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Logistics and Child Health Support Services Project

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February 12, 1999

Ann Wickham
JSI/Boston

Subject: Report on Female Community Health Volunteers' (FCHVs') Knowledge and Activities Related to Diarrheal Diseases and Acute Respiratory Infections

Dear Ann,

Please find herewith a report which summarizes the results of a special study conducted in July/August 1998 with 98 randomly selected Female Community Health Volunteers in Chitwan and Makwanpur districts. This study was conducted by JSI, in cooperation with the CDD/ARI Section, Child Health Division, MOH to determine the FCHVs' knowledge, skill and practice in the management of diarrhea and pneumonia cases in children. The FCHVs in these 2 districts have been included in the ARI Strengthening Program since 1995 and received additional combined child health training through the CDD Reactivation Program conducted in 1996/97.

The results of this study are very encouraging and show that over 70% of the FCHVs had knowledge of at least 4 out of 6 signs of dehydration and 95% knew at least 2 conditions requiring referral for children with diarrhea. Overall, 94% stated that children with diarrhea should be given more fluids; 84% said that children should continue to be fed during a diarrheal episode; and 78% knew all 3 home rules for management of children with diarrhea. Sixty-six percent of FCHVs had ORS packets available with them on the day of interview; 97% of all the FCHVs prepared the oral rehydration solution correctly, including measuring the correct volume of water. These results all show a very positive trend when compared to a previous study conducted with FCHVs in the Eastern Region in 1994.

In regard to the ARI program activities, 91% of the FCHVs knew 2 respiratory cut-off rates; 88% counted the respiratory rate correctly; 98% knew at least 4 danger signs of pneumonia requiring referral to the nearest medical facility with trained personnel; 97% knew the correct cotrimoxazole dosage for 2 different age groups; and 85% had cotrimoxazole available on the day of visit. Their knowledge about appropriate home care for children with ARI was also excellent. The FCHVs had treated an average of 1-2 pneumonia cases per month and review of their record books revealed that they had correctly classified 92% of the cases they treated; and 79% of the cases had been followed up on the third day after initial treatment.

Several reasons are identified which contributed to these excellent results: good quality initial training for the FCHVs to ensure that they were provided with appropriate knowledge and skills on the management of children with diarrhea and pneumonia; good IEC and reference materials appropriate for FCHVs with minimal or no literacy; followup and on-the-spot refresher training during supervisory visits by DHO, health facility and JSI staff and also during their regular FCHV review/refresher meetings; extremely high commitment of the FCHVs to improve the health and save the lives of the children under 5 years of age in their communities.

This study also identified some areas which could be further strengthened and all recommendations focus on the necessary program inputs at the FCHV level and the need for support and recognition for the FCHVs' contribution to improving health and well-being of children throughout Nepal.

I hope that you will enjoy reading this report and I would be happy to answer any questions related to this study.

Sincerely,

Penny Dawson, MD,
Team Leader/Child Survival
Resource Person,
JSI/Nepal.

Report on Female Community Health Volunteers' (FCHVs') Knowledge and Activities Related to Diarrheal Diseases and Acute Respiratory Infections



Field Work Conducted in Chitwan and Makwanpur Districts
Central Development Region - Nepal
July/August 1998



Report Prepared by :
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In Cooperation with
CDD/ARI Section
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Left Side Cover Picture: FCHV Tula Maya Gurung, Ward #5, Mangalpur VDC, Chitwan is counting respiratory rate of child to detect pneumonia.
Picture taken by: Shree Hari Sharma, Child Health Field Officer, JSI/Nepal

Right Side Cover Picture: Assistant Child Health Field Officer B. B. Kark, JSI/Nepal is interviewing FCHV Shyam Kumari Lataula, Ward # 5, Basamadi VDC, Makwanpur.
Picture taken by: Mana Chamlin, Child Health Field Officer, JSI/Nepal

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Executive Summary

Interviews were conducted with 98 randomly selected Female Community Health Volunteers (FCHVs) in Chitwan and Makwanpur districts to assess their knowledge, skill and practice with regard to assessment and management of diarrheal diseases and acute respiratory infections in children. A secondary objective was to compare the results of these interviews, where applicable, with those conducted with FCHVs in the Eastern Region in 1994. FCHVs in Makwanpur and Chitwan have been involved in the ARI Strengthening Program since 1995 and received the combined child health training package through the CDD Reactivation program in 1996/97.

The FCHVs were interviewed at their homes by trained interviewers using a standardized questionnaire, which had been field tested in one of the intervention districts and prepared in Nepali. Overall, 63% of the interviewed FCHVs were literate (Chitwan-79%; Makwanpur-48%).

In this study, over 70% of the FCHVs had knowledge about 4 of the 6 signs of dehydration (sunken eyes, dry mouth, thirst and slow skin pinch) but their knowledge on the importance of assessing general condition of the child and presence or absence of tears was weak. Their knowledge of 7 indications for referral of a child with diarrhea was over 70% for 2 conditions, while others varied from 32% to 58%. These are areas that require stress in future review meetings for FCHVs.

It was found that the FCHVs in Chitwan and Makwanpur in 1998 had much better knowledge of the signs of dehydration and conditions for referral than did their counterparts in the Eastern Region in 1994. Literate FCHVs had better knowledge than their illiterate counterparts in the current study, but even the illiterate FCHVs in 1998 showed better knowledge than the FCHVs interviewed in 1994 in nearly all areas. The literacy status of the FCHVs in the Eastern Development Region was not documented in 1994. FCHVs had not been included in the CDD Reactivation Program trainings in the Eastern Region.

The FCHVs' knowledge of 3 home rules for management of children with diarrhea was very good with 94% identifying the need to increase fluids; 84% said continue feeding and 95% knew at least 2 reasons for referral. Seventy-eight percent of FCHVs knew all 3 home rules. In the Eastern Region, in 1994, 21% of FCHVs knew the 3 home rules.

Increase fluids	94%
Continue Feeding	84%
At least 2 reasons for referral	95%
All 3 home rules	78%

Ninety-seven percent of 98 FCHVs prepared Oral Rehydration Solution with the correct volume of water, as compared with only 55% correct preparation in 1994. The improvement is due to the availability of the blue plastic measuring cup with the FCHVs and the reinforcement of the skill during training and followup supervision.

Sixty-six percent of FCHVs had Jeevan Jal (ORS) packets available on the day of visit, compared to 43% in the Eastern Region in 1994. While there is improvement this result is still not satisfactory, as the goal is to have Jeevan Jal available with 100% of FCHVs all the time.

In regard to knowledge and skill related to the ARI program, the FCHVs in these two districts performed very well, with 91% knowing respiratory cut off rates for two different age groups; 88% counted respiratory rate (RR) correctly; 98% knew 4 or more than 4 danger signs; 97% knew the correct cotrimoxazole dose for 2 age groups; and 85% had cotrimoxazole pediatric tablets available on the day of the interview.

2 cut off rates	91%
Count RR correctly	88%
4/more than 4 danger signs	98%
Correct cotrim dose (2 age groups)	97%
Cotrimoxazole available	85%

Over 80% of the FCHVs could describe 5 components of appropriate home care for children with ARI and the advice that must be given to mothers and caretakers of sick children. They forgot to remind mothers to look for fast breathing.

One hundred percent of the FCHVs stated that treated or referred children should have a follow up visit from the FCHV on the third day and 95% stated that they

would check the respiratory rate on the follow up visit. Sixty-eight to 70% of the FCHVs mentioned that on follow up they should check for chest indrawing; check if the correct cotrimoxazole dose had been given to the children; and review appropriate home care with the mother.

Eighty-four percent of the FCHVs had treated at least one case of pneumonia between January 1998 and the day of interview, and from among them, the average number of cases treated was 7.5 per FCHV. To determine the correctness of their classification and treatment of pneumonia cases, the 10 most recent records in the FCHVs' treatment and referral books were analyzed. A review of 544 cases, revealed that 92% of the cases had been correctly classified; 99% had been given the correct cotrimoxazole dose to the child's age; and 79% had had a follow up visit on the third day for which the outcome was marked in the book. Overall, throughout the study, there was little difference between the results obtained for the FCHVs in the 2 districts.

