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FINAL PROJECT REPORT

ORAL HYDRATION THERAPY PROMOTION TRAINING OF SUPERVISORS AND HEALTH AIDES AND PARTICIPATORY EVENTS IN REGIONAL MARKETPLACES OF HIDALGO AND VERACRUZ, MEXICO

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I. BACKGROUND

This document reports on the third phase of a research study whose primary objective is to promote the prevention of child dehydration caused by diarrheas, using educational techniques and communications materials designed to promote oral hydration therapy (OHT) in the rural and indigenous populations.

In 1987, Ciclope conducted an ethnographic study that led to a pilot campaign (applied research) financed by the International Development Research Center together with the Coordinated Health Services of the states of Hidalgo and Oaxaca.

Our pilot methodology, which was implemented in 24 communities in Hidalgo and 32 communities in Oaxaca (1989-1991) yielded good results, from the training process and application of the materials to the health levels obtained (IDRC.91). Proper implementation of the program required substantial technical and discretionary assistance on the part of Ciclope; sufficient resources to ensure high quality training; and the supervision, presence and time commitment required to determine needs and proper responses, and to choose actions appropriate to these needs.

Given the positive results of the pilot campaign, PRITECH and Management Sciences for Health supported the implementation of a broader campaign generalized to the rest of the state of Hidalgo and one-third of the state of Veracruz, with the following objectives:

1. Promote the use of OHT at the household level through the training of health sector personnel and community aides who reside and operate in the region.

2. At the state level, apply the methodology that was tested in the "Communications and educational campaign in indigenous and peasant communities to promote the use of Oral Hydration Therapy", carried out by the Ciclope S.C. Consulting Group in the states of Hidalgo and Oaxaca (1989-1991), whose results showed positive promotion of the real use of OHT in the communities covered (IDRC.91).

3. Refine the intervention and evaluate it for possible application in other states of the Republic of Mexico.

There is widespread evidence in various countries (Narangwal, India; Davar, Iran; Berhorst, Guatemala; and Piaxtla, Mexico), that health workers in communities are effective: they provide services that improve health at low cost (Berman, P. 448). However, it is also a fact that the programs that have been expanded on a large scale have not been able to repeat a direct, significant and immediate impact, above all on mortality (Berman, P. 449).

For this reason, the application of the pilot methodology on a larger scale has been performed in this project through a controlled and monitored expansion. The training was standardized, supervision of the groups in the communities was simplified, and a new type of intervention was tested with the

expectation that it would reach a larger population than that residing in the communities served by the trained personnel: the installation of Oral Life Serum stands in marketplaces.

II. ACTIVITIES

This report describes the intermediate stage between the pilot campaign and the application of our methodology on a larger scale. The required adjustments and changes will be made in accordance with a detailed evaluation of the techniques, the materials, the response of the population, the input of the Health Secretariat and the experience of the training team.

The intervention was performed during eight months in the states of Hidalgo and Veracruz. With respect to the first, eight health jurisdictions of the State Coordinated Health Services were covered: Tula (May), Zimapan (June), Huejutla (July), Tulancingo (August), Pachuca (September), Apan (October), Meztitlan (November) and Zacualtipan (December).

Dr. Luis Corzo Montano, Chief of the Coordinated Services of Hidalgo, directly supported the implementation of the project. Two hundred twenty-one aides and supervisors from 47 maternal-child health units were trained, and mothers groups were worked with in 158 communities. The Oral Life Serum stand was set up in 18 different marketplaces an average of two to three times each.

In Veracruz, Dr. Rafael Velasco Fernandez, Chief of the Coordinated Health Services, supported the project, and we coordinated the work directly with the jurisdiction chiefs. Four jurisdictions in the State of Veracruz were covered: Xalapa (May

and June), Poza Rica (July and August), Martinez de la Torre (September and October) and Orizaba (November and December). Two hundred forty-seven aides and supervisors were trained, from 57 units. Mothers groups were formed in 218 communities, and 20 different marketplaces were worked in[1].

Working meetings were held with Dr. Felipe Mota Hernandez, Coordinator of the National Diarrheic Disease Control Program, and with Dr. Rafael Camacho Solis, Director of Health Promotion, S.S., to present the objectives of the project and to receive their suggestions with respect to changes in the materials.

SUMMARY OF ACTIVITIES FOR THE EIGHT MONTH PROJECT

Total Number Trained: 468 People

	AIDES HIDALGO	SUP. HIDALGO	AIDES VERACRUZ	SUP. VERACRUZ	TOTAL	COURSES TAUGHT 21 HIDALGO	COURSES TAUGHT 21 VERACRUZ
MAY	18	6	22	5	51	1	2
JUNE	25	3	54	9	91	2	2
JULY	26	4	23	5	58	2	1
AUGUST	26	6	21	4	57	2	1
SEPT.	9	6	20	6	41	1	1
OCT.	18	5	21	5	49	1	1
NOV.	35	6	22	6	69	1	1
DEC.	25	3	20	4	52	1	1

NUMBER OF MOTHERS IN GROUPS FORMED IN COMMUNITIES

HIDALGO: 935 **VERACRUZ: 795**

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[1] Annex 1 lists the names of the persons trained, the communities, the units and the marketplaces worked in for both states.

MATERIALS DISTRIBUTED TO TRAINEES AND GENERAL POPULATION

PAMPHLETS DISTRIBUTED IN MARKETS AND MOTHERS GROUPS: TOTAL 14,957

FLIPCHARTS TOTAL: 450 **GOURD DOLL TOTAL: 82**

LOTTERY GAMES, TOTAL: 450

RADIO BROADCASTS

	HIDALGO	VERACRUZ
MAY	LA VOZ DEL ATLANTE	RADIO UNIVERSIDAD MAQUINA TROPICAL
JUNE	COMMERCIAL RADIO	RADIO TEOCELO
JULY	VOCERO HISTORICO HUEJUTLA	RADIO ALAMO
AUGUST	TULANCINGO SN. BARTOLO	RADIO PAPANTLA
SEPT.	PACHUCA	RADIO MARTINEZ DE LA TORRE
OCT.	PACHUCA	RADIO MARTINEZ DE LA TORRE
NOV.	(ONLY MEXICO CITY	RADIO ORIZABA
DEC.	STATIONS CAN BE HEARD)	RADIO ORIZABA

MARKETPLACE EVENTS, TOTAL: 93

	HIDALGO	VERACRUZ
MAY	6	6
JUNE	9	6
JULY	6	0
AUGUST	4	10
SEPT.	8	6
OCT.	6	6
NOV.	6	6
DEC.	2	6

LOTTERY GAMES, TOTAL: 1251

	HIDALGO	VERACRUZ
MAY	49	111
JUNE	75	57
JULY	60	0
AUGUST	82	252
SEPT.	81	101
OCT.	80	42
NOV.	70	109
DEC.	23	59

NUMBER OF PARTICIPATING PERSONS LISTENING TO THE FLIPCHART PRESENTATION AND PLAYING THE LOTTERY, TOTAL: 18,965

	PEOPLE PLAYED		ONLY LISTENED		TOTAL
	HGO.	VER.	HGO.	VER.	
MAY	557	1000	100	600	2257
JUNE	541	445	203	331	1520
JULY	600	0	275	0	875
AUGUST	1066	1005	175	500	2746
SEPT.	854	1071	662	879	3466
OCT.	809	560	1410	520	3299
NOV.	1245	1038	1446	1003	4732
DEC.	300	590	459	721	2070

SERUM PROVIDED DURING MARKET EVENTS, TOTAL: 22,324

	HIDALGO	VERACRUZ
MAY	830	330
JUNE	2000	375
JULY	1950	0
AUGUST	2700	550
SEPT.	2289	770
OCT.	4730	650
NOV.	2400	1000
DEC.	750	1000

CONDITIONS UNDER WHICH THE MARKET EVENTS TOOK PLACE. THE NUMBER OF EVENTS IN THE PROJECT ARE NOTED

	TABLES		CHAIRS		SOUND SYS.		MICROPHONE	
	HGO.	VER.	HGO.	VER.	HGO.	VER.	HGO.	VER.
MAY	4	6	1	3	0	2	0	0
JUNE	8	4	3	0	1	0	0	0
JULY	6	0	0	0	0	0	6	0
AUGUST	2	10	2	0	1	0	4	2
SEPT.	7	6	7	2	2	2	0	0
OCT.	6	5	6	0	6	0	0	0
NOV.	6	6	0	0	6	2	6	2
DEC.	2	6	0	2	2	0	2	2

III. EVALUATIONS

Various types of evaluations were used, both for the intervention process (coordination with the Health Secretariat, personnel training, explanation of and practice using the techniques and materials, application to mothers groups and marketplace events), and to measure the comprehension of information by those trained and by the public. The process in itself was evaluated[2] using the techniques of direct and participatory observation (field logs) and group evaluations (focus groups with written material). This type of evaluation provided us with descriptive material. The same process was evaluated using open controlled surveys (M, H, Nurse Profile), and from this we obtained a qualitative evaluation.

The levels of information on oral hydration therapy acquired by trained personnel were evaluated using closed surveys, before and after the intervention with each group of trainees (A1 and A2). The comprehension levels achieved by the general population were evaluated using another closed survey (L). Data was recorded on the conditions the marketplaces were worked in, the number of times the lottery was announced, the care provided, etc.

At the end of the intervention a selection was made of the markets that had been covered at various times during the previous eight months in order to return to them and apply a

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[2] The forms, process of imparting the information and materials selected are found in Annex 2.

closed survey to an open population in order to determine exposure to the message and the duration of the message.

The combination of closed evaluations provided us with quantitative material that allowed us to make comparisons between the two states, by group and by marketplace.

In the body of this report we only include the results and the conclusions. To become familiar in greater detail with the material from which the results were derived, a selection of representative material is presented in Annex 2.

IV. RESULTS

1. MATERIALS

The comprehension of messages and images was evaluated before in the pilot campaign (IDRC.91). However, we have seen the need for a series of changes that would improve the effects of comprehension and the functionality of the materials. In addition, the suggestions provided by Dr. Felipe Mota H. and Dr. Rafael Camacho S. with respect to technical precision and picture improvement will be incorporated[3].

1.1 RADIO. Four chapters of the radio story, four radio spots and four announcements were recorded which invite people to the events in the marketplace.

The radio story interested and was enjoyed by many people, although they liked the spots very much as well. All of the material is comprehensible because people in rural areas are accustomed to hearing this type of material.

In general it was difficult to broadcast the radio material because the times provided by the broadcast stations for the Coordinated Services are highly saturated and, moreover, our material is too long to fit in the 60 second segments offered by the commercial stations.

As a result, our evaluations emphasize that it is indispensable that the organization of radio broadcasts be arranged directly by the Health Secretariat with the radio stations in the Federal District where most of the central offices of the private radio

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[3] The changes in materials are found in Annex 3.

stations and those of the Mexican Radio Institute are concentrated. The broadcast time should not be a problem for the Mexican Radio Institute. The National Hour, which broadcasts on Sunday evenings from ten to eleven, could also be used to reach the entire country. This option could be considered. Of course, the broadcasts would have to be coordinated with the training courses and the marketplace events.

1.2. FLIPCHARTS. The flipcharts require a series of changes that derive from the suggestions made by Dr. Felipe Mota and Dr. Camacho Solis, as well as our own experience working with them. This material was very highly valued by the trainees, and the pictures they contain were successful in capturing the attention of the population very effectively. In the qualitative evaluation of trainee responses to our intervention, 45.7% highlighted the flipcharts as their most highly valued material. We will make certain changes to the texts on the charts, given that their use in the marketplace requires greater energy than in lectures to mothers groups.

1.3. PAMPHLETS. 15,000 copies of the pamphlet were produced (using offset printing), and they were distributed to the trainees so they could use them in their work with the mothers groups in their communities.

At each marketplace event pamphlets were distributed, along with serum envelopes, to the shiest mothers who would not approach the marketplace stand. After receiving the handout some did choose to participate, but others (approx. 50%) did not.

The pamphlets were appreciated very much, and people asked for them as prizes.

The pamphlets will undergo the same changes that the flipcharts will with respect to the pictures, and the basic text will be made more clear. A summary of the disease's development and the most important indications for the use of OHT and recognition of dehydration signs will be included, so that the people who take them home will have the information available.

1.4. LOTTERY. The lottery captured a lot of attention and served to reinforce the visual content of the flipcharts, given that they use the same pictures. The attention given to these materials made the comprehension of the messages very effective. Several short texts will be added to the cards that are used to "call the lottery" so that the person who is participating can remember what information is being stressed with each card.

1.5. INSTRUCTIONAL BOOKLET. This booklet will undergo 73 changes to words that were not clearly understood by the health aides. It must be remembered that many of them have not gone beyond second grade of primary school, and that some indigenous trainees have problems with Spanish.

In addition, we will add some illustrative drawings so that their use by the trainees can be more dynamic.

1.6. GOURD DOLLS. This material was the most valued of all the materials: it was the preferred technique of 51% of the trainees, who stated that it best illustrated the weakness that is the result of dehydration. It was impossible to obtain sufficient

gourd dolls for the trainees. At the end we were forced to make plastic gourd dolls to substitute for the natural ones. We have ordered more calabash plants to be cultivated so we can produce our own gourds in the future.

1.7. PLANTAINS. The lack of firm texture to the skin, a sign of serious dehydration, is poorly understood because of the difficulty of observing and explaining it. The plantain helped to demonstrate this idea of skin texture as associated with the presence or absence of liquids. The skin of a very ripe, dehydrated plantain, when peeled, does not immediately regain its shape. A comparison is made to a plantain that is fully hydrated and that is not easy to peel.

1.8. SERUM PREPARATION. This activity is designed to deal with the perception that serum tastes bad, substituting the idea that serum tastes "salty like tears", like the liquid that is being lost. This was an exercise in learning-by-doing in order to teach that serum is vital for rehydration.

2. TRAINING COURSES

2.1. PERSONNEL TRAINED. The community aides from the maternal-child health units offer a series of advantages for intervention that have led us to work with them. However, they also present certain disadvantages. Some of these disadvantages may be mitigated by the use of the methodology, while others constitute structural conditions that limit the intervention and that should be taken into account.

These personnel, together with their supervisors, increase the coverage and the possibility of service delivery to the general population, at lower cost than that which would be incurred by health centers in each community; they eliminate barriers to access; they are available on a full-time basis because they live there; they are known by the inhabitants, acting as a bridge between the community and the services; and they implement the prevention programs for a population that, because of its isolation, poverty, ignorance and cultural differences (which are not taken into consideration), runs a high risk in terms of health.

On the other hand, we noted that the majority of the people trained had not been trained in the use of OHT; they do not provide presentations; sometimes they are chosen by the supervisor or by the community only because they know how to read and write; so it is understandable that, because of a lack of effectiveness in their work, the community does not recognize them and remains indifferent even when supervisors change the aides, installing new people in the units. The training is provided by supervisors and is generally limited to telling the aides how the supervisor will support them in their work. Only 52% of the trainees in Veracruz and 46% in Hidalgo at any time have worked with didactic material in the various programs they implement, and only 33% of the personnel in Hidalgo and 57% in Veracruz had at some time taken a formal training course in order

to later provide it themselves. They have a great need for training and support in their work.

In addition, they have many duties, and, in spite of the fact that they are an institutional resource, they function more as aides to the supervisors in gathering information and supporting priority programs. Many times supervisors treat them like children, ordering them around and protecting them.

In general the referral process does not work, and only 31% of the trainees in Veracruz and 13% in Hidalgo knew what an Oral Hydration Therapy Unit was and where they could find one. Most of those who did know were in the supervisory group.

With respect to the OHT promotion program, the activity of these personnel presents two principal problems: 1. OHT is not promoted. Serum is rarely distributed, with priority given to a variety of medications, and without emphasizing nutrition during and after the disease. 2. There is no capacity to educate the mothers so that they can effectively change their care practices and use OHT. Therefore, in spite of the fact that an aide might provide serum, it is not used, or it is discontinued because it does not "cure the diarrhea". The same aide will then choose to prescribe bonadoxine, kaopectate and other medications that are contraindicated in severe diarrheas.

