No extra rations are given to pregnant women (except for high protein biscuits as discussed below). However, as soon as a baby is born it is eligible for registration and a full adult portion of rations. It is assumed that these rations help provide the lactating mother with the extra nutritients she needs.

2.2 Supplemental

The purpose of supplementary feeding is to make up deficiencies in energy and/or nutrients, especially protein, in the basic diet of those more vulnerable to malnutrition: children under 5, pregnant or lactating women, medical cases, old people, children selected by a screening method. While all children under 5 years old are vulnerable, special attention should be given to the age group 0-2 years. In the case of breast-fed infants, supplementary feeding must be given both to their lactating mothers (for milk production) and to the children above 4 months of age (to meet their increasing requirements). Traditionally, Afghan infants are usually fed only breast milk until 24 months of age, with little supplementation.

The most vulnerable individuals and groups are given high protein biscuits which are available in BHUs as a source of supplementary food. This is not a formalized program through WFP distribution of rations, but relies upon separate donations from abroad.

In some camps supplementary milk is provided to school children. Unfortunately, few girls benefit from this programme, as, because of cultural attitudes and custom, only a small percentage of them go to school.

2.3 Therapeutic

The severely malnourished receive a specially formulated diet. Sometimes this feeding is done in "Under 5" clinics,

sometimes in specific nutrition rehabilitation programmes. Infants and children under five are the most vulnerable group.

There should be little need for wide-spread therapeutic feeding in the AR programme, as sufficient food stuffs and adequate preventive and curative health care are generally available. There is variation among camps with regard to the need for and nature of these special therapeutic programmes. Particular problem situations may include camps where there is an influx of new refugees or where people remain unregistered and do not receive rations, where ration distribution has lagged, or where communicable disease outbreaks, for example measles, have occurred. BHU staff should be aware of any such trends, and organize themselves for therapeutic feeding if need arises.

A therapeutic feeding programme should be conducted in cooperation with the GOP/UNHCR in order that sufficient additional rations may be made available.

Health education and nutrition education including demonstration of preparation of high energy foods should be stressed as part of any therapeutic feeding programme.

3. High Energy Food Recipes

The following recipes are for high protein food and are taken from the GOP Publication, "Supplementary Weaning Food Mixes", by Dr. Mushtaq A. Khan and Dr. Tajammal Hussain. The use of such foods is to be encouraged to assist the most vulnerable groups—infants, toddlers and lactating women. They are appropriate as additional foods to nourish children who have recently suffered from diarrhoea. (See Chapter 14 for information on proper nutrition of persons suffering from diarrhoea).

High Protein Foods

Infants and toddlers may be fed a high-protein weaning food

such as Feerni. (Recipe follows):

Feerni

Wheat flour	15 grams	
Milk	120 ml.	(this is whole or reconstituted milk as a liquid. Ask a nutritionist to adjust for DSM & then change the water quantity as well)
Sugar	5 grams	
Water	60 ml.	

Brown wheat in oil. Add water and sugar to milk and mix well. Add this mixture to the wheat flour and cook for 5 minutes. Serve warm.

Health workers should be able to demonstrate the mixture to mothers, using local utensils of the correct measurements. Such demonstration may be done during home visits or in special health education sessions at the BHU. Only food and materials available to the refugees should be used. Other similar foods such as Kitchri or wheat dalia may be used.

For children of age one or more, and for pregnant and nursing mothers, a recipe like the one below may be used for supplemental feeding after diarrhoeas:

Wheat Flour (roasted)	40 grams
Groundnuts (roasted)	30 grams
Gur (powdered)	30 grams

The wheat flour is roasted and groundnuts are powdered. Gur is ground and powdered and all are mixed together. The mixture can be shaped into a bar (with a little water added if necessary), or eaten in its original form.

4. Nutrition Education

At every opportunity, good nutrition should be emphasized

with the refugee families. Specific points that can be made are as follows:

- Encourage good food habits that the refugees already have (example, bean stew served with nan), or the usual long period of breast feeding.
- Discourage poor habits such as withholding water and food from children who have diarrhoea, or not serving nutritious, easily digestable "weaning" foods to infants and toddlers.
- Women should be encouraged to begin feeding a light mixed diet to their infants from about age 4-6 months.
- Women should be encouraged to eat more when pregnant and lactating.
- Hand washing and hygienic food preparation are a part of healthy nutrition.

