UNITED REPUBLIC OF TANZANIA

MINISTRY OF HEALTH AND SOCIAL WELFARE

TANZANIA FOOD AND DRUGS AUTHORITY

Accredited Drug Dispensing Outlet Training

Child Health Dispensers' Manual

USAID FROM THE AMERICAN PEOPLE

MSH SPS Strengthening Pharmaceutical Systems

DUKA LA DAWA MUHIMU

TFDA Tanzania Food & Drugs Authority

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About SPS

The Strengthening Pharmaceutical Systems (SPS) Program strives to build capacity within developing countries to effectively manage all aspects of pharmaceutical systems and services. SPS focuses on improving governance in the pharmaceutical sector, strengthening pharmaceutical management systems and financing mechanisms, containing antimicrobial resistance, and enhancing access to and appropriate use of medicines.

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ACRONYMS

ADDO	Accredited Drug Dispensing Outlet
ALu	artemether-lumefantrine
ARI	acute respiratory infection
IMCI	Integrated Management of Childhood Illness
ITNs	insecticide-treated nets
MoHSW	Ministry of Health and Social Welfare
ORS	oral rehydration salts
SP	sulfadoxine-pyrimethamine
TFDA	Tanzania Food and Drug Authority

SESSION 1. OVERVIEW AND ORIENTATION

Purpose

The purpose of this session is for you to understand the rationale, goals, and objectives of the training. You will also get to know other participants of the training.

Objectives

After completing this session, you will be able to—

1. Give names and some information about the other participants and the facilitators
2. Outline the goal and objectives of the child health training
3. Recall the training schedule

Why Focus on Diarrhea, Malaria, and ARI?

In Tanzania, malaria, acute respiratory infections (ARI), and diarrheal diseases are the main causes of morbidity and mortality in children under five years of age. Together, they account for over 50 percent of all cases of childhood morbidity and mortality (Health Statistics abstract, Ministry of Health, 1995). Children under the age of five years are the focus of this training because they are particularly at risk for these conditions.

Integrated Management of Childhood Illness

Integrated Management of Childhood Illness (IMCI) is a strategy implemented by the Tanzanian Ministry of Health and Social Welfare (MoHSW) to improve child health as a way of reducing child mortality. It involves seeing the sick child holistically and not just categorizing the sickness as one diagnosis. It also includes preventive measures such as vaccination, nutritional advice, insecticide-treated net (ITN) use, and personal hygiene.

IMCI was first introduced in 1996 and since then, over 90 districts in the country are implementing this strategy. Nurses, clinical officers, and doctors of public dispensaries, health centers, and hospitals are trained in IMCI for 11 days. Preliminary evaluation of this strategy shows that IMCI has been effective in improving treatment of sick children in public health facilities. Since this improvement is limited to the public sector, it is high time for the private sector including the Accredited Drug Dispensing Outlet (ADDO) program to get this training especially because many caregivers of sick children obtain medicines from private pharmacies.

Children will be effectively and successfully treated if they get timely and appropriate medical care. If parents/caregivers wait for their child to get very sick before seeking care or if they decide to take their sick child to a traditional healer, instead, there is a high chance that the child

will die from the ailment. Therefore, educating caregivers to immediately seek care at a health facility or ADDO is a crucial component of caring for sick children. IMCI implementation in ADDO has three major components—

1. **Training and continuing education**
   Training and continuing education will focus on strengthening ADDO dispensers' capacities in identifying the danger signs and symptoms of three common childhood diseases (malaria, ARI, and diarrhea) so that they can provide appropriate care (treatment or referral).

2. **Community mobilization**
   Community mobilization aims at enabling communities and caretakers to identify danger signs and symptoms of three common childhood diseases; seeking appropriate care in a timely manner and using medicine rationally. Different communication methods will be used in mobilization (radio, flyers, posters, village meetings, seminars, traditional dances, and drama).

3. **Monitoring and supervision**
   Monitoring and supervision of child health activities in ADDOs will be implemented in accordance to the current Tanzania Drug and Food Authority (TFDA) guidelines. Dispensers will have registers, monthly reporting, quarterly reporting and supervision forms.

This training aims at improving the practices of ADDO dispensers with respect to malaria, ARI, and diarrhea. It is designed in line with the IMCI strategy and National Malaria Control Program (NMCP) guidelines.

Objectives of the Training

To strengthen and improve ADDO services in the management of malaria, ARI, and diarrhea.