In sum, health personnel are not convinced of the effectiveness of prevention through education and the promotion of OHT. Their vision is basically curative. This coincides with the attitude of the population, which has little interest in preventative

activities because they very often mean little to them. About 30% of the Veracruz health personnel were not even informed that a course on OHT would be offered. They were then notified, they were told that the course would be paid for, and they attended. Many went for a long time without replenishing their supply of envelopes, distributing them when they attended the course. The percentage of personnel who had had some type of training in the use of OHT, even if only the explanation of a supervisor, amounted to 69% in Veracruz and 65% in Hidalgo. The rest were only told that when a child has diarrhea, three envelopes must be given to the mother.

PERSONNEL TRAINED

	HIDALGO	VERACRUZ
BILINGUAL	12%	20%
WITH CHILDREN	61%	71%
FEMALE	95%	89%
AVERAGE AGE	31 YEARS	30 YEARS
TENURE:		
LESS THAN 1 YEAR	30%	27%
FROM 2 TO 3 YEARS	27%	17%
MORE THAN 3 YEARS	43%	53%
GRADE LEVEL:		
LESS THAN 2ND GRADE	22%	20%
COMPLETED PRIMARY	27%	39%
SECONDARY	25%	15%
NURSING OR OTHERS	25% (24% SUP.)	23% (22% SUPERVISORS)

The group evaluations (with written materials meant to lead to discussion) of the work of the trainees, at the end of the intervention, included: the course; the sessions with the mothers in the communities; and the events in the marketplaces. The

evaluation was viewed as a means to measure the impact of the course and the degree to which the techniques and the support materials were useful to each of the trainees, when they put them into practice. The objective is to detect broader problems in the application of these instruments in order to provide feedback on the educational process, either by changing the training methods or modifying the techniques and the materials. In order to capture both interesting individual observations and random coincidences, the evaluation is not closed. The members of each of the various groups were simply asked to formulate, in writing and in front of the group, their opinions and critiques of the course, the techniques and the materials, and an appraisal of the results of their application, in an open way. The usefulness of this method and the resulting written statements will require, as anticipated, reading behind the expected excess of rhetorical formulas, excessive wordiness, timidity of expression, and the reticence of those who do not feel comfortable talking in groups or writing, much less criticizing.

Even so it is possible to recognize, in the first place, their sincere and general appreciation for a training course specifically focused on their work, so often taken for granted, which takes into account the problems of their target groups and which, by providing them with eloquent and attractive materials, revalidates, authorizes and dignifies their role in the community.

Their expression of appreciation for the communicative, rather than authoritative, treatment they received can also be taken to be sincere, as well as their expressed appreciation for the climate of trust, the opportunity for participation and training presented by the course, and their request for other similar opportunities for reflection, learning and sharing together. However, very rarely were demonstrations of gratitude supplemented with more concrete critiques. In Hidalgo, the complaints were confined to the organization of the course (for example: the fact that the trainees were paid less than in other courses[4]; or insufficient travel allowances were given them, above all to those who lived further away; or even the intensive nature of the course and the pressure to participate during the sessions). In Veracruz, in addition to some criticisms along the same lines, there was a greater degree of objectivity and frankness that led to certain observations that, even though individual, were intended to spark a useful debate, to be held in most locations. For example: a supervisor from Veracruz, after assessing the lottery as an "enjoyable form of teaching the people" and as an instrument that "I am going to implement with

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[4] One important indicator of the widespread acceptance and convincing nature of the course is that the majority of the trainees maintained a genuine interest in learning and utilizing the information in spite of the fact that the amount of money paid them always seemed so small to them, due to misunderstanding the money as payment for being trained rather than what it was in reality: a stipend to cover their expenses. Only in the jurisdiction of Pachuca did we have a serious problem in that 12 people refused to take the course because they believed the money offered was insufficient.

other areas such as family planning, pregnancy, etc.", noted, "the only difficulty is that financial resources are needed for the prizes and our agency does not provide them to us".

The concern was also expressed (supervisor from Xalapa) that aides are made responsible in cases when they have prescribed serum to a child, who nevertheless dies. This kind of concern indicates to us the inability of our methodology always to overcome the absence of a particular way of working: that of bringing problems to discussion, of socializing them as part of the process of finding solutions. The analysis of these kinds of concerns and problems, as expressed by the above supervisor, should be the starting point from which we hope to cultivate the assimilation of the information from the very first activities of the course. These problems should surface then and there, so that the learning process includes their discussion, analysis and elucidation. The fact that they appear in the final evaluation means that the socialization and analysis of their experiences and the learning of new ideas concerning concrete and specific problems is not easy to achieve. Even in the cases in which this was achieved (which we believe were the majority), this method would have to be used on a daily basis so that it is not underutilized as a resource.

There are also some interesting operative signals with respect to the use of the didactic support materials such as, for example, with respect to the gourd doll: "what I don't like is that too much water is wasted". It is understood that excessive wasting

of water could offend people who may live in communities for which water is a scarce resource, who have experienced shortages, and who have an ethic of conservation.

Comments of this kind show how the collection of not only criticisms but also positive evaluations demonstrate the personal, pragmatic nature of the new instruments, which therefore are able to move beyond mere courtesy, and must be part of the training process.

Above all, this concerns an intervention that at all times assumes that a principal failing in the promotion of OHT lies in the lack of adequate health education, and in the lack of social and cultural validation. This intervention is always intended to change prevailing practices in rational ways, that is, using the non-coercive strength of the full meaning of an alternative practice: that of hydrating the children suffering from diarrhea, instead of focusing all efforts on curing it.

The comments that have been cited or discussed above reveal the importance of the context in which each of the trainees must conduct their role as health educators: they should earn a salary or compensation and possess an institutional position to value, a social responsibility to attend to (measured by commitment to validated standards of conduct) and a cultural context to consider, because they may be unexpectedly offended or moved to contempt. A feeling of disquiet caused by the uncertainties that may arise from an attempt to introduce new practices that in some way confront this context and break with some traditions can be

seen both in the opinions expressed and in the lists of doubts that seem to proceed from the following kind of reasoning: "If I am going to get into introducing new ways of treating diseases, and especially an explicit invitation to the community to question me, I had better be prepared to explain and respond. And I do not feel myself sufficiently prepared for what I see coming".

An instrumental purpose of this project can be seen here: that it is worth the effort to measure the effects of the intervention performed. To what extent the supervisors and health aides who attended the course have come to re-understand their role in the communities, is something that we do not have the elements to measure. But we can establish a trend for the majority of the trainees, even working within the constraints already mentioned for the group evaluations, linking the instruction and the materials to an improvement in their work of explaining and promoting understanding of OHT. What is noteworthy is the consistency with which the authors of the texts assume for themselves the role of explicators of the morbidity process instead of (mere) prescribers of remedies; as promoters of a direction that must be understood, instead of prescribers of practices that must be revered with respect. Both their enthusiasm and their doubts flow in this direction.

Obviously we cannot expect that the outline of the medical interpretation of dehydration (which is the referent for the OHT training that has been offered them in the course), will be

immediately and perfectly grasped. It cannot be expected that the practice of hydration will be immediately and overwhelmingly preferred over and against the practice of curing diarrhea. All of this will require reinforcement and supplementary clarifications. However, evidently judging from the written material, the intervention has achieved the introduction to or reinforcement in the trainees of essential information on OHT, and the role of educators. The project also introduced the relevance of communicative methods as a means to obtain, over the long run, the indispensable social validation required for the spontaneous adoption of the health practices they will attempt to establish in their communities.

In summary, we can say that the intervention that was conducted had a real impact on the kind of training that, according to our assumptions, will be needed for these campaigns to obtain a significant increase in the use of OHT in these settings.

2.2. PARTICIPATION TECHNIQUES, TEACHING/LEARNING PROCESS AND COMMUNICATIONS MATERIALS

The techniques that were used were perfected with the objective of achieving greater interest on the part of the audience, in order to produce a change of attitude toward the educator-leader model, and open new channels of communication that would intensify receptivity in the learning process. These techniques helped the co-subjects achieve a vision of the problem through learning and conceptualization tools that go beyond the interview. At the same time they revealed the common form of

caring for the dehydration problem and the doubts and gaps in information on the part of the audience. Finally, they proved to be useful in training personnel in the use of new instruments that would aid them in carrying out their everyday work and applying the information to solve concrete problems and develop their own experience.

Some 66.5% of the trainees valued the materials more than the techniques (15%) and the information on OHT (18.5%). However, 64% expressed that the materials should comprise an entire course, 97.5% said that they would help them in their everyday duties, and 99% in improving their communication with the community. At the same time, 93% believed that this type of intervention involves a different way of working, and that this training did support their work. Some 90% were satisfied with the conference given by the physician and 61% expressed positive opinions. Some 6.5% held negative opinions and the rest did not express their opinions.

2.3. ACTIVITIES AND ORGANIZATION

The techniques worked well and the trainees have a real, felt need for support and working materials. However, because of their lack of training, experience and skills, the support and motivation of supervisors and chiefs of maternal-child units is needed so that the new ways of working continue to be used and are enriched. In the jurisdictions where this support was not provided, the quality of work of the trainees suffered, and in these circumstances we believe they will only be able to develop

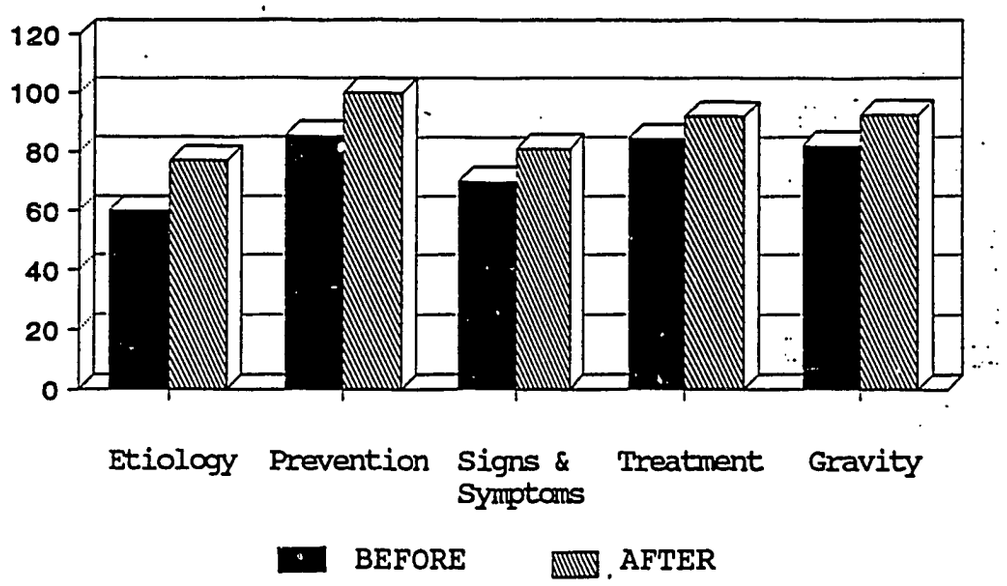
the new instruments with great difficulty. On the other hand, in those jurisdictions whose interest and support were provided, the work turned out to be very positive.

Our intervention was felt to be separate from the Secretariat when the immediate supervisors did not think it was important, and in these cases they were barely tolerant of our presence. By contrast, where our intervention was understood as a support for a program that the Secretariat was implementing within the jurisdictions, the attitude, interest, dedication and the results of the work were 100% better.

2.4. KNOWLEDGE OF OHT BEFORE AND AFTER THE COURSE

Quantifiable closed surveys were applied to measure the knowledge levels of health personnel with respect to OHT, and they were compared with surveys of the same type that were conducted for each one of the trainees at the end of the course (Figure 1). The average time between the first and second surveys was approximately one month. The general result in both states was that a slight increase in the quality and quantity of ideas surrounding OHT was achieved. This result indicates that the training must be complemented by ongoing training and evaluation of the growth of supervisors and unit chiefs because, given the type of personnel, it will be impossible to overcome the gaps in preparation and cultural inertia without ongoing technical supervision.

Figure 1
EVALUATION OF OHT
COMPREHENSION BEFORE AND AFTER
THE ONE-MONTH COURSE



The percentages indicate the level of comprehension of the trainees in the different areas related to OHT upon completing the theoretical and practical training

On this point it should be noted that the standardization of the training and our inability to directly supervise the work of the trainees resulted in the fact that the theoretical information and practice were not sufficient to achieve a greater increase on this evaluation.

RECOGNITIONS

Diplomas were given by Ciclope and the Coordinated Services to all of the trainees who took part in the project. These diplomas were signed by the chief of the Coordinated Services in each state, by the chief of the health jurisdiction to which the trainees belonged, and by Selene Alvarez.

3. MOTHERS GROUPS IN THE COMMUNITIES

3.1. TASK IMPLEMENTATION

The standardization mentioned above brought with it a lack of capability to distinguish between differences in work quality, and then intensify our supervision where required. The follow-up remained the responsibility of the supervisors and was thus subject to their availability and interest, which in turn was a reflection of the support of their superiors.

Even given these liabilities, we achieved good results in comprehension on the part of the population in the communities, so that the standards of the pilot intervention were maintained.

3.2. COMPREHENSION OF THE INFORMATION

A closed evaluation of individuals' knowledge was conducted before and after the course among all of the groups worked with, for a total of 795 mothers in Veracruz and 935 in Hidalgo. These numbers amount to a total of 1,730 low-income mothers trained directly in their communities, using trained personnel.

RATES OF COMPREHENSION OF HYDRATION THERAPY CONCEPTS TAUGHT IN VARIOUS TYPES OF GROUPS

	HIDALGO GROUPS OF MOTHERS		VERACRUZ GROUPS OF MOTHERS	
	BEFORE	AFTER	BEFORE	AFTER
CAUSE OF WEAKNESS	62.5	90	68	83.9
LOSS OF WATER	55.3	89	50.6	85.4
ANTIBIOTICS	67.8	93.5	61.9	88
SIGNS OF DEHYDRATION	74.2	97.4	70.5	87.8
DANGER OF DEATH	67.6	95.5	66.9	85.9
VOMITING	70.9	96.3	76	89.3
TASTE OF TEARS/SERUM	77.3	95.7	79.4	91
NUTRITION	63.7	95.5	57	81.4
SERUM FUNCTION	51.7	86.2	60	87
DANGER OF DEHYDRAT.	76.7	97.8	75.8	94

There was an increase in the levels of information comprehension by all groups for all of the concepts evaluated. It is important to note the similarity in the percentages between the two states. The training in the communities resulted in percentage increases in comprehension of ideas that were very similar to those obtained in the pilot intervention (IDRC.91). In order to verify these results another evaluation was performed that analyzed the same ideas as the above evaluation, two days after the same mothers had attended the groups, with the following results.

RATES OF COMPREHENSION OF HYDRATION THERAPY CONCEPTS IN THE SAME GROUPS TWO DAYS LATER

	HIDALGO GROUPS OF MOTHERS	VERACRUZ GROUPS OF MOTHERS
CAUSE OF DIZZINESS	88.4	75.9
LOSS OF WATER	82.7	79
ANTIBIOTICS	92.6	83.6
SIGNS OF DEHYDRATION	96.1	87.3
DANGER OF DEATH	84.5	79
NUTRITION	93.3	87.6
DANGER OF DEHYDRATION	96	82.3

The above table shows us that, in spite of the fact that they were not given supervision by our team, our methodology is helping the aides and supervisors to communicate information to the mothers in their communities. This was corroborated by the same personnel in group evaluations conducted at the end. In spite of their limitations, these personnel are capable of performing their work with good results, by applying the training and materials they were provided.

