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*PN-ABW 409*

**CREATIVE BRIEF  
FOR CDD, EPI & ARI**

**SUBMITTED TO**

**PAKISTAN CHILD SURVIVAL PROJECT,  
ISLAMABAD**

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### INTRODUCTION:

Pakistan has one of the highest 'Death Rates' in children less than 5 years of age, amongst the South Asian countries. This means that a considerable number of children die before the age of five years. In Pakistan out of every 1000 babies born alive, approximately 162 die before attaining the age of 5 years.

Pakistan's current Infant Mortality Rate (IMR) is also very high. It is estimated to be 115/1000 per year by the World Bank (1985). According to another study by the Planning Division the IMR is 124/1000 per year, (Planning & Development Division, 1984).

### Child Survival & Family Planning:

Numerous studies have shown that promoting 'Maternal and Child Health Programmes' and 'Family Planning' together have an added benefit. Working together these activities help to reduce both mortality and fertility rates. They also help in lowering the rate of population growth than either type of activity alone.

According to the 1991 UNICEF report on the state of the world's children, an important element in lowering 'Birth Rates' is the sustained reduction of 'Child Deaths'. Several mechanisms link the two:

1. An infant death stops breast-feeding. This puts an end to an important natural contraceptive.
2. The death of a child can also prompt couples to replace the loss sooner by a new pregnancy. Where child deaths are normally high, many parents compensate for the anticipated loss by giving birth to more children than they want.
3. The use of contraceptive methods increases with every increase in the number of living children, specially male issues. Various studies have shown this trend in our feudally oriented and primarily agricultural society. Otherwise, in the absence of any social security, the male offsprings are the only source of support for their parents.

This insurance factor is a major reason for the persistence of high birth rates. Empowering todays



parents with 'Child Survival' knowledge can build their confidence in the acceptance of 'Family Planning'.

### Reasons for the high rate of infant/child mortality

Many external and internal factors can lead to a given cause of infant and child mortality. Some of the leading causes are discussed below:

#### A. Malnutrition:

According to the World Health Organization, prevalence of malnutrition in under-five year olds is one of the highest in Pakistan. Malnutrition is an important underlying cause of mortality. Malnutrition is closely linked to diarrheal diseases, respiratory ailments, and other infectious diseases.

The WHO Expert Committees on 'Nutrition in Pregnancy and Lactation' points that, "malnutrition among mothers contributes towards impaired maternal, foetal and infant health and vitality.

Out of 23 million low birth weight babies born every year 90% are in the developing countries. India, Pakistan and Bangladesh alone contribute 10 million to the total figure. Undoubtedly a great effort is required for the increased production of foods through latest agricultural technologies. But more important is getting rid of ignorance regarding nutrition and dietary superstitions. Education about the loss of food values through improper cooking is also important. It is necessary to highlight the extra dietary needs of pregnant and nursing mothers and to encourage the practice of breast-feeding.

#### B. Maternal Mortality:

The number of women who die due to pregnancy related causes is also quite high in Pakistan. Many women do not survive the rigors of childbirth as well. A study, "Mortality Trends And Patterns in Pakistan" (ESCAP, 85) indicates that out of a 1000 women whose pregnancies result in live births, as many as 15-17 may die during childbirth. These figures are very disturbing.

Maternal Mortality results due to frequent and ill spaced pregnancies, absence of antenatal care, malnutrition and low vitality of the mother to begin

with and continued throughout her pregnancy. Insanitary surroundings and lack of trained midwives is another important factor. It is obvious that the death of the mother has a profound effect on the child's survival and welfare.

C. Diseases & Infant/Child Mortality:

We must understand that after the first month of birth the environmental causes overshadow all others. In Pakistan infectious diseases account for a high proportion of infant deaths.

1. Diarrhoea:

200,000 children die of Diarrheal diseases annually in Pakistan. Most of these deaths could be prevented by low cost oral rehydration therapy. ORT is one of the most important and effective management for diarrhoea.

2. Immunization:

In Pakistan 170,000 children under the age of five die each year from one of the 6 EPI targeted diseases - namely; Polio, Diphtheria, Pertussis, T.B., Tetanus & Measles. These can be prevented by immunization. Immunization along with early diagnosis and prompt treatment of many ailments can prevent infant and child mortality. Many mothers initially tend to ignore common infant diseases and resort to medical attention at a late stage, when all other home remedies have failed.

3. Acute Respiratory Infections:

Acute respiratory infections are a leading cause of death in children under 5 years of age. Recent statistics indicate 80,000 deaths in children every year due to ARI in Pakistan (ARI Report WHO, Isl. 85).

The effective control of ARI requires a comprehensive case management strategy integrated with basic health services. But unlike diarrheal diseases, there is very little a mother can do at home to prevent mortality once her child has developed a severe respiratory infection such as Pneumonia. To prevent death from Pneumonia a



mother "MUST" go outside the home to obtain an antibiotic from a health worker. Thus it is critical that she should be educated in recognizing those signs which prompt her to seek treatment.

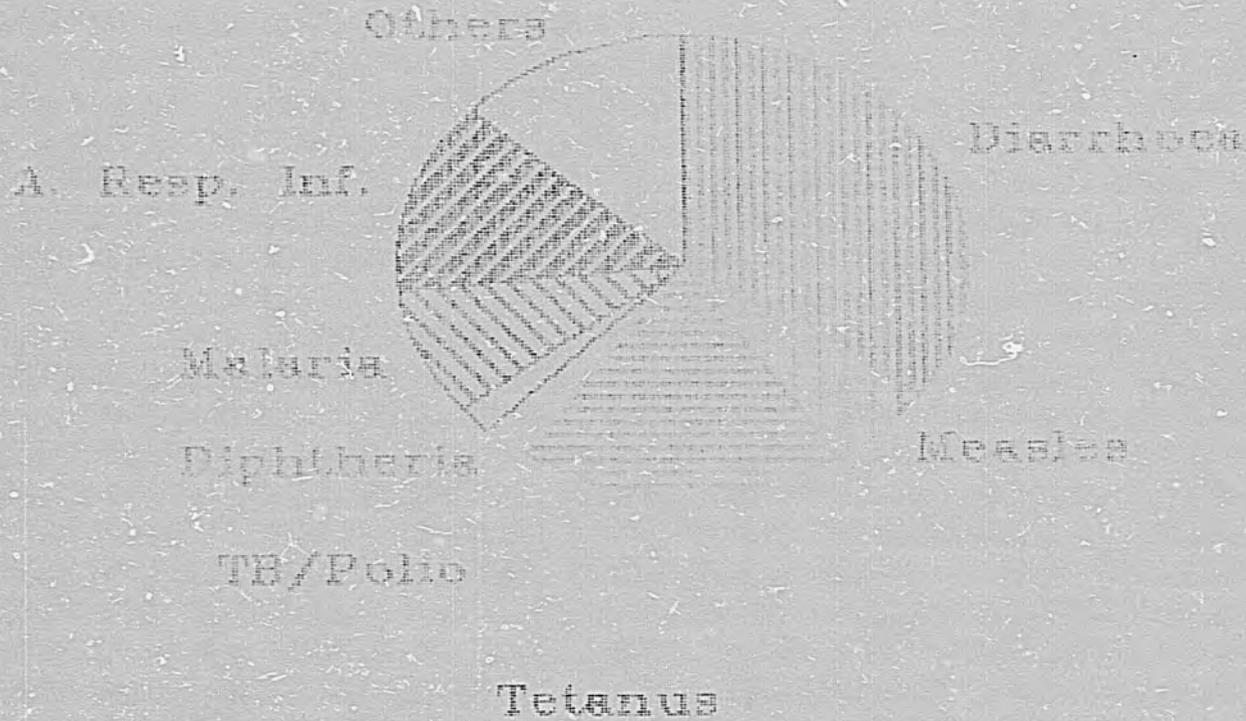
#### What Role can the Media Play in Child Survival:

The media has already done the ground work for a breakthrough in getting attention for all major aspects of child survival. It is committed to doing its bit in trying to prevent child deaths and malnutrition by the year 2000.

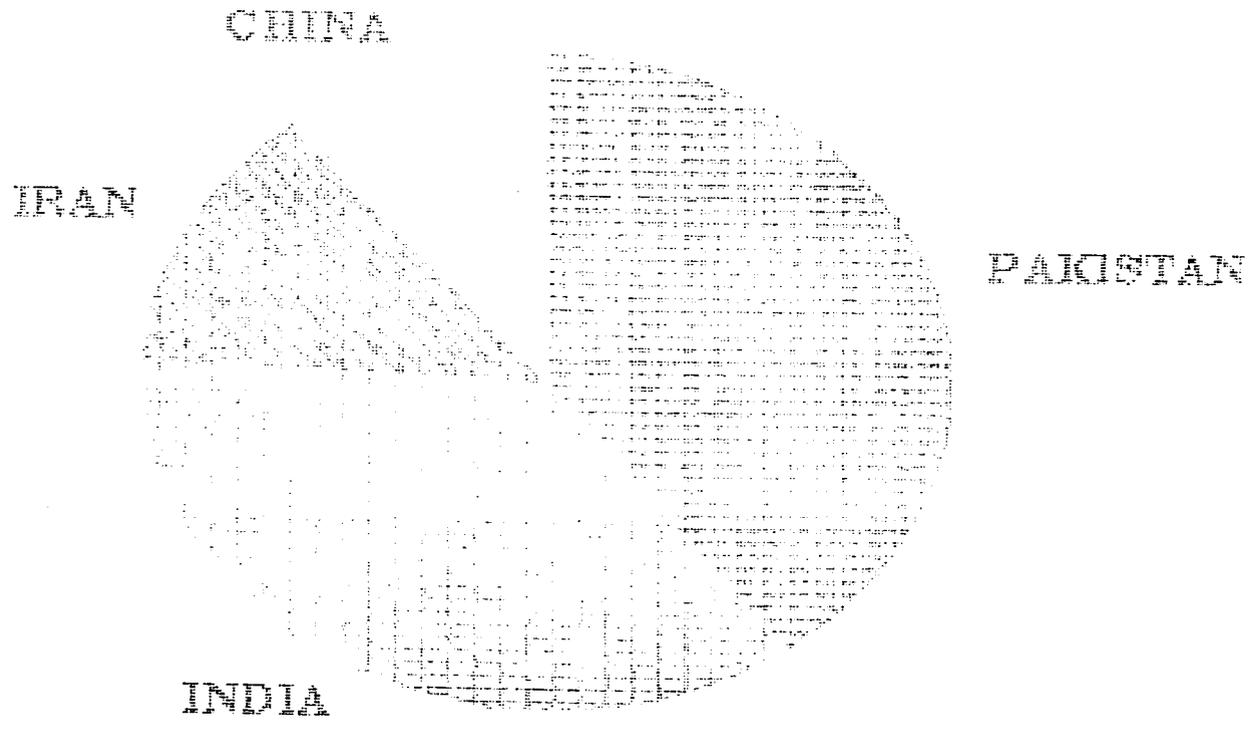
The advances already being seen, all over the world in immunization, oral-rehydration therapy and breast-feeding did not happen overnight and without the media doing its job. Today in countries such as Nigeria, Nepal, Indonesia, India and Pakistan, the vaccinator is now beginning to be accepted as a familiar visitor to home and hamlet. In Egypt an intensive radio and television campaign publicizing the wonders of a tiny packet of oral-rehydration salts, costing very little, has helped save the lives of 100,000 children a year. They would otherwise have died from diarrhoea and dehydration. And thanks to a major new initiative to promote the health-giving benefits of breast-feeding, manufacturers of infant formulas have agreed to stop giving away free samples in hospitals and maternity facilities everywhere in the world by the end of this year.

The hope is that by the end of the century, the cumulative effects of better health and basic education will not only save many lives but also result in fewer births. This will lead to an eventual decline in 'Population Growth' and increase in 'Child Survival'.

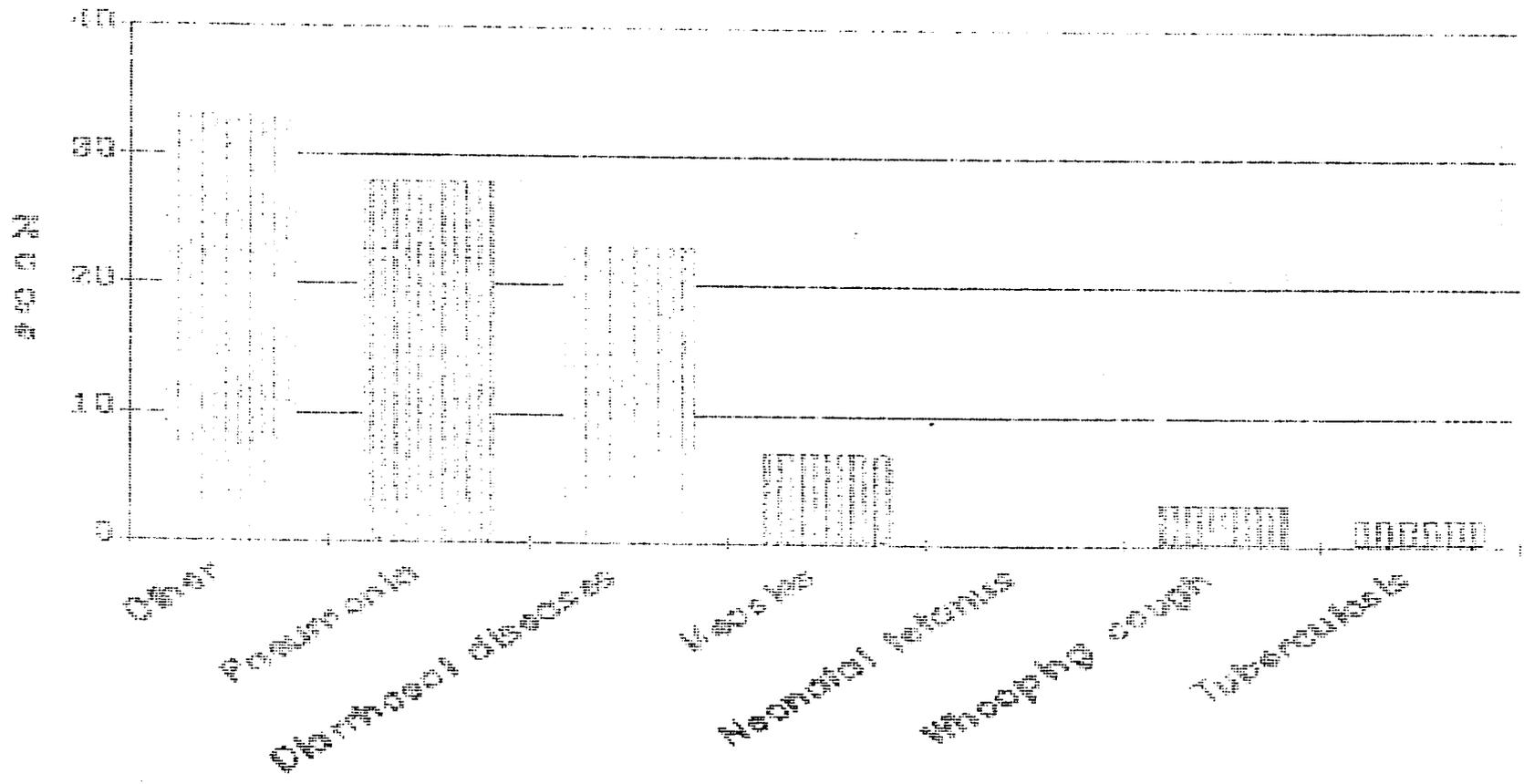
# THE MAIN CAUSES OF CHILD DEATH IN PAKISTAN