Specific Objectives

- To improve your capacity in identifying the danger signs and symptoms of three common childhood diseases

- To improve your capacity in providing care including decision making, appropriate treatment, counseling, and referral

- To improve your capacity in educating parents/caretakers on danger signs to look for at home, when feeding, and to prevent disease

SESSION 2. FRAMEWORK OF PRACTICE

Purpose

ADDOs in the community are often the first stop for people with illness, and as a dispenser you are constantly required to assess the signs and symptoms of ill health presented to you. As a result, you need sufficient background knowledge to determine a rational course of action particularly for children less than five years of age who are among the most vulnerable to disease and death in our society.

The purpose of this session is to outline the necessary steps to be taken in the screening process to determine a rational course of action. These steps will be used by you when caring for a sick child.

Objectives

After completing this session, you will be able to—

- Indicate the elements of the framework of practice
- Describe the necessary steps involved in determining a rational provisional diagnosis
- Understand and list the criteria for referral

You will learn to manage a sick child following the screening process that involves three main steps—

1. Evaluation
   - Assessing the signs and symptoms
   - Taking the sick child's history

2. Refer (if appropriate)

3. Management
   - Recommending medicine for purchase (when there is no prescription)
   - Dispensing the medicine
   - Counseling
     - Dosage and duration (administration)
     - Failure to improve
     - Complementary advice

Step 1. Evaluation

Assess Signs and Symptoms

Assess the child by first checking for signs and symptoms.

- A **sign** is any objective evidence of disease. It can be detected by a person other than the affected individual. For example, blood in the stool is a sign of disease.

- A **symptom** is any subjective evidence of disease. It is something only the patient can know. For example, abdominal pain is a symptom.

Table 1. Danger Signs by Age Group

Under 2 months of age	2 months up to 5 years of age
• Not feeding well • Fast breathing (60 breaths per minute or more) • Severe chest in-drawing • Convulsions • Fever (38°C or more or feels hot) • Low body temperature (less than 35.5°C) • Skin pustules • Umbilicus red or draining pus • Movement only when stimulated or no movement even when stimulated • Grunting	• Not able to drink or breastfeed • Vomits everything • Convulsions • Very sleepy (lethargic) or unconscious

Taking a Customer History

History taking is important because the history may alter the recommended action. For example, if a patient has already taken the medicine you were going to recommend, then a different medicine or referral would be necessary. When a customer enters your pharmacy, ask simple questions in order to gain some information. It is important to use the answers to the questions and to assume nothing. There are many approaches for taking a history, but a simple protocol to follow in community pharmacy is to ask the following questions—

- Who is the medicine for? If for a child, ask for his/her age.
- How long has the child had the signs and symptoms?
- What other symptoms does the child have?
- Has action already been taken, including any medicines already taken?

Use common sense in getting a history. If you have prior information, for example, from a previous conversation, you may not need to ask about it again.

Step 2. Referral

After assessing the signs and symptoms and taking a patient history, you may determine that it would be in the best interest of the patient to refer him/her to a health facility.

The basic criteria for referral are as follows—

- If at any stage you identify the presence of any danger sign and specific critical conditions
- If you think you are not competent to make a decision
- If you think further investigation is needed
- If you think that the sick child needs services or treatment available from a health facility that are superior to what you can offer, for example, if injections are required

Four Steps to Follow When Referring a Child

1. Explain to the parent/ caretaker the need for referral, and encourage him/her to consent to the referral. If he/she does not agree to the referral, find out why. The reason could be that the parent/caretaker—
    - Fears that his/her child will die in the hospital.
    - Does not believe that the health facility will be helpful
    - Has other children at home to take care of or have other responsibilities to attend to or may lose their job
    - Cannot afford to pay for transportation, medicines, or food if child is admitted.
2. Reassure the parent/caretaker and as much as you can try to help. For example—
    - If he/she fears that the child may die at the health care facility, offer reassurance that health facilities have personnel that are trained and have access to proper medicines and equipment to specifically deal with these problems. If he/she needs help at home, ask whether she/he has a spouse or other family members that could help.
    - If he/she needs help at home, ask whether she/he has a spouse, sister, or mother that could help.
    - Discuss how they will get to the health facility and arrange for transportation if need be.

- It is important to note that under any circumstances, the dispenser should ensure that the child is taken to a health facility.

3. Give the parent/caretaker a referral note; ask them to present the note to the facility health care worker.

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Referral form

Name of a sick person _____ Sex___ Age ____

Address _____ Date _____ Time ___

Name of ADDO _____ _____

Signs observed or from history_____

Treatment provided to the sick person before referral _____

Name of health facility to which the sick person is being referred _____

Name of dispenser giving referral _____

Signature of the dispenser _____

This section should be filled in by the health worker of the receiving health facility and should be returned to the ADDO from where the referral was made.