4. MARKETPLACE EVENTS

4.1. IMPLEMENTATION

The events in the marketplaces consisted of the following activities:

1.- The stand was set up inside the marketplace, with the help of officials and staff of the Coordinated Services. 2. People were invited to play the lottery. 3. The aides and supervisors read the flipchart and called out the lottery, each one of them several times. 4. Prizes (4 or 5 each time the lottery was called) were awarded: pamphlets, cloth to embroider with the Oral Life Serum logo, clothespins, knives and bottle openers.) Envelopes of oral hydration serum were also distributed as prizes. Mothers who were carrying a baby were given an envelope, and those who had a child less than five years old with diarrhea were instructed on the spot and were given five envelopes. At the same time, an evaluation of the comprehension of concepts (the same that was given to the mothers groups in order to be comparable) was given to people who had listened to the presentation and the lottery at the stand, and to people in the marketplace who had not passed by the stand, as controls. The attractiveness of the stand was very much tied to its location within the market, which was dependent on the willingness of the people who promised to assist us. The situations varied very much. We had everything from a magnificent stand with a microphone and sound system, to having to work on park benches, in 95 degree heat in the full sun, because of a lack of

willingness to help us. What is important is that those people who approached the stand, either to listen or to play, were mostly interested in the images and the information, and were very attentive.

The aides had their problems with shyness and lack of skill in standing before the public. With practice, however, these obstacles became less daunting. On certain occasions, for example in the health jurisdiction of Martinez de la Torre, the health promoter of the Health Promotion Administration came to the stand and the event was a complete success. The participation of these personnel seems to be ideal in order to integrate the stand into the marketplace.

The recipe contest did not work in the market; the people did not return many times to the market and those who did wanted to play the lottery and forgot the recipes. Because of this we conducted this activity with the mothers groups in the communities, with great success. We have chosen some recipes, which are listed in Annex 2.

The image of the Health Secretariat was strengthened because the people very much welcomed their presence. Moreover, their presence provided them the opportunity to learn where they could obtain services if necessary.

4.2. COMPREHENSION OF THE INFORMATION IN THE MARKETPLACE

At the same time that the activities surrounding the stand in the marketplace were being conducted, evaluations of the comprehension of concepts communicated were performed, both for

people who listened to the lottery, and for those who had had no contact with the stand.

RATES OF COMPREHENSION OF HYDRATION THERAPY CONCEPTS TAUGHT AT MARKETPLACE STANDS

	HIDALGO GROUPS OF MOTHERS		VERACRUZ GROUPS OF MOTHERS	
	CONTROL	STAND	CONTROL	STAND
CAUSE OF WEAKNESS	68.9	86.6	62.9	84.4
LOSS OF WATER	74.2	84.8	66.3	78.9
ANTIBIOTICS	73.2	85.8	67.3	85.3
SIGNS OF DEHYDRATION	82.1	89.3	70	80.5
DANGER OF DEATH	77.4	88.7	66.3	87.6
VOMITING	80	90.8	65.8	93.3
TASTE OF TEARS/SERUM	83	93.5	77	94
NUTRITION	63.2	87.3	63.4	82.8
SERUM FUNCTION	56.8	63.7	59.7	73.2
DANGER OF DEHYDRAT.	92.6	93.5	78.2	89.4

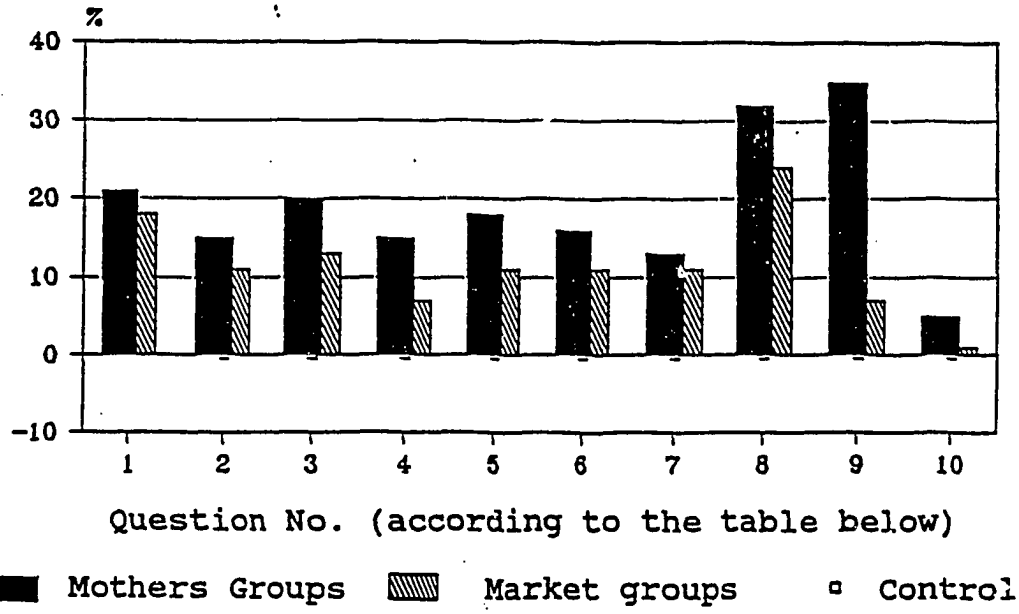
The results of this evaluation are positive, because for all of the questions, in both states, the control evaluations yielded lower percentages of comprehension than the evaluations conducted on people who had been in contact with the information. There were some recording problems with the control evaluations because the trainees tended to explain themselves to people before performing the evaluations. We tried to correct this problem, but it was difficult for them to fully understand the function of an evaluation control.

5. DIFFERENCES IN COMPREHENSION BETWEEN THE VARIOUS GROUPS OF MOTHERS IN THE COMMUNITIES, AND PEOPLE IN THE MARKET, AND IN RELATION TO THE CONTROL GROUPS

The same evaluation of the comprehension of the concepts imparted was performed on groups of mothers in the communities,

participants in the lottery at the stands, and controls, in order to make comparisons based on the same closed questionnaire (Figures 2 and 3).

Figure 2
EVALUATION OF COMPREHENSION (HIDALGO)
COMPARISON OF INTERVENTION GROUPS
BASED ON CLOSED QUESTIONS

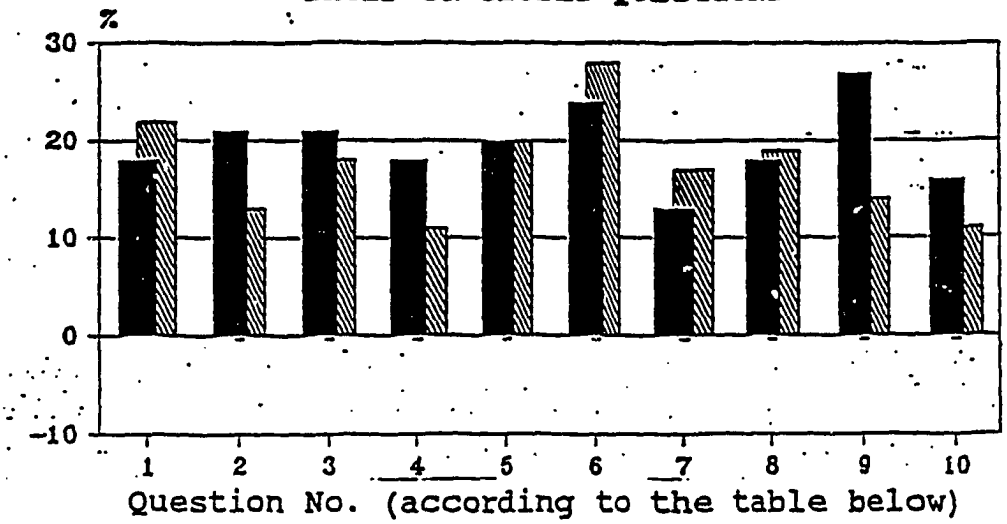


The data indicates the difference in percentage comprehension of each question in comparison with the control group, comparing the two types of groups (community and market).

In both states, for all of the questions, both the mothers groups and the market groups showed higher levels of comprehension than the control groups.

The differences between the groups in the communities and the groups who went to the stands in the market were minimal, but the outcomes for the groups in the communities were better on most of the questions in Veracruz, and for all questions in Hidalgo.

Figure 3
EVALUATION OF COMPREHENSION (VERACRUZ)
COMPARISON OF INTERVENTION GROUPS
BASED ON CLOSED QUESTIONS



The data indicates the difference in percentage comprehension of each question in comparison with the control group, comparing the two types of groups (community and market).

TABLE OF QUESTIONS

1. Cause of weakness
2. Water loss
3. Antibiotic vs. serum
4. Skin Texture
5. Signs of gravity
6. Vomiting and serum
7. Loss of water and serum
8. Anorexia and nutrition
9. Serum cures diarrhea
10. Danger of dehydration

6. EVALUATION OF THE PRESENTATION AND DURATION OF MESSAGES IN THE MARKETPLACES.

During the month of December we conducted a closed survey on a random population in the markets. We chose a group of markets at random from those we had worked in over our months in both states.

The survey was performed on a normal market day, during the hours that the market had been worked in before. We could not derive a sample using the Lot Quality Assessment technique because it was impossible to obtain a reliable estimate of the number of people coming to each marketplace, either from the locality of the market itself, or from outside the locality.

For this reason we understand that our results represent mutually reinforcing trends rather than scientific evidence.

TOTAL SAMPLE SURVEYED, BY MARKETPLACE

	MAY TLAHUELILPA	MAY PEROTE	JULY HUEJUTLA	AUGUST TULANCINGO	NOVEMBER ZAPATA
TOTAL:	N = 62	N = 60	N = 106	N = 180	N = 154

RATE OF EXPOSURE TO MARKETPLACE EVENTS

FREQUENCY WITH WHICH PEOPLE INTERVIEWED GO TO THE MARKETPLACE

88% OF THE PEOPLE INTERVIEWED GO ONE OR MORE TIMES PER MONTH

TLAHUELILPA	PEROTE	HUEJUTLA	TULANCINGO	ZAPATA
100%	90%	66%	88%	95%

PERCENTAGE OF PEOPLE WHO KNEW OF THE STAND

23%	61%	73%	27%	31%

"Knew of the stand" includes: had played the lottery, had listened to the lottery, and had received the information through third parties. This information was aggregated because upon further analysis, it turned out that behavior did not significantly change by type of exposure. The information was also aggregated in order to make it comparable with the percentages corresponding to those who did not know of the stand. It would be useful to point out here that the figure of 73% for Huejutla corresponds to a locality where our marketplace work

coincided with an outbreak of cholera, leading many people to eagerly seek information, which surely caused news of our stand to have an unexpected impact.

PERCENTAGES OF PEOPLE INTERVIEWED WHO KNEW OF THE STAND BY DISTANCE FROM PLACE OF RESIDENCE

	TLAHUELILPA	PEROTE	HUEJUTLA	TULANCINGO	ZAPATA
1 HOUR OR MORE	29	3	9	4	13
+ THAN 20 MIN.	19	30	32	40	18
20 MIN. OR LESS	52	67	58	55	36

The distance traveled is inversely related to having heard about the stand in the market in four of the marketplaces. However, it is important to note that large percentages of those surveyed came from locations far (more than 20 min.) from the market.

PERCENTAGES OF PEOPLE WHO KNEW OF THE MARKET, OR NOT, BY WHETHER OR NOT THEY STATED THEY HAD USED THE SERUM SINCE THE TIME THEY HAD GONE TO THE STAND IN THE MARKETPLACE*

	DID NOT USE SERUM					USED IT SINCE STAND[5]				
	T	P	H	T	Z	T	P	H	T	Z
KNEW OF STAND	10	13	23	6	8	23	22	8	3	1.3
DID NOT KNOW	50	26	4	16	42	0	0	0	22	2.2

* Certain survey forms were thrown out because they were not complete, but all percentages refer to the total sample.

In general, among those who knew of the stand, those who stated that they do not use serum constituted a smaller proportion, in comparison with those who stated that they had not known of the stand.

[5] For all of the exposure figures, the use of the serum was only counted if the person stated she had used it since the time she had been to the stand in each of the various marketplaces.

At the same time, those who knew of the stand began to use the serum from the time they contacted the stand in greater numbers than those who began to use the serum during that period who had not known of the stand. The trends are not as clear for the receipt of the message over the radio as they are for having known of the stand.

The survey consisted of various repetitive questions that were designed to be able to analyze trends through different questions. One of the questions was: What do you think is the most important action to take when someone has diarrhea? Of those who had known of the stand, 35% answered that serum should be given, and the remainder stated medications, home remedies or doctors. In the case of those who did not know of the stand, 22% answered that the most important action to take was to administer serum. In order to compare the trends noted above, we performed an analysis of cases with children less than five years of age who showed up among the group of people interviewed, looking for those who reliably confirmed that they had given the serum.

Of the total sample, 94 children less than five years old had had diarrhea since the stand had been in the marketplace.

	USED SERUM
KNEW OF THE STAND	33%
DID NOT KNOW OF THE STAND	20%

We performed another analysis that compared the percentage of people who knew of the stand (or not) and had recommended (or

not) use of the serum to any person since the stand had been in the marketplace.

	RECOMMENDED SERUM	DID NOT RECOMMEND SERUM
KNEW OF STAND	21.4%	18%
DID NOT KNOW OF STAND	22%	36%

In summary, all of the random samples that we performed tend to link the larger percentage increases in the use of serum to exposure to the information provided during this project, especially the information in the marketplaces.

V. CONCLUSIONS

1. The techniques and materials were well received and functioned well in practice. The trainees have a real and felt need for support of their work. However, if it is hoped that these new ways of working will continue to be used and strengthened, greater support and motivation on the part of supervisors and the heads of maternal-child units is required, given a real lack of training, experience and skill that must be overcome.
2. The intervention had sufficient impact on training in the educational-communicative style of working that, according to our assumptions, is decisive for achieving a significant increase in the use of OHT.
3. The marketplace stand was successful. The number of people who approached the stand depended on the location of the stand within the marketplace. Those who approached were very interested in the images and the information and were very attentive. Some mothers were too shy to participate.
4. The use of the health promoters from the Health Promotion Administration was shown to be ideal for operating the stand within the marketplace.
5. The standardization of the training and our inability to directly supervise the work of the trainees caused some of the theoretical knowledge acquired about OHT to be insufficient to yield better outcomes on this evaluation.
6. Even so, the levels of comprehension of these concepts that the various kinds of groups (community and marketplace) obtained

were good, and at a minimum maintained the levels achieved in the pilot campaign (IDRC.91).

7. Therefore, in spite of the lack of supervision by our team, our methodology is assisting aides and supervisors to better communicate information to indigenous mothers and peasants.

8. The comprehension levels were slightly better in the mothers groups than in the marketplace groups, but both were higher than those achieved by the control groups.

9. We believe that the presentation at the marketplace stand worked well, given that in many places we worked without much infrastructure. Returning several months later and finding (among the open population selected at random) reasonable rates of people who knew of the stand, was an important indicator of the communication function that this medium can play in the promotion of OHT.

10. The use of serum was greater among the groups that knew of the stand than among those who did not. This outcome was measured on the basis of statements responding to this question on the survey performed on the open population, months after the stand had been removed from the market, and confirmed by analysis of the question on cases with children who had diarrhea (and were treated with serum). There was not a spectacular difference, somewhat less than that obtained during the pilot campaign, but we believe it to be realistic and acceptable. However, this data shows us that it is important to keep the stand for a longer time in order to achieve a greater impact on education levels.

11. In the jurisdictions where there was no support the work of the trainees was resented, and in these circumstances we believe that it will be very difficult for them to work with the new tools. On the other hand, in those jurisdictions that were interested and supported us, the results were very positive.

VI. RECOMMENDATIONS

1. The work of the health aides should not be seen exclusively as a source of logistical support to the institution. The aides represent the possibility of changing the emphasis from curative medicine to preventive medicine, and the possibility that the Health Secretariat might establish a more effective and significant social presence. At this time when support for the field is a national priority, the job of training and reinforcing the work of aides, supervisors and promoters is an important way to make an impact on the levels of prevention against mortality due to dehydration.