# UNDER 5 MORTALITY RATE PER THOUSAND OF SOME COUNTRIES



# UNDER FIVE DEATHS BY MAIN CAUSE IN DEVELOPING COUNTRIES, 1990





## CHAPTER – 1

# CDD – CONTROL OF DIARRHEAL DISEASES



## 1.1 INTRODUCTION:

An estimated 200,000 diarrheal deaths occur every year in children under 5 years of age, in Pakistan (Planning & Development Division, Diarrhoea Survey, 1984). Many of these deaths can now be prevented by teaching parents to use the almost cost-free technique of oral rehydration therapy.

However diarrheal attacks are specially common in children of ages six months to two years. On the average, a child is found to suffer 3-4 attacks of diarrhoea per year before the age of 5. Children are also more prone to get diarrhoea during summer. Research shows 51% of children get diarrhoea during summers at any given time while 30% have diarrhoea in winter. (Diarrheal Disorders and Feeding Practices in Pakistan, Govt. of Pak., Isl. 1984).

## 1.2 UNDERSTANDING THE PROBLEM:

### 1.2.1 What is Diarrhoea?

The number of stools normally passed in a day varies with the diet and age of a person. Diarrhoea is defined as 3 or more watery stools passed in a day. In diarrhoea stools contain more water than normal - they are often called loose or watery stools. They may also contain blood, in which case the diarrhoea is called dysentery.

### 1.2.2 Diarrhoea and Children:

Diarrhoea is most common in children, especially those between 6 months and 2 years of age. It is also common in babies under the age of 6 months who are taking cow's milk or infant feeding formula. However babies who are breast-fed often have stools that are soft; this is not diarrhoea. Neither is frequent passing of "NORMAL" stools diarrhoea.

### 1.2.3 Why is Diarrhoea Dangerous?

Diarrhoea can cause undernutrition and death. Death from acute diarrhoea or dysentery is most often caused by loss of a large amount



of water and salts from the body. This is called DEHYDRATION. Dehydration is most serious in children who are already undernourished. It can cause undernutrition and can make existing undernutrition worse because during diarrhoea:

- (a) Nutrients are lost from the body
- (b) The child may not be hungry; and
- (c) A mother may not feed a child who has diarrhoea. Some mothers may even with-hold food for some days until the diarrhoea is better.

#### 1.2.4 A simple solution - Oral Rehydration Salt Solution:

Oral Rehydration Salt Solution (ORS) is the most inexpensive, simple and effective way to treat dehydration caused by diarrhoea. When diarrhoea occurs, essential fluids and salts are lost from the body and must be quickly replaced. Many of the children who die every year from diarrhoea could be saved if they were given ORS promptly. Oral Rehydration Therapy (ORT) includes giving food and extra fluids at home such as milk, soups, rice-water and juices to prevent dehydration. It also includes giving ORS. Made up with clean water the ORS drink contains the main elements that are lost from the body during diarrhoea. It is effective in treating dehydration resulting from all types of acute diarrheal diseases.

Many countries including Pakistan, now have diarrheal disease control programmes, but ORT is still not nearly as widely used as it should be. More effective information dissemination and promotion of ORT is necessary.

#### 1.2.5 How does Oral Rehydration Therapy (ORT) Work?

ORT does not stop the diarrhoea, but it replaces the lost fluids and essential salts. ORT alone is an effective treatment for 90-95 percent of patients suffering from acute watery diarrhoea, regardless of cause. This



makes intravenous drip therapy unnecessary in all but the most severe cases.

#### 1.2.6 Is ORS only recommended for children?

ORS is safe and can also be used by adults suffering from diarrhoea. There is no need to make a detailed diagnosis before the solution is given. Adults need rehydration treatment as much as children. However, children must always be treated "IMMEDIATELY", because dehydration occurs faster in infants and young children, in hot climates and if a child has fever.

### 1.3 THE EXISTING PICTURE OF DIARRHOEA IN PAKISTAN:

All cultures have systems of belief and practices concerning various aspects of life. This includes the causes and management of illness. There is much variation in different areas, even within a country. For instance, in Pakistan, some communities believe that certain fruits and vegetables or particular animal products should not be given to a child who has diarrhoea. Similarly other communities believe that the same products are beneficial.

It is therefore important to understand the traditional practices and prejudices regarding diarrhoea since it will then be possible for the media writers to:

- encourage useful practices and discourage harmful practices;
- depict accurately how the local beliefs and practices make difficult the acceptance of medical advice;
- determine how a combination of traditional practices and medical advice can be made practicable; and
- develop informative programmes in the correct cultural context.

#### 1.3.1 Mother's Awareness:

There is a lack of awareness amongst mothers about the danger of diarrhoea. In most



instances it is felt that they often pass it off as a "MINOR" illness of childhood.

1.3.2 Delayed Response:

Only when mothers feel that the child is substantially sick with diarrhoea do they take him/her to a rural hospital or public health centre, etc. In the villages, a large percentage of the population take their children to the 'Hakeems' due to the lack of available health facilities. Efforts are needed to increase a mother's concern and actions early in the course of illness - prior to signs of significant 'Dehydration'.