These messages should also be taught to men, who have considerable influence in the family.

CHAPTER 14

Diarrhoeal Diseases Control (DDC) Guidelines

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2. PREVENTION OF DIARRHOEA
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CHAPTER 14 Diarrhoeal Diseases Control (DDC) Guidelines

Introduction

Surveys of Afghan Refugees show a high prevalence of diarrhoea among children – between 30 and 50 percent. Diarrhoea is particularly prevalent during the hot dry months of April to June. It is associated with poor sanitation and hygiene: thus, preventive measures must emphasize proper preparation and storage of food; encouragement of breast-feeding; use and protection of clean water; and good personal, family and community hygiene including washing of hands, use of clean latrines and protection of food from flies. The main danger of diarrhoea is dehydration, which can result quickly in death, particularly in infants and young children. Diarrhoea also contributes to malnutrition, stunted growth and increased susceptibility to other diseases. The main treatment for diarrhoea and associated dehydration is Oral Rehydration Salts accompanied by adequate additional fluids and foods.

1. Definition of Diarrhoea

Diarrhoea may be defined as the passing of liquid or watery stools. These liquid stools are usually passed more than three times a day; however, it is the consistency rather than the number of stools that is the most important feature. Frequent passing of formed stools cannot be considered as diarrhoea. Breast-fed babies often pass loose, "pasty" stools; this also is not diarrhoea.

These guidelines are concerned with the management of "acute" diarrhoea, lasting hours or days, not chronic diarrhoea, lasting more than three weeks.

2. Prevention of Diarrhoea

An important job of the health worker is to help prevent

diarrhoea by teaching people some simple facts about food and feeding children, water and hygiene. The following information should be provided to families.

2.1 Food and How to Feed Children Best

- Breast-feeding, whenever the baby wants to be fed, is very important in the first 4-6 months of life. Breast milk is the best food for babies of this age and helps to prevent and stop infections, including diarrhoea. Breast-feeding should continue for at least 2 years.

- When breast-feeding is not possible, milk formulas must be given. It is better to give milk formulas with a cup and spoon than a bottle. Feeding babies milk from bottles is not good because it is difficult to keep the bottles clean.

- It is important that mothers know that they should eat more food than normal during pregnancy and when they are breast-feeding.

- At 4-6 months all babies should start to have other foods as well as milk or milk formula. Soft mashed foods are best.

- All food should be fresh and prepared in a clean place using clean pots and utensils.

- Cooked food should be eaten while still hot, or well heated again before eating.

- Uncooked food should be washed in clean water before eating.

2.2 Water

- Drinking-water should be taken from the cleanest

possible source. Unless you are sure that the water is safe, it should be boiled before drinking. This water should be kept in a clean, covered container and used only for drinking.

- Washing the body, clothes or pots and utensils should not be done at the source of the drinking-water.

- Stools and urine should not be passed in or near the source of drinking-water.

2.3 Hygiene

Hygiene concerns activities to stop germs from infecting the body. These activities involve the village, the household and each person at home. The health worker should discuss the points listed below with all members of the village. He should learn from them the local beliefs about diarrhoea, encourage the beliefs that are helpful and explain why some local practices are harmful.

- The messages in the previous sections about food preparation and water are also about hygiene.

- Dirt, rubbish, stools and urine contain germs that cause infections sometimes resulting in diarrhoea.

- Stools and urine should be passed in a latrine, which should be kept clean. If there is no latrine, stools and urine should be passed in one place away from the village and away from the source of drinking-water. Stools passed by children near the house should be taken away or buried.

- Hands should always be washed after passing stools and before preparing food, eating or feeding children. Children's hands also should be washed.

- Rubbish should be burned, buried, or taken to a place far away from the village and away from the source of drinking-water.

- Flies carry germs from dirt, rubbish and stools into the house and on to food. Flies should be kept away from stools (by burying stools), from latrines (by keeping them clean), from rubbish (by burning or burying) and from food (by keeping it covered).