From_____(name of health facility) located at _____(physical address)

To_____(name of ADDO) located at_____(physical address)

Name of a sick person_____ Sex_____
Was received at our health facility on_____

Name of the Health Worker_____

Designation_____ Signature_____Date_____

4. Give pre-referral treatment and instructions necessary to care for the child during transport to a health facility.

    - Provide additional medicines and supplies if the health facility is far away and give instructions accordingly

    - If you think that they will not go to a health facility, provide the caretaker with a full course of treatment and teach him/her how to give the medicines

    - Advise the parent/caretaker to keep the child warm

    - Advise the parent/caretaker to continue breastfeeding and to increase frequency of feeding

Step 3. Management

Dispensing

One major difference between supplying medicines and supplying other goods is that with medicines the customer usually does not know the correct use and is unable to judge the quality of the product he or she receives. Therefore the responsibility for the correctness and quality of medicines lies entirely with the person dispensing or selling them. This is true whether you are recommending a product or dispensing from a prescription.

Counseling

Just labeling a medicine is not sufficient. You must also give the customer these instructions verbally; both for reinforcement of the message and also in case the caretaker forgets the oral instructions or cannot read the label.

Basic information that you should give to parents/caretakers includes—

- Why the child is being given the medicine
- How much medicine the child should take
- How often the medicine should be taken
- How long the medicine should be taken
- The importance of completing a treatment course unless serious adverse effects occur
- Possible adverse effects and what action to take if they occur
- When to take in relation to eating food and whether to take with water
- Interactions with other substances (e.g., food) and medications
- How to properly prepare oral rehydration salts (ORS) at home (if given ORS)
- Storage requirements for the medicine at home with regard to heat, light, and moisture

If the parent/caretaker has a prescription, he/she may have received some of this information. It is important, however, for you to repeat the information and ensure understanding.

If the condition of a sick child does not respond to the recommended treatment or signs and symptoms worsen, it is possible that—

- The assessment may have been incorrect
- The disease is resistant to the medication

In either case, you should immediately refer the patient to a health facility for further management.

Complementary Advice

- In all cases, emphasize the need to provide extra amount of fluids or frequency of breastfeeding (if appropriate). Also, as the child recovers, he/she will need an extra meal daily for two weeks to regain strength.

- Where appropriate, give additional advice relating to the condition, for example, about rehydration, nutrition, hygiene, vaccination, use of ITNs.

Session Summary

Elements of the framework of practice

1. Evaluation
    - Assessing signs and symptoms
    - Taking a patient history

2. Referral (if appropriate)

3. Management
    - Recommending medicine for purchase (when there is no prescription)
    - Dispensing
    - Counselling
        - Dosage and duration (administration)
        - Failure to improve
        - Complementary advice

SESSION 3. MANAGEMENT OF FEVER/MALARIA

Purpose

The purpose of this session is to review the signs and symptoms of childhood malaria and to explain the appropriate treatment guidelines for the new combination therapy, artemether/lumefantrine (ALu). In this session, you will learn the necessary steps for attending to a child with fever.

Objectives

After completing this session, you will be able to—

- Identify the correct antimalarial for treatment
- Describe desired practices for malaria based on IMCI and NMCP guidelines

When a parent/caretaker enters your ADDO shop with a child that has fever/malaria, follow the framework of practice that we outlined in the first session. You will need to assess the signs and take a patient history. In doing so, you can determine the severity of the illness and provide appropriate advice concerning treatment, referral or both.

Assess the Severity of the Illness

Severe Malaria

The danger signs of severe malaria include the following—

- Not able to drink or breastfeed
- Vomits everything that is eaten or drunk
- Convulsions
- Lethargic (very weak and not alert to what is happening around him/her) or unconscious (sleeping all the time and not responding to stimulation)

Also for malaria—

- Severe pallor (additional for malaria)
- Fever

A child with any of the above signs requires **urgent** referral

Uncomplicated Malaria

- Fever
- Chills
- Vomiting
- Diarrhea
- Poor appetite

Treating Fever/Malaria

Severe Malaria

Promptly refer a child with severe malaria to a health facility and write a referral note for a caretaker to present at the facility.