Literate FCHVs tended to perform better than illiterate FCHVs, but the latter did extremely well and there were only a few specific areas that need targeting for improvement: knowledge of signs of dehydration and indications for referral in diarrhea cases; practice to reinforce correct counting of the respiratory rate and confidence in recognizing 2 cut off respiratory rates by

	Literate	Illiterate	Total
Correct Classification	93%	89%	92%
Cases Marking third day followup	80%	78%	79%
Cases Marking Correct Dose for Age	99%	98%	99%
Cases Marking Correct Dose for Age and Third day Follow up (treated cases)	80%	79%	79%

age group; reminders to advise mothers to look for fast breathing and chest indrawing; and two components of the followup visit need to be reinforced.

These results are very encouraging and reinforce the already increasing recognition of the significant role that FCHVs can play in improving child health in their communities. A few recommendations are made to further improve the child health program components implemented at the community level through the FCHVs.

- Coordinate with planners of the FCHV review meetings to reinforce specific program messages
- Ensure year-round availability of essential program commodities with the FCHVs
- Continue to extend child health program interventions to the FCHV level
- Strengthen support mechanisms for all FCHVs
- Identify innovative ways to support illiterate FCHVs

The very significant contributions that FCHVs are making to improve child health in Nepal cannot be overlooked. It is from the FCHV's hand that virtually all 3.6 million under 5 children are receiving polio drops twice yearly; from the same FCHVs over 2.1 million children receive Vitamin A capsules, twice yearly. They provide appropriate advice and, if necessary, ORS, for children with dehydration; counseling for parents seeking information about family planning, EPI and other health services; and they are proving their ability and willingness to diagnose and treat pneumonia in their communities. Let us support them to help the children and families of Nepal.

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1. Background and Introduction

Nepal is a small landlocked country, with an area of about 150,000 square kilometers, surrounded on all sides by regions or territories controlled by two major powers, India to the south, east and west and China to the north. Within the average 195 km breadth from north to south, Nepal contains three distinct geographic zones: the mountains, hills and terai. The country is divided administratively into five development regions and seventy-five districts. The development regions run from north to south, each region containing mountain, hill and terai belts. The districts are subdivided into village development committees (VDCs) and some of the districts also have municipalities. Every VDC is then broken down into 9 wards and every municipality is broken down into 9 to 35 wards.

The population of the country is estimated to be 21,843,068. Total female population is 10,939,621 (50%) with 3,494,890 children under the age of 5 years.¹ The majority of the people are subsistence farmers living in the rural areas.

Primary health services are delivered to people through government hospitals, primary health care centers, health posts, and sub-health posts. Trained female community health volunteers (FCHVs), Maternal Child Health Workers (MCHWs), and Village Health Workers (VHWs) provide primary health services beyond health facilities. Since the FCHVs are community members, living close to the families with sick children and thus available at any time, they are becoming popular primary health services providers in the community.

In the 1995/96 demographic survey², the infant mortality rate was estimated to be 78.5 per 1000 live births and the under 5 mortality rate to be 118 per 1000 live births. According to WHO estimates, 11.6 million³ children under 5 years of age die each year in developing countries. Among these, about 8.12 million (70%) die of illnesses associated with one or more of these 5 diseases (diarrhea, acute respiratory infections (ARI), measles, malaria and malnutrition) and 38% of children die of illnesses related to diarrhea and ARI. In Nepal, disease specific mortality rates are not known, but from a World Bank report⁴ it appears that pneumonia (ARI) followed by diarrhea are the leading causes of death in children, after the perinatal period. His Majesty's Government (HMG) has national programs to address these major killers of young children.

A. CDD

The National Diarrhoeal Disease Control Program (NCDDP) in Nepal was established in 1983, with the objectives of reducing mortality and morbidity due to diarrhoea in children under the age of five. In 1993, the NCDDP initiated a CDD Reactivation Program which was

¹ Statistical Pocket Book, Central Bureau of Statistics, Nepal, 1998

² Family Health Survey, Nepal, 1996

³ Based on data taken from the Global Burden of Disease 1996, edited by Murray CJL and Lopez AD, and Epidemiologic Evidence for a potentiating effect of malnutrition on child mortality, Pelletier DL, Frongillo EA and Habicht JP, *Am J Public Health* 1993;83:1130-1133

⁴ Proceedings of Workshop on Basic Health Care Package Including Beyond the Basic Health Care for the Long Term Health Plan Development, 1996

implemented in a phased manner in four development regions (East, Far-West, Mid-West, West) of Nepal between 1993 and 1995. The objectives of the reactivation were to: provide training to the health personnel on case management for diarrhea; increase community-based education activities; establish oral rehydration therapy (ORT) corners in all health facilities; and increase access to oral rehydration salts (ORS). The implementation of the reactivation program in 4 regions was completed by 1995. In 1994 a health facility (HF) survey⁵ was carried out to assess the effectiveness of the reactivation activities. In coordination with this survey, JSI/Nepal conducted interviews with 178 FCHVs in the Eastern Development Region to assess their knowledge and activities with regard to the management of diarrheal diseases⁶. Based on the HF survey and FCHV interview results, a modified approach was introduced in the Central Region. This modified approach included several new strategies: emphasis on program management in addition to case management for specific diseases; combination of the major child health program components to include not only diarrhea, but also ARI, Vit A/nutrition and EPI; expansion of the intervention beyond the health post, to include the FCHVs; involvement of local leaders at District, VDC and ward level in orientation programs to raise awareness about the program and the FCHVs' role in their villages. The modified reactivation program was successfully implemented in Rasuwa, Nuwakot, Chitwan, Makwanpur, Sarlahi and Mahotari in the fiscal year 2052/53(1995/96)⁷; in Dolakha, Sindhupalchowk, Bara, Parsa, Rautahat, Dhanusha in the fiscal year 2053/54 (1996/97)⁸; and in Kathmandu, Lalitpur, Bhaktapur and Dhading in the fiscal year 2054/55 (1997/98)⁹.

B. ARI

The National Program for the Control of Acute Respiratory Infections was established in 1987 with the objectives of reducing morbidity and mortality from pneumonia in children under 5 years of age. The main activities were training in standard case management for health facility staff and provision of cotrimoxazole tablets to the fixed facilities. In 1993, the Ministry of Health and its major donor partners working in Child Health, USAID/JSI, UNICEF and WHO began to meet regularly to review the current status of the National ARI Control Program and to plan for an intervention in selected districts to identify a community level intervention which would be the most appropriate for replication throughout the country to decrease pneumonia deaths in children under 5 years of age.

The full magnitude of the pneumonia problem was not known but by reviewing existing data on pneumonia incidence and the available figures on the number of ARI/pneumonia cases being brought to health facilities, it was clear that relying on caretakers to bring children to fixed facilities was not adequate to save lives.

⁵ Diarrheal Diseases Health Facility Survey, Nepal, 1994.

⁶ Results of Interviews Conducted with Female Community Health Volunteers (FCHV) on Diarrheal Diseases, Eastern Development Region, 1994.

⁷ Report of CDD Reactivation Program in Six Districts of Central Region, 1996.

⁸ Report of CDD Reactivation Program in Six Districts of Central Region, 1997.

⁹ Report of CDD Reactivation Program in Four Districts of Central Region, 1998.

In 1994/95 the working group initiated a community-based intervention (ARI Strengthening Program) within the existing MOH infrastructure using two different models - "treatment" and "referral". In the "treatment" model (implemented in Chitwan and Makwanpur districts) the FCHVs and VHWs (referred to collectively as Community Health Workers or CHWs) would diagnose pneumonia by counting respiratory rate using a sound timer, and if the child had "pneumonia only" they would treat with the first line drug (cotrimoxazole pediatric tablets); if the child had any danger signs they would refer to the nearest health facility. In the "referral" model (implemented in Morang and Sunsari) the CHWs would diagnose pneumonia using the sound timer and by observing for danger signs, and if the child had pneumonia or severe pneumonia they would refer to the nearest health facility.

After one year, in 2053/54 (1996/97), the CDD/ARI Section conducted an assessment in collaboration with USAID/JSI, WHO and UNICEF. The assessment results¹⁰ revealed that twice as many children who were at risk of having pneumonia were diagnosed and treated in the "treatment" model districts with no increase in the numbers treated in the "referral" model. The mothers in the "treatment" model were more knowledgeable about the danger signs. The FCHV performance was very good, and showed very little misuse of antibiotics. Therefore the assessment identified the "treatment" model as the most appropriate for cautious expansion in a phased manner.