3. Dehydration

Death in acute diarrhoea is most often due to dehydration which results from the excessive loss of body water and salts in stools, vomitus, urine, sweat and other losses. Patients with dehydration associated with acute diarrhoea usually are deficient in sodium, potassium and water, and have a base-deficit acidosis. Infants, older children, and adults with similar degrees of dehydration from acute diarrhoea have similar fluid and electrolyte deficits per unit of body mass. Thus it is possible to use similar rehydration solutions to treat this condition in all age groups.

4. Assessment of Patients

4.1 History

If the patient is an infant or a child, the mother or other relative should first be complimented on bringing the child to be cared for.

A history should be taken from the patient or his family and should obtain the following information:

- duration of illness;
- quantity, frequency and consistency of stools;
- duration and frequency of vomiting;
- time when urine was last passed and its colour and quantity;

- presence of fever or convulsions of any kind;
- type and amount of liquids and food consumed during the illness.

A written record of this information should be made in the Family Record Card.

4.2 Physical Examination

A full physical examination should be performed. Particular attention should be given to the signs of dehydration, as described in Table 9.

- Fever is often present in babies with diarrhoea. It is necessary to take a rectal temperature as the skin may be cold despite high fever.

- If breathing is rapid and deep, this is probably due to acidosis associated with dehydration.

- With severe dehydration shock may occur. The signs include cold, sweaty extremities, a rapid feeble pulse, a low or even unrecordable systolic blood pressure and peripheral cyanosis.

The signs of dehydration are presented in Table 9.

4.3 Weighing the Patient

Weighing has two purposes. First, if the patient is a child who has been weighed regularly, or an adult whose normal weight is known, sudden weight loss during the diarrhoeal illness is a useful indication of the presence or extent of dehydration. Secondly, weighing of the patient at intervals during therapy is helpful in assessing the progress of rehydration.

However, treatment should not be delayed because a weighing machine is not readily available. If one is available, carefully weigh the patient unclothed or lightly clothed and

record the weight for age, or expected weight for age, or estimate the expected weight for length from the table in Appendix J, in order to calculate a child's ORS Solution needs.

4.4 Assessment

Patients with signs and symptoms of dehydration can usually be classified as having mild, moderate or severe dehydration. If two or more of the signs of severe dehydration (Table 9) are present, the patient should be considered to have severe dehydration. Similarly, two or more signs of moderate dehydration should be considered to indicate that condition. The best tool for assessing dehydration is keen observation based on experience.

5. Management of Patients

5.1 Basic Principles

Management of patients has three parts:

- prevention of dehydration if it is not already present;
- fluid therapy when dehydration is present;
- maintenance of nutrition. These are discussed below.

5.2 Prevention of Dehydration

Those patients who present with diarrhoea but who show no evidence of dehydration should receive advice on how to prevent dehydration from occurring.

- They should be advised to increase their normal intake of fluids (for example, water, soups, rice water, weak tea, fruit juices or home prepared salt and sugar solutions). (See Appendix K for information on the preparation of this solution).

Table 9

Assessment of Dehydration and Fluid Deficit

Signs and symptoms	Mild dehydration	Moderate dehydration	Severe dehydration
General appearance and condition			
– infants and young children	Thirsty; alert; restless	Thirsty; restless, or lethargic but irritable when touched	Drowsy; limp, cold, sweaty, cyanotic extremities; may be comatose. Usually conscious;
– older children and adults	Thirsty; alert	Thirsty; alert	apprehensive; cold, sweaty cyanotic extremities; wrinkled skin of fingers and toes; muscle cramps; giddiness on standing
Radial pulse[1]	Normal rate and volume	Rapid	Rapid, feeble, sometimes impalpable
Respiration	Normal	Deep, may be rapid	Deep and rapid
*Anterior fontanelle[2]	Normal	Sunken	Very sunken
Systolic blood pressure[3]	Normal	Normal	Less than 10,7 kPa (80 mmHg); may be unrecordable