Uncomplicated Malaria

The MOHSW recommends an artemisinin-based combination therapy (ACT) of 20 mg artemether and 120 mg lumefantrine (ALu) for treating uncomplicated malaria. The following table is a summary of the first-line national treatment guidelines for uncomplicated malaria

Table 2. Guidelines for ALu

		Day 1		Day 2		Day 3	
WEIGHT	AGE	Start Dose	After 8 hrs*	Morning	Night	Morning	Night
5 - 15 kg	3 months up to 3 years	1	1	1	1	1	1
15 - 25 kg	3 years up to 8 years	2	2	2	2	2	2
25 - 35 kg	8 years up to 12 years	3	3	3	3	3	3
35 kg and above	12 years and above	4	4	4	4	4	4

*Strictly after 8 hours

Example: Time schedule for first and second dose of ALu

1st dose	*2nd dose*	*1st dose*	*2nd dose*
1:00 AM	9:00 AM	1:00 PM	9:00 PM
2:00 AM	10:00 AM	2:00 PM	10:00 PM
3:00 AM	11:00 AM	3:00 PM	11:00 PM
4:00 AM	12:00 PM	4:00 PM	12:00 AM
5:00 AM	1:00 PM	5:00 PM	1:00 AM
6:00 AM	2:00 PM	6:00 PM	2:00 AM
7:00 AM	3:00 PM	7:00 PM	3:00 AM
8:00 AM	4:00 PM	8:00 PM	4:00 AM
9:00 AM	5:00 PM	9:00 PM	5:00 AM
10:00 AM	6:00 PM	10:00 PM	6:00 AM
11:00 AM	7:00 PM	11:00 PM	7:00 AM
12:00 PM	8:00 PM	12:00 PM	8:00 AM

The dispenser should give the first dose as DOT; the second dose should exactly be given after eight hours; subsequent doses could be given twice daily (morning and evening) in the second and third day of treatment until completion of six doses.

If the sick child does not get better after three days of using ALu or signs and symptoms worsen, it is possible that—

- He/she has vomited the medication
- The dosage was not appropriate for the child's age or she/he did not complete treatment
- The fever was not due to malaria

In the case that the child does not get better after three days of ALu treatment or signs and symptoms worsen, the child should be referred to a health facility for further management.

Fever

In addition to the antimalarial treatment, the child needs an antipyretic like paracetamol to bring the fever down. Commonly available brand names for paracetamol are Panadol and Sheladol. A generic medicine is of equal quality.

Table 3. Guidelines for Paracetamol

Give Paracetamol every 4 to 6 hours			
Age	**Tablet (100 mg)**	**Tablet (500 mg)**	**Syrup 125 mg/5 mls**
2 to 35 months	1	¼	5 mls (1 tsp)
3 to 5 years	2½	½	10 ml (2 tsp)

l = milliliter, mg = milligram, tsp = teaspoon

Provide Advice on How to Give the Child Medication

- Explain to the parent/caretaker what the correct dose is and how to give the medicine (refer to dosage chart for the correct dose for age)

- Show how to measure a dose, especially for syrup form

- Explain in detail how to administer the medicine (number of times per day and for how long), and then write instructions on the packet

- Explain that the medicine should be taken until the end of the course, even if the child gets better before

- Discuss the most common side effects of ALu. These include—
  - Insomnia, sleeplessness
  - Headache
  - Dizziness
  - Nausea and loss of appetite
  - Abdominal pain
  - Urticaria, mild skin irritation, or pruritus
  - Mild cough
  - Joint pains and mylagia
  - Transient ataxia

- If the side effects are severe, refer the child to a health facility

- Side effects of ALu should be reported in the Adverse Drug Reaction forms (Annex 1)

Recommend Giving Fluids, Continuing Feeding/Breastfeeding During Illness

Inform the parent/caretaker that fluids and food are very important to help the child fight the malaria parasite and recover more quickly. Fluids also help reduce the child's fever and compensate for the fluids lost in sweating.

Check/Inquire about Cough and Difficult/Rapid Breathing and Diarrhea

Children often have more than one illness and the parent/caregiver may not think to mention all of the child's symptoms therefore, it is necessary to inquire about any other symptoms.

- If the child also has a cough and difficult/rapid breathing, follow the procedures and treatment outlined in the session on cough and difficult breathing

- If the child also has diarrhea, he/she should be treated following the procedures and treatment outlined in the session on diarrhea

Explain Symptoms That Require Immediate Medical Care

Explain to the parent/caretaker symptoms to watch for signs that would require immediate medical care as they can lead to death in young children.

- The danger signs (unable to drink or breastfeed, vomits everything, convulsions, lethargic or unconscious)

- Fever persists two days after treatment of malaria

- No improvement or getting worse

Insecticide-Treated Nets (ITNs) for Children and Pregnant Women

- ITNs provide a physical barrier to mosquitoes at night, the time when they are most likely to bite.

- ITNs are impregnated with a safe insecticide that provides extra protection if, for example, there are holes in the net.