1.3.3 With-holding of Foods & Liquids:

Again some mothers stop giving 'Foods' to children or restrict 'Fluids' during diarrhoea. Their logic is that the less food/fluid the child consumes the sooner the diarrhoea will stop. This is their cure for diarrhoea. Stopping of all foods/fluids or its reduction during diarrhoea is a grave misconception, that needs to be addressed.

1.3.4 Change in feeding practices during Diarrhoea:

Invariably mothers feel that a change in diet is necessary during diarrhoea. They make certain special foods, (some appropriate), for the child. The foods vary in different parts of the country depending on customs and tradition. The most popular "special diet" items include khichri, cereals, yogurt, bananas and halwa. There is still a considerable percentage of mothers who reduce the frequency of breast feeding, bottle feeding and solid foods given to the child during diarrhoea.

1.3.5 Use of home remedies:

A great deal of home remedies are used frequently by all sections of the population. The most popular being kehva, cardamom water, aniseed water, rice water and tea etc.



### 1.3.6 The role of the doctors and chemists:

Studies of the knowledge, attitudes and practices of doctors reveal valuable information regarding their management of diarrhoea. Their single major response is the sale of 'Medicines' aimed at stopping the diarrhoea. While all are aware of ORS in one form or another, relatively few prescribe it routinely. There are still many village based doctors who widely believe that food should be stopped. They often even recommend cessation of breast-feeding sometimes. These doctors place major emphasis on the administration of drugs. They believe they must stop the diarrhoea within 1-2 days.

Furthermore, most village-based doctors derive their income from the sale of such products. Some doctors even supply themselves by travelling to the nearest town, where they consult regularly with the chemist. They purchase drugs for resale in their practice. Chemists too believe that ORS does not stop the diarrhoea. They little realize that the objective is not the immediate stopping of diarrhoea, but the prevention of dehydration.

### 1.3.7 Parent's expectations of doctors:

There is a universal expectation of receiving a medicine upon consultation. No amount of advice on home made remedies is considered sufficient by the patient clientele when dealing with a doctor. In fact a visit to the doctor is made simply for determining which medicine to buy and not for advice, guidance, education, or overall wisdom. This expectation for a medicine is expressed by all parents, both rural and urban.

It seems more effort has to be made in improving the image of ORS and recounting its benefits.



#### 1.4 REVIEWING MAJOR OBSTACLES:

Below is a description of some major obstacles that prevent optimum behaviour:

##### 1.4.1 Drugs:

Many people irrationally believe that there must be a "pill for every ail". It is often difficult to convince people that the best treatment for most diarrhoea is a simple drink and not a drug. The major problems associated with drugs for diarrhoea include:

1. Inflated ideas about efficacy of medicines.
2. Incorrect use of antibiotics.
3. Inappropriate promotion and advertising of anti-diarrheal medicines.

The use of 'Drugs' distracts both parents and health professionals from the life saving treatment of diarrhoea - Rehydration, with home fluids and CRS.

##### 1.4.2 Inappropriate treatment of diarrhoea by Chemists:

Many parents still frequent the local drug stores for inexpensive advice and popular medicine for the treatment of diarrhoea. The inappropriate treatment of diarrhoea by Chemists is a wide spread problem in both the public and private sectors. Furthermore it is a problem with 2 dimensions:

1. Tendencies not to recommend ORT, including ORS and
2. Tendencies to prescribe the use of ineffective products to unsuspecting parents. These are anti-diarrheal preparations and antibiotic drugs.



#### 1.4.3 Problems in communication:

In real-life situations physicians are rarely able to spend enough time with each mother. Sometimes the wrong treatment is given, or the mother has misunderstood and is unable to carry out the treatment.

Some of the reasons for this are that:

1. The Physician fails to get all the information needed from the mother;
2. He misinterprets the information;
3. The mother cannot understand the instructions that are given or is unable to carry them out;
4. The instructions are given hurriedly or are incomplete;
5. The mother either disagrees with the instructions or cannot remember what she is supposed to do.

#### 1.4.4 Confusion regarding mixing ORS:

Of the mothers who are regular users of ORS -

- (a) There are still many who have little confidence in the mixture,
- (b) Have great confusion regarding the proper mixing of the formula,
- (c) And do not know how to give ORS.

To help them in learning how to mix a fairly simple solution, in the home, requires a major communication effort.

#### 1.4.5 Image of ORS:

ORS is still not perceived by many mothers as providing relief from the worrisome signs of "weakness". Promotional efforts need to reposition ORS as preventing and correcting dehydration, restoring appetite, giving



energy and lessening weakness. It is important to make ORS more acceptable, so that it is widely prescribed and used.

1.4.6 Costs incurred:

Parents are by and large, willing to pay for medical care and products during acute diarrhoea suffered by their child. The average cost per diarrheal episode is substantially high and a drain on the families income. Yet it is found that families value services for which they pay, during an illness. Thus simply getting ORS is suspected of being low quality and unimportant.

1.4.7 Decreased Feeding:

This is another prejudice that needs to be addressed. Those mothers who decrease food and liquids during diarrhoea are endangering the lives of their children in reality.

1.4.8 Extra Food During Convalescence:

Giving extra food in convalescence is little known and would require a major education effort.

1.5 AN OVERVIEW OF THE DESIRED BEHAVIOUR:

Some of the prescribed ways to handle diarrheal problems in children:

- ORT:

- A. Foremost a major effort is needed to promote increased fluid intake with home fluids. Mothers should start feeding more fluids/drinks to the child with diarrhoea. This can prevent the child from becoming dehydrated.
- B. Secondly a child should continue to receive fluids during diarrhoea and vomiting. Breast feeding mothers should continue to breast-feed and feed more frequently. Older children must be given to drink even more.



Thirst is a recognized cause for offering more to a child to drink. However, in the very young child, crying should be recognized as a sign of thirst. In some areas there is a tendency to reduce fluid intake. This requires particular attention in communications.

- C. Efforts to continue feeding needs emphasis. This is particularly relevant in view of mother's perception of the major problems caused by diarrhoea i.e. weakness and lethargy. These symptoms are offset by continued feeding.
- D. In a substantial proportion of cases diarrhoea can be severe and even life-threatening. Mother's concern should become elevated if the symptoms persist for several days or the more severe symptoms of dehydration become evident. The ORS packet is then the most important response to think of for a child with diarrhoea. The biggest challenge is to bring the life-saving message of ORT to every home, and to make it a basis of medical practice in Pakistan.
- E. Pakistan is well placed to mount a major programme resulting in a dramatic decline in mortality from acute diarrheal illness. Effectively spreading related messages across the country promises a dramatic fall in diarrhoea deaths.

#### 1.6 TARGET IDENTIFICATION:

The most important target audience for these messages:

##### A. The Mother:

Mothers play a pivotal role in diarrhoea therapy. They are the most important health worker. More than anyone else, they:

1. can detect diarrhoea when it starts and begin to give extra fluids;
2. can tell when the child has become seriously ill;



3. can bring the child for medical attention;
4. can provide information needed by a doctor or health worker for correct therapy;
5. can properly mix packets of ORS and perform oral rehydration therapy after returning home;
6. are responsible for giving antibiotics at the right time and for the right number of days to the child with 'Dysentery'.