In fiscal year 2054/55 (1997/98), refresher training was provided to the HF staff and community workers in Chitwan and Makwanpur. Health facility and community health workers in Sunsari, Morang, Jhapa and Parsa were trained in standard case management of pneumonia, appropriate to their level bringing the total number of districts involved in the ARI Strengthening Program to 6 districts. The details of these training activities are summarized in another report.¹¹

The Female Community Health Volunteers in Chitwan and Makwanpur districts were trained in the treatment of pneumonia in the spring of 1995 in Nepali fiscal year 2051/52 (1994/95) and have received some refresher trainings and followup supervision visits since that time from the DHO and JSI Child Health Field Officers. They were also included in the CDD Reactivation Program trainings in 2052/53 (1995/96). JSI decided to conduct a small study to interview a total of 100 FCHVs in these two districts and to compare the results to those found in the 1994 survey of FCHVs in the Eastern Development Region. The latter survey was conducted with FCHVs who had had only the basic FCHV training and any trainings associated with their regular review meetings, but had not been included in any other specific MOH child health program initiatives.

2. Objectives

1. To assess the knowledge, skill and practice of FCHVs in the management of diarrhea and pneumonia cases in children
2. To compare the knowledge and skill of FCHVs trained through the "combined" child health approach in the Central Region with the results of the interviews conducted with FCHVs about diarrheal diseases in the Eastern Region in 1994
3. To review the records of the FCHVs and compare documentation of correct classification of pneumonia, third day followup and appropriate cotrimoxazole (p) dose according to age group between the FCHVs of Chitwan and Makwanpur

¹⁰ Assessment of the ARI Strengthening Program, 1997

¹¹ ARI Strengthening Program Planning and Training Report for 1997/98

3. Methodology

A. Questionnaire

The questionnaire from the initial CDD survey conducted in the Eastern Region was translated into Nepali and utilized along with the current ARI monitoring questionnaire (in English) to gather necessary data on knowledge, skill and practice of FCHVs. (Annex - 1) The questionnaire was pretested in 2 wards of Churiya Mai VDC in Makwanpur district and that VDC was not selected for the sample.

B. Selection of Samples

Twenty-two Village Development Committees (VDC) which are more than 5 hours walk from the nearest motorable road and very remote or difficult to reach due to the monsoon rains were excluded from the randomization. Twenty-five VDCs were selected using a lottery system among the remaining VDCs in each of the 2 districts. Two Female Community Health Volunteers were selected from each of the 25 randomly selected VDCs, again using a lottery system. Selected VDCs and wards are listed in Annex-2. A decision was made that if the interviewer was unable to meet the selected FCHV (i.e. the FCHV was out of station for more than 1 day or had died) then the FCHV from the next ward would be interviewed. Since two FCHVs selected for an interview in Chandibhanjyang VDC could not be reached due to a big flood, 2 interviews were excluded from Chitwan district.

C. Orientation/Supervision of Interviews

The orientation took place on July 5 and 6, 1998 at the JSI Office in Hetauda. Two JSI Assistant Child Health Field Officers (ACHFOs), one each from JSI/Biratnagar and JSI/Hetauda were oriented to carry out the interviews with FCHVs. They received a two-day orientation session in JSI/Hetauda. On the first day they were oriented theoretically on the questionnaire and on the second day both ACHFOs were taken to Churiya Mai VDC in Makwanpur (which was not selected for the survey) to pretest the questionnaire and to bring uniformity to the style of interviewing the FCHVs. The ACHFO, JSI/Hetauda was assigned for Makwanpur District and the ACHFO, JSI/Biratnagar was assigned for Chitwan District to conduct the interviews. The CHFOs in JSI/Hetauda were assigned as immediate supervisors for Makwanpur District and the CHFO/Chitwan was assigned as the immediate supervisor for Chitwan District.

D. Data Collection

Data collection started from July 7, 1998. Whenever possible the immediate supervisors accompanied the interviewers during the FCHV interview and assisted them in solving problems encountered in the field. The supervisors reviewed the completed questionnaires for quality control. The data collection in Chitwan district was completed by July 20, 1998 and in Makwanpur district it was completed by August 31, 1998. Distances and difficulties encountered in meeting FCHVs were much greater in Makwanpur than in Chitwan.

E. ORS Preparation

During the interviews the FCHVs were asked to demonstrate the preparation of ORS and they were closely observed. One packet of ORS (Jeevan Jal) was provided to the FCHVs for the practical demonstration of preparation. After preparation, the volume of ORS was measured using 500 ml calibrated cylinders.

F. Feedback/On-the-Spot Training

After the completion of the interview each FCHV was provided with feedback and on-the-spot training on ARI and CDD. In addition, the FCHVs were provided with essential materials that were in short supply or missing, eg. cotrimoxazole pediatric tablets, classification cards and home therapy cards, timers, etc.

4. Findings and Discussion

A. Overall Characteristics of FCHVs

The Female Community Health Volunteer (FCHVs) who were selected randomly as described in the methodology section were visited and interviewed. They were very enthusiastic to participate and were exceptionally cooperative. A total of 50 FCHVs from 25 VDCs in Makwanpur district and 48 from 24 VDCs in Chitwan district were interviewed to determine their assessment and treatment of Diarrheal Diseases and Acute Respiratory Infections (ARI). All interviewed FCHVs were trained through the ARI Strengthening Program and CDD Reactivation Program with the combined child health approach. Further breakdown by literacy status as shown in Table # 1 reveals that 38 (79%) of FCHVs interviewed in Chitwan and 24 (48%) of the FCHVs interviewed in Makwanpur district were literate. The criterion for being called "literate" was ability to read and write Nepali.

Table # 1: FCHVs' Literacy Status

District	# Interviewed	Literate	Illiterate
Chitwan	48	38 (79%)	10 (21%)
Makwanpur	50	24 (48%)	26 (50%)
Total	98	62 (63%)	36 (37%)

B. Knowledge, Skills and Practice in the Management of Diarrheal Diseases

i. Signs of Dehydration

Correct assessment of dehydration is the first step in CDD case management. FCHVs of the Central Region had very good knowledge about 4 of the 6 signs (including the key signs) of dehydration - dry mouth (77%), sunken eyes (73%), thirst (72%) and skin pinch (71%). The other 2 signs were mentioned less frequently: general condition (44%), absence of tears (41%). Table # 2 shows that FCHVs interviewed in the Central Region in 1998 had much better knowledge on the 6 signs of dehydration when compared to the FCHVs interviewed in the Eastern Region in 1994.

Table # 2: FCHVs' Knowledge on Signs of Dehydration by District

Signs	Central Region, 1998			Eastern Region 1994
	Chitwan	Makwanpur	Total	
a. General Condition	48%	40%	44%	34%
b. Sunken Eyes	81%	66%	73%	NA
c. No Tears	54%	28%	41%	3%
d. Dry mouth	83%	70%	77%	46%
e. Thirst	79%	66%	72%	16%
f. Skin Pinch	60%	82%	71%	68%

The FCHVs' knowledge on 6 signs of dehydration was also analyzed by literacy status of the FCHVs. Literate FCHVs were more likely to be knowledgeable about the signs of dehydration than their illiterate counterparts; however, for 5 out of 6 of the signs, illiterate FCHVs in 1998 had better knowledge than the Eastern Region FCHVs interviewed in 1994. The literacy status of those FCHVs is unknown.

Table #3: FCHVs' Knowledge on Signs of Dehydration by Literacy Status

Danger Signs	Literate	Illiterate
a. General Condition	47%	35%
b. Sunken Eyes	79%	58%
c. No Tears	47%	28%
d. Dry mouth	79%	65%
e. Thirst	77%	58%
f. Skin Pinch	74%	60%

ii. Knowledge About Referral

Correct and timely referral of diarrhea cases will reduce mortality and for this the FCHVs must have good knowledge regarding when to refer the children to the nearest health facility. The percentage of FCHVs who mentioned specific indications for referral in the Central Region is higher than that of the FCHVs interviewed in the Eastern Region in 1994. The results are compared in Table # 4. The 3 most commonly mentioned indications for referral in 1998 were: many watery stools (74%); unable to eat/drink (73%); and not getting better (58%). The percentage of FCHVs in the Central Region who mentioned not getting better "niko nabhayema" as a referral sign is lower (58%) compared to the FCHVs interviewed in the Eastern Region (72%). The referral sign "niko nabhayema" may be easy to remember for those FCHVs who do not have knowledge on any other specific referral signs.