*Skin elasticity[4]	Pinch retracts immediately	Pinch retracts slowly	Pinch retracts very slowly (> 2 seconds)
*Eyes	Normal	Sunken	Deeply sunken
Tears	Present	Absent	Absent
Mucous membranes[5]	Moist	Dry	Very dry
*Urine flow[6]	Normal	Reduced amount and dark	None passed for several hours; empty bladder
% body weight loss	4–5%	6–9%	10% or more
Estimated fluid deficit	40-50 ml per kg	60-90 ml per kg	100-110 ml per kg

*Particularly useful in infants for assessment of dehydration and monitoring of rehydration.
[1] When it is difficult to feel the radial pulse, for example in severely dehydrated patients and infants, feel for the brachial pulse or record the heart rate using a stethoscope.
[2] Useful in infants until fontanelle closes at 6-18 months of age. After closure there is a slight depression in some children.
[3] Difficult to assess in infants.
[4] Not useful in marasmic malnutrition or obesity.
[5] Dryness of mouth can be palpated with a clean finger. Mouth may always be dry in a child who habitually breathes by mouth. Mouth may be wet in a dehydrated patient due to vomiting or drinking.
[6] A marasmic baby or one receiving hypotonic fluids may pass good urine volumes in the presence of dehydration.
(WHO, A Manual for the Treatment of Acute Diarrhoea, p. 6)

- Infants who are breast-fed should continue to receive breast milk.

- If an infant is not breast-fed (until the diarrhoea stops) the milk he receives should be diluted with an equal volume of clean water.

- Patients should be advised to continue to eat, or if an infant of over 4-6 months, be fed, soft, easily digestable foods. (See Section 5.4.5 for a list.) Before being sent home these patients should if possible, be weighed and the weight recorded for future reference.

- The patient should be told to return immediately for treatment if signs of dehydration occur or if diarrhoea continues. Several signs of dehydration should be explained to the patient or to the person who brings an infant or young child, in language the person can understand.

- Some packets of ORS can also be given to be used if signs of dehydration appear.

5.3 Management of the Dehydrated Patient

5.3.1 General considerations

The output of water and electrolytes from the body in stools, vomitus, urine, sweat and other losses should be matched by the input of water and electrolytes. Fluids administered to a dehydrated patient meet the following three essential needs:

(1) correction of the existing water and electrolyte deficit (rehydration therapy);

(2) replacement of ongoing abnormal losses due to continuing of diarrhoea, to prevent a recurrence of dehy-

dration (maintenance therapy);

(3) provision of normal daily fluid requirements during rehydration and maintenance therapy.

Rehydration therapy can usually be achieved orally with ORS Solution, except in cases with severe dehydration, uncontrollable vomiting, or any other serious complications that prevent successful oral therapy. In these case intravenous (I.V.) therapy is needed. ORS Solution is also the fluid used for maintenance therapy. However, fluids of lower salt concentration, for example, plain water, breast milk, or diluted milk must be given to meet normal daily requirements. This is particularly important in infants.

5.3.2 Rehydration Therapy

In patients with signs and symptoms of dehydration, the existing water and electrolyte losses must be replaced promptly and adequately.

In oral therapy a steady but comfortable rate of ingestion is usually adequate to achieve rehydration. Patients with severe dehydration, with or without hypovolaemic shock, generally require intravenous therapy to achieve complete or near complete rehydration. The guidelines are given in Table 10.

While rehydration therapy is in progress, the patient's normal daily fluid requirements must also be met as described below:

- **Breast-fed infants**: Breast feeding can be continued throughout the entire episode of diarrhoea. The infant should receive breast milk as well as the ORS Solution.

- **Non-breast-fed infants**: After the first 4-6 hours of rehydration therapy, or earlier if rehydration is complete, a volume of plain water should be given equal to half the volume of ORS Solution already taken by the infant.

Table 10

GUIDELINES FOR REHYDRATION THERAPY

When using the table below, consider all of the following points:

- the volumes shown are guidelines only.
- rehydration must be assessed by clinical examination, not by fluid volume given.
- the volumes shown can be increased, or administration can be continued at the same rate, if necessary to achieve rehydration.
- puffiness around the eyes suggests overhydration.
- maintenance therapy should be started as soon as the signs of dehydration have gone, but not before.