A substantial increase in training, supervision, techniques and infrastructure is essential for the potential of this methodology to be of benefit on a large scale. A real strengthening of the ability of health personnel to promote OHT is basic, because they are the only resource in many communities and the only ones who can provide coverage to the marketplaces, where people come from communities with no health services, or who do not access them for various reasons. Their lack of confidence in themselves, and their inability (overcome in 40% of them with practice) to stand

before groups of mothers and the public in the marketplace, call for continuing dedication to their development. This development would entail investment in training teams who belong to the jurisdictions and who are responsible for the institutional replication of the project.

This is to say that ongoing educational and communications interventions require not only that the work of promoting OHT be conducted by outside teams, but also that this training should be maintained by and extended to local trainers as a way of guaranteeing that the interventions are always based on their own experiences and growth. In sum, trainers must be trained.

In order to avoid a failure resulting from application on a broader scale of the methodology tested in this project, we have defined a series of elements that are important to ensure that the trainees carry out their work with quality and results similar to those from the interventions described above.

1. The planning for new interventions based on the Ciclope methodology should be based on a realistic relationship with the Health Secretariat that will guarantee suitable institutional support and logistical coverage. Without the support of this agency, not even the most proven design, the most comprehensive training, all the resources invested, nor the most careful supervision will have a lasting and long-term impact.

2. The interventions should emphasize the control of diarrhea and the prevention of child dehydration through community education

and communication in suitable marketplaces, that is, those where the population gathers, and those that do not have services.

3. In order to seriously evaluate the impact of the project, project personnel should work closely with the epidemiologist of the jurisdiction.

4. A substantial increase in personnel training is necessary. Because of limited budgetary resources for personnel exclusively dedicated to training and retraining supervisors, aides, promoters, infirmary assistants, technicians, etc., it is suggested that a small team be formed at the jurisdictional level that could perform some everyday tasks for some period of time in order to receive education in training and become responsible for this function. It is important to provide some additional financial incentives, but the selection must be based on applicants' personal abilities for this work: interest in the work of educating and communicating directly with the public, experience, connection with similar functions, availability and enthusiasm.

The health promoters and nutritionists of the Health Promotion Administration seem to us to be suitable candidates for this team of trainers that would operate as the nucleus of the new project. It would also be useful to have a supervisor and an aide with the same characteristics noted above. They could work in various SILOS type jurisdictions in states where there is a greater need for this kind of intervention.

5. The marketplace stand should be located in a suitable spot, have sound system support and remain for a longer period of time so that it has a serious impact above all on the population that comes from a distance and often does not speak Spanish. It would also be necessary to add gourd doll presentations and serum preparation exercises so that mothers and children can try it.

6. Radio messages are essential and effective broadcasts should be guaranteed. It is vitally important to translate the materials into indigenous languages because many of the high risk mothers have problems with the Spanish language.

7. The referral process to and from the OHT units should be made effective.

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Xalapa, Veracruz, Mexico, 1991.

ANNEX 1. NAMES OF PEOPLE, CLINICS, COMMUNITIES AND MARKETPLACES WORKED WITH IN HIDALGO AND VERCRUZ

VARIABLES FOR CODING THE VERACRUZ EVALUATIONS

STATE: 2. VERACRUZ

NURSES OF THE JUSIDICTION OF JALAPA, FIRST MONTH

300. REINA ALARCON GABRIEL (A)
301. CARMEN PENA F. (A)
302. DIMNA ROQUE CAMPOS (A)
303. CECILIA ZAMORA HERNANDEZ (A)
304. ANGELICA GARCIA (A)
305. RUFINA SANCHEZ RODRIGUEZ (A)
306. OTILIA DURAN SALAZAR (A)
307. TEODULFA OLIVAREZ (A)
308. SANDRA ISLAS GOMEZ (A)
309. YURIRIA LANDA MONTANO (S)
310. CLARA BALDERAS GALICIA (A)
311. ROSARIO HERNANDEZ (A)
312. ALEJANDRA VIDAL LOZANO (A)
313. MARIA CORTINA LIMON (A)
314. EDITH LEAL MENDOZA (A)
315. MATIANA ZAVALETA HDZ. (A)
316. DELIA FLORES T. (S)
317. MARIA TERESA REBOLLEDO(S)
318. MARIA DEL CARMEN HDZ,O.(A
319. MARTHA HERNANDEZ (A)
320. CELIA RODRIGUEZ AVILA (A)
321. ANA ELENA MEDRANO (S)
322. MARTHA VELAZCO M. (S)
323. ISIDORA CALDERON (A)
324. HILARIA LOPEZ (A)
325. EUFROCINA ORTIZ L. (A)
326. MODESTA HERNANDEZ PENA(A)
327. ISABEL OLIVIO SALAZAR (A)

NURSES OF THE JUSILICTION OF JALAPA, SECOND MONTH

328. ROSARIO RODRIGUEZ (S)
329. GUADALUPE LOPEZ LEAL (A)
330. LOURDES CID (A)
331. LILIA MARIN (A)
332. EUSTOLIA VIVEROS (A)
333. ROSARIO DIAZ (A)
334. TEODORA MENDEZ (A)
335. MARIA LUISA JIMENEZ (A)
336. ANACLETA VAZQUEZ (A)
337. FELICITAS PEREZ (A)
338. MARIA L. RUIZ RUIZ (A)
339. ENCOLIA PENA (A)
340. SUSANA SUAREZ (A)
341. RUTH A. LANDA (S)
342. IRMA CAMPOS (A)
343. CRISTINA ROBLES (A)
344. CRISTINA SANTAMARIA (A)
345. LOURDES PORTILLA
346. JUANA MUNOZ G.
347. MARICELA RUIZ F.
348. IRENE PENA M.
349. ABEL GARCIA
350. IRMA MORENO C.
351. MARIA PAZ OLMOS
352. GUADALUPE FRANCISCO O.
353. RAFAELA ZAPATA
354. MARCELINA PROTILLA G.
355. HORTENCIA CORTES
356. CRISTINA LOPEZ B.
357. ANA MARIA SALDANA
358. MELESIA ROA C.
359. MARIA FLORIBERTA CORTES
360. ANASTACIA CASES
361. MARIA LUISA ARCOS
362. REYNA HERRERA
363. JUEEFINA CALZADA M.
364. YOLANDA VILLEGAS
365. PETRA SANCHEZ
366. ESPERANZA SANCHEZ
367. MARIA DE LOS ANGELES RUIZ
368. BELEN MELCHOR
369. EPIGMENIA ESTRADA
370. BLANCA ESTELA GONZALEZ
371. FELICITAS RUIZ ROSADO
372. ROSALIA RAMIREZ
373. MARIA DEL ROSARIO LOPEZ
374. GABRIEL VAZQUEZ
375. ALMA DELIA MORALES
376. NICOLASA SANCHEZ H.
377. RAFAELA GONZALEZ
378. HIGINIA HERNANDEZ
379. ELPIDIA SALAS
380. YOLANDA MALPICA
381. MARIA TERESA OLMOS D.
382. DOLORES DOMINGUEZ
383. MARCELA LEAL U.
384. SOCORRO AVILA B.
385. ROSA CERVANTES H.
386. ELSA LOPEZ
387. MICAELA MONTERO
388. BENITA ROJAS
415. MARGARITA GUEVARA

416. ALBINA TECZON (S)
417. YOLANDA DIAZ

NURSES OF THE JUSIDICTION OF POZA RICA, THIRD MONTH

389. CELERINA CAMPOS SANTIAGO
390. YOLANDA DEL VALLE SAN MARTIN
391. MARIBEL HERNANDEZ HDZ.
392. MARIA ESTHER HERNANDEZ
393. ELENA REYES HERNANDEZ
394. JUAN JORALES CASTILLO
395. CELEDONIA MORALES SANTIAGO
396. MA. DEL CARMEN SERAFIN J.
397. HILDA GARCIA G.
398. CELIA MUNOZ P.
399. ROSA MA. PEREZ TORNERO
400. JUANA SAONA C.
401. ROMAN LUNA GOMEZ
402. MARINA LOPEZ AMADOR
403. ENEIDA VARGAS H.
404. BEDA GARCIA HDZ.
405. NATALIA PEREZ GARCIA
406. MA. LUISA MORA QUINTERO
407. HUMBERTA LEON AMADOR
408. LETICIA DEL RIO VAZQUEZ
409. GLAFIRA FAJARDO
410. EVELIA FERNANDEZ GUZMAN
411. TOMASA GOMEZ G.
412. PILAR MONTES GONZALEZ
413. DORALIA VICENTE VALENCIA
414. ALEJANDRINA VAZQUEZ B.

NURSES OF THE JUSIDICTION OF POZA RICA, FOURTH MONTH

418. ERNESTO GAYOSSO (A)
419. ANTONIO HERNANDEZ (A)
420. ALICIA BLANCO PRIOR (A)
421. VICTORINO CRUZ (A)
422. CRISPIN MARTINEZ HDZ. (A)
423. GERMAN MARTINEZ HDZ.
424. FRANCISCA MARQUEZ HDZ. (A)
425. EMMA AZUARA CORTES (A)
426. DOMINGO BAUTISTA (A)
427. SUSANA MARTINEZ DIAZ (A)
428. LUISA MARTINEZ HDZ. (A)
429. ISABEL BAUTISTA JUAREZ (A)
430. CORNELIO HERNANDEZ LUZ (S)
431. JULIA HERNANDEZ HDZ. (A)
432. JERONIMO MARTINEZ (A)
433. LEONCIO HDZ. GARCIA (A)
434. SILVIA ISLAS H. (S)
435. PEDRO HDZ. TEREZA (A)
436. YOLANDA MTZ. RAMIREZ (A)
437. MARIA HERNANDEZ HDZ. (A)
438. LEONILA HDZ. CATARINA (A)
439. VENANCIO MARTINEZ MTZ. (A
440. FLORENTINO MTZ. MTZ. (A)
441. ESTEBAN BAUTISTA CRUZ (S)
442. ANACELI BLANCO PRIOR (A)
443. TEODORA MERCADO HDZ. (S)

NURSES OF THE JUSIDICTION OF MARTINEZ DE LA TORRE, FIFTH MONTH

444. ALBERTA ORTEGA Z. (A)
445. CECILIA MENDOZA HERRERA (S)
446. GUILLERMINA AGUILAR L. (A)
447. TERESA ALVAREZ ALATRISTE (A)
448. AGRIPINA MARTINEZ (A)
449. LOURDES LOZANO FUENTES (S)
450. SIXTA RODRIGUEZ (A)
451. TERESA TETELAPO GARCIA (A)
452. MARTHA SANCHEZ VIVEROS (S)
453. ENRIQUETA GOMEZ (A)
454. MARIA RODRIGUEZ VAZQUEZ (A)
455. TEODORA PLATAS D. (A)
456. MARIA CORDOBA (A)
457. EMMA MORENO RIVERA (A)
458. Ma. ELENA VAZQUEZ B. (A)
459. JOSEFINA RODRIGUEZ G. (A)
460. REBECA MARTINEZ ONOFRE (A
461. GUILLERMINA MONTERO M. (A
462. Ma. ESTHER VILLAFAN M. (A
463. NEREA LEON PIMENTEL (A)
464. TOMASA CORTES E. (A)
465. ZENAIDA HERNANDEZ (S)
466. SUSANA MENDOZA (A)
467. REYNA ALVAREZ A.
468. GLORIA ALEJO A. (A)

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NURSES OF THE JUSIDICTION OF MARTINEZ DE LA TORRE, SIXTH MONTH

469. EMILIANA MARROS E. (A)
470. LUZ MIREYA GARCIA (A)
471. JULIA PARRA MTZ. (A)
472. ANDREA GARRIDO AVILA (S)
473. LIBIA HERANDEZ HDZ. (S)
474. MARGARITA JUSTO (A)
475. FRANCISCA PERDOMO S. (A)
476. OCTAVIANO MUNGIA (A)
477. ANGEL ABURTALT (A)
478. GUDELIA PARRA (A)
479. REFUGIO HERNANDEZ (A)
480. TERESA BARDOLA S. (A)
481. ANGELES SANTOS HDZ. (A)
482. MA. LUISA RODRIGUEZ (A)
483. OBDULIA BARRIENTOS V.
484. LUZ MA. PALESTINA (S)
485. CATALINA GUEVARA (A)
486. ESTELA BAUTISTA (S)
487. ANGELICA TEJADA G. (A)

NURSES OF THE JUSIDICTION OF ORIZABA, SEVENTH AND EIGHTH MONTHS

488. ESTHER DE LOS SANTOS (A)
489. OFELIA HDZ. MORALES (A)
490. JUANA GONZALEZ SANCHEZ (A)
491. ISABEL OLMOS (A)
492. MA. ELENA REYES CRUZ (S)
493. MA. CARMEN G. MARTINEZ (A)
494. ANGELA CARMEN COLOHUA C. (A)
495. MIRIAM LUCIANO VALLEJO (A)
496. GLORIA ZITA ROA TOSTADO (S)
497. PASCUALAACENAS D. (A)
498. MA. OLIVIA OSORIO BELTRAN (S)
499. LUZ MARIA TULIA MARTINEZ (S)
500. SANDRA ENRIQUEZ R. (S)
501. JISEFINA AVELINO GARCIA (A)
502. SOFIA JUAREZ (A)
503. TERESA VICENTE ROSAS (A)
504. EUSTOLIA GOMEZ VALENTE (A)
505. CECILIA REYES V. (A)
506. ROSA MARIA (A)
507. ROSA MARIA CALDERON G. (S)
508. IRMA DOMINGUEX ROJAS (A)
509. LUISA CORTEZ H. (A)
510. MAURA ROMERO SOLANO (A)
511. PILAR ANTONIO DEL C. (A)
512. AMPARO HDZ. CID (S)
513. MAGDALENA HDZ. S. (A)
514. ALMA D. XOTLANIHUAT (A)
515. ROSA MORALES F. (A)
516. ALMA ROSA MARTINEZ (A)
517. CRISTINA ROSAS (A)
518. LUIS TETLA (A)
519. ABUBDIA HERNANDEZ (A)
520. RAFAELA CARREARA (A)
521. JOSEFINA CARRERA (A)
522. J. ANASTACIO BERISTAIN (A
523. ANTONIA SANCHEZ G. (S)
524. ANGELICA CASASOLA (S)
525. MA. ROSARIO GONZALEZ (S)
526. CARLOS ALFREDO TELLO (P)
527. MARTHA CASSINO (S)
528. SALVADOR ROMERO (A)
529. VICENTA ORTEGA (A)
530. VIRGINIA CERVANTES J. (A)
531. VIRGINIA REYES FIORES (A)
532. ALICIA FLORES TEPOLE (A)
533. JUANA REYES R. (A)
534. ISABEL GUZMAN S. (A)
535. ACELA BARRAGAN C. (A)
536. GREGORIA SANDOVAL (A)

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VERACRUZ JURISDICTIONS

9. XALAPA
10. POZA TICA
11. J.M.D. TORRE
12. J. ORIZABA

JURISDICTION HEALTH UNITS

NAOLINCO

501	TLACOLULAN
503	LA SOMBRA
504	NAOLINCO

PEROTE

502	LA JOYA
507	PEROTE
517	ESTANZUELA
519	LOS ALTOS

TEOCELO

510	ZOQUITLA
511	PACHO VIEJO
512	CHAVARILLO
520	COATEPEC

ACTOPAN

505	TRAPICHE DEL ROSARIO
506	PLAN DEL RIO
513	ALTO LUCERO
514	PALMA SOLA
515	EL CASTILLO
516	LA ESPERANZA

POZA RICA

321, 322, 323, 324, 301, 302, 306, 307, 308, AND 314.