Table #4: FCHVs' Knowledge on Indications for Referral by District

Indications for Referral	Central Region, 1998			Eastern Region 1994
	Chitwan	Makwanpur	Total	
a. Many Watery Stools	81%	68%	74%	49%
b. Repeated Vomiting	31%	32%	32%	8%
c. Marked Thirst	81%	18%	49%	NA
d. Unable to Eat/Drink	73%	74%	73%	21%
e. Fever	29%	36%	33%	7%
f. Blood in Stool	42%	58%	50%	2%
g. Not Getting Better	77%	40%	58%	72%

The FCHVs' knowledge on indications for referral according to the literacy status of the FCHVs is shown in Table #5. Literate FCHVs have much better knowledge on 6 indications for referral, although for 6 out of 7 indicators, illiterate FCHVs in 1998 had better knowledge than those interviewed in 1994 in the Eastern Region.

Table #5: FCHVs' Knowledge on Indications for Referral by Literacy Status

Indications for Referral	Literate	Illiterate
a. Many Watery Stools	82%	61%
b. Repeated Vomiting	39%	19%
c. Marked Thirst	60%	31%
d. Unable to Eat/Drink	73%	75%
e. Fever	37%	25%
f. Blood in Stool	55%	42%
g. Not Getting Better	65%	47%

iii. Knowledge About Three Rules of Home Treatment for Diarrhea

Application of the three rules of home treatment is very crucial to save children from the main dangers of diarrhea, that is dehydration, malnutrition and death. The CDD Program has stressed these rules for care of children with diarrhea to all health workers and caretakers. These 3 rules which are to be followed whenever a child gets diarrhea are:

- Increase the volume of fluids that the child drinks. This means any kind of fluid- water, juice, liquid from preparing rice, dal, or vegetables and ORS.
- Continue to feed the child throughout the episode and give one extra meal per day for two weeks after the diarrhea stops.
- Watch for danger signs and take the child to a health facility if they have one of the following danger signs: many watery stools; repeated vomiting; marked thirst; unable to eat or drink; fever; blood in the stool.

Ninety-four percent of FCHVs knew that fluids should be increased; 84% knew that normal feeding should be continued during diarrhea episodes; ninety-five percent knew at least two indications for referral; and 78% knew all three rules for home treatment. There is significant improvement in the FCHV knowledge in this area between 1994 and 1998 as in 1994 only 21% of FCHVs knew all three rules for home treatment of diarrhea. The details are shown in Table #6.

Table # 6: FCHVs' Knowledge About Three Rules of Home Treatment by District

Three Rules	Central Region, 1998			Eastern Region 1994
	Chitwan	Makwanpur	Total	
a. Increase Fluid	88%	100%	94%	61%
b. Continue Feeding	69%	98%	84%	47%
c. At least 2 Reasons	100%	90%	95%	46%
d. All 3 Home Rules	67%	88%	78%	21%

iv. ORS Preparation

One hundred percent of the FCHVs described the correct method of ORS preparation using the correct method of measuring clean drinking water and using the whole packet of ORS.

When interviewers asked the FCHVs to prepare the ORS, 100% showed the correct method. However, when the actual volume of the prepared ORS was measured using a calibrated measuring device, 97% of the solutions prepared contained the technically correct volume, that is a volume between 950 and 1200 mls. The other 3% (3 FCHVs) had correct measuring devices (blue plastic cups) but they were not being filled right to the rim resulting in too little volume. The percentage of FCHVs who measured the correct volume of water is very encouraging compared to only 55% correct preparation by the FCHVs interviewed in the Eastern Region. These results are summarized in Table #7.

Table # 7: Correct Volume of Water Measured by FCHVs

	Central Region, 1998			Eastern Region 1994
	Chitwan	Makwanpur	Total	
a. Correct Volume of Water	98%	96%	97%	55%

The reason for the improved ability to measure the correct volume of water is that a standard measuring device (blue plastic cup (BPC)) was distributed to all FCHVs during CDD Reactivation Training in 1995/96 and 1996/97. In addition, the JSI Child Health Staff distribute BPCs during their regular supervision and monitoring visits if the FCHVs do not have one.

v. ORS Availability

On the day of the interview, 66% of the FCHVs had at least one packet of ORS. Twenty-three percent of the FCHVs reported that they had run out of ORS packets within the past one month; 7% FCHVs ran out of ORS packets within the past 1 to 3 months; and 3% had run out of ORS packets more than 3 months ago. Table # 8 compares these results by district.

Sixty-six percent of the FCHVs had ORS packets compared to just 43% of interviewed FCHVs who had ORS packets in the Eastern Region in 1994. There is also an encouraging trend showing that fewer FCHVs have been without ORS packets and for a shorter duration of time, implying that resupply mechanisms are working. However, the overall percentage of FCHVs having ORS packets is still low, at 66%, as the national goal is 100%.

Table #8: ORS Availability with FCHVs

District	ORS Available	When was the last time that they ran out		
		< 1 month	1-3 month	> 3 month
Chitwan	52%	33%	15%	0%
Makwanpur	80%	14%	0%	6%
Total	66%	23%	7%	3%

vi. Distribution of the ORS Packets

Seventy-eight percent of the FCHVs reported that they had distributed ORS packets for the treatment of children under 5 years of age when they came to them with diarrheal disease within the past one month. However, 54% of the FCHVs also reported that they had distributed ORS packets for clients over the age of 5 years. The FCHVs of Makwanpur district reported higher distribution to both age groups when compared to Chitwan district (see Table #9). This may be a reflection of the fact that Makwanpur is a more remote district and health facilities are situated farther away from the community, putting higher demands on the FCHV to distribute ORS for the older population as well.

Table #9: Distribution of the ORS Packets

District	ORS Distribution	
	< 5 Years	> 5 years
Chitwan	67%	42%
Makwanpur	88%	66%
Total	78%	54%

vii. Availability of the Essential Materials

The majority of FCHVs had a blue plastic cup (96%), Vitamin A Capsules (83%) and scissors (87%). These two districts have just been included in the expansion of the National Vitamin A Program and training had been conducted for the FCHVs to prepare them to distribute capsules in Kartik (October 1998). Condoms were available with only 54% of the FCHVs and pills were available with 52% of the FCHVs. The availability by district and overall is shown in Table # 10.

In Chitwan district the availability of BPCs, Vitamin A capsules and scissors with FCHVs is better than in Makwanpur. This may again reflect the reality that in Chitwan the majority of the population has easier access to health facilities compared to Makwanpur and this is also true for the FCHVs who are more likely to receive supplies through the HPs in Chitwan district where access is easier.

Table # 10: Other Materials Available with FCHVs

District	BPC	VAC	Scissors	Condom	Pills
Chitwan	98%	92%	94%	52%	58%
Makwanpur	94%	74%	80%	56%	46%
Total	96%	83%	87%	54%	52%

C. Knowledge, Skills and Practice in the Management of Acute Respiratory Infections

i. Knowledge and Skills for Classification and Treatment

According to WHO guidelines, to correctly classify ARI cases the FCHVs should know two respiratory cut-off rates (one for children under 2 months and one for children 2 months to 5 years); they should be able to accurately count respiratory rate using a sound timer; they should be aware of all of the danger signs (chest indrawing, high fever, low body temperature, unable to eat and drink and malnutrition) which would change the diagnosis from "pneumonia" only to "severe pneumonia" or "very severe disease", which require referral. Accordingly, to treat the pneumonia cases the FCHVs should know the correct dose of pediatric cotrimoxazole for 2 different age groups (2 to 12 months and 1 to 5 years).

Table #11 summarizes the FCHVs' knowledge on the cut-off rates, danger signs and cotrimoxazole doses and their skills in counting the respiratory rate by district and overall. The FCHVs performed very well. Ninety-one percent of the FCHVs knew the cut off rates for 2 age groups; 88% of FCHVs counted the respiratory rate correctly; 98% of FCHVs could correctly state 4 or more than 4 danger signs; and 97% of FCHVs knew the correct dose of cotrimoxazole for 2 age groups.

The standard case management of pneumonia in the community-based ARI Strengthening Program cannot be implemented without an adequate supply of cotrimoxazole. Therefore the interviewers monitored the cotrimoxazole availability with FCHVs during interview. Overall 85% of the FCHVs had cotrimoxazole stock on the day of interview.

Table #11: FCHVs' Knowledge and Skill by District

Districts	Chitwan	Makwanpur	Total
a. Knew 2 RR Cut Off Rates for 2 Age Groups	90%	92%	91%
b. Counted RR Correctly	88%	88%	88%
c. Knew 4/More than 4 Danger Signs	98%	98%	98%
d. Knew Cotrim Dose for 2 Age Groups	98%	96%	97%
e. Had Cotrimoxazole	85%	84%	85%

As was described in the "Findings and Discussion" section, 36 (37%) of the 98 FCHVs interviewed were illiterate. The ability of these women to count respiratory rate correctly, to recall two cut off rates, cotrimoxazole doses and danger signs was compared with literate FCHVs. Illiterate FCHVs have more difficulty counting the respiratory rate correctly and recalling the 2 different cut off rates for the 2 age groups. But overall, they performed very well. The results are summarized in Table # 12 below.

