment and counseled the mother.

When asked how to assess dehydration, 11 (52%) mentioned that general status should be evaluated, 13 (62%) said to assess the presence of thirst, 15 (71%) mentioned skin pinch, 15 (71%) mentioned sunken eyes, and five (24%) mentioned to look for a child crying without tears. When asked to list the three key steps for home management of diarrhea, the responses were a) give the child more liquids (95%), b) continue feeding the child (76%), and c) counsel the mother about danger signs (14%). With regard to the classification of diarrhea episodes based on level of dehydration 20 (90%) mentioned diarrhea without dehydration, diarrhea with dehydration, and diarrhea with shock within the latter.

9. Assessing severe anemia:

Only 10 of the 21 providers assessed if the child had severe anemia according to the IMCI protocols (comparing the examiner's hand with the child's checking for paleness).

10. Assessment of febrile cases for possible malaria:

There were seven febrile cases; two were asked if they had lived in the Boca Costa. Five of the seven febrile cases were classified correctly and given the appropriate treatment. Two providers also counseled the mother.

When asked about signs of malaria, four (18%) providers mentioned history of having lived in the last 15 days in a high-risk area for malaria, and 16 (73%) mentioned fever higher than 39C degrees – in absence of any other cause. All providers knew that the treatment of choice for malaria is a combination of primaquine and cloroquine.

11. Vaccinations:

While 12 (57%) providers asked to see the immunization card –presumably to verify immunization status of the child, only eight actually checked the status and referred the child for pending immunizations.

Regarding the mother's vaccination, two (9%) providers asked for the maternal health card; no provider checked vaccination status or referred the mother for vaccination.

When asked for counter indications to immunizations, one (4%) provider listed AIDS and eight (38%) mentioned severe illness. With respect to side effects of DPT, the most common mentioned were fever, local pain and irritability.

When asked after how many hours an opened measles or BCG vaccine vial should be discarded, 19 (86%) providers responded that after eight hours.

When asked for the correct temperature to store vaccines, the answer of 15 (71%) of providers was 2-8C. When asked for signs and symptoms of measles, 13 (62%) mentioned a rash and cough/ conjunctivitis, while 16 (76%) mentioned cough and fever.

12. Verification that the treatment was understood by the mother:

19 (90%) of the providers explained to the mother how to administer the medication to the child. Only four (19%) asked questions to make sure mothers had understood how the medication should be given. 12 (57%) explained that mothers should return for a follow-up visit; and seven (33%) explained danger signs that should make mothers seek immediate care.

Conclusions:

1. This was an exploratory study with a small convenience sample. Thus, conclusions cannot be generalized to the rest of health providers.
2. More than 50% of health personnel are complying with IMCI standards.
3. More than 80% of the providers assessed had a satisfactory knowledge of IMCI norms, but this knowledge is not always reflected in their practices.
4. This assessment shows that training offered to health staff must strengthen weak aspects of knowledge and practices, and provide incentives (e.g., through good supervision practices) for providers to apply their newly acquired practices.

EVALUATION OF KNOWLEDGE OF PROMOTERS IN CHARGE OF BASIC HEALTH UNITS AT COFFEE PLANTATIONS, BOCA COSTA, GUATEMALA (SEPTEMBER 2001)

Introduction

To increase access, HOPE established basic health units in about 150 coffee plantations provide health services to resident and migrant populations that harvest coffee in the Boca Costa of Guatemala, prioritizing children less than 5 years and pregnant women.

The Guatemalan Ministry of Health (MOH), the Guatemalan Institute of Social Security (IGSS), and Coffee Growers Association (Anacafe), individual owners and administrators of plantations, and Project HOPE have worked jointly to establish these units; renovate infrastructure; train promoters to provide services, and provide a minimum of medical supplies and drugs.

The 150 promoters that work in these health units received a 5-day training in IMCI to deal with diarrhea, respiratory infections, immunizations, nutrition and other common health problems. They were also trained to educate and counsel the population in their community. The promoters are supervised and supplied by MOH personnel. Also, Project HOPE staff visit the units on a monthly basis to monitor and upgrade performance, and assist with problem-solving. In the extension of the current project, HOPE plans to develop an accreditation process for well-functioning health units. For this purpose and to identify training needs, this study was implemented.

Objective

To assess the quality of health services provided by health promoters in charge of basic health units at coffee plantations, Boca Costa, Guatemala.