MARTINEZ DE LA TORRE

401, 402, 403, 404, 408, AND 409

ORIZABA

702, 703, 707, 708, 701, 704, 705, 706, AND 709

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COMMUNITIES OF THE JURISDICTION OF JALAPA, FIRST MONTH

500. NAOLINCO
501. PEROTE
502. COL LIBERTAD
503. LOS MOLINOS
504. CERRO DE LEON
505. LOS PESCADOS
506. JOYA CHICA
507. GUADALUPE VICTORIA
508. LA TOMA
509. TLALCONTENO
510. ESTANZUELA
511. FRIJOL COLORADO
512. ZAYALETA
513. TOXTLACOAYA
514. BUENA VISTA
515. SAN MARCOS ATEXQUILAPAN
516. ZACATAL
517. TLACOLULAN
518. LOS PLANES
519. SAN PABLO COAPAN
520. GUTIERREZ ZAMORA
521. LOS NARANJOS
522. PACTEPEC
523. FRESNOS

COMMUNITIES OF THE JURISDICTION OF JALAPA, SECOND MONTH

524. TEOCELO
525. BELLA ESPERANZA
526. TEXIN
527. EL CHICO
528. ZIMPAZAHUA
529. VAQUERIA
530. OSCURO
531. EL ROBLE
532. PALMAR DE PEREZ
533. XOCOTEPEC
534. SAN ISIDRO
535. ACTOPAN
536. EL AGUAJE
537. TIGRILLOS
538. ESTCION APAZAPAN
539. TACOTALPAN
540. TULTEPEC
541. APANTEOPAN
542. HUCHUETEPAN
543. XOQUITLA
544. XOLOLOYAN
545. PIEDRA PARADA
546. COL. INDEPENDENCIA
547. LLANO GRANDE
548. URSULO GALVAN
549. CHAVARRILLO
550. TEPEAPULCO
551. LAS TRANCAS
552. LA LAGUNA
553. COATEPEC
554. VILLA NUEVA
555. RANCHITO ANIMAS
556. SAN NICOLAS
557. TENAMPA
558. XOTLA
559. COETZALAN
560. LA BALSA
561. CHAHUAPAN
562. AGUA CALIENTE
563. MAFAFAS
564. ALTO TIO DIEGO
565. BLANCA ESPUMA
566. PROVIDENCIA
567. AC. CERRILLOS
568. EL CEDRO
569. PALMA SOLA
570. EL CASTILLO
571. SAN ANTONIO
572. PASEO DELA MILPA
573. PALO GACHO
574. LLANO DE LUNA
575. BUENOS AIRES
576. EL JICORO
577. EL APARTADERO
578. LLANO DE ZARATE
579. SAYACUAUTLA
580. SANTA ROSA
581. XALAPA
607. TRAPICHE DEL ROSARIO

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COMMUNITIES OF THE JURISDICITON OF POZA RICA, THIRD MONTH

582. FRANCISCO I. MADERO
583. MISANTECATL
584. TIAHUATLAN
585. LLANO DE SAN LORENZO
586. SAN LORENZO
587. OJO DE AGUA
588. SABANETA
589. PAJASCO LIMONAR
590. EL MIRADOR ESP.
591. ADOLFO RUIZ CORTINEZ
592. ORIENTE MEDIO DIA
593. GUADALUPE VICTORIA
594. SAN PABLO
595. REMOLINO
596. NUEVO OJITE
597. TECUANTEPEC
598. EL ORIENTE ESP.
599. COL. CUAUHTEMOC
600. BELISARIO DOMINGUEZ
601. VISTA HERMOSA DE JUAREZ
602. PIEDRAS DE AFILAR
603. COXQUIHUI
604. PAPANTLA

COMMUNITIES OF THE JURISDICITON OF POZA RICA, FOURTH MONTH

605. POZA RICA
606. MESA DE GUADALUPE
608. EL LIMON
609. OJITO CUAYO
610. NARANJO DULCE
611. TLALCHIQUILE
612. LINDERO LIMON
613. EL TIZAL
614. SIETE PALMAS
615. AHUACAPA II
616. CANTOLCANO
617. PIEDRA GRANDE
618. TZOCOHUITE
619. EL NOPAL
620. IXHUATLAN
621. AYOLIA
622. LA REFORMA
623. EL ZAPOTE BRAVO
624. HUITZITZILCA
625. MILCAHUAL
626. HUEXOTITLA
627. LA PITA
628. PITZOACALI
629. LA COLMENA
630. COATZIUTLA

COMMUNITIES OF THE JURISDICITON OF MARTINEZ DE LA TORRE, FIFTH MONTH

631. EL POZO
632. MARTINEZ DE LA TORRE
633. SANTA CRUZ HIDALGO
634. EL CABELLAL
635. AHUATENO
636. LA REFORMA JUCHIQUE
637. ARROYO GRANDE
638. CAMPAMENTO
639. LAS HIGUERAS
640. TEODORO ADEHEZA
641. ALSESECA
642. EL ARCO
643. EYTEPEQUEZ
644. SALVADOR DIAZ MIRON
645. VILLA CUAUHTEMOC
646. OCOTEPEC
647. PALMIRA DE HIDALGO
648. NOVARA
649. PROGRESO
650. LA SOLEDAD
651. CRUZ GORDA
652. MORELOS
653. CASIHS
654. NECUATLAN
655. TLAPACOYAN
656. GUTIERREZ ZAMORA

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COMMUNITIES OF THE JURISDICITON OF MARTINEZ DE LA TORRE, SIXTH MONTH

657. CHICANTA
658. LA FLORIDA
659. TOMATA
660. FRANCISCO DE B.Y B.
661. MELCHOR OCAMPO
662. AGUILERA
663. XONTAXPAN
664. PILARES
665. EL RODEO
666. HIDALGO
667. SONPOZOL
668. EPAPA
669. ALMANZA
670. COCHOTA
671. ATZALAN
672. ALTOTONGA

COMMUNITIES OF THE JURISDICITON OF ORIZABA, SEVENTH MONTH

673. PAREDON VIEJO
674. RINCON DE MARAVILLAS
675. XIQUILA
676. ORIZABA
677. COL. LAZARO CARDENAS
678. EL JAZMIN ATZACAN
679. SOLEDAD ATSOMPA
680. DONATO GUERRA
681. SANTA ANA ATZACAN
682. RINCON DE CHICOLA
683. LOS COLORINES
684. EL MANZANO
685. ATZOMPA
686. COL. REFORMA
687. MARIANO ESCOBEDO
688. ZACATLA
689. EL ENCINAR
690. CIUDAD MENDOZA
691. VISTA HERMOSA
692. PUENTE DE OCOTE
693. OCOSAUTLA
694. SANTA ROSA
695. EL MIRADOR
696. SAN CRISTOBAL
697. LOPEZ ARIAS
698. ENCINO GRANDE
699. COL LOS PROFIADOS
700. EJITEPEC
701. TLACUILOTLECATL CHICO
702. COL. LINDAVISTA
703. CUMBRES D ACUTZINGO
704. COL. LOS CAPULINES
705. RANCHO VIEJO
706. LOMA DE ZAMAJAPA
707. TIERRA COLORADA
708. QUINATLA
709. CONCEPCION
710. OLLA CHICA
711. TEPEPA ZONGOLICA
712. LOMA GRANDE
713. OMIQUILA
714. NOGALES
715. RIO BLANCO
716. RAFAEL DELGADO
717. TLAZALOLAPAN
718. TEQUILA
719. ZONGOLICA

MARKETS:

50. NAOLINCO
51. PEROTE
52. TEOCELO
53. ACTOPAN
54. EL LIMON
55. PAPANTLA
56. NARANJO DULCE
57. LLANO MEDIO
58. EL ESPINAL
58. MARTINEZ DE LA TORRE
59. TLAPACOYAN
60. GUTIERREZ ZAMORA
61. ALTOTONGA
62. PLAN DE ARROYOS
63. ZONGOLICA
64. ORIZABA
65. RIO BLANCO
66. ZAPATA
67. TEQUILA

RADIO EVALUATION - BEFORE = 1
AFTER = 2

GOURD DOLL EVALUATION - 2 DAYS LATER = 3

STAND - 1. Supervisor, 2. Aide

SEX: 1. Female, 2. Male

LANGUAGE: 1. Spanish, 2. Bilingual

GRADE LEVEL:
1. No school
2. First to third grades, primary school
3. Fourth to sixth grades, primary school
4. Secondary school
5. Preparatory, nursing or other

GROUP TYPE:
1. Control
2. Radio
3. Marketplace
4. Final evaluation
5. Nurses
6. Groups

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VARIABLES FOR CODING THE HIDALGO EVALUATIONS

STATE: 1. HIDALGO

NURSES OF TULA, HIDALGO: (24)

1. CATALINA LUGO BARRIENTOS (A)
2. JOSEFINA LUGO HERNANDEZ (A)
3. ELENA LUGO MONTIEL (A)
4. ALICIA PINEDA GARCIA (A)
5. MARIA GUADALUPE MENDOZA (A)
6. JUANA MENDOZA GARCIA (A)
7. GEMA LOPEZ LOPEZ (A)
8. NEREIDA GOMEZ VALDEZ (A)
9. MIRNA ORTIZ GARCIA (A)
10. MARIA MERA ESTRADA (A)
11. RAQUEL MARTINEZ FALCON (A)
12. GONZALA GARCIA CABALLERO (A)
13. CARMEN RIOS BARRERA (A)
14. MARLEN RODROGUEZ MARTINEZ (A)
15. ALMA LILIA ARTEAGA V. (A)
16. GLORIA GALVAN NIETO (A)
17. LOURDES NAVARRETE (A)
18. PETRA CRUZ LORENZO (A)
19. JUANA PEDRAZA BENITEZ (S)
20. VALENTINA LUGO MENDOZA (S)
21. MARIA ANGELES HERNANDEZ (S
22. LIDIA TELLEZ GARCIA (S)
23. MA. DE LOS ANGELES PEREZ S
24. ELIAZUR VARGAS RAMIREZ (S)

NURSES OF ZIMAPAN AND CHAPULHUACAN, HIDALGO: (29)

25. MA. ELENA JUAREZ RAMIREZ (S)
26. MARGARITA R. HERNANDEZ (S)
27. ESTHER RESEDIZ (A)
28. MA. MERCEDES MAYORGA (A)
29. MA. ISABEL TREJO C. (A)
30. CANDIDA LANVILGO R. (A)
31. FLAVIA GARCIA R. (A)
32. BERNARDINA TREJO (A)
33. SILVIA OSORIO RUIZ (A)
34. MARIA MARCELA GERARDO (A)
35. JULIA HERNANDEZ (A)
36. VIOELA RUIZ PEREZ (S)
37. MARIA ESPINO MARTINEZ (A)
38. MACEDONIA MARTINEZ (A)
39. FELICITA CHAVEZ (A)
40. MARIA ABAD (A)
41. MA. LEONIDES LAMARCA (A)
42. NICOLASA HERNANDEZ (A)
43. CLARA RAMIREZ RUBIO (A)
44. RUFINA HERNANDEZ (A)
45. CARMEN OLGUIN S. (A)
46. BARTOLO BENITEZ T. (A)
47. MARTHA MARTINEZ (A)
48. PAULINO HERNANDEZ (A)
49. ORALIA ROJO (A)
50. GLORIA MEZA (S)
51. GLADYS MEJORADA MTZ. (S)
52. MARIA CRUZ NERI (A)
53. PAULINO CRUZ PEREZ (A)

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NURSES OF PACHUCA, HIDALGO: (15)

113. TERESA GOMEZ BAZAN (S)
114. CLEMENCIA VILLAGRAN (S)
115. BLANCA ORDAZ (S)
116. M. ALTAGRACIA VARGAS (A)
117. CONSUELO GONZALEZ ORTEGA (A)
118. FRANCISCA RODRIGUEZ PEREZ (S)
119. ROSA MARIA CAMICA E. (A)
120. MA. MARTHA SERRANO (S)
121. CONSUELO BALTAZAR M. (S)
122. EUSTOLIA JUAREZ A. (S)
123. LEONOR ALDANA M. (A)
124. MA. CANDELARIA PLATA (A)
125. LETICIA CABANAS CRUZ (A)
126. LIDIA CLAVA LOPEZ (A)
127. JUANA MA. HDZ. PINEDA (A

NURSES OF APAN, HIDALGO: (24()

132. ANASTACIA PEREZ MEJORADA (A)
133. ALMA ROSA SANCHEZ M. (S)
134. MA. GUADALUPE ARROYO (A)
135. CATALINA HERNANDEZ E. (A)
136. BERTHA FRANCO MONTANO (A)
137. ALEJANDRA SUAREZ LEON (A)
138. MA. DE LOURDES DOMINGUEZ (A)
139. DOMINGA PASTEN (A)
140. VERONICA LOPEZ GARCIA (A)
141. ROSA TAPIA (A)
142. MARTHA IRENE CARRASCO (S)
143. MA. TOMASA VEGA BANOS (A
144. MA. EUFEMIA CANUTO G. (A
145. MA. DEL CARMEN TAPIA (A)
146. IRENE MENDOZ T. (A)
147. GUADALUPE RAMIREZ P. (A)
148. CANDELARIA PALACIOS (A)
149. MA. LORETO OLVERA F. (A)
150. MA. ANTONIA SANTOS O. (A
151. ELSA DIAS SOSA (A)
152. MA. ISABEL PEREZ B. (S)
153. JULIA HUERTA (A)
154. SILVIA ESCOBEDO A. (A)
155. CIRA MENESES A. (A)

NURSES OF METZTITLAN, HIDALGO: (40)

156. HORTENSIA GOMEZ VEGA (T)
157. CECILIA HERNANDEZ SOLIS (A)
158. MARIBEL DEL RIO SANCHEZ (P)
159. CATALINA SILVA ALVAREZ (T)
160. MARIA BARRON (T)
161. FABIOLA DEL ANGEL (P)
162. YADIRA RODRIGUEZ PEREZ (P)
163. ALBERTA MORENO HDZ. (A)
164. ROSA TORRES CRUZ (T)
165. PETRA CRUZ MARTINEZ (S)
166. CECILIA CRUZ ESCAMILLA (A)
167. FRANCISCA ALDANA PEREZ (A)
168. MICHEL ARIADNA REBOLLEDO (T)
169. SUSANA MUNGIA
170. LILIA MORALES
171. REYNA SANTAMARIA
172. GLORIA DOMINGUEZ
173. ANTONIA CHAVEZ
174. GUDELIA
175. ELIA BADILLO
176. NEMECIA DURAN M. (T)
177. MARISOL JUAREZ VILLEGAS (T)
178. RUFINA LOPEZ MEJIA (T)
179. SOCORRO PEREZ PORTILLA (T)
180. MARICELA BUSTOS T. (T)
181. JUANA CLEOFAS G. (A)
182. ESTELA DURAN PEREZ (S)
183. MERCEDES HDZ. A. (A)
184. REYNA PEREZ PEREZ (A)
185. MA. EUGENIA TORREZ (A)
186. BEATRIZ MARTINEZ A.
187. GUMERCINDA RANGEL (A)
188. ROGELIO DEL ANGEL (P)
189. MARIA TERESA HUERTA (S)
190. OLIVA LUNA MELCHOR (S)
191. MARIBEL GONZALEZ C. (S)
192. LAURA TENORIO L. (S)
193. EPIGMENIA PEREZ L. (A)
194. MA. DEL CARMEN P. (A)
195. TERESA GARCIA V. (A)

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HIDALGO JURISDICTIONS:

1. TULA (YA)
2. ZIMAPAN (YA)
3. HUEJUTLA
4. TULANCINGO
5. PACHUCA
6. APAN
7. METZTITLAN
8. ZACUALTIPAN

HEALTH UNITS OF THE JURISDICTION OF TULA:

1. TULA
2. ATOTONILCO DE TULA
3. TEPTITLAN
4. TEZONTEPEC
5. TEPEJI DEL RIO
6. AJACUBA
7. MEXQUIAHUALA
8. CHAPANTONGO
9. ATITALAQUIA

HEALTH UNITS OF THE JURISDICTION OF ZIMAPAN:

10. ZIMAPAN
11. LA MISION
12. JACALA
13. PISAFLORES
14. CHAPULHUACAN

HEALTH UNITS OF THE JURISDICTION OF HUEJUTLA:

15. HUEJUTLA A
16. HUEJUTLA B
17. YAHUALICA
18. SAN FELIPE ORIZATLAN
19. HUAZALINGO
20. HUAUTLA
21. JALTOCAN
22. ATLAPEXCO
23. TLANCHINOL