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Table #12: FCHVs' Knowledge and Skill by Literacy Status

Districts	Literate	Illiterate	Total
a. Knew 2 RR Cut Off Rates for 2 Age Groups	95%	83%	91%
b. Counted RR Correctly	94%	78%	88%
c. Knew 4/More than 4 Danger Signs	98%	97%	98%
d. Knew Cotrim Dose for 2 Age Groups	100%	92%	97%
e. Had Cotrimoxazole	84%	86%	85%

ii. Advising Mothers

A critical component of appropriate standard case management is advising mothers. Mothers must learn to recognize the danger signs of pneumonia and when to seek care. Mothers need to be instructed in home care, not only for children with simple cough or cold but also for children suffering from pneumonia.

Home care includes:

- Check for fast breathing and chest indrawing
- Breast feed the child frequently (if child is infant)
- Keep the child warm but not over bundled
- Feed the child frequently
- Offer the child extra fluids to drink

The mother is advised to watch for fast breathing and chest indrawing and if she observes either sign she is advised to bring the child back to the FCHV for reassessment.

Out of the 98 FCHVs interviewed, the majority of the FCHVs could advise the mothers about appropriate home care while utilizing the home therapy card in which major home care rules are visualized. Ninety-one percent of the FCHVs could advise the mothers to keep the young infant warm, clean the nose of the child and breast-feed frequently. Ninety percent of the FCHVs could advise mothers to give more fluid and 84% could advise mothers to give food more frequently. Seventy-one percent of the FCHVs could advise mothers to check for chest indrawing; only 40% remembered to advise mothers to watch for fast breathing. The FCHVs of Makwanpur performed better than those in Chitwan district. These results are summarized in Table #13.

Table #13: Knowledge of Home Care by District

Appropriate Home Care	Chitwan	Makwanpur	Total
a. Keep young infant warm	83%	98%	91%
b. Breast-feed frequently	83%	98%	91%
c. Clean nose	83%	98%	91%
d. Give more fluid	79%	100%	90%
e. Give food more frequently	71%	96%	84%
f. Check chest indrawing	63%	80%	71%
g. Check for fast breathing	35%	44%	40%

When the same information was analyzed by literacy status of the FCHVs, it was found that their knowledge was good in all areas, except reminding mothers to watch for chest indrawing and fast breathing. On the memory card given to the FCHVs these two (f. And g) were combined in one picture, with text underneath which may not be adequate for the illiterate FCHVs. These findings can be utilized in the next revision of the card. These results are shown in Table #14.

Table #14: Knowledge of Home Care by Literacy Status

Appropriate Home Care	Literate	Illiterate
a. Keep young infant warm	92%	89%
b. Breast-feed frequently	90%	92%
c. Clean nose	89%	94%
d. Give more fluid	89%	92%
e. Give food more frequently	85%	81%
f. Check chest indrawing	81%	56%
g. Check for fast breathing	45%	31%

iii. Knowledge of Third day Followup

On the third day after treatment or referral of the child, mothers/caretakers are advised to bring the child back to the FCHVs for a followup visit. On this followup visit, the FCHVs reassess the child to determine if the child's condition is the same, improving or getting worse. At that time, the FCHVs will refer the child if the child's condition is the same or getting worse.

On the followup visit, the FCHVs follow these steps:

- Check for Chest indrawing
- Count Respiratory Rate
- Check for Danger Signs
- Ask the mother if she has given the cotrimoxazole according to the recommended dose
- Ask the mother if she has followed the

All interviewed FCHVs reported that they should conduct a visit to followup the child on the third day of treatment or after referral. Ninety-five percent of FCHVs knew that they needed to check the respiratory rate; 70% of the FCHVs knew that she needed to ask mothers if they had provided cotrimoxazole tablets on time with appropriate dose. Sixty-eight percent of the FCHVs reported that they would check for chest indrawing and the same percentage said that they would remind the mothers of proper home care.

Overall, FCHVs in Chitwan district performed better than those in Makwanpur district about the tasks which need to be followup on the third day followup. Results are summarized in Table #15.

Table #15: Third day Followup by District

Components of the Followup Visit	Chitwan	Makwanpur	Total
a. Know when to followup	100%	100%	100%
b. Check Chest Indrawing	65%	72%	68%
c. Check Respiratory Rate	98%	92%	95%
d. Ask the Cotrim Dose	81%	60%	70%
e. Advise About Home Care	92%	46%	68%

Ninety-five percent of literate FCHVs and 94% of illiterates stated that they would check respiratory rate on the third day followup visit. Literate FCHVs were more likely than illiterates to state that they look for chest indrawing, ask about cotrimoxazole dosing and advise mothers about home care on third day followup. Results are summarized in Table #16.

Table #16: Third day Followup by Literacy Status

Components of the Followup Visit	Literate	Illiterate
a. Know when to followup	100%	100%
b. Check Chest Indrawing	74%	58%
c. Check Respiratory Rate	95%	94%
d. Ask the Cotrim Dose	77%	58%
e. Advise About Home Care	81%	47%

iv. Record Review of Cases Treated and Referred

A review of the treatment record books of the 98 FCHVs was conducted by the interviewers. From among the 98 FCHVs, 82 (84%) of the FCHVs had treated at least one case of pneumonia since January 1998 and they were defined as "active." Eighty-six percent of the FCHVs in Makwanpur had treated at least one case of pneumonia since January 1998; 81% had treated at least one case in Chitwan. These FCHVs had treated a total of 621 cases and 24% of the FCHVs had referred a total of 24 cases in the 2 districts. Out of the 621 treated cases, the interviewers selected the ten most recent cases in each FCHV's record book for further analysis. This resulted in the analysis of a total of 520 treatment records. All referral records were also reviewed, giving a total of 544 cases analyzed. The FCHVs of Makwanpur treated and referred more cases than the FCHVs of Chitwan. Each "active" FCHV in Makwanpur treated an average of 8.3 cases; in Chitwan the "active" FCHVs treated an average of 6.8 cases. Referral numbers were small in both districts. The results are shown in Table #17.

Table #17: Number of Cases Treated and Referred by District

District	# (%) "Active" FCHVs	Total Cases Treated	Average # Cases Treated @	# of FCHVs Referred Cases	Total Cases Referred @	Average # of Cases Referred	Total Cases Analyzed
Chitwan	39 (81%)	264	6.8	2	5	2.5	266
Makwanpur	43 (86%)	357	8.3	11	19	1.7	278
Total	82 (84%)	621	7.5	13	24	1.8	544

"Active" defined as having treated any pneumonia cases from January to June, 1998.

* Maximum 10 most recent cases/FCHV

@ Time Frame - from January to July 1998.

Eighty-four percent of literate FCHVs and 83% of illiterate FCHVs were "active." There was little difference between the two groups in regard to average number of cases treated (7.7 for literates compared to 7.3 for illiterates). Literate FCHVs referred more cases than illiterates, but the numbers are small. The results are summarized in Table # 18.

Table #18: Number of Cases Treated and Referred by Literacy Status

Literacy Status	# (%) "Active" FCHVs	Total Cases Treated	Average # Cases Treated @	# of FCHVs Referred Cases	Total Cases Referred	Average # Cases Referred @	Total Cases Analyzed
Literate	52 (84%)	401	7.7	7	16	2.3	358
Illiterate	30 (83%)	220	7.3	6	8	1.3	186

"Active" defined as having treated any pneumonia cases from January to June, 1998.

* Maximum 10 most recent cases/FCHV

@ Time Frame - from January to July 1998.

v. Appropriate Classification and Third day Followup

The FCHVs' record books were reviewed and the findings for the 10 most recent cases were analyzed to determine the correctness of classification according to the signs identified and the number of cases where the outcome of the third day followup visit was clearly shown in her book. Results by district were compared. Overall, the FCHV's classification was correct in 92% of cases; 79% of cases had marked the outcome of the third day followup. FCHVs in Chitwan were more likely to have correctly classified the case (99% compared to 85%) while FCHVs in Makwanpur were more likely to have marked the outcome of the followup visit (85% as compared to 74% in Chitwan). These results are shown in Table #19.