Degree of dehydration	Age group	Type of fluid	Volume of fluid (per kg body weight)	Type of administration
Mild	All	ORS	50 ml/kg[1]	Within 4 hours
Moderate	All	ORS	100 ml/kg[1]	Within 4 hours
Severe	Infants	IV[2] Ringer's Lactate	70 ml/kg	Within 3 hours
		IF SIGNS OF DEHYDRATION ARE STILL PRESENT, FOLLOW BY:		
		ORS	20 ml/kg	Per hour
	Older children and adults	IV[2] Ringer's Lactate	100 ml/kg	Within 4 hours: initially as fast as possible until radial pulse is palpable

[1] During the initial stages of therapy while still dehydrated, adults can usually consume up to 750 ml per hour and children up to 300 ml per hour.

[2] If Ringer's Lactate is not available, one of the other I.V. solutions listed in Annex 2 may be used in the same volumes as shown above (except for 1/2 Strength Darrow's Solution, for which the volumes shown above should be increased by 50%).

(WHO, A Manual for the Treatment of Acute Diarrhoea, p. 9)

NOTE: If, during the time period indicated, the calculated volume has been given and signs of dehydration are still present, but there has been some improvement, rehydration therapy should be continued at the same rate as long as is necessary.

If the signs of dehydration become worse or remain unchanged, the rate of administration and the volume of fluid given may need to be increased. If patients receiving ORS Solution develops signs of severe dehydration, I.V. Therapy should be started as indicated on the Table.

Plain water should be clean and preferably boiled and cooled. Sugar should not be added as this may decrease the appetite and interfere with subsequent food intake. Concentrated sugar solutions may also cause "osmotic" diarrhoea.

Full strength milk formula should be started as soon as possible after rehydration is completed even if the diarrhoea has not stopped.

- **Older children and adults**: Throughout the rehydration plain water should be available to patients to drink as they wish, in addition to ORS Solution.

The progress of the rehydration therapy should be assessed after one hour and then every 1 – 2 hours. In particular, attention should be given to:

- the number and volume of stools passed,
- the extent of vomiting,
- the presence of, and changes in, the signs of dehydration,
- whether the rehydration fluid (oral or I.V) is being successfully given in adequate amounts.

5.3.3 Maintenance Therapy

After the signs of dehydration have gone, it is important to replace the ongoing abnormal losses of fluids and electrolytes that are associated with continuing diarrhoea. The principle of maintenance therapy is to match the input to the output. Some guidelines are given in Table 11.

Table 11

GUIDELINES FOR MAINTENANCE THERAPY

Note that:
- the volumes shown are guidelines only.
- clinical status is the best guide to all hydration therapy.

Amount of diarrhoea	Kind of fluid	Administration	Amount of fluid
Mild diarrhoea (not more than one stool every 2 hours or longer, or less than 5 ml stool per kg per hour)	ORS	By mouth; at home	For infants and children <5 years:[1] 100 ml/kg body weight per day until diarrhoea stops OR 10 ml/kg body weight after each loose stool For older children/adults. As much as required[2]

(table 11 Contd.)

Severe diarrhoea (more than one stool every 2 hours, or more than 5 ml of stool per kg per hour)	ORS	By mouth; at treatment facility	Replace stool losses volume for volume; if not measurable give 10-20 ml/ kg body weight per hour until the diarrhoea becomes less – then continue as for mild diarrhoea
Severe diarrhoea with recurrence of signs of dehydration	Treat as for severe Dehydration in Table 10		

[1] Breast milk should be allowed as often as desired in addition to ORS Solution. For non-breast-fed children, milk should be diluted with an equal quantity of plain water. Other fluids, including plain water, can also be given. As a guide, ORS Solution should form 2/3 of the total maintenance fluid intake until the diarrhoea stops.

[2] Thirst is the best guide to maintenance therapy in older children and adults. They should drink as much ORS as they want as well as water and other fluids.
(WHO, A Manual for the Treatment of Acute Diarrhoea, p. 11)

In addition to the replacement of ongoing abnormal losses, the body's normal daily fluid requirements must also be considered. These can be met in the following ways:

- **Breast-fed infants:** Breast feeding should be allowed as often as the infant desires, in addition to the required volume of ORS Solution.