- Preventing malaria in pregnant women is important because malaria can cause complications during pregnancy.

Make sure that the parent/caregiver has understood before she/he leaves by asking him/her to repeat the instructions.

Note: You have an important role to play in advising parents/caretakers what symptoms require urgent medical care. If a parent/caretaker observes any of these symptoms, the child should immediately be taken to a health facility.

Session Summary

Follow the framework of practices on malaria—

- Know how to evaluate a child with malaria (uncomplicated and severe malaria)
- Know when to refer
- Know the correct management of childhood malaria
  - Recommending medicine for purchase (when there is no prescription)
  - Dispensing
  - Counselling
    - Dosage and duration (administration)
    - Failure to improve
    - Complementary advice

SESSION 4. MANAGEMENT OF ACUTE RESPIRATORY INFECTIONS

Purpose

Childhood cases of ARI are often mistakenly diagnosed as pneumonia and incorrectly treated with antibiotics. This session will examine the signs and symptoms of pneumonia and discuss ARI management while limiting the potential for the development of drug resistance and irrational use of antibiotics.

Objectives

After completing this session, you will be able to—

- Distinguish between pneumonia and non-pneumonia ARI based on an assessment of signs and symptoms
- Describe target practices for ARI based on IMCI guidelines
- Treat children with cough and common colds but no pneumonia

Introduction

There are three categories of acute respiratory infections—

- Non-pneumonia cough or cold
- Pneumonia
- Severe pneumonia

Distinguishing between the three categories is important because the treatment will depend on this determination. Therefore, signs and symptoms must be carefully assessed.

Cough or Cold: Non-Pneumonia

Signs and symptoms of a child with cough or cold, but without pneumonia are as follows—

Table 4. Signs and Symptoms of Cough and Cold

Runny nose	Headache
Sneezing	Cough
Sore throat	Possible fever

Pneumonia

Signs and symptoms of pneumonia include cough and/or difficulty in breathing and fast breathing. The table below shows what is considered as fast breathing.

Table 5. Fast Breathing

Age	Breathing Is Fast When Respiratory Rate
Less than 2 months	60 breaths per minute or more
2 months up to 12 months	50 breaths per minute or more
12 months up to 5 years	40 breaths per minute or more

You need to assess the signs and symptoms and take a patient history. In so doing, you can determine the severity of illness and provide appropriate advice concerning treatment, referral or both.

The following table presents signs and symptoms of cough/cold, pneumonia, and severe pneumonia.

Table 6. Signs and Symptoms of Non-pneumonia, Pneumonia, and Severe Pneumonia

Category	Signs and Symptoms
Non-pneumonia/cough	Cough, runny nose, sneezing, sore throat, headache, and possible fever
Pneumonia	Difficulty in breathing, fast breathing, possible cough, and possible fever
Severe pneumonia	Unable to drink or breastfeed The child vomits everything Convulsions Lethargic or unconscious Stridor/wheezing Lower chest in drawing

Assessment for ARIs

Severity of Illness

The signs of severe illness are as previously discussed—

- Not able to drink or breastfeed
- Vomits everything he/she drinks
- Convulsions
- Lethargic or unconscious

In addition to the signs mentioned above, others symptoms specific to ARI are—

- Chest in-drawing
- Stridor

While watching the IMCI video, look for the following signs—

- Chest in-drawing
- Rapid breathing

Treatment for Acute Respiratory Infections

Cough/Cold (Non-pneumonia)

If a child has a cough/cold and no danger signs or rapid breathing, the child most likely does not have pneumonia. Most cases of cough or cold are caused by viruses and therefore will not respond to antibiotics. The appropriate treatments are—

- Paracetamol for fever and headache

- Inoffensive remedies such as lemon tea and honey for children over six months of age, or breast milk for infants

Important: Antibiotics are not useful in treating non-pneumonia cough or cold, neither are cough syrups (expectorants and suppressants). Most cases of non-pneumonia cough or cold are caused by a virus and therefore will not respond to an antibiotic.

Rapid Breathing (Pneumonia)

If rapid breathing is present, an antibiotic is urgently needed to treat pneumonia. Refer the child to a health facility; if the health facility is far, give the child co-trimoxazole, the recommended first-line antibiotic for treating pneumonia. Other brand names for co-trimoxazole available include Alprim, Bactrim®, Cotrim®, and Cotrex.