Specific objectives of the Knowledge Assessment

- To evaluate knowledge about the case management norms for diarrhea, ARIs, malnutrition, and anemia.
- To determine if health promoters know the immunization schedule for a child under 5 years.
- To identify promoter training needs to inform future IMCI training activities.

Methodology

A cross-sectional survey was conducted. The questionnaire, specially designed for promoters trained in IMCI, consisted of 10 questions covering the promoter's knowledge in the following areas or topics:

- General patient information
- Nutritional status

- Identification of general danger signs
- Management of respiratory infections (cough and pneumonia)
- Management of throat infections
- Management of diarrhea
- Assessment of level of dehydration
- Immunization schedule

25 providers were selected by stratified sampling in the following departments and communities as shown in this table:

San Marcos:

El Tumbador: 4

El Quetzal: 1

Quetzaltenango:

Santa Rosalía: 1

San Felipe: 1

Flores: 1

Genova: 1

Colomba: 8

Suchitepequez:

Santa Bárbara: 4

Chicacao: 3

Results

1. General patient information

23 promoters (92%) said they should ask for the name and the age of the child and the reason for the visit to the health unit. With respect to the child's weight, 18 (72%) mentioned that the child should be weighed and 15 (60%) said they would request the child's immunization card.

2. Nutritional status

Four (16%) promoters reported that they give all severely malnourished children a dose of Vitamin A. All promoters would refer cases of severe malnutrition to the hospital.

3. Identification of general danger signs

Only 11 (44%) promoters could identify signs of severe disease.

4. Management of children with cough and/or difficult breathing

21 (84%) promoters mentioned that chest in-drawing is a very important sign of severe pneumonia; and 16 (64%) identified sibilance as a sign of severe pneumonia. 21 (84%) knew that the drugs of choice to treat pneumonia in the child are co-trimoxazole and amoxicillin. Only one promoter mentioned the use of acetaminophen for treating pain and fever.

5. Ear Infection

Promoters use the following signs to diagnose an ear infection: 15 (60%) said that if the child complained of pain around the ear, and 21 (84%) said they would check for purulent secretion from the ear canal.

6. Throat pain

To treat a throat infection -with purulent secretions- 12 (54%) mentioned that they would give penicillin, while 28% mentioned they would also treat the pain with acetaminophen.

7. Diarrhea

For children with diarrhea, 11 (44%) mentioned that the general state of the patients should be evaluated, 22 (88%) said they would look for sunken eyes, crying without tears and dry mouth. 14 (56%) mentioned that increased thirst can be assessed if the child drinks avidly. As for the treatment of dysentery, 19 (76%) mentioned that they would treat the case with co-trimoxazole.

8. Immunizations

23 (92%) knew the proper vaccines to give a newborn: polio and BCG. 21 (84%) knew that three doses of OPV are needed to prevent polio. 20 (80%) mentioned that measles immunization should be given at 9 months of age.

PERFORMANCE EVALUATION OF PROMOTERS IN CHARGE OF HEALTH UNITS ON THE COFFEE PLANTATIONS OF THE BOCA COSTA, GUATEMALA

Specific objectives of the Assessment of Practices

- Assess the case management of diarrheas and respiratory infections
- Assess if promoters assess nutritional status
- Assess if promoters reduce missed opportunities for immunization by reviewing the child immunization card

Methodology

This was an observational study. A checklist was used containing nine parts:

- General patient data
- Assessment of nutritional status
- Identification of general danger signs
- Management of a child with a cough
- Management of a child with an ear infection
- Management of a child with a throat infection
- Management of a child with diarrhea
- Assessment of level of dehydration
- Review of immunization status
- Screening for severe anemia

For each section, it was assessed if the provider complied with the IMCI norms for classification, treatment and appropriate advice.

Given the reduced demand for services in the season this supervision was made, each provider was observed serving a single patient less than 5 years old that come to the health unit in the coffee estate with a complaint consistent with prevalent illnesses of the childhood. Given the small sample, results presented are considered only preliminary. As supervision of IMCI becomes a routine, it is expected that more data on the performance of health providers will be available.

Results

1. General data:

Almost all (95%) promoters asked all general questions, such as name, age and reason for the visit to the health unit. More than 92% carried out basic procedures, such as taking of temperature and weighing the child.

2. Assessment of nutritional status of the child:

92% of the promoters weighed the child, but only 69% recorded the weight in the growth chart, and 45% looked for signs of severe malnutrition. Almost 65% classified the child based on nutritional status and gave correct dietary advice to the mother.