- **Non-breast-fed infants:** The full strength milk formula normally consumed by the infant should be restarted as soon as possible. Other fluids normally consumed by the infant, including plain

water, can also be restarted. The milk and other fluids should be given in addition to the required amount of ORS solution and as a guide, should form about one/third of the total fluid intake (i.e 2/3 ORS Solution; 1/3 milk and other fluids) until the diarrhoea stops.

- **Older children and adults:** Fluids normally consumed can be taken as required, in addition to the required ORS Solution.

Rehydration patients with continuing severe diarrhoea as defined in Table 10 should be given maintenance therapy in the BHU until the diarrhoea becomes mild. If signs of dehydration reappear, and losses cannot be replaced adequately by increasing the volume of ORS given, I.V. therapy should be considered.

Patients with mild diarrhoea can be given maintenance therapy at home. Before they go home:

- patients or their family should be shown how to prepare and give ORS Solution:

- enough ORS packets should be given to meet anticipated needs. One package is given to children below the age of one and two packages for older children, age one to four.

It must be emphasized to the family that if the patient gets worse or if the diarrhoea has not stopped after two days, the patient should return (or be brought back) to the BHU. If possible, patients who need to continue ORS Solution at home should be visited by a health worker daily. A Community Health Worker may make such visits if another member of the BHU health team, such as an LHV, cannot. Maintenance therapy should continue until the diarrhoea stops.

5.3.4 Administration of ORS Solution

A family member should always be shown how to prepare and give the ORS Solution and should assist in doing so at the BHU. The solution can be given to infants using a cup and spoon or a cup alone if it is usually used. These must be clean; in the case of a feeding bottle, the mother should be shown how to clean it properly. For babies, a dropper or a syringe can be used to put a small amount of Solution into the mouth.

A nasogastric tube can be used to administer ORS Solution to babies who cannot drink due to fatigue or drowsiness, but who are not in shock. The average recommended rate is 20 ml./kg body weight per hour. If the abdomen becomes swollen during treatment, stop giving the ORS Solution. ORS Solution can be put into the nasrogastric tube using a syringe or a clean, used, intravenous infusion bottle. For babies in shock, this procedure should only be used in an emergency, for example, when it is not possible to give I.V. fluids. In such cases, ORS Solution should be administered at a rate of 20 ml/kg body weight per hour.

Vomiting is not uncommon during the first hour or two after administration of ORS Solution, but it usually does not prevent successful oral rehydration. To reduce vomiting, and to improve absorption of the ORS Solution, give it slowly, in sips, at short intervals. If the patient vomits, wait 5 – 10 minutes then start ORS Solution again slowly. Rarely does sustained vomiting occur, if it does the I.V. therapy should be used.

5.3.5 Maintenance of Nutrition: Dietetic Management

It is essential to make up nutritional deficits and to maintain nutrition during the diarrhoeal illness. Deficits result from reduced food intake due to anorexia and withholding of food, and from nutrient loss due to vomiting and malabsorption. Although it may be common for mothers to restrict

foods of a child with diarrhoea, they should be taught that feeding the child is important for its good recovery.

There is no physiological basis for "resting" the bowel during or following acute diarrhoea. Fasting has been shown to reduce further the ability of the small intestine to absorb a variety of nutrients. Even during acute diarrhoea, 60% or more of the normal absorption of nutrients occurs. This is particularly true for oils and fats, which can provide a large amount of energy for the quantity eaten.

The resumption of breast feeding and other milk foods in infants is essential. In non-breast fed babies full-strength milk formula should be started as soon as possible after rehydration is complete even though the diarrhoea has not stopped.

In addition to milk, as soon as their appetite returns, all children older than 4-6 months, and all adults, should eat foods that provide adequate calories and are easily digestible. Energy-rich foods are important during and following diarrhoea. Most staple foods such as nan or rice do not provide sufficient calories per unit weight for infants and young children and should be enriched with fats and oils or sugar. Dairy products, legumes, fish and eggs are also suitable foods. These foods should be started during maintenance therapy — there is no reason to delay feeding until the diarrhoea stops. Foods which are rich in potassium (for example, fruit juices and bananas) are useful to replace body potassium lost during diarrhoea. Foods with a high fibre content (for example, coarse fruits and vegetables, fruit and vegetable peels, wholegrain cereals) should be avoided. There are recipes for high protein foods in Chapter 13.