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Table #19: Correct Classification and Cases Marking Third day Followup by District

	Chitwan	Makwanpur	Total
a. Total Number of Cases from Record Review of 10 Most Recent Cases (Treated/Referred)	266	278	544
b. Correct Classification	99%	85%	92%
c. Cases Marking third day followup	74%	85%	79%

vi. Cases Marking Correct Age and Dose; and Cases Marking Correct Age and Dose/Third day Followup

From the record review of the 10 most recent treated cases, the data was analyzed to compare, by district, the number of cases marking correct dose for age; and the number of cases marking both correct dose for age AND third day followup. Overall, 99% of the FCHVs' treatment records matched age and dose correctly. Seventy-nine percent of the FCHVs' treatment records documented both (dose for age AND third day followup) correctly. There was no difference between Chitwan and Makwanpur on cases marking correct dose for age, but FCHVs in Makwanpur performed better by marking both correct dose for age and third day followup for 85% of cases while FCHVs in Chitwan marked both correctly in 74% of cases. The results are shown in Table #20.

Table #20: Cases Marking Correct Dose for Age; and Cases Marking Correct Dose for Age and Third day Followup

	Chitwan	Makwanpur	Total
a. Total 10 most Recent Cases (only treated)	261	259	520
b. Cases Marking Correct Dose for Age	99%	98%	99%
c. Cases Marking Correct Dose for Age and Third day Followup	74%	85%	79%

In Table # 21 these same indicators are compared for literate and illiterate FCHVs. It is important to recall that this information is collected by review of the treatment and referral record books, kept by the FCHVs. These books are mainly pictorial, but do require the FCHVs to understand and circle or tick appropriate pictures. Three hundred and fifty-eight records of literate FCHVs and 186 records of illiterate FCHVs were reviewed. The results were almost the same for all categories, confirming that illiterate FCHVs are capable of recording these program indicators.

Table #21: Cases Marking Correct Classification; Correct Dose for Age; and Cases Marking Correct Dose for Age and Third day Followup by Literacy Status

	Literate	Illiterate
a. Total 10 most Recent Cases (Treated/Referred)	358	186
b. Total 10 most Recent Cases (only treated)	342	178
c. Correct Classification	93%	89%
d. Cases Marking third day followup	80%	78%
e. Cases Marking Correct Dose for Age	99%	98%
f. Cases Marking Correct Dose for Age and Third day Followup (treated cases only)	80%	79%

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5. Conclusions

The results of this survey, with 98 randomly selected Female Community Health Volunteers (FCHVs) in the districts of Makwanpur and Chitwan, show that these FCHVs have good knowledge about the signs of dehydration and three rules for home treatment of children with diarrhea and they are able to prepare ORS correctly. They have very good knowledge about most aspects of assessment and management of children with pneumonia and their skills and recording keeping are very good. These FCHVs have all been included in 2 child health programs run by the Ministry of Health in their districts over the past 2 -3 years: the CDD Reactivation Program and the ARI Strengthening Program.

When comparing the results of these interviews on diarrhea management with those conducted with FCHVs in the Eastern Region in 1994, there is significant overall improvement in their knowledge and practice. The FCHVs in the EDR had not received any special orientation or training to the assessment and management of diarrhea in children, as the initial CDD Reactivation Program trainings did not go beyond the health facility level to include the community health workers. In 1998, the FCHVs had better knowledge about the signs of dehydration, the reasons for referral and the 3 rules for home treatment of diarrhea. The availability of ORS packets had increased from 43% to 66% and the correct preparation had increased from 55% to 97%. This latter increase was largely due to the distribution of a standard measuring device, the blue plastic cup, to all FCHVs during the CDD Reactivation Program. This improvement in the performance of the FCHVs reinforces that they are capable of retaining information and that they should be included in future child health training activities.

When looking at the FCHVs' performance related to the ARI program it is very encouraging to see their excellent knowledge of danger signs, respiratory rate cut off points, and cotrimoxazole doses. They were well aware of what advice to give mothers and caretakers, and what to do on followup visits with the children. Eighty-eight percent of them counted RR correctly and 84% were actively treating and referring cases. By objective review of their record books, it was observed that 92% of cases had been correctly classified; 99% had received the correct cotrimoxazole dose according to the age of the child; and 79% of the children treated or referred had had a followup visit with the FCHV on the third day.

There was little difference in the results between the knowledge, skills and practice of the FCHVs of Chitwan and Makwanpur. Overall, for both districts, literate FCHVs performed better, but the performance of the illiterate FCHVs was also very good, with 83% of them active in providing services in their communities. Areas where further support is needed during supervisory visits and refresher trainings were identified through this study. For the illiterate FCHVs, these include support to ensure that they are counting RR correctly, reminders about the 2 RR cut off rates and some elements of home care advice and third day followup for ARI; and review of the signs of dehydration and reasons for referral for diarrhea cases.

While there is always room for some improvement, this impressive performance of the FCHVs should be acknowledged and continued support and recognition be given to them, not only from the MOH program but from their communities where they are providing their services.

6. Recommendations

From this survey, a few areas that need further strengthening have been identified and the following recommendations are made to further improve the child health program components implemented at the community level through the FCHVs.

A. Coordinate with Planners of the FCHV Semi-Annual Review Meetings to Reinforce Specific Child Health Program Messages

The semi-annual 2-day review meetings which are part of the National FCHV Program activities provide an excellent opportunity to refresh the FCHVs' knowledge on some specific program components which were identified to need strengthening through this study. The messages about 3 rules for home treatment of diarrhea still need to be reinforced; signs of dehydration can be reviewed; and in the districts with the community-level pneumonia intervention, the skill of counting RR can be practiced and improved in a supervised setting. Other specific program points can also be emphasized, such as review of the 2 cut off respiratory rates for 2 age groups; home care advice and elements of the third day followup visit. Program specific "modules" or curricula for utilization by trainers at the review meetings could be developed and provided in the intervention districts for ARI and nationwide for CDD program activities.

B. Ensure the Year-Round Availability of Essential Program Commodities with FCHVs

The availability of essential program items with the FCHVs for use in their communities needs to be improved. Only 66% of FCHVs had ORS packets and only 85% had cotrimoxazole on the day of visit. Awareness of the staff at many levels within the MOH system needs to be raised about the importance of keeping year-round stock of these commodities with all trained FCHVs so that they can carry out the services they have been trained to do, and to strengthen the community's trust in the FCHV as a reliable care provider for children with dehydration and pneumonia.

C. Continue to Extend Child Health Program Interventions to the FCHV Level

The FCHVs have repeatedly proven their ability and willingness to provide essential services, such as treatment of dehydration and pneumonia, and also provision of Vitamin A capsules and polio drops to the children in their communities. They should continue to be included in the trainings and orientations conducted by the MOH to extend child health services beyond the fixed facilities.

D. Strengthen Support Mechanisms for all FCHVs

FCHVs are willing to provide services, but they require support from many different sources to allow them to continue to give of their time and energy for their communities. From the MOH, supportive supervision should be strengthened from the district and health facilities to the community level; from the VDCs, wards and communities some tangible forms of recognition

may be needed; and from all involved in working with them, recognition and respect for their contributions are needed. With all of these in place, it may be possible for the FCHVs to continue to provide their service to their communities in the future.

E. Identify Innovative Ways to Support Illiterate FCHVs

The results of this study show that illiterate FCHVs are also willing and capable to provide services in their communities, but they require some additional support to help them carry out their activities correctly. Weak areas identified through this study can be targeted for review on supervisory visits and refresher trainings and illiterate FCHVs should get priority if supervisory capacity is limited. New memory cards and job aids could be developed to assist the illiterate FCHVs in remembering some key components of their work. Family or community members could be included in some aspects of trainings, to develop their role as literate providers of assistance to the FCHVs when needed; and efforts should be made to include FCHVs in adult literacy classes throughout the country.

7. Acknowledgments

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Recognition to the MOH facility and community-based health workers who, despite numerous difficulties, continue to work for the betterment of child health across the nation, and final thanks and deep appreciation goes to the thousands of Female Community Health Volunteers who are making excellent contributions to help save the lives of children in their communities every day.

Penny Dawson,
Team Leader,
JSI/Nepal.