B. The Health Worker:

For a mother to use ORT effectively, a Physician must know how to talk with her about diarrhoea and teach her to care for her child at home. This requires that the Physician is properly motivated and has good communication skills.

Experienced and trained health workers can play an important role in diarrheal control and are therefore an important audience for our programme. All members of the health team can be portrayed as:

- Providing basic health education.
- Serving the community; and
- Giving appropriate treatment.

C. Chemists and other drug sellers:

They also need to understand the concept of treating 'Dehydration' induced by diarrhoea. Many people still seek their recommendations for several illnesses such as a cough, cold or even diarrhoea. Studies reveal that they do not consider dehydration to be the priority treatment problem. Consequently they invariably sell anti-diarrheal drugs along with ORS.

In short these are an important target audience. Their perceptions, comprehension and behaviour need to be understood and improved. The health messages are also to be geared for them.

## 1.7 A SUMMARY OF THE EDUCATIONAL HEALTH MESSAGES:

### 1.7.1 Diarrhoea can kill:

A mother should know her child could 'Die' from dehydration caused by diarrhoea. Once the diarrhoea sets in, it is vital for her to act promptly and become careful about the child's diet.

### 1.7.2 Diarrhoea need not kill:

If a mother does not reduce the amount of fluid her child normally takes and does not stop feeding her child, he is less likely to suffer from dehydration and the resulting weakness and lethargy.

### 1.7.3 Treatment should begin at home by giving ORS:

ORS is a life-saving solution. As soon as diarrhoea starts, the child should be given an oral rehydration salt solution along with extra home fluids.

### 1.7.4 Preparing the ORS solution:

Preparing ORS is very simple.

1. Wash your hands with soap and water.
2. Wash the jug (container) with soap and water.
3. Put 1 litre of clean water in the container. This is equivalent to 4 glasses. If clean drinking water is not available it is best to boil and cool the water before use.
4. Pour all the powder from one packet of ORS into a clean container. Use whatever container is available such as a jug or bowl, etc.
5. Mix well with a clean spoon until the powder is completely dissolved.
6. Cover the container.



1.7.5 Storing the ORS solution:

Mix fresh ORS solution each day in a clean container. Keep the container covered. The solution can be kept and used for one day (24 hours). Throw away any solution remaining from the day before, because there is a risk of contamination.

1.7.6 Give ORS to the child after each loose stool:

The amount of ORS solution a mother should give is explained below:

After each loose stool give:

- (a) 1/4 - 1/2 cup of ORS solution for a child less than 2 years old.
- (b) 1/2-1 cup to older children.

1.7.7 Take the child to a doctor if dehydration still occurs:

If despite extra home drinks and ORS solution, dehydration occurs, or the diarrhoea continues for more than 2 days, the child should be taken to see a doctor; more so if he has bloody stools and a rise in temperature.

1.7.8 Learning to recognize the signs of dehydration:

Dehydration is the loss of water and body salts through diarrhoea. Some features include dryness of mouth and thirst. Later signs of dehydration include a sunken fontanelle (in infants), a fast/weak pulse, breathing faster than normal, loss of skin elasticity, sunken dry eyes, and reduced amount of urine.

1.7.9 Continuing to feed along with ORS:

Feeding, especially breast feeding, should be continued during diarrhoea. Children with diarrhoea often have a reduced appetite and



may need coaxing to eat. Usually their appetite quickly returns. If it does not, they need continued coaxing until it does.

1.7.10 Giving small portions:

The child should be fed with small portions throughout the day. He should not be forced to take too much food at a time. The composition of the food can be changed such as feeding ground or mashed foods, until the child goes back to his normal solid diet.

1.7.11 Giving ORS during vomiting:

Vomiting does not usually prevent the ORS therapy from being successful. Mothers must be taught to persist in giving ORS solution, even though this requires time and patience. They should give regular small sips of fluids. Giving ORT reduces nausea and vomiting and restores the appetite.

1.7.12 Some foods during diarrhoea:

High energy foods such as fats, yoghurt and cereals are quite well absorbed during diarrhoea. Small, frequent feeds of energy-rich local foods familiar to the child should be given. A little vegetable oil can be added to foods such as rice to increase the energy content.

2. Foods high in potassium are important to restore the body's essential stores depleted during diarrhoea. Such foods include lentils, bananas, mangoes, pineapples, etc.
3. Certain foods should be avoided during diarrhoea, for example those containing a lot of fibre such as coarse fruits and vegetables, wholegrain cereals and spicy foods.



1.7.13 Drugs are only necessary in severe cases of diarrhoea and only on the doctor's advice:

Drugs should not be used except in the most severe cases. Even then they should be administered with care. Small children with dysentery and fever require an antibiotic. Such children should be referred to a health service for advice.

ORS on its own is usually enough to rehydrate the child.

1.7.14 Extra meals:

Extra food should be given to the child as soon as dehydration is corrected, any vomiting stops, and the appetite returns. Breast milk and other liquids should continue during oral rehydration. Once the diarrhoea has stopped, at least one extra meal should be given each day for two weeks.

1.7.15 Practice Hygiene:

Many diarrheal diseases are passed on by dirty food and water. Knowledge about personal hygiene, and effective action in the household and community will help prevent the spread of diarrhoea and other diseases. Below are some practical suggestions:

A. How to Keep Drinking Water Clean:

- i) Keep drinking water in a clean container, such as a bucket and in a clean place.
- ii) Keep the container off the ground, away from children and animals.
- iii) Always keep a clean cover over the container, even when it is empty.
- iv) Rinse the container both from the inside and outside - each time it is empty.
- v) Never put hands into the drinking water bucket.

**B. Handwashing:**

You should wash your hands with soap and water:

1. after using the latrine;
2. before cooking;
3. before eating, or feeding children;
4. before breast-feeding;
5. after touching animals and poultry or anything dirty; and
6. after eating.

Keep a special cloth for drying hands. Do not use a dirty cloth.

**C. How to keep your food clean:**

1. Keep all food in a clean place.
2. Keep food out of the reach of animals and children.
3. Keep food in a cool place out of direct sunlight.
4. Keep food covered and in clean containers.
5. Keep plates, cooking pots and utensils clean.
6. Wash hands with soap and water before cooking.
7. Keep fingernails short and clean.
8. Make sure insects and pests cannot get into food stores.
9. Wash all raw vegetables and peel or wash fruit in clean water.

**D. How to keep your surroundings clean:**

1. Keep the community "Well-Water" supply clean.
2. Have a communal rubbish dump.



3. Put a fence around the rubbish dump.
4. Keep streets and children's play areas clean and free from dangerous objects and garbage.
5. Fill in holes in the streets and children's play areas.
6. Make sure that the well or standpipe is clean and that spilt water can drain away.
7. Keep animals penned or fenced in.
8. Dig drains to carry away water.
9. Keep the latrines clean at all times.