Table 7. Guidelines for Co-trimoxazole

	Co-trimoxazole (trimethoprim + sulfamethoxazole) Give twice a day for 5 days	
Age	**Adult tablet** (80 mg trimethoprim + 400 mg sulfamethoxazole)	**Syrup** (40 mg trimethoprim + 200 mg sulfamethoxazole)
1–2 months	1/4	1–2 months
2–12 months	1/2	3–12 months
12 months–5 years	1	13 months–5 years

Provide Advice on Giving Medication to Child

- Explain to the parent/caretaker what the correct dose is and how to give the medicine (refer to the dosage chart for the correct dosage for age)

- Show the parent/caretaker how to measure a dose, especially for syrup form.

- Explain the parent/caretaker how to administer the medicine (number of times per day and for how long) and then write instructions on the packet.

- Explain the potential side effects of co-trimoxazole—hypersensitivity reactions, blood effects, and skin reactions and that if the side effects are bad, take the child to a health facility

- Explain that the medicine should be taken until the end of the course, even if the child gets better before

Recommend Fluids and Continued Feeding/Breastfeeding During Child's Illness

Explain to the parent/caretaker that fluids soften the mucus in the chest and help the child get rid of it. Feeding is essential to maintaining nutrition and helping the child fight the virus causing cough/cold.

Check/Inquire about Fever and Diarrhea

Children often have more than one illness and the parent/caregiver may not think to mention all of the child's symptoms therefore, it is necessary to inquire about any other symptoms.

- If the child also has a fever, follow the procedures and treatment outlined in the session on malaria.

- If the child also has diarrhea, he/she should be treated following the procedures and treatments outlined in the session on diarrhea.

Explain Signs That Require Immediate Medical Care

Explain to the parent/caretaker signs to watch for that require immediate medical care. Explain that these signs can lead to death in young children. Be sure to mention the following signs—

- Danger signs (unable to drink or breastfeed, vomits everything, convulsions, lethargic or unconscious)

- Fever persists two days after treatment of malaria

- No improvement or getting worse

Make sure that the parent/caregiver has understood before she/he leaves by asking him/her to repeat the instructions.

Note: You have an important role to play in advising parents/caretakers what these signs are that require urgent medical care. If a parent/caretaker recognizes any of these signs, the child should immediately be taken to a health facility.

Session Summary

Follow the framework of practices on ARI:

- Know how to evaluate a child with malaria (cough or cold, pneumonia and severe pneumonia)
- Know when to refer
- Know the correct management of ARI
  - Recommending medicine
  - Dispensing
  - Counseling (on dosage and duration, on failure to improve and complementary advice)

SESSION 5. MANAGEMENT OF DIARRHEA

Purpose

Diarrhea causes dehydration that if left untreated can lead to death in young children. The purpose of this chapter is to explain the aims of managing diarrhea while outlining the signs of severe illness. Appropriate treatment guidelines are reviewed and the use of oral rehydration salts (ORS)/oral rehydration therapy and zinc treatment for diarrhea is emphasized.

Objectives

After completing this session you will be able to—

- Recognize danger signs and symptoms of diarrhea
- Identify the aims of managing diarrhea
- Describe target practices for diarrhea based on IMCI guidelines
- Explain how to mix and use ORS packets for rehydration
- Explain the benefits and administration of zinc in the treatment of diarrhea

Introduction

What Is Diarrhea?

- Having loose, watery stools for more than three times a day.

Management of Diarrhea

There are three primary aims in managing diarrhea.

Prevent dehydration and replace fluids

Diarrhea causes dehydration, which is a severe lack of body fluids. If it is not treated, dehydration can result in death in young children. Any loss of body fluids can be dangerous therefore you should be able to recognize the signs of dehydration.

Symptoms of dehydration—

- Sunken eyes
- Excessive thirst
- General weakness (lethargic)
- Irritability

Children with signs of severe dehydration should be referred to a health facility where they can get intravenous fluid replacement.

Maintain Personal Hygiene

- Keep food and all food preparation areas clean
- Keep water clean and protected from fecal contamination
- Regular hand washing with soap and water, before eating and after using the toilet
- Proposal disposal of feces

Diarrhea is almost always a result of fecal contamination. People become infected when material contaminated by feces enters their mouth—through drinking contaminated water or eating contaminated food, having dirty contaminated hands, or using dirty food preparation utensils , also demonstrated as six F's in figure 1.