8. Acronyms/Abbreviations

ACHFO	Assistant Child Health Field Officer
ARI	Acute Respiratory Infections
BPC	Blue Plastic Cup
CDD	Control of Diarrheal Diseases
CHFO	Child Health Field Officer
CHW	Community Health Workers
Cotrim	Cotrimoxazole
DHO	District Health Office(r)
EDR	Eastern Development Region
EPI	Expanded Program for Immunization
FCHV	Female Community Health Volunteer
HF	Health Facility
HMG	His Majesty's Government
INGO	International Non-Governmental Organization
JHU	Johns Hopkins University
JSI	John Snow Incorporated
MCHW	Maternal Child Health Worker
MOH	Ministry of Health
NCDDP	National Diarrhoeal Disease Control Program
ORS	Oral Rehydration Salt/Solution
ORT	Oral Rehydration Therapy
RR	Respiratory Rate
UNICEF	United Nation Children Fund
USAID	United States Agency for International Development
VAC	Vitamin A Capsule
VDC	Village Development Committee
VHW	Village Health Worker
WHO	World Health Organization

ANNEXES

महिला स्वास्थ्य स्वयं सेविका अन्तर्वार्ता प्रश्नावली (भाडा-पखाला)

अन्तर्वार्ता संख्या : अन्तर्वार्ता मिति

अन्तर्वार्ता लिनेको नाम थर.....

जिल्ला , स्वास्थ्य चौकी/उपस्वास्थ्य चौकीको नाम

म.स्वा.स्व.से. को पूरा नाम उमेर शिक्षा..... पेशा.....

विवाहिता/अविवाहिता

तपाईंको घरघाट स्वास्थ्य संस्थामा पुग्न कति समय लाग्छ ? मिनेट

भाग १ म.स्वा.स्व.से. को ज्ञान

(१) ५ वर्ष मुनिका बच्चालाई भाडा पखाला हुँदा जलवियोजनका के के चिन्हहरू देखिन्छन् ?
(भनेको सबैमा चिन्ह लगाउने तर कोट्याई कोट्याई नसोध्ने)

(क) सामान्य अवस्थामा परिवर्तन हुनु ()

(ख) आँखा गड्गु ()

(ग) रूँदा आँखामा आँसु नआउनु ()

(घ) मुख/जिब्रो सुक्नु ()

(ङ) प्यास बढी लाग्नु अथवा पिउन नसक्नु ()

(च) पेटको छाला तानी छाड्दा विस्तारै/निकै नै विस्तारै फर्कनु ()

(छ) अरू.....

(२) बच्चालाई भाडा पखाला लाग्दा घरैमा आमाले/हेरचाह गर्नेले के के गर्नुपर्छ ? (तपाईंले के के खान दिनुहुन्छ ?)

(क) साविककोभन्दा बढी भोल कुरा खान दिने ()

(ख) साविकभैँ खाना खान दिइरहने ()

(ग) जीवनजल बनाई खान दिने ()

(३) भाडा-पखाला हुँदा के के चिन्ह/लक्षण देखिएमा स्वास्थ्य संस्थामा रेफर गर्नुपर्छ ?

(क) पानी जस्तो पातलो दिसा धेरै पटक भएमा ()

(ख) तारन्तार यान्ता गरेमा ()

(ग) ज्यादै तिर्खा लागेमा ()

(घ) खान/पिउन राम्ररी नसकेमा ()

(ङ) ज्वरो आएमा

(च) दिसामा रगत देखिएमा

(छ) अवस्था भन्न भन्न थिप्रै गएमा ()

(ज) अरू (सुलाउने) ()

भाग २ जीवनजल बनाउने (बयानमात्र)

- (१) जीवनजल कसरी बनाउने तपाईंलाई थाहा छ ? छ () छैन ()
- (२) थाहा छ भने कसरी बनाउने भन्दिनुहुन्छ कि ?
- (क) पहिले हात राम्ररी धुने ()
- (ख) सफा पिउने पानी नाप्ने ()
- (ग) जीवनजल पुरियाको सबै धूलो त्यो पानीमा हाल्ने ()
- (घ) पानी नाप्ने तरिका
- ६ चिया गिलासभरी ()
 - ६ नीलो गिलासभरी
 - २ माना ()
 - १ लिटर ()
 - अन्य
- (३) जीवनजल तयार गरेपछि सुरक्षित तरीकाले राख्न तपाईंले के सभकनु पर्दछ ?
- (क) छोपेर राख्ने
- (ख) २४ घण्टा भित्रमा प्रयोग गर्ने र प्रयोग नभएमा फ्याक्ने
- (ग) अरू खुलाउने

(४) म.स्वा.स्व.से. ले बताएको जीवनजल बनाउने तरिका ठीक थियो ? थियो () थिएन ()
(यदि ठीक तरिकाले पानी नापेको र पुरियाको सबै धूलो मिसाउने कुरा बताएमा ठीक मान्ने)

भाग ३ जीवनजल बनाउने तरिकाको प्रदर्शन

- (१) तपाईं जीवनजल बनाएर मलाई देखाउन सक्नुहुन्छ ? हुन्छ () हुँदैन ()
- (२) यदि सक्नुहुन्न भने किन ? बताई दिनुहोस् ।
-
- (३) यदि सक्छ भनेमा १ पुरिया जीवनजल विनुहोस् र आफ्नै अगाडि बनाउनु लगाउनुहोस् ।
(म.स्वा.स्व.से. ले कसरी बनाउनु ध्यानपूर्वक हेर्नुहोस् र गरेको कुरामा चिन्ह लगाउनुहोस्)
- (क) बनाउनु अगाडि हात धोएको थियो थिएन
- (ख) सफा पानी प्रयोग गरेको थियो थिएन
- (ग) जीवनजल पुरियाको सबै धूलो मिसाएको थियो..... थिएन
- (घ) पानी ठीक तरिकाले नापेको थियो थिएन.....
- (ङ) राम्रोसँग घोलेको थियो थिएन.....
- पुनश्च : म.स्वा.स्व.से. ले प्रयोग गरेको पानी सफा थियो, थिएन निश्चित गर्नुहोस् ।
थियो....., थिएन.....

(४) म.स्वा.स्व.से. ले बनाएको जीवनजलको पानीको नाप
..... मि.ली. (सबै भोल नापेर मात्र लेख्ने)

- (५) यदि तयारी भोल नाप्दा ९५० मि.ली. भन्दा कम र १२०० मि.ली. भन्दा बढी भएमा कारण लेख्ने ।
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(६) म.स्वा.स्व.से. ले जीवनजल बनाएको ठीक थियो ? थियो , थिएन (ठीक सँग तयार गरेको भनेको पानी ठीक मात्रा र पुरियाको सबै धूलो मिसाएको मान्नुपर्दछ ।

भाग ४

- (१) तपाईं जीवनजल कहाँबाट पाउनुहुन्छ ?
- (क) हेल्थपोष्ट/सब हेल्थपोष्ट () बिना पैसा....., पैसा तिरेर
- (ख) ग्रा.स्वा.का. ()
- (ग) पसलबाट किनेर ()
- (घ) अन्तबाट , खुलाउने
- (२) गत एक वर्षमा जीवनजल अरू कतैबाट पनि पाउनु भएको थियो ? थियो , थिएन
- (३) यदि थियो भने,
कहाँबाट
कति ?
कतिपटक
- (४) कसैलाई जीवनजल बिना कसरी विनुहुन्छ ?
- त्यसै दिन्छु
 - पैसा लिएर दिन्छु
- (५) यदि पैसा लिएर विनुहुन्छ भने एक पाकेटको कति तिनुहुन्छ ? रू. (रकम लेख्ने)
- (६) तपाईंसँग अहिले जीवनजल छ ? छ....., छैन
- (७) अहिले जीवनजल नभएमा तपाईंसँग जीवनजल कहिले थियो ?
- क) गत एक महिना भित्र ()
- (ख) १ देखि ३ महिना भित्र ()
- (ग) ३ महिनाभन्दा पहिले ()
- (८) गत वर्ष (१२ महिनामा) तपाईंसँग कति महिना जीवनजल थियो ? महिना
- (९) गत १ महिनाभित्र जीवनजल वितरण गर्नु भएको छ ? छ....., छैन

भाग- ५

- (१) के महिना/महिनामा ग्रा.स्वा.का., मा.शि.का. तपाईंलाई भेट्न आउने गरेका छन् ? छन् () (ख) छैनन् ()