## CHAPTER – 2

# EPI – EXPANDED PROGRAMME ON IMMUNIZATION.



## 2.1 INTRODUCTION:

In Pakistan approximately 170,000 deaths occur in children every year due to lack of immunization. The objective for the EPI in Pakistan is to reduce infant and child mortality caused by the 6 diseases.

These preventable childhood disease for which vaccines are widely available are measles, pertussis (whooping cough), tetanus, polio, diphtheria and childhood tuberculosis. Widespread use of vaccine in the developed world is a major factor in the reduction of mortality and morbidity from these diseases and associated illnesses.

If the target children are fully immunized, those particular infections become rare but the "germs" still exist. Then if some parents decide not to bother with immunization, they risk not only the health of their own child but are also responsible for starting an epidemic in the community.

### 2.1.1 If you do not vaccinate:

Not giving immunization carries with it great risks. First parents are not well-informed about exactly what they are exposing their children to. Also they are not well aware of all the possible symptoms of a disease, in order to recognize it in their own child. There is delay in taking their child to the doctor and some infections can have permanent side effects that can be crippling for life. This kind of negligence exposes the other children to greater harm as well.

### 2.1.2 The 6 major childhood immunizations:

#### - Measles:

The measles vaccine is given in one dose. The vaccine provides long lasting protection against measles as soon as the child completes 9 months of age.

#### - Diphtheria, Pertussis, Tetanus:

DPT vaccine is a combination of these 3 immunizations in one injection. The



thing to remember is that this injection is given in 3 doses, starting from the age of 6 weeks/(1½ month), at least 4 weeks apart. It protects for at least 10 years against the 3 diseases. A booster dose should also be given one year after the third dose.

- Polio:

This is an "oral" vaccine. It usually provides permanent protection against this crippling disease, and is also given in 4 doses. First dose starting from the age of 6 weeks. The second dose is given 4 weeks or one month apart (usually at the same time as DPT). The third is given again after one month. The booster dose is given one year after the third dose. (A zero dose of Polio vaccine is given at birth) but can be given upto 2 weeks of age.

- BCG:

BCG vaccine is given within the skin layer and guards against tuberculosis. It especially gives good protection against the lethal forms of childhood TB.



### 2.1.3 Who should be immunized and at what age?

#### - Infants and children:

All children should be immunized against the preventable childhood diseases. The immunization schedule describes the number of times a child needs to be given vaccinations. It also tells how far apart each visit should be. Following the ideal schedule, each child should be fully immunized by the age of 9 MONTHS, or soon after, because infants are at greater risk from these diseases.

#### - Women:

A mother can protect her child from getting tetanus if she herself has been given TT immunization according to the recommended schedule.

Ideally however, a girl child receive her 3 doses of the DPT injections routinely before she is one year old. (The tetanus is the T in the DPT series). Then when she is a woman of child bearing age she should be given three more injections of the tetanus toxoid. This will make it 6 injections in all. The women who have received all 6 doses, protect all their children from getting tetanus.

When a girl becomes a woman it is specially important for her to receive these tetanus boosters, because she can protect her child from getting neonatal tetanus at birth. This can usually occur if the umbilical cord is infected. It also protects her from getting the infection during delivery.

## 2.2 AN OVERVIEW OF THE ATTITUDES, PRACTICES AND KNOWLEDGE RELATED TO IMMUNIZATION:

Despite the advances already made, a lot still needs to be done in creating and sustaining awareness and a



sense of responsibility, in parents and health workers, regarding immunization.

Not all mothers are sufficiently knowledgeable about the whole range of vaccinations and many remain confused on schedules etc. This confusion exists for even the most vigilant parents. Many vaccinators regard providing immunization as their prime responsibility, and not imparting relevant information.

- A routine procedure:

For Immunization Centres: The vaccination card is issued on the first visit with instructions about the next time schedule. The names of the diseases are presumed to be known by most mothers in the urban areas. The name of the vaccination is given only if inquired. Sometimes the side effects are emphasized. Ice cubes are advised for swelling and analgesics for fever.

For Outreach/Mobile Teams: Team members have to constantly motivate the public. After settling down, the team makes use of the mosque or other community site as a place for announcement. Door-to-door marking is done to identify potential vaccinees. The vaccinators cannot solely rely on the memory or judgement of the mother but need to physically examine the child and the immunization card to know if he has received the vaccination.

There is a difference in attitudes between the educated/uneducated and rural/urban groups of parents. In the urban areas, (with a higher rate of literacy and exposure) awareness about immunization is seen to be significant.

2.3 THE PROBLEMS ASSOCIATED WITH IMMUNIZATION PROGRAMMES:

2.3.1 Community Problems:

Communities are not aptly involved in the decision to implement immunization programmes. Not all families want to have their children immunized or know why immunization is important. Specific problems include:



1. Lack of awareness and understanding about the purpose of immunization;
2. fear of side effects;
3. lack of access to health facilities;
4. traditional views about what is necessary to protect children;
5. seasonal effects which reduce opportunities for immunization e.g. rainy season, harvesting or planting.

#### 2.3.2 Management problems:

1. Lack of supervision, low morale of health workers due to poor pay, too much to do, intermittent supplies, etc.
2. Difficulties in following up mothers and children in families who may migrate to cities or other villages;
3. Limited communications between health workers and supervisors;
4. Poor record keeping, reporting of activities and surveillance;

Other major problems are related to shortage of disposable syringes/needles, etc.

#### 2.4 MAKING EPI WORK SUCCESSFULLY:

Some factors which can contribute to a successful immunization programme are:

##### 2.4.1 Community:

Mothers and families must demand immunization for their children and know when and where to get them. They should be encouraged to take the children to immunization centres rather than wait for outreach teams.

2.4.2 Personnel:

Well trained staff, and health workers who are committed to immunization and who know how and when to give immunizations safely.

2.4.3 Programme Management:

Including schedules, records, training, monitoring, evaluation and management of funds, personnel and supplies.

2.4.4 Good supply networks:

To ensure vaccines are delivered when and where needed.

2.4.5 Political commitment:

At all levels to the immunization programmes.

2.4.6 Media:

The media can play its due role.

2.5 TARGETED MESSAGES TO BE DESIGNED FOR MOTHERS, VACCINATORS AND OTHER CARETAKERS:

These messages should not only benefit mothers but also another very important target group - the vaccinators. The role of the vaccinator is of paramount importance in the implementation of EPI. Only a trained vaccinator skilled in interpersonal communication can achieve the desired results.

In short an integrated approach involving both parents, community leaders and health workers can achieve optimum results.

2.6 SPECIFIC MESSAGES ABOUT IMMUNIZATION:

2.6.1 Most of the "Childhood diseases" can be prevented by immunization:

The immunity a baby gets from his mother's body wears off during the first year. He is likely to catch the infectious diseases of childhood the 1st time he comes in contact with them. But most of these diseases can



now be prevented by immunization. It is tragic that they still exist, because less than 80% of the children below one year receive all the protective injections.