HEALTH UNITS OF THE JURISDICTION OF TULANCINGO:

24. ACATLAN
25. ACAXOCHITLAN
26. AGUA BLANCA
27. CUAUHTEPEC I
28. CUAUHTEPEC II
29. TENANGO DE DORIA
30. SINGUILUCAN

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31. HUEHUETLA
32. TULANCINGO

HEALTH UNITS OF THE JURISDICTION OF PACHUCA:

33. REAL DEL MONTE
34. ATOTONILCO EL GRANDE
35. HUASCA
36. SAN AGUSTIN TLAXIACA

HEALTH UNITS OF THE JURISDICTION OF APAN:

37. APAN
38. TEPEAPULCO
39. ZEMPOALA
40. METZTITLAN
41. TLAHUILTEPA
42. ZACUALTIPAN
43. S.A. METLOHUITITLAN
44. CALNALI
45. LOLOTLA
46. XOCHILUATLAN
47. MOLANGO

COMMUNITIES OF TULA:

1. BOTHI
2. TOXTHE
3. DEXHA
4. PINO SUAREZ
5. TEOCALCO
6. JULIAN VILLAGRAN
7. ZIMAPANTONGO
8. SAN ISIDRO
9. LA LOMA
10. LA PALMA
11. SANTA MARIA DAXTHO
12. SAN PEDRO NEXTLAMPA
13. TENANGO
14. SAN JUAN EL SABINO
15. EL MONTESINO
16. SANTIAGO ACAYUTLAN
17. COL. SAN FRANCISCO BOJAY
18. LA CANADA DE ATOTONILCO
19. SAN GABRIEL
20. DOXEY
21. SAN MARCOS

COMMUNITIES OF ZIMAPAN:

22. LA MISION
23. ALVARO OBREGON
24. S.C.R.C.
25. LA TINJA
26. SALITRE
27. MINAS VIEJAS
28. EL AGUAJE
29. CONECITO
30. CONE VIEJO
31. LA CIENAGA
32. POTRERITOS
33. VENUSTIANO CARRANZA
37. PLAN DE AYALA
38. LO VERDE
39. IGLESIA VIEJA
40. CAHUASAS
42. LA PECHUGA
43. POZA AMARILLA
44. LA PENA
45. SANTA MARIA
46. PUERTO OSCURO
47. CHAPULHUACAN
48. LA HONDURA
49. JACALA

SP

34. RANCHO VIEJO
35. SAN RAFAEL
36. HIGUARON
50. ZIMAPAN
51. PALO VERDE

COMMUNITIES OF HUEJUTLA:

ATLAPEXCO:
52. SANTO TOMAS
53. HUITZOTLACO
54. IXTLAHUAC
55. ATLALTIPA MIRADOR
56. EL MIRADOR
57. ATENCUAPA
58. ATLAPEXCO
59. EL COJELITO
60. LOS PUENTES
61. CHALAHUIYAPAN
62. OXELOCO

HUEJUTLA:
63. SANTA ANA
64. CALMECATE
65. JALTOCAN
66. COL. ROJO GOMEZ
67. HUEJUTLA
68. LA LABOR
69. LOS PARAJES
70. CRUZTITLA
71. TZAPOTITLA
72. CHIPOCO
117. EXCATEPEC
118. ORIZATLAN
119. HUITZACHAHUATL

COMMUNITIES OF TULANCINGO:

TULANCINGO:
73. METEPEC II
74. ALMOLOYA
75. SAN BARTOLO
76. SAN DIONISIO
77. COL 28 DE MAYO
78. ALCHOLOYA
79. MIN. LOS ARCOS
80. EJIDO DE AHUEHUETITLA
81. JAVIER ROJO GOMEZ
82. LA CANADA
83. STA. TERESA
84. TEPALCINGO
85. CEBOLLETAS
86. TULANCINGO
87. CERRO VERDE
88. LOS PUENTES
89. STA. RITA
90. LA ESPERANZA
91. CHICHICAXTEN
92. LA CUMBRE
93. SAN PEDRO
94. SAN RAFAEL AMOLUCAN

TENANGO DE DORIA:
95. TENANGO DE DORIA
96. EL MORADO
97. AGUA ZARCA
98. PACHUCA
99. CERRO CHIQUITO
100. BARRIO AZTLAN
101. HUEHUETLA
102. AGUA BLANCA

COMMUNITIES OF PACHUCA:

103. ATOTONILCO
104. PACHUCA
105. SAN JOSE OCOTILLAS
111. MINERALDEL MONTE
112. LA ESTANCIA
113. SANATARUM

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106. SAN LORENZO EL ZOMBO
107. SANTO DOMINGO
108. TEZOANTLA
109. HUASCA
110. SANTO DOMINGO
114. SAN. FCO. TECAJIQUE
115. EL PASO AMAJAC
116. BENITO JUAREZ

COMMUNITIES OF APAN:

120. TETLAPAYAC
121. ZEMPOALA
122. TEPEPATLAXCA
123. SANTA CRUZ
124. SAN MATEO TLAJOMULCO
125. EL CERRITO
126. SAN JOSE JIQUILPAN
127. TLALAXOTE
128. COATLACO
129. BELLA VISTA
130. TEPEALPULCO
131. SAN MIGUEL DE LAS TUNAS
132. ZOTOLUCA
133. SAN JERONIMO
134. LOS SIDES
135. COCINILLAS
136. LOMAS DEL PEDREGAL
137. FRANCISCO SARAVIA
138. JOSE MA. MORELOS
139. IROLO
140. APAN
141. SAN ANTONIO OXT.
142. JAGUEY PRIETO

COMMUNITIES OF METZTITLAN:

143. PEDREGAL
144. SAN CRISTOBAL
145. CARRIZAL
146. TLAXCO
147. ELOXOTITLAN
148. LA MESA GRANDE
149. METZTITLAN
150. CUALQUIZQUE
151. ITZTAIATL
152. JILOTLA
153. EL PIRU
154. TECRUZ COZAPA
155. CERRITO DE TLACOTEPEC
156. TEPATETITA
157. HUAYATENO
158. ATZOLCINTLA

MARKETPLACES OF THE JURISDICTION OF TULA:

1. TULA
2. TLAHUELILPAN

MARKETPLACES OF THE JURISDICTION OF ZIMAPAN:

3. JACALA
4. ZIMAPAN
5. CHAPULHUACAN

MARKETPLACES OF THE JURISDICTION OF HUEJUTLA:

6. ATLAPEZCO
7. HUEJUTLA

MARKETPLACES OF THE JURISDICTION OF TULANCINGO:

8. TULANCINGO
9. TENANGO DE DORIA

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MARKETPLACES OF THE JURISDICTION OF PACHUCA:

10. PACHUCA
11. ATOTONILCO EL GRANDE

MARKETPLACES OF THE JURISDICTION OF APAN:

12. TEPEAPULCO
13. APAN
14. CIUDAD SAHUGUN

MARKETPLACES OF THE JURISDICTION OF METZTITLAN:

15. SAN CRISTOBAL
16. METZTITLAN

STAND: 1. Supervisor, 2. Aide

SEX: 1. Female, 2. Male

LANGUAGE: 1. Spanish, 2. Bilingual, 3. Understands other language

GRADE LEVEL:
1. No school
2. First to third grades, primary school
3. Fourth to sixth grades, primary school
4. Secondary school
5. Preparatory, nursing or other

GROUP TYPE:
1. Control
2. Radio
3. Marketplace
4. Final evaluation
5. Nurses
6. Groups

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ANNEX 2: EVALUATION MATERIALS

REPORT ON THE PROCEDURES FOLLOWED FOR CODING AND PROCESSING THE INFORMATION OBTAINED IN HIDALGO AND VERACRUZ

The evaluations were performed at three levels of classifying and objectifying reality. The closed evaluations helped us obtain quantitative information that was possible to work with statistically. The open, but controlled evaluations allowed us to aggregate information and detect trends (generally in percentages), but not to perform statistical analysis.
Finally, the descriptive information allowed us to establish trends based on observation and personal experience.
The basic idea of performing these distinct kinds of evaluations is that none of them is exhaustive, and that when dealing with quasi-experimental research designs, evaluations reveal trends to us and not exact measurements of reality. When the trends from the various kinds of evaluation point to the same results we have greater certainty that we are constructing the objective of the study in a more reliable way.

Once the evaluations performed in Hidalgo and Veracruz were reviewed, they were worked with in the following way:

In the NURSE PROFILE[1] the following was coded: number of the nurse; community of residence; stand worked in; sex; age; number of children; language(s) spoken; whether the nurse had received training courses, workshops on Oral Hydration Therapy, and didactic material; the availability of envelopes; if there were a OHT unit available; the number of communities the nurse could work in; and length of service. This is a qualitative evaluation of this type of information.

With respect to the evaluation of the GOURD DOLL, the following were measured: the level of comprehension of dehydration and its signs; the importance of nutrition; the incorrect use of medications; and serum as a fundamental element in the rehydration process. The procedure consisted of classifying as correct and incorrect each of the ten questions, thereby obtaining the rating, average and percentages. This evaluation was performed in the mothers groups two days after having participated in the course. This was a quantitative evaluation that allowed us to make comparisons between groups and locations.

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[1] It is important to make clear that the name of the evaluations comes from previous research studies; they were left with the same name for ease of comparison and organization. For example, in reality we use the Radio Evaluation (L) to measure the comprehension of concepts not only by people who only listened to the radio, but also by those who came to the stands, by mothers groups and by the controls.

The RADIO evaluation measured the level of comprehension of the signs and symptoms of dehydration and the importance of oral serum as a fundamental element in the rehydration process. This was accomplished through ten questions that were classified as correct or incorrect, thereby obtaining ratings, averages and percentages. This evaluation was performed in the marketplaces and the mothers groups. For the former the evaluation was performed with groups who had attended the talk and had played the lottery, and with control groups. For the latter the evaluation was performed before the beginning of the course and again at the end of the course.
This was a quantitative evaluation that allowed us to make comparisons between groups and locations.

The NURSE RESPONSE evaluation was an open, controlled survey that attempted to detect the response of the nurses to the change in dynamics that characterized our training. This survey was performed at the end of the project during the final evaluation. The information was analyzed qualitatively and was aggregated into general headings, presented in percentages. This information presents us with trends, which, because they are duplicated and similar in the two states, allow us to make statements based on them. This was a qualitative evaluation.

The evaluation of the THEORETICAL PHASE OF THE COURSE was designed to be performed immediately after the course in order to discover how the work of the trainers was proceeding. The information helped us during the project to incorporate suggestions, discover trends, and obtain some common items to be expressed in percentages at the end of the intervention. This consisted of a qualitative evaluation.

The nurses were requested to provide a list of their DOUBTS in order to detect possible gaps in the course after the first sessions. This instrument was used to cover these gaps or items that were poorly understood during the course itself. This consisted of descriptive material.

For the final evaluation session, the trainees were requested to provide a personal evaluation in writing to bring back to the group at the end of the course, and that would serve as the basis of discussion. The women were asked to express their concerns, enthusiasms and doubts concerning our entire course. They were also requested to provide the response of their communities and their view of the future with respect to their daily functions. These evaluations were analyzed in a descriptive manner.

Evaluations A1 and A2 were applied to health personnel on two occasions, once before beginning the course, and the other at the end of the project. These consisted of instruments that evaluate technical knowledge concerning OHT. They were divided into the following areas:

1. Etiology (questions 1 and 2),
2. Prevention (questions 3 and 4),
3. Signs and symptoms of Diarrhea (questions 5,7,8,9,10); question number 6 was discarded because it was considered too confusing.
4. Treatment (questions 11, 12, 13, 14, 15, 16, 17, and 19); question number 18 was discarded because the form in which it was posed distorted the results.
5. Gravity (23 and 24)
6. Questions 20, 21 and 22 were eliminated because they were considered to have been covered in the questions on treatment, and they were also considered to be confusing.

These questions were classified as correct or incorrect This exercise was a quantitative evaluation that allowed us to make comparisons between groups and locations.

The purpose of the MARKETPLACE RECORD was to record the people who came to the stands, the operation of the stands, the conditions under which the work was performed, etc.

The FINAL EVALUATION OF PEOPLE IN THE MARKETPLACE was performed in order to be able to verify exposure to the information after several months and to conduct a comparison of the use of oral hydration serum across the various kinds of exposure. This exercise was conducted with people chosen at random from among a group of marketplaces also chosen at random. We returned to these marketplaces during the month of December on open-air market days to perform our closed survey.
This exercise consisted of a quantitative evaluation that allowed us to make comparisons between groups and locations.

INFORMATION PROCESSING

For the quantitative and qualitative information, the first step was to code the variables corresponding to the various evaluations. Once this process was completed, we proceeded to capture the data using the database program DBASE III PLUS.
Later the required variable crossings were performed in order to obtain the information desired.

The questions relating to the GOURD DOLL and RADIO evaluations were crossed in an individual manner in accordance with the type of group: control, marketplace and mothers, with a classification of good or poor.

The number of people and the percentages corresponding to each classification were obtained. Then the general percentage of correct and incorrect responses was obtained by group type.

With the results obtained from the evaluations of the NURSES' COURSE A-1 (applied at the beginning of the course), the questions corresponding to each area (mentioned in the first part of the report) were crossed with the number of nurses who participated, and the percentages of correct and incorrect responses to each question were derived. The same process was used for evaluation A-2 (performed at the end of the month-long course), and a comparative table was created that shows the number of nurses who responded correctly and incorrectly and the corresponding percentages, as well as the general percentages for both.

With the results obtained from the FINAL EVALUATION OF PEOPLE IN THE MARKETPLACES, the variables were crossed, thereby obtaining the number of people who had been included in the program, and the relationship between the receipt of information and the use of the oral serum envelope.