3. Identification of general danger signs:

Five promoters (20%) looked for general danger signs. Three checked for abnormal noises while the child was breathing, and asked if the child had had seizures. One asked the mother if the child had vomited, two asked for abnormal sleepiness and if the child was able to drink or suckle. Two classified these signs correctly and one gave the correct treatment.

4. Cough and/or difficult breathing:

14 (56%) promoters checked if the child had a cough or difficult breathing. 92% counted the number of breaths per minute, and 57% checked for chest in-drawing and abnormal noises. Almost 70% of cases were classified correctly, and slightly less than 65% of the promoters counseled the mothers.

5. Ear infection:

Only 3 of the 25 promoters checked the child for an ear infection, and only one asked for the duration of the disease. Of the three children with an ear infection, only one received the appropriate treatment and none of the mothers received the correct advice.

6. Diarrhea:

Six promoters (24%) asked the mother for signs and symptoms of diarrhea, and two asked the duration of the disease, and also asked if there was blood in the stools.

7. Assessment of dehydration:

Six promoters evaluated the dehydration status checking for sunken eyes; four checked for dry mouth, excessive thirst and the presence of tears. Two promoters assessed the general state of the child and performed a skin pinch.

Of the six children with diarrhea, two were classified and treated correctly, and two of the mothers received adequate counseling.

8. Review of the immunization card:

13 volunteers (52%) requested and reviewed the immunization card. Five referred the child for immunizations that were due and gave appropriate counseling to the mother.

9. Screening for severe anemia:

Three promoters (12%) checked whether the child's palms were pale. Two of the three promoters classified severe anemia correctly and provided the correct treatment.

Conclusions

None of the promoters followed the IMCI guidelines for assessment, classification, treatment and counseling completely. Promoters have the guidelines in the health unit but do not open them while they are providing services as a memory aide and guideline.

The findings of the supervision checklist indicate approximately a 35% behavior change after a single 5-day training course, where promoters without much prior experience are expected to learn several complex tasks, indicating the need for more training and on-the-job supervision.

MATERNAL KNOWLEDGE ABOUT CHILD SURVIVAL INTERVENTIONS

Given the fact that migrant mothers are a “floating population,” HOPE included in the cost-extension proposal the concept to conduct ongoing mini-studies of this group. Instead of following a large group of mothers, the staff decided to test a different methodology, a short follow-up of mothers exposed to health education.

Objectives:

To measure if and educational intervention changes the knowledge level of migrant mothers about child health and nutrition.

Methodology:

Design: Quasi-experimental, before and after the intervention, with no control group.

Sample: Eight coffee plantations selected a convenience sample. Three plantations were located in San Marcos, three in Suchitepéquez and two in Quetzaltenango.

To be eligible, plantations had to meet the following requirements:

- Have a health unit;
- Have a promoter trained in IMCI and IEC; and
- Serve migrant mothers.

The study consisted of three parts:

1. Baseline: 172 interviews were given to mothers with children under 5 years. (21 per plantation).
2. Intervention: A month of intensive education activities: chats with mothers' groups, messages through loudspeakers: 2 hours/day of transmission of basic messages of health in Spanish, Mam and Quiché in places with the highest concentration of mothers, for instance the place where harvested coffee beans are taken to be weighed.
3. Final: 117 interviews to mothers with children under 5 years (14 per plantation).

Results:

Breastfeeding:

- 67% of the mothers in both surveys did not know how to increase colostrum and human milk output/ production. There was not difference in the number of mothers responding that children should be breastfed 24 months or more. An increment of 9% was observed in the final survey regarding the percent of mothers that knew children should receive three main meals plus two snacks a day. There was no change in the percent of mothers that knew the proper age to introduce complementary foods to the child.
- There was an increase of 13.5% in the number of mothers that responded that the child should have eight vaccines before her/his first birthday. With respect to the age for the first dose of polio, DPT and measles vaccines, there was an increase of 15% over baseline in the number of mothers given correct responses.

- Close to 60% of mothers did not know danger signs of ARIs. However, almost all (92%) mothers in both surveys responded correctly where to seek help if their child had a cough during the coffee harvest.

Conclusions:

- The changes found in the knowledge of migrant mothers were not significant.
- It is very difficult to provide health education to the migrant population due to many barriers, such as: brief stay on a plantation, schedules of work, low availability of the mothers to participate, and language differences.

Recommendation:

Support MOH and NGO health providers in the communities of origin of the migrant workers to provide sustainable and systematic health education that changes knowledge, attitudes and practices in this high-risk group.