#### 2.6.2 Knowing the 6 major childhood diseases:

##### 1. Measles:

This is one of the most common infectious disease in the world. It is a viral infection and tends to occur in epidemics.

##### 2. Pertussis (Whooping Cough):

A bacterial infection which is very contagious and potentially serious. It is spread by coughing, sneezing and talking.

##### 3. Diphtheria:

This is the 'D' in the DPT shots. Five to ten percent of the children who get this disease die from it.

##### 4. Polio:

Polio is a viral infection mainly effecting the brain and spinal cord. One in three children with Polio suffer from Paralysis.

##### 5. Tetanus:

A bacterial infection causing muscle spasms. It is generally caught from infected dirt entering a cut.

##### 6. Tuberculosis (T.B.):

A bacterial infection which is usually spread by infected droplets from coughing, sneezing or speaking.

Routine and comprehensive immunization has all but eradicated most of these 6



potentially serious diseases in the west.

2.6.3 Immunization is not a one time event:

Mothers must become familiar with the fact that their child not only needs different vaccines but subsequent doses of some vaccines periodically.

2.6.4 Parents should take their children to Immunization Centres:

Many parents prefer to have the vaccinator come to them (through mobile teams), instead of taking their child to the Fixed EPI Centres. They should be encouraged to take the children to Immunization Centres. This would be a sustainable development. It would also signify the importance parents attach to immunization.

2.6.5 A conscientious mother needs to know the recommended schedule:

AGE	VACCINE	REASON
Birth	BCG, OPV	BCG given at the earliest possible age protects against the possibility of infection from other family members. The extent of protection against polio is increased the earlier the OPV is given.
6 weeks	DPT (1), OPV (1)	An early start with DPI reduces the chances of severe pertussis.
10 weeks 14 weeks	DPT (2), OPV (2) DPT (3), OPV (3)	4 weeks intervals between doses give effective protection, and reduce the time a child is exposed particularly to pertussis.
9 months	Measles	At least 80% of measles in children in the third world can be prevented by immunization at this age.



2.6.6 Mothers should not let an "Injection" put them off:

Mothers should not let their very natural (and widely shared) distress at the idea of their little baby being injected put them off. The injections are so quick that many babies do not even have time to cry before they have forgotten that anything happened. It is "far" worse for the mother than for the baby.

2.6.7 Mothers Should not let "Worry" over reactions to the injections put them off:

Most babies have none. Some do have a slight fever, a sore arm, and perhaps a cranky day after the injections. These are nothing compared to the illness that they prevent.

2.6.8 Mothers should not let a severe reaction to the whooping cough (pertussis) injection put them off:

They should talk to a doctor about them instead. The doctor may suggest giving only a DT shot next time. But this is very rare and the risk of not getting the child immunized is far higher than the risk of the side effects.

2.6.9 "MISSING" an immunization date:

If one is late with the second or third injection the course does not have to be started again. These are minimum effective intervals. Longer intervals do not reduce effective protection. They merely delay its completion.

2.6.10 A sick child is not an excuse for missing immunization dates:

Immunization need not be delayed for a snuffly cold but only for acute feverish illness. Mothers sometimes do not bring a sick child for immunization. If they do, health workers frequently do not immunize



them. Mothers and health workers need to know that all EPI immunizations are safe and effective even if a child is ill. No chance should be missed to immunize a child.

2.6.11 The only contraindications to Immunization:

- Any illness needing hospitalization.
- An acute reaction needing medical attention to an earlier injection in the series.
- Convulsions or fits or some neurological problems.
- A family history of fits or certain kinds of epilepsy.

These should be discussed with a doctor.

- Messages for Health Workers:

- Inform parents where, when and how often their child should be immunized.
- Remind parents to take their children back for 'follow-up' doses.
- Encourage women of child-bearing age to be immunized against 'Tetanus'.
- Explain to people about reactions to immunization and ease their fears.

WHY IS TETANUS VACCINATION IMPORTANT FOR WOMEN?

This vaccination is important for the mother because it protects both the mother and the unborn child. But it is not necessary to wait for a woman to get pregnant before she is immunized. Girls can complete a 5 dose course during adolescence at regular intervals. If there is documentary evidence that they have had 3 doses of DPT and within the proper intervals then only 3 doses of TT would be required for protecting them against tetanus.



### THE IMMUNIZATION SCHEDULE

Complete your child's immunizations  
before celebrating his or her *first birthday*

#### Immunization Schedule for Infants

<u>VISIT</u>	<u>AGE OF CHILD</u>	<u>VACCINES</u>
1	At birth	BCG and OPV ZERO
2	6 weeks	DPT 1 and OPV 1
3	10 weeks	DPT 2 and OPV 2
4	14 weeks	DPT 3 and OPV 3
5	9 months	Measles

Please ensure that the measles vaccine is given  
soon after your child is 9 months of age

#### TT Schedule for Pregnant Women and for Women of Child Bearing Age

<u>DOSE</u>	<u>WHEN TO IMMUNIZE</u>
TT1	At first contact or as early as possible during pregnancy*
TT2	At least 4 weeks after TT1
TT3	At least 6 months after TT2
TT4	At least one year after TT3
TT5	At least one year after TT4

\*Including during the first trimester



## CHAPTER – 3

# ARI – ACUTE RESPIRATORY INFECTIONS



### 3.1 INTRODUCTION:

In Pakistan Acute Respiratory Infections (ARI) are one of the commonest causes of death in children. Almost all ARI deaths in young children are due to acute lower respiratory infections, in particular PNEUMONIA. Many of these deaths are in infants, especially young infants (i.e. under 2 months of age).

Accurate data on the incidence of acute respiratory infections in Pakistan are limited. Community based longitudinal studies indicate that it is very high everywhere.

A WHO sponsored project in Abbottabad found that during a given 14 days period, 19% of under fives were affected by ARI. In another study ARI was found to account for 38% of all child deaths - (Annual Progress Report 1985, ARI, WHO Islamabad).

On the average, a child in an urban area has from 5 to 8 attacks annually, which usually last for 7-9 days. Most of these are the less serious upper respiratory tract infections, like a cough or cold.

#### - Pneumonia - An acute respiratory infection:

The simplest form of a respiratory infection is the common cold, which does not need any treatment. A cough or cold should not be treated with an antibiotic nor with a commercial cough or cold medicine. Because they are simply not effective. A child with a common cold does not need any treatment it only needs home care. And very few children with a common cold develop Pneumonia.

However, mothers should suspect Pneumonia in a child:

1. When breathing becomes difficult.
2. When breathing becomes fast.
3. When feeding becomes a problem in a young infant or when the older child is not able to drink at all.
4. When the child gets sicker.



### Risk Factors:

While a doctor cannot prescribe medicines which are against cold viruses, he can prescribe "antibiotics" for Pneumonia. Parents need to call on the doctor when a common cold/cough begins to look unusual.

There are a number of risk factors that may increase the chances of a child getting pneumonia, such as:

1. Lack of immunization.
2. Low birth weight.
3. Malnutrition.
4. Age of child younger than 2 years.
5. Vitamin 'A' deficiency.
6. Indoor air pollution.
7. Urban air pollution
8. Chilling.
9. Overcrowding, etc.