NURSE PROFILE I

1.- NAME _____
2.- POSITION _____
3.- COMMUNITY _____
4.- JURISDICTION _____
5.- LOCATION _____
6.- DATE _____
7.- REVIEW _____

NAME _____ RESIDENCE _____

NURSE _____ AIDE _____

SEX F____ M____ AGE____ NO. OF CHILDREN_____

NATIVE LANGUAGE_____

SPEAKS OTHER LANGUAGE_____

UNDERSTANDS OTHER LANGUAGE_____

ATTENDED COURSES YES____ NO____

OHT CONFERENCES YES____ NO____

DIDACTIC MATERIAL YES____ NO____

AVAILABILITY OF ENVELOPES YES____ NO____

OHT UNIT YES____ NO____

GRADE LEVEL _____

HOW MANY COMMUNITIES CAN YOU WORK IN? _____

LENGTH OF TIME IN POSITION _____

ATTENDED COURSE _____

EVALUATION OF THE THEORETICAL PHASE OF THE COURSE - H

1.- NAME _____
2.- POSITION _____
3.- COMMUNITY _____
4.- JURISDICTION _____
5.- LOCATION _____
6.- DATE _____
7.- REVIEW _____

1. What kind of health services are needed in the communities that you visit?_____
_____

2. Are more hospital units needed?_____

3. Are medications for diarrhea easy to obtain?_____

4. If you were not a nurse or aide, what else what would you like to be in your life?_____
_____

5. Will dehydration cases due to diarrhea have decreased by next year?_____

6. Did you like how the doctor talked who gave the conference?
_____

7. What part of the course seemed most useful to you?_____
_____

8. Would you like to repeat the course? In its entirety? What part?_____
_____

9. If you had a twenty year old daughter, would you invite her to work in the communities with you?_____

10. What suggestions would you make to improve this course?_____
_____
_____

EVALUATION OF NURSES' RESPONSE -M

EVALUATION OF THE RESPONSE OF THE NURSES TO THE CHANGE IN DYNAMICS AND HEALTH EDUCATION METHODS

1.- NAME _____
2.- POSITION _____
3.- COMMUNITY _____
4.- JURISDICTION _____
5.- LOCATION _____
6.- DATE _____
7.- REVIEW _____

1. Had you tried before to perform an analysis of the communities? _____

2. Do you believe that it is useful?
_____

3. Do you believe that you will be able to communicate better with people in the community from now on? _____

4. Which of the materials did you like the best?
_____

5. Do you think that there is a change in the way of working? Do you like it? _____

6. Had you ever used educational materials before? When? What kind? _____

7. Which of the techniques we use seems to you to be the most useful? _____

8. Would you like to say anything else?
_____

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TREATMENT:

11.	WHEN THERE ARE NO COMPLICATIONS DIARRHEA DISAPPEARS SPONTANEOUSLY WITHIN 3 TO 5 DAYS.	YES	NO
12.	THE ABUSE OF ANTIBIOTICS CAUSES COMPLICATIONS	YES	NO
13.	THE HYDRATION CONDITION OF A CHILD WITH DIARRHEA MUST ALWAYS BE WATCHED.	YES	NO
14.	DIARRHEA WITHOUT COMPLICATIONS SHOULD BE TREATED IN THE HOME.	YES	NO
15.	FOOD SHOULD NOT BE GIVEN TO CHILDREN WITH DIARRHEA.	YES	NO
16.	CHILDREN WITH FEVER SHOULD BE KEPT WARM.	YES	NO
17.	WHEN A CHILD HAS DIARRHEA FOR MORE THAN 3 DAYS, ANTIBIOTICS SHOULD BE ADMINISTERED	YES	NO
18.	A CHILD WITH DIARRHEA MUST BE MADE TO EAT.	YES	NO

ORAL HYDRATION THERAPY (OHT):

19.	WHEN THE DIARRHEA DISAPPEARS THE OHT SHOULD BE DISCONTINUED.	YES	NO
20.	THE "ENVELOPES" ARE THE ONLY WAY TO HYDRATE THE CHILDREN.	YES	NO
21.	GLUCOSE SERUM IS USEFUL IN HYDRATION.	YES	NO
22.	IT IS NECESSARY TO BOIL THE WATER IN ORDER TO PREPARE THE "ENVELOPE"	YES	NO

GRAVITY:

23.	DEHYDRATION CAN CAUSE DEATH.	YES	NO
24.	DIARRHEA IS MORE SERIOUS IN CHILDREN MORE THAN FOUR YEARS OLD.	YES	NO

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MARKETING DAY No. _____

RADIO EVALUATION (L)

1.- NAME _____
2.- POSITION _____
3.- COMMUNITY _____
4.- JURISDICTION _____
5.- LOCATION _____
6.- DATE _____
7.- REVIEW _____

No. OF PARTICIPANTS IN THE GROUP _____
No. OF PEOPLE WHO PARTICIPATED _____

1. CHILDREN GET SICK WITH DIARRHEA BECAUSE:
   THEY BECOME WEAK_____ THEY EAT INSECTS IN THEIR FOOD_____

2. WHEN HE GETS SICK WITH DIARRHEA, THE CHILD LOSES:
   WATER AND ENERGY IN HIS BODY_____ VITAMINS_____

3. WHEN THEY BECOME SICK WITH DIARRHEA, THEY SHOULD BE GIVEN:
   ANTIBIOTIC_____ THE SALTY WATER THEY LOSE_____

4. WHEN THE CHILD LOSES A LOT OF WATER, HE BECOMES:
   WRINKLED_____ SHRUNKEN_____

5. IN DIARRHEA, WHAT IS THE MOST DANGEROUS?
   DEHYDRATION_____ LACK OF APPETITE_____

6. WHEN THE CHILD VOMITS THE SERUM SHOULD BE:
   DISCONTINUED_____ GIVEN IN SPOONFULS OR WITH A DROPPER___

7. THE WATER A CHILD LOSES TASTES LIKE:
   LEMON JUICE_____ SALTY TEARS_____.

8. IF THE CHILD IS NOT HUNGRY YOU SHOULD:
   GIVE HIM VITAMINS_____ FEED HIM WELL_____

9. ORAL SERUM IS GOOD BECAUSE:
   IT CURES DIARRHEA_____
   IT CAUSES THE INTESTINE TO FUNCTION AGAIN_____

10. DEHYDRATION CAN KILL A CHILD:
    IN JUST A FEW HOURS_____ AFTER A LONG TIME_____

11. HOW DID YOU LEARN ABOUT THE LOTTERY GAME IN THE MARKETPLACE?
    _____

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DATA ON MARKETPLACES IN HIDALGO

Market:_____ Date:_____

Name:_____

Number of staff participating: Supervisors_____ Aides_____

Conditions:

Sound system Yes____ No____

Radio announcement: Yes____ No____

Tables: Yes____ No____

Chairs: Yes____ No____

Flipcharts: Yes____ No____

Attention to flipcharts: Good____ Average____ Poor____

Approx. number of people participating:____

Location in the marketplace: Good____ Average____ Poor____

Number of envelopes distributed:____

Had they come to the stand before?____ How many times____

Support shown by vendors in the marketplace:

Announced the lottery____

Offered a stand____

Number of men who participated____

Number of children who participated____

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FINAL EVALUATION OF PEOPLE IN THE MARKETPLACE

1. WHEN DO YOU COME TO THE MARKET? (No. OF TIMES PER MONTH)

2. DID YOU KNOW OF THE ORAL SERUM IN PRIOR MONTHS?
PLAYED HEARD THE LOTTERY HEARD IT TALKED ABOUT NO

3. DID YOU HEAR THE ANNOUNCEMENTS OR THE RADIO SPOT? YES NO

4. HAS ANYONE IN YOUR HOUSE BEEN SICK WITH DIARRHEA LATELY?
IF YES, WHO (AGE)_____

5. WHAT DID THE FAMILY DO?
HOUSE DOCTOR HEALER MEDICATION SERUM DIET NOTHING_____

6. SINCE WHEN HAVE YOU USED ORAL HYDRATION SERUM?

7. HAVE YOU RECOMMENDED THE USE OF HYDRATION SERUM TO ANYONE?
NO YES TO WHOM_____

8. WHERE DO YOU LIVE? (DISTANCE FROM THE MARKET)

9. WHAT IS THE ROOF OF YOUR HOUSE MADE OF?

10. WHAT DO YOU THINK IS THE MOST IMPORTANT ACTION TO TAKE WHEN A CHILD HAS DIARRHEA?

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EVALUATION OF THE TRAINING COURSE

FIELD LOGS AND DIRECT OBSERVATION

Session 1.

Activity 1.- Presentation of aides and supervisors.
The technique was useful in providing confidence and encouraging participation on the part of the trainees.
Confidence was determined to be a principal element to establish communication. The design of this training course also provided immediate participation, which relaxes, without much complication, the tensions that most people feel when presented with something new. As a first step in beginning the course, each participant presented herself to the group, providing her name, community, health unit, her reason for working in this field and whether or not she enjoyed it. This first interaction removed the anonymity of the participants. Some of the trainees were surprised at the lack of formality, and reacted positively. Throughout the course we changed places, moved the chairs, which were generally arranged in a circle, "broke the ice", and did not provide opportunity for boredom or distraction.
Activity 2.- Inquiry on the expectations the trainees had for the course. Small groups were formed where the trainees were asked for their expectations with respect to the course. In most cases their requests corresponded to our proposed curriculum. Our ability to gain the confidence of the trainees in a natural and spontaneous way was important for them to be able to react immediately and positively. In some courses, the fact that the trainees did not have information on the subject of the course caused a certain disorientation and initial disappointment among the participants, which required CICLOPE to insist that the officials who are responsible for inviting their staff to the courses be more clear in their invitations.
In the cases where the expectations coincided with the course, this technique produced optimum, spontaneous, and concrete results.

Activities 3 and 4.- Educational techniques: inquiry and consultation. These techniques referred to the subject of CHT, which resulted in a didactic impact on the trainees with respect to the obstacles they face in their everyday work. These techniques allowed us to obtain real life examples from the audience to which we could refer when we provided the technical information to them. At the same time, this technique served to illustrate the specific ways the techniques could be applied in the mothers groups they would create in their communities and in the marketplace events.

The first technique was a quick survey. In the first courses this technique consisted in asking questions about the talks they would give on family planning, in order to explain to them in an

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immediate way what the quick survey consisted of. The word "survey" was not used very well by them, so we asked them to suggest a word they would use, and they suggested "count". So a quick count was done right away on diarrhea cases, and throughout the courses we realized that they understood this technique rather well and that we should proceed directly to our subject matter, because it took too long to do this two times. We found various reactions to this quick count, such as shyness, shame at revealing that they had had children with diarrhea, surely for fear of being judged, instant participation, or denial that they had had any cases. In general, however, most of them raised their hands immediately. Some groups were especially difficult in the sense that they gave one the feeling that they knew everything. But this technique provided various options to deal with these communication barriers. For example, when no one would raise their hand, we did so ourselves, giving the impression that whoever denied having had diarrhea at least once in their life could be lying. This also gave the impression that one should not be ashamed to say so, since in this course we would learn various methods to avoid or remedy complications caused by diarrhea and dehydration. Using this technique they began to react almost immediately and the majority ended by raising their hands.

The second technique, true stories, was naturally implemented with no prior explanations so as not to interrupt the spontaneity resulting from asking people what happened, how it happened, what they did, and how they did it. Most of us enjoy talking about what has happened to us, because we then feel less alone in our pain, or we identify with what the other person is telling us. We almost never had any problem with this technique that required any intervention, even when some went on for a long time, because they had already had a group activity (the quick count). In some instances we could see that the person who was telling her "true" story was stretching the truth, in the sense that she had cared for a diarrhea case without any medication or without having gone to a healer. However, as others related their experiences with healers, individual doctors, medications, solutions, home remedies, traditions and practices, weakness, bleeding, cramps, cathartics, fasting, etc., these people ended up participating. The information that came from these true stories served as examples for the next activity: the role play.

They enjoyed this activity very much, because it was very quick and voluntary. At the beginning, the role play was performed, and we then discussed what had happened. We later concluded that the part the public played should relate to what had happened in the role play, in order to broaden participation and observation, in turn expanding the information that had not come out using the two previous techniques. This method created the possibility that they would reflect on the reasons why this or that had been said or done.

The objective of the techniques described above was to obtain real cases from the concrete experiences of the group, to which

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we could refer when we would communicate the information to our audience. For example, if we said that acute diarrhea is self-limiting, it would be difficult for people to believe, given that they had their own explanations for these things. If ten or fifteen cases came up in the group and we listed a series of characteristics, we could observe that the majority of cases lasted from two to five days, and then explain that this phenomenon that they were observing was clearly due to the fact that the disease is self-limiting. The same thing would happen with respect to antibiotics, suspensions, traditional cures, etc. The many combinations of therapies would be compared with respect to duration and we would see that no particular therapy had any effect on these cases. Nutrition, increased liquids, use of serum, etc., would all then be seen in the light of the cases presented by each group.
The trainees' interest in and understanding of the information presented was much greater than if we alone had provided the information.

Session II

Activity 1.- Clarification of the communicative teaching process in contrast with the characteristics of traditional teaching.
In the first courses, small groups were formed so that the participants could discuss problems with the communities they would work with: preventing disease through education, ways of working and the results obtained. We observed that this way of conducting the reflection yielded results that were not very self-critical and did not help very much to change poor practices and overcome the barriers to communication created by the health workers themselves. We concluded, based on the experience obtained in the role play, that we would achieve greater objectivity in the analysis by using improvisational exercises that would prevent avoidance of the responsibility of each participant for teaching failures, by relating their bad teaching habits to other examples familiar to the trainees.
In reflecting on disease prevention and how we teach it, how we convince people to change one habit or practice for another, we asked a series of questions about how and why the trainees believed that people, in spite of the fact that we explain and repeat to them what they should do, do not do it. We then played a card game on traditional education and communicative education, where the participants had to separate the cards and place them in two columns corresponding to these two large categories. Here we encountered several obstacles: the cards were written by hand, they contained words and concepts they did not understand, and they also did not understand what they were supposed to do. We were running the risk of carrying on too long, rather than allowing the participants themselves to draw their own conclusions from the information and their own experiences. We decided to have the cards printed, look for some synonyms for words they did not understand, and instead of asking direct

questions, perform some improvisational exercises in turning situations around: how we teach how to wash our hands, how we convince our daughter that her boyfriend is an alcoholic, how we teach someone how to drive a car, how we teach someone how to dance. This activity was very enjoyable and the trainees were very attentive. Based on these exercises and the reflections on their problems with teaching and communicating while working with their own communities, the trainees came to the conclusion that education requires patience, care and a long time. They learned that they must consider the reasons why people do this or that, and not impose their own way of seeing and doing things without beforehand having listened to the people. They confirmed that many times we talk to people in a language they do not understand, and that moreover we tell them to do things that are not possible, such as "feed him chicken and vegetables", when some families only eat rice and beans. The trainees learned the basic elements that must be confronted if the people are to remember, learn and use the information provided.
After these exercises, the comprehension of traditional education and communicative education was satisfactory. The pleasure they took from participating and understanding many things that they had not had the time or the opportunity to reflect on made them very attentive.
The practice with dramatic exercises in the above activity helped the trainees to a great extent in identifying with more certainty the characteristics of each kind of teaching that were presented in a game of cards that had to be grouped in two columns corresponding to communicative and traditional teaching.

Activity 2.- Evaluation of knowledge of OHT.
Evaluation A1 consists of responding yes or no to a certain number of questions. The results of this evaluation are quantitative and are presented in the body of the report.

Activity 3.- Analysis and planning the work of the trainees in their communities (task analysis and work plan).
At first the creation of this work plan was a way of evaluating integration with the sequence of tasks to be performed in the community. We concluded that this was an unnecessary evaluation because an instructional booklet was provided to them which specified, step by step, each of the activities to be performed. Thus this plan came to be a way of summarizing the activities to be performed to promote OHT through the use of techniques learned during the course.

Session III

Activity 1.- Conference by the pediatric physician on the concerns raised in evaluation A1.
The next step consisted of the conference on OHT by the pediatrician based on the concerns revealed in evaluation A1 and in the questions that continued to come up. Given that the first

pediatrician who gave the conference was very succinct and she used a very traditional manner of expressing herself, Selene, who has many years of experience in this area and is very well versed in it, decided to give the conference herself so that the rhythm and dynamics of the course would not be broken.
Fortunately she was a success, as the trainees showed no shame or timidity in asking questions.
With our experience from the first conference by the pediatrician we noted a break in the easy and confident rhythm achieved with the activities in sessions I and II. Therefore we decided to have CICLOPE staff (who have worked in the field and are capable of covering this information) jointly present the conferences with the doctors from the jurisdictions.

Activity 2.- Introduction of the didactic support materials to be used by the trainees during their educational work.

Flipcharts.
This material presented two difficulties: some people did not know how to read (five elderly women), or read slowly (indigenous aides), and the text in some cases was long. We chose to have each trainee develop a synthesis of the text that would correspond to the pictures on each sheet. The people who did not know how to read said that they could overcome this difficulty with the help of family members who did know how to read.

Pamphlets
The way the trainees managed this material was very interesting and surprising. Their visual attractiveness and the fact that the trainees were provided with a sufficient quantity of them to give as prizes, also functioned as a way of hooking people in to attending the conferences. The pamphlets also accorded recognition to those who had gone through an extraordinary process that gave them the authority to speak about OHT before people of their own communities.

Gourd Doll
This material was also very well liked by the trainees and demonstrated for them a complex phenomenon with interpretations rooted in traditions and practices, such as weakness, and provided them with a new concept, a substitute for the magical practices of the healers.
The gourd doll surprised and delighted the trainees. They related how, with the gourd doll, the mothers would understand perfectly why the child was losing consciousness. At the beginning we had enough gourd dolls, but later it was difficult for us to obtain the squashes they are made from. We then proposed a contest to see who could make the best gourd doll with a bleach bottle, and several won. The gourd doll or "manuelito" is very useful material that clearly demonstrates why the child grows weak, how the loss of liquids causes the child to stop urinating, how the child begins to cry without tears. Only two features cannot be

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demonstrated with the "manuelito": sunken eyes and the texture of the skin. . The flipcharts presented some obstacles: some of the women did not know how to read or write; the story in some cases was very long, requiring the sensitivity and capability to describe the content of the pictures in a quick and colloquial way, and stress the information that we want to emphasize. The trainees also needed to be shown how to present the flipchart without overpowering the pictures, thereby erasing the visual objective of the images. Through experience we concluded that practice served to overcome these obstacles.