- (२) छैनन् भने तपाईंले ग्रा.स्वा.का. लाई नभेटेको कति समय भयो ? (महिना उल्लेख गर्नुस्)
- (३) तपाईंसँग रजिष्टर उपलब्ध छ ? (कुन रजिष्टर हो प्रष्ट खुलाउने)
 (क) छ () (ख) छैन ()
 ग) छ भने कुन रजिष्टर हो खुलाउने
- (४) छ भने के हो अद्यावधिक गरिएको छ ?
 (क) छ () (ख) छैन () (अवलोकन गरी लेख्ने)
- (५) अहिले तपाईंसँग तपसिल बमोजिमा सामग्रीहरू छन् वा छैनन् ?
 (क) जीवनजल : छ () छैन ()
 (ख) नीलो कपः छ () छैन ()
 (ग) भिटामिन ए : छ () छैन ()
 (घ) कैची : छ () छैन ()
 (ङ) कण्डम : छ () छैन ()
 (च) पिल्सः छ () छैन ()
- (६) भन्डा पखाला/शवास प्रवास कार्यको लागि तपाईंलाई गा.वि.स.बाट कुनै सहयोग भएको छ ?
 (क) छ () (ख) छैन ()
- (७) यदि सहयोग भएको भए के भएको छ ?
 खुलाउने.....
- (८) जीवनजलको मूल्य बढेको कुरा तपाईंलाई थाहा छ ?
 (क) छ () (ख) छैन ()
- (९) यदि थाहा भएमा मूल्य बढेको कारण यसको असर कस्तो परेको छ ?
 खुलाउने.....
- (१०) गत महिनाभित्र कति जना भन्डा पखालाको बिरामीलाई जीवनजलबाट उपचार गर्नुभयो ?
 जना
- (११) स्वयं सेविकाको कार्य गर्न एक दिनमा तपाईंले कति समय लगाउनुहुन्छ ?
 घण्टा

A. Training and Materials

	Yes	No	Remarks
1. ARI Strengthening Training taken (2054)	___	___	___
2. ARI Timer	___	___	___
3. ARI Referral book	___	___	___
4. Treatment book	___	___	___
5. Treatment card (cotrim dose card)	___	___	___
6. Classification card	___	___	___
7. Home therapy card	___	___	___
8. Cotrim Tab	___	___	___
8. Reporting form (for VH/MCHW only)	___	___	___

B. Knowledge and Skill

1. Respiratory Cut off Rate:
 - less than 2 month
 - rate 2-60 month
2. Danger Signs of Pneumonia

Under 2 months	Y/N	2 month to 5 years	Y/N
Fast Breathing		Chest Indrawing	
Severe Chest Indrawing		Not able to drink	
Stopped Feeding Well		Abnormally Sleepy	
Abnormally Sleepy		Severe Malnutrition	
Fever			
Low Body Temperature			

- Correct Incorrect
3. a. When to follow up the referred and treated cases ___ ___
 b. What to do on the day of follow up (Assessment)
 (CI ___ RR ___ Cotrim Dose ___ Home Therapy ___)
4. Explain the Home Therapy Card (Only FCHV can use Home Therapy Card)
- a. Look for - Fast breathing ___ ___
 b. Look for - Chest indrawing ___ ___
 c. Keep young infant warm ___ ___
 d. Breast feed frequently ___ ___
 e. Clean the nose ___ ___
 f. Give more fluid ___ ___
 g. Give food more frequently ___ ___
5. Counting RR by using timer ___ ___
6. Treatment doses of cotrim 2 to 12 months ___ ___
 12 to 60 months ___ ___

C. Service Activities (Date: From to)**1.a. Pneumonia cases treated***

	Total	Correct Treatment*	Correct Classification
- 2 to 12 months	_____	_____	_____
- 12 to 60 months	_____	_____	_____
(Total # Slip # _____ to _____)			

	Total	Recorded	Verbal
b. Number of treated cases followed up	_____	_____	_____

c. Number of cases both correct (correct treatment and 3rd day followed up) _____

d. Number of treated cases who were referred on third day _____

2.a. Cases referred

	Total	Correct Classification
Less than 2 months	_____	_____
(Total # Slip # _____ to _____)		
2 to 60 months	_____	_____
Total # (Slip # _____ to _____)		

	Total	Recorded	Verbal
b. # of referral cases revisited (followed up)	_____	_____	_____

c. # of followed cases referred on third day: _____

Treatment Book Indicators

# of cases (maximum 10 most recent cases)	# of cases marking consistent age and dose	# of cases marking 3 rd day followup	Both Correct (Consistent Age/Dose and 3 rd day followup)
_____	_____	_____	_____

Referral Book Indicators

Age Group	Total # of cases (maximum 10 most recent cases)	# of cases marking 3 rd day followup
< 2 months	_____	_____
2 - 60 months	_____	_____
Total	_____	_____

D. Supervision (for only ARI)

From VHW/MCHW YES/NO (in last 1 month) Report collected Y/N _____
 From HF staff YES/NO (in last 2 month)
 From DHO staff YES/NO (in last 3 month)
 From others (Specify) YES/NO (in last 3 month)

E. Medicine (Cotrim P.)

Balance: _____ (min 20 tabs). If no, since when _____
 Cotrim received from _____

F. Resupply: Treatment book _____ Referral Book _____

G. Supply on the Spot by JSI/DHO Staff

a. IEC Materials: _____ (specify)
 b. Cotrim P.: _____ (specify)
 c. Others: _____ (specify)

Note:

*Correct treatment - Correct cotrim dose by age.
 Follow up - Reassessed by CHW on 3rd day or CHW verified outcome with parent/guardian/caretaker on 3rd day.

Practice with case studies for classification

Correct for < 2 month Y/N _____ Correct for 2 months to 5 years Y/N _____

**List of Randomly Selected VDCs and Wards
Makwanpur**

S.No.	Name	Excluded	Selected VDCs	Selected Wards
1.	Bhimfedi		✓	1,6
2.	Manahari		✓	8,5
3.	Daman		✓	8,1
4.	Ambhanjyang		✓	3,6
5.	Belani	✓		
6.	Dadakharka	✓		
7.	Hatia		✓	1,9
8.	Katunje	✓		
9.	Markhu		✓	8,4
10.	Padam Pokhari		✓	2,9
11.	Raxirang		✓	4,9
12.	Thingan	✓		
13.	Agra	✓		
14.	Bajrabarahi		✓	4,6
15.	Basamadi		✓	5,7
16.	Budichaur	✓		
17.	Chhatiwan		✓	3,2
18.	Chitlang		✓	5,4
19.	Churemal			
20.	Dhiyal	✓		
21.	Epa		✓	7,1
22.	Fahakhel			
23.	Gogane	✓		
24.	Hadikhola		✓	6,3
25.	Khairang	✓		
26.	Kogate		✓	1,6
27.	Kulokhani		✓	5,7
28.	Nibuwatar		✓	1,3
29.	Manthali	✓		
30.	Naamtar			
31.	Raigaun	✓		
32.	Sarikhet		✓	9,7
33.	Shikharpur		✓	7,1
34.	Sisneri	✓		
35.	Sukaura		✓	2,9
36.	Tistung			
37.	Makawanpur Gadhi		✓	2,5
38.	Phaparbari		✓	3,8
39.	Kankada	✓		
40.	Bhaiso		✓	3,9
41.	Harnamadl		✓	6,3
42.	Palung		✓	1,5
43.	Bharta	✓		

**List of Randomly Selected VDCs and Wards
Chitwan**

S.No.	Name	Excluded	Selected VDCs	Selected Wards
1.	Bagauda	√		
2.	Ratnanagar			
3.	Bhandara		√	2,8
4.	Chandi Bhanjyang		√	1,3
5.	Khairahani		√	6,9
6.	Meghauli			
7.	Sharada Nagar		√	3,4
8.	Shiva Nagar		√	4,8
9.	Ahyodhyapuri	√		
10.	Bachauli		√	4,3
11.	Chainpur		√	7,4
12.	Dahakhani			
13.	Darechowk		√	6,7
14.	Dibya Nagar		√	8,5
15.	Gardi	√		
16.	Gunja Nagar		√	6,3
17.	Jutpani		√	6,2
18.	Kabilas		√	8,9
19.	Kalyanpur	√		
20.	Kathar		√	6,9
21.	Kaule	√		
22.	Korak	√		
23.	Lothar	√		
24.	Mangalpur		√	5,9
25.	Padmapur	√		
26.	Panchakanya			
27.	Parbatipur		√	8,2
28.	Patihani		√	9,3
29.	Pithuwa		√	4,2
30.	Shaktikhor		√	5,8
31.	Siddhi		√	1,9
32.	Piple		√	1,4
33.	Birendra Nagar		√	4,7
34.	Kumroj		√	7,3
35.	Gita Nagar			
36.	Jagatpur		√	2,4
37.	Sukranagar		√	5,2
38.	Phulbari		√	7,2