In infants 4-6 months of age or older who have not previously been given semi-solid foods, this is a good time to start feeding such foods and to emphasize their importance in the prevention of future episodes of diarrhoea. In these infants, and in some of these who have lost their appetite

during the diarrhoea, a considerable effort may be necessary to get them to eat. In such cases frequent small meals should be given. Severely malnourished children may require nutrition rehabilitation in a treatment centre. In these children solid foods may need to be re-introduced into the diet more slowly. In infants, especially after an episode of diarrhoea, one extra meal should be given each day for at least one week after the diarrhoea stops.

6. Treatment

6.1 Standard Treatment

Usually diagnostic facilities are not available in the field situation; therefore, the following treatment guidelines should be followed:

(a) If a patient has ordinary watery diarrhoea, do not give any drug on first admission. If the diarrhoea is prolonged or the patient has typical clinical symptoms of parasitic diarrhoea, give metronidazole when the patient returns the second time.

(b) The patient who has fever and bloody stools should be given Ampicillin or Trimethoprin-Sulfamethoxazole.

(c) A patient with severe watery diarrhoea which seems like cholera should be given Tetracycline. Both cholera and shigella usually occur in epidemics and in such situations, one stool sample should be taken to confirm the diagnosis.

(d) A confirmed case of cholera is to be reported immediately to the FSMO, Project Director Health, UNHCR and Ministry of Health.

6.2 Antimicrobial drugs (including antibiotics)

Antimicrobial drugs are not indicated for the routine treatment of acute diarrhoea. They are used for diseases which require laboratory diagnosis, a resource which is not usually available. These diseases are:

- Cholera
- Severe Shigella dysentery
- Amoebic dysentery
- Acute giardiasis.

The drugs of choice for treatment of these diseases are given in Table 12. Specific drug therapy may also be required when acute diarrhoea is associated with another acute infection (for example, pneumonia, otitis, malaria).

Neomycin and Clioquinol should never be used in the treatment of acute diarrhoea. Neomycin causes damage to the intestinal mucosa and can contribute to malabsorption. Clioquiniol is associated with severe neurological sequelae; its efficiency has never been documented in controlled trials.

6.3 Anti-Diarrhoeal Agents

Anti-diarrhoeal agents are not indicated in the routine treatment of acute diarrhoeal diseases. Two types of anti-diarrhoeal agents exist: (a) adsorbants (for example, kaolin, pectin, activated charcoal, bismuth subcarbonate). (b) Opiates, opiate-like compounds and other inhibitors of intestinal motility (for example, tincture of opium, camphorated tincture of opium or paregoric, codeine, diphenoxylate with atropine, loperamide hydrochloride).

The adsorbants have not been shown to be of any value. Although the opiates may provide some transient pain relief, they may slow intestinal peristalsis and delay the elimination of the causative organism in infants. Anti-motility drugs (opiates) are one of the main causes of abdominal distention,

a severe complication of diarrhoea.

6.4 Other drugs

Stimulants: Shock in acute diarrhoeal disease is generally due to dehydration and hypovolaemia and must be treated quickly with appropriate intravenous fluids. The use of stimulants (for example, adrenaline, etc.) is not indicated.

Steroids: The use of steroids is never indicated; their use can cause serious side effects.

Purgatives: These drugs worsen diarrhoea and dehydration; they should never be used.

Anti-emetics: Anti-emetic drugs are rarely indicated as vomiting can be controlled by discontinuing any feeding and/or the ORS Solution for five to ten minutes.

7. Associated Problems and Complications

7.1 Protein-energy malnutrition

7.2 Fever

Patients with high fever should be treated promptly to bring the temperature down. This is best done by bathing or sponging with tepid water. Antipyretics such as aspirin may be used but, particularly in infants, caution must be observed. In a sick baby, the rectal temperature should be taken on admission to ensure that a fever is detected if present.

In patients with fever and diarrhoea there may be underlying infection. This should be treated in the usual manner.