Plantains
The trainees understood this very well, and even contributed more examples to demonstrate the texture of the skin. Some women who did not have plantains in their communities performed this task with tomatoes or whatever they could find to use in their explanation. They were encouraged to think about how they could show people in an objective manner why the eyes become sunken as a result of dehydration. We brought along some photographs that Dr. Silvia Leyva gave us of dehydrated children, so that they could clearly see all the signs.

Serum preparation
This activity is designed to counter the prejudice against the bad taste of the serum and substitute the concept of "salty" like tears, similar to the liquid that is being lost. This was a learn-by-doing exercise, demonstrating that serum is vital for rehydration.
The serum was prepared by following the instructions on the envelope itself. We would ask a trainee who did not know how to read or write, or sometimes someone who did know, to tell us what she saw in the pictures on the envelope. Not everyone interpreted them correctly, and some said they were not clear. Then we would ask for someone to read the instructions and the serum would be prepared. We would then give the serum to them to drink, and this caused some laughter and agitation, some saying they had not tried it before, others saying that it tasted very bad, and others saying they liked it. This caused us to observe that in order to convince people of something we had to give an explanation: the serum tastes salty because the liquids lost by the body are salty. Then we would distribute evaluation H, the materials, and evaluations L and E for their work in the communities.

Activity 4.- Question contest.
We would then hold a contest on questions about the material that had been covered to this point, and on the instructional booklet that we would read right there. In some cases we had enough time to answer the questions that same day, but in general we did not, given that most of the trainees lived at some distance and had to leave relatively early to take the bus or so they would not have to walk at night. We told them that whoever raised the most

questions had penetrated most deeply into the material, because many people, out of fear of appearing ridiculous or stupid, said they did not have any.
This activity presented two difficulties that we could not completely overcome: little participation in revealing their questions, and superficiality in their observations. In any case, it is difficult to evaluate, through this activity, the reasons why they did not participate. The trainees would say that they did not have time, they did not know how to read and write, they had understood everything, they had not understood anything, they did not understand what was being asked of them. We tried to conduct this exercise in various ways: by asking them to write down their questions in their homes; that they underline words they did not understand; that they speak their questions out loud; we even offered a prize to the person who presented the most questions. However, there was very little response, and where there was any, the responses showed little inclination to question what they did not understand.

INSTRUCTIONAL BOOKLET

We made several changes to the instructional booklet: in the language, where the trainees themselves indicated which words they did not understand, and the worksheet. At the beginning the worksheet was completed there with the trainees themselves, but as the course would take shape thanks to their contributions and the experiences they would share, we concluded that the worksheet could be settled and printed from the beginning.

LOTTERY

At the beginning we would explain the mechanics of playing the lottery and we would let their experience in the marketplaces explain the objective of this material. However, we realized that the lottery game required that some difficulties be overcome: shyness, inability to read and write, lack of volume in their voices, nervousness, shame, lack of clarity in calling out the cards. So we decided to do a role play of a lottery stand in a marketplace within the training course. We would drape a cloth over a stand where the oral life serum would be announced, and we invited the trainees to participate. This was very enjoyable, and the learn-by-doing technique was assimilated very well. Then a volunteer would do the same, and would present the flipchart or read it, and then call out the lottery cards. As the cards were called we noted that they would not emphasize the essential information on OHT, so we concluded by giving them simple phrases to refer to each picture in order to point out the signs of dehydration, an explanation of diarrhea, the causes of dehydration, how to prevent it, and its duration, so that they themselves, with practice, could create a script for themselves that they could recite each time they would play the lottery.

SOME PRIZE-WINNING RECIPES

LICUADO:

One glass of cold milk, previously boiled, to which is added a plantain, one egg yolk, and 1/2 teaspoon of sugar. The mixture is beaten into a liquid and served.

RICE FLOUR ATOLE

Boil water for 20 min. When it has boiled, beat the rice flour in another bowl and pour in the boiling water. Add cinnamon, sugar and milk to taste. Stir constantly and let boil for 20 to 30 minutes. Remove the mixture from heat, cool it down and serve.

CHICKEN BROTH WITH VEGETABLES

Wash the chicken well, and place it in a pot with water. Add salt, garlic, and onion and boil. Wash vegetables such as carrots, potatoes, etc. Chop into pieces and add to the chicken. Fried tomatoes that have already been mashed can be added to the broth.

TORTILLA SOUP WITH CHARDS

Lightly brown the tortilla. Shred a chicken breast. Season a tomato with garlic and onion, grind them together and add to the chicken broth, as well as the washed and chopped chards. When boiling add the tortilla. Add a sprig of epazote herb. Serve with shredded cheese.

POTATO CREAM

1/4 cooked potato with skin
1/2 can of evaporated milk
1 piece of onion
50 grams of butter
1/2 liter chicken stock
2 sprigs of parsley

Melt the butter in a pot and cook the onion in rings until clear. Add the potato to the butter and onions and mash together. Add the chicken broth and milk, little by little. When boiling add the chopped parsley and salt to taste.

SOUP WITH VEGETABLES

One bag of pasta, some vegetables, oil and chicken bouillon, potatoes, chards, tomato.
Pour oil into a casserole. Stir the noodles until brown. Add tomato until blended and seasoned. Add boiling water. Add the

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bouillon, and when it first boils add the potato and vegetables until the second boil. Remove from heat, allow to cool and serve.

VEGETABLE STEW

Carrot, potato, chayote, string beans, chard, squash, onion, garlic, salt.
Wash everything very well. Boil all of the vegetables in clean water. When cooked add Knor-Suiza and salt to taste.

RICE FLOUR ATOLE WITH MILK

In a clean pot boil 1/2 liter of water and add a sprig of cinnamon. When the water boils, take a bowl and dissolve two tablespoons of rice flour in cold water. Add this to the boiling water. Add 1/2 liter of milk and sugar to taste, and allow to boil for 15 minutes, stirring slowly. Allow to cool and serve the desired amount.

RICE FLOUR ATOLE

Boil one liter of water in a pot. Dissolve five tablespoons of flour, and when the water boils, add the flour and the piece of cinnamon. Allow to boil for three minutes. Done.

RICE WATER

Wash hands well with water and soap. Boil 1/2 liter of water with cinnamon. Clean the rice by completely washing under a stream of water. When the water begins to boil add the rice and allow it to cook until done. Add sugar to taste. Strain it before serving, or if preferred, the rice can also be eaten.

DOUGH ATOLE

1 liter of water
150 grams of dough
Add water and knead the dough until it is watery. Strain through a colander, into the water; add a piece of cinnamon and sugar to taste

PRICKLY PEAR PUDDING

10 small prickly pears (cooked)
10 tortillas
1/2 k. of tomato seasoned with onion, garlic, mixed together
100 grams of cheese
1/4 of cream

Begin with one layer of fried tortilla, then one of chopped prickly pears, then cream and cheese; then another layer of

tortilla and on top another layer of prickly pear. When several layers of tortillas and prickly pear have been placed, add all of the cream and cheese that remains and the tomato on top. Put in an oven or steamer.

CHICKEN STEW WITH VEGETABLES

1 k. of chicken
Rice, onion, tomato, garlic
2 carrots
2 chayotes
cabbage, spinach, chards, chickpeas
Put a pot with water over heat and add the rice, onion, garlic and tomato. When this comes to its first boil add the chicken, and then add the vegetables. Lower the flame so it cooks slowly.

NOODLE SOUP WITH TOMATO

Mix the tomato with onion and garlic. Brown the noodles and add the tomato and chicken broth.

PASTA SOUP

Put oil in casserole and heat noodles until brown. Add tomato, onion and garlic, all ground and mixed together. Add water or chicken broth and bring to boil.

MASHED POTATOES

Boil potatoes well, remove skins, allow to cool, mash and strain them. Add milk and sugar and stir until well-mixed.

BEEF WITH VEGETABLES IN LIGHT SAUCE

Cook the beef, and when almost cooked, add the vegetables.
For each 1/2 k. of beef add:
3 potatoes finely chopped
4 carrots finely chopped
1 medium chayote in even slices
50 grams of rice
100 grams of chickpeas
Shredded cabbage to taste
Salt
Consomme

FRIED FISH

Fish, flour, chards, tomato. Wash the fish well and make small cuts in the sides. Add salt to taste and batter with flour. When the oil in the pan is hot add the fish, and when cooked remove and place on a plate with chards and tomato. Serve with tortillas or bread and fruit juice (apple, orange, mango, peach.

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ANNEX 3. CHANGES TO THE MATERIALS

SUGGESTIONS FOR CHANGES IN THE FLIPCHART AND PAMPHLET BY THE HEALTH PROMOTION ADMINISTRATION AND THE HEALTE SECRETARIAT

SHEET 2

TEXT	SUGGESTION: CHANGE THE TERM "SHIT" FOR EVACUATION OR DEFECATION
	ADD: CURED ONLY AFTER THREE TO FIVE DAYS OF CARE IN THE HOME
	CHANGE: DIARRHEA PRINCIPALLY ATTACKS CHILDREN LESS THAN ONE OLD AND CHILDREN BETWELN ONE AND FOUR YEARS OF AGE TO: DIARRHEA PRINCIPALLY ATTACKS CHILDREN UNDER FIVE YEARS OF AGE, AND IT IS MOST DANGEROUS DURING THE FIRST YEAR OF LIFE
PICTURE	REMOVE THE DIAPERS FROM THE NIGHT TABLE
	CHANGE THE PICTURE OF THE CHILD AS IT DOES NOT CORRESPOND TO THE AGE

SHEET 3

TEXT	ADD: FILL THE BOTTLE WITH CLEAN WATER, PREFERABLY BOILED
	CHANGE THE WORD MICROORGANISM FOR MICROBE
	REMOVE THE WORD SOME

SHEET 4

TEXT	THERE IS TOO MUCH TECHNICAL INFORMATION AND IT IS DIFFICULT TO READ THE CHART CAN ONLY BE UNDERSTOOD BY HEALTH PERSONNEL
	INCLUDE ON THIS PAGE THE PRINCIPAL SIGNS OF DEHYDRATION IN A SIMPLE MANNER, IDENTIFIED IN A LIST FORMAT
PICTURE	THE PICTURES DO NOT AGREE WITH THE TEXT

SHEET 5

TEXT	DO NOT MIX DIARRHEIC DISEASES WITH RESPIRATORY INFECTIONS IN ORDER TO AVOID CONFUSION

SHEET 6

TEXT — SUGGESTION: USE SIMPLER, CLEARER LANGUAGE TO EXPLAIN TREATMENT IN THE HOME

PICTURE — SUGGESTION: REMOVE THE DIRTY DIAPERS WHERE THE SICK LITTLE GIRL IS SITTING

SHEET 9

TEXT — CHANGE THE WORD "UGLY" FOR "SALTY" AND DO NOT MAKE A COMPARISON WITH ALL BODY FLUIDS

REMOVE: "BECAUSE ONLY IN THIS WAY WILL INSECTS DIE IN THE INTESTINE" BECAUSE THIS IS A TECHNICAL ERROR

ADD THAT IF THE CHILD DOES NOT EAT IT MAY BECOME MALNOURISHED

EDIT THE SECOND PARAGRAPH BECAUSE IT IS REPETITIVE AND CONTAINS TECHNICAL ERRORS WITH RESPECT TO NUTRITION DURING THE DISEASE

PICTURE — CHANGE THE PICTURE OF THE CHILD IN THE SECOND FRAME BECAUSE HE APPEARS IN A WEAKENED CONDITION THAT IMPLIES GRAVITY AND INABILITY TO EAT

SHEET 10

TEXT — SUGGESTION: ADD THE FOLLOWING ELEMENTS AS ESSENTIAL HYGIENIC PRACTICES: BOIL WATER, EAT WELL-COOKED FOOD, WASH FRUIT AND VEGETABLES WITH WATER, STRAW BRUSH AND SOAP; DEFECATE IN TOILET OR LATRINE, OR AT LEAST BURY EXCREMENT

OMIT THE PARAGRAPH ON THE USE OF THE BOTTLE, BECAUSE IT MAY ENCOURAGE SUBSTITUTION OF THE BOTTLE INSTEAD OF BREASTFEEDING

PAMPHLET

WITH RESPECT TO THIS MATERIAL, IT WILL BE NECESSARY TO INCLUDE A BRIEF PRESENTATION THAT EXPLAINS THE OBJECTIVE OF THE PAMPHLET, BECAUSE IT IS NOT CERTAIN THAT IT WILL BE READ BY PEOPLE WHO HAVE BEEN GIVEN THE SUPPLEMENTARY INFORMATION FROM THE FLIPCHART. IT WOULD ALSO BE USEFUL FOR THE TEXTS AT THE BOTTOM OF THE PAGES TO BE PRINTED IN BOLDER PRINT. AT THE END, THE BASIC MESSAGES THAT THE POPULATION SHOULD ASSIMILATE SHOULD BE SUMMARIZED.

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SUGGESTIONS BY DR. MOTA HDZ.

- Teaching guide for the flipchart
- This is MEDICATION that CURES DEHYDRATION and not diarrhea
- Change rehydration for hydration
- The radio story can be understood to mean that the SERUM killed the child
- There are also two messages in the radio story
  Either one message should be chosen, or include the malnutrition message

PAMPHLET

- Change the name of the serum because it is wrong: it should be ORAL LIFE SERUM

FLIPCHART

Sheet 1.

Text:

- OHT and not ORT
- Add infection
- Add microbes
- Add malnutrition

Picture:

- The child eating dirt is far in the background, and the message is lost

Sheet 2.

Text:

- Add boiling water
- Continue giving in smaller amounts but more continuously
- Remove more serum and add "throw out the extra serum"

Picture:

- Add the health center as the departure point for the child, when she arrives running
- Remove the diapers on the night table and substitute a sequence of pictures

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Sheet 3.

Text:

- Always administer again... after each liquid evacuation
- Remove the kinds of diarrhea
- The important thing...prevent the child from becoming dehydrated...the child is dehydrated, add signs: thirst, irritability, weakness, dry tongue, wrinkles in the skin

Picture:

- One liter of milk can be added to indicate the measurement
- The comical section occupies too much space

Sheet 4.

Text:

- Do not mention pneumonia
- In complications, remove "serious" and follow the steps of the procedure

Picture:

- Change the mother washing for a mother throwing out the excess serum

Sheet 5.

Text:

- Add that it is a medication that cures dehydration
- Standardize using hydration and not rehydration
- Remove the last paragraph

Picture:

- There is a lack of continuity from the previous sheet, and in the latter it appears as if the child died from taking the serum

Sheet 6.

Text:

- Remove the dirty diapers from under the sick little girl and place her next to the sleeping child with a pencil in her hand so that there is continuity with the following sheet

Sheet 8.

Text:

- Replace "bad" with "salty"
- "...replace the liquid lost because of DEHYDRATION", replace with "...replace the liquid lost through DIARRHEA"
- Replace "is not hungry" with "is not very hungry"
- Remove: "Plantains are good...", and add, "feed him more often with soft, unconcentrated, unspicy food"
- Remove "proteins" and insert "ENERGY". Add vegetable oil to prepared food and/or to milk.
- Emphasize that the child must be fed more frequently

Sheet 9.

Text:

- "Washing your hands well after going to the bathroom...", add "change the diapers"
- Replace "infect" with "contaminate"
- Remove "bottle" and replace with "breast" (explain why)
- Add that children's hands must be washed and their nails trimmed

Picture:

- Change the picture of the little sick girl eating the plantain, because the child appears very aggressive and the plantain appears to be unpeeled
- Increase the size of the picture of the mother breastfeeding

Sheet 10.

Picture:

- Lack of continuity between the signs and symptoms of the sick child and the healthy child

Sheets 11 and 12.

- Remove these two sheets and replace them with a summary

Sheet 13.

- Leave as is

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