### 3.2 THE ARI PROGRAMME:

An effective ARI programme must talk of efforts to teach mothers (the main target audience) the signs of pneumonia and when to bring ill children to appropriate health facility.

### 3.3 TALKING TO MOTHERS ABOUT PNEUMONIA:

#### 3.3.1 Asking for Help!

Looking after a child is perhaps the most important process in the world. In most instances a mother's own experience, intuition, and sensitivity equips her perfectly well to carry out this care.

But a mother also needs the wisdom to learn from 'others' and to know how and when to ask for HELP! There are times for every parent when outside help is desirable or even downright necessary. 'Pneumonia' is one such occasion.



### 3.3.2 Becoming Alert to "Pneumonia":

Young babies and children have little resistance to common colds; they catch them easily and may be ill, for a few days. Still they do not need any medicine, only home care. However, if the child has fast or difficult breathing, wheeze or stridor, a mother should not hesitate to take her child to a doctor.

### 3.3.3 Training Mothers for the good of the children:

Health, and child health in particular, is something that concerns all mothers. They carry the prime responsibility for their children's health. Health professionals are trained to share this responsibility, especially for a child's physical health. However, when we look closely it really is the mothers who do the lion's share of the care.

In this section we look at how we can train mothers, to detect signs of Pneumonia.

### 3.3.4 Look for the signs of Pneumonia:

This can mean a number of different things.

#### (a) Be on the look out for a breathing problem:

If a child has a cough or has a breathing problem a mother should remove the child's clothing and look at his chest when he is calm. She should look for breathing movement on the lower part of the child's chest, which are not normal.

#### (b) Be on the look out for fast breathing:

A mother should carefully see:

- If the breathing appears faster than other children's breathing or,



- the child has to make much effort to breath. Because fast breathing is a sign of pneumonia.

(c) Be on the look out for chest indrawing:

A mother should see:

- if the child has 'Chest Indrawing' - i.e. the lower part of the chest wall moves IN when the child is breathing IN. Chest indrawing is a sign of severe Pneumonia.

3.3.5 Be on the look out for Danger Signs:

The DANGER SIGNS are:

(a) Stopped feeding:

Has the child stopped feeding?

1. If the young infant (age less than 2 months reduces the quantity of milk (he normally drinks) to one half the amount or
2. If a child stops drinking altogether. Then this is the time to sound the alarm. He should be taken to the doctor without any delay.

(b) Fits:

Has the child had any convulsion or fits.

(c) Abnormally Sleepy:

See if the child is abnormally sleepy or difficult to wake. A sick child is drowsy most of the time and difficult to wake. This sick child often will not look at the mother's face when she talks and may stare blankly not appearing to see.

(d) Fever/Too Cold:

If a very young infant (age less than 2 months) has fever or feels cold to the touch).

(e) Abnormal Breathing Noises:

The child makes additional abnormal noises/sounds which come from difficult air passages.

A child with a danger sign has to be brought to a health worker. The child needs admission and speedy treatment.

3.3.6 Taking care of a child with an acute respiratory infection:

- (a) If the child has no sign of pneumonia and no danger signs, but only a cough, then he needs only home care (no antibiotics).
- (b) If the signs of pneumonia then become visible the child needs antibiotics along with home care.
- (c) If the child has danger signs or severe pneumonia (chest indrawing) the child needs admission in a hospital.

3.3.7 Taking care of a child with an acute respiratory infection at home:

Of course taking a sick child to the doctor is of paramount importance, especially when any of the DANGER SIGNS become visible. But the job of a mother does not stop there. She needs to take vigilant care of her child at home in order to ensure his health, and speedy recovery.

(a) Feed the child during illness:

The child older than 4-6 months of age should be given foods with the highest amount of nutrients and calories. Adding oil or ghee to these foods will



make them more energy rich. Dairy products and eggs are also suitable. Let the child eat as much as he wants.

(b) Increase breast-feeding:

If the child is less than 4 months a mother should breast-feed more frequently than usual.

(c) Offer the child extra to drink:

A child with a respiratory infection 4-6 months and older can lose more fluids than usual, especially when he has a fever. He should be given additional fluids, more breast milk, clean water, milk, clear liquids, or juices.

(d) Clear the nose if it interferes with feeding:

A mother should use a cotton wick if a blocked nose is interfering with the child's feeding. If the nose is blocked due to thick, sticky mucous, put 1-2 drops of salted water into the nose to help soften the mucous.

(e) Soothe the throat and relieve the cough with a safe home remedy:

A mother can soothe the child's throat and relieve the cough by giving the child green tea with half a spoon of sugar or honey or a safe, home made soothing remedy. However she should be aware of harmful, over the counter cough syrups. They are NOT to be used in children because coughing is a natural defence mechanism of the body and most of the commercial cough syrups are not effective.

(f) Increase feeding after illness:

A child often eats less well while sick. Therefore, after a respiratory infection is over, give one extra meal each day



for a week, or until the child has regained normal weight. This will help the child regain normal health and prevent undernutrition. Undernutrition increases the chance of a child becoming more seriously ill if he gets another attack of a respiratory infection or diarrhoea.

3.3.8 Revisit the doctor if the child appears sicker:

If despite continuing home care a child's:

- (1) breathing becomes difficult
- (2) breathing becomes fast
- (3) feeding becomes a problem in a young infant or when the older child is not able to drink at all.
- (4) condition becomes worse.

3.3.9 A word of caution about medicines:

We all know that medicines do not prevent disease. They can relieve or suppress symptoms and cure underlying conditions. We do have access to powerful groups of drugs. But we must remember that just as medicines can save lives, they can also cause serious harm, if used unjudiciously. Continuing research keeps on discovering many old and new remedies to be either ineffective or to have unacceptable side effects.

With a vast majority of childhood ailments the body heals itself given enough time and often medicine is actually unnecessary. But to many parents giving, medicine is the only solution and a symbol of love and care.

Therefore pressurizing doctors for medicine/s is not an uncommon practice. This in turn makes doctors prescribe drugs to appease the concerned parents, sometimes even unnecessarily. This vicious circle needs to be broken.

Yes, a child will need a medicine if he is suffering from pneumonia - an Antibiotic.



But it is wiser to leave this to the judgment of a qualified Doctor. They know better! Parents need not be disheartened if the doctor only gives them advice or a simple remedy. This should only be taken to mean that their child is not so seriously ill and can rely on his body's defence mechanism to fight off illness.

3.3.10 A Cough or Cold does not need Antibiotics:

It is important to remember that a cough or cold is not Pneumonia and they do not need antibiotics. They can be treated with home remedies. Because most of the cough and cold medicines have some ingredients which are harmful.

3.3.11 Pneumonia must be treated with Antibiotics:

Pneumonia may be assessed in a child who has cough and/or difficult breathing. It can be recognized by fast breathing and or lower chest indrawing.

If you use antibiotics it must be given in the right amount, number of doses, and for at least 5 days.

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