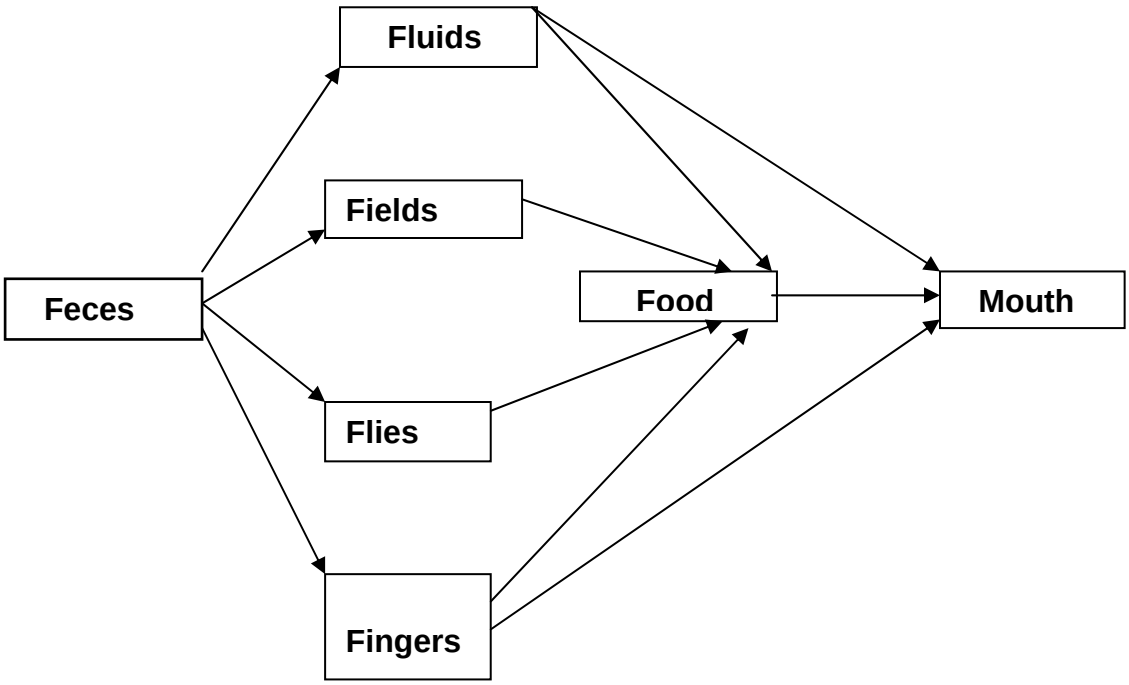

Figure 1. Fecal-oral routes of disease transmission.

Maintain Nutrition

Children with diarrhea need food/breastmilk to keep them strong so they can recover more quickly. Diarrhea is a cause of nutritional loss in infants and young children. It is advised to give them as much to eat as usual; diarrhea is not a reason to change diet.

When a parent/caretaker enters your ADDO with a child that has diarrhea, follow the framework of practice that we outlined during the previous sessions. You will need to assess the signs and

take a patient history so you can determine the severity of illness and provide appropriate advice concerning treatment, referral, or both.

Assessment

Severity of the Illness

The signs of severe illness are—

- Not able to drink or breastfeed
- Vomits everything
- Convulsions
- Lethargic or unconscious

In addition to the signs mentioned above, other symptoms specific to diarrhea are—

- Signs of dehydration (sunken eyes, excessive thirst, irritability)
- Dysentery (blood in stool)
- Persistent diarrhea (two weeks or longer)

You should understand the urgency of getting immediate clinical care (such as intravenous fluids) at a referral site for any child with the above signs in order to save the child's life.

Diarrhea Duration and Frequency

Duration and frequency can indicate a severe case of diarrhea. A child should be referred to the health facility if the child—

- Is younger than one year of age and has had diarrhea for more than one day
- Is younger than 3 years of age and has had diarrhea for more than two days
- Is older than 3 years of age and has had diarrhea for more than three days
- Is experiencing more than five episodes of diarrhea per day

A child who has diarrhea for 14 days or more has **persistent diarrhea** which requires special dietary and clinical care. Unless treated, the child will not grow properly and will be susceptible to disease and malnutrition.

Blood in Stool

Blood in stool is an indication of bloody diarrhea/dysentery. Dysentery is a serious infection that can cause death in young children. If there is blood in the stool, immediately refer the child to a health facility. The child will need a prescription to receive the appropriate antibiotic. If the health facility is far then you can sell the recommended first line antibiotic (co-trimoxazole) in addition to ORS and zinc treatment.

A child presenting with the following signs will need urgent medical care and referral—

- Danger signs (unable to drink or breastfeed, vomits everything, convulsions, lethargic, or unconscious)
- Signs of dehydration (sunken eyes, excessive thirst, irritability)
- Dysentery (blood in stool)
- Persistent diarrhea (two weeks or longer)
- Not improving or getting worse

Treatment of Diarrhea

Non-Bloody Diarrhea

After you have established there are no danger signs, no dehydration, no signs of persistent diarrhea, and no blood in the stool, the recommended treatment is ORS and fluid replacement in addition to zinc treatment. These new recommendations developed by UNICEF and WHO incorporate zinc treatment and take into account recent research findings demonstrating the benefits of zinc treatment for diarrhea.

Antibiotics are not effective in treating simple, non-bloody diarrhea. Most cases of non-bloody diarrhea are caused by a virus and therefore will not respond to an antibiotic. Treating non-bloody diarrhea with antibiotics is dangerous for public health and the community because when antibiotics are used inappropriately, drug-resistant strains of bacteria can develop and spread throughout the community. As a result, bacterial infections that had been treatable before with an antibiotic no longer will respond to this treatment.

All cases of non-bloody diarrhea are self-limiting and will stop by themselves. ORS is a special formulation designed to prevent and correct dehydration. Although it will not stop the diarrhea, it helps the body replace the fluids and minerals lost through the diarrhea. This process is essential for preventing dehydration, which as discussed before, is a severe lack of body fluids, and can cause death of children.

How to Prepare ORS

- Always wash your hands
- Use safe drinking water
- Measure 1 liter of safe drinking water into a clean container (2 empty beer bottles or 3 empty cola bottles)

- Add all the contents of a sachet of ORS powder into the water and using a clean spoon stir to dissolve

- Put the prepared solution into a clean container with a lid

- Use all the solution on the same day that it is prepared, discard any leftover solution

How Much ORS to Give

Feed after every loose motion or about 10 minutes after vomiting.

- For a child under the age of two—between one-fourth and one-half cup
- For older children—between one-half and one cup

If ORS is not available, advise the parent/caretaker to give the child extra fluids, more than usual (like fruit juice, soup, porridge, coconut milk, or water). If the infant is still breastfeeding, explain to the mother that she should breastfeed more often and for longer than usual.

In addition to ORS, zinc treatment is now recommended for all children with diarrhea. Zinc treatment is available in several forms, but currently in Tanzania only zinc dispersible tablets are available.

Table 8. Guidelines for Zinc Sulfate Tablets

Age group	Zinc sulfate (20 mg)
Below six months of age	½ tablet daily for 10 days
From six months up to 5 years	1 tablet daily for 10 days

When possible, give the first tablet to the child. Demonstrate and explain to the parent/caretaker how to administer the zinc tablet as follows—

- Place the tablet in a spoon or small cup
- Add a small amount of breastmilk, milk, ORS, or clean water
- Let the tablet dissolve (around 45 seconds)
- Give the entire spoonful or cupful to the child

These tablets can also be chewed if the child is old enough; however, the zinc sulfate may taste better when dissolved. Give zinc treatment daily for 10 days even when diarrhea stops before the 10 days.

Benefits of using zinc to a child with diarrhea—

- Shortens duration and severity of diarrhea
- Reduces the incidence of diarrhea episodes in the following two to three months
- Can help improve the appetite of the sick child

Non-bloody diarrhea should be treated with—

- Extra fluids, ORS, or recommended home fluids
- Continued feeding (encourage ongoing breastfeeding when applicable)
- Zinc tablet

Bloody Diarrhea/Dysentery

Bloody diarrhea/dysentery should be treated with—

- Extra fluids, ORS, or recommended home fluids
- Continued feeding (encourage ongoing breastfeeding when applicable)
- Zinc tablet
- The recommended antibiotic co-trimoxazole
- Referral, if indicated

Table 9. Guidelines for Co-trimoxazole

Age	**Cotrimoxazole (trimethoprim + sulfamethoxazole) Give twice a day for 5 days**	
	Adult tablet (8 mg trimethoprim + 400 mg sulfamethoxazole)	**Syrup** (40 mg trimethoprim + 200 mg sulfamethoxazole)
1–2 months	1/4	2.5 ml (1/2 teaspoon)
2 –12 months	1/2	5.0 ml (1/2 teaspoon)
13 months–5 years	1	7.5 ml (1 ½ teaspoon)

Persistent Diarrhea

Persistent diarrhea should be treated with—

- Extra fluids, ORS, or recommended home fluids
- Continued feeding (encourage ongoing breastfeeding when applicable)
- Zinc tablet
- Referral to health facility for further investigation and treatment

Provide Advice on How to Give the Child Medication

- Explain to the parent/caretaker what the correct dose is and how to give the medicine (refer to the dosage chart for the correct dosage for age)

- Show the parent/caretaker how to measure a dose, especially for syrup form.

- Explain the parent/caretaker how to administer the medicine (number of times per day and for how long) and then write instructions on the packet.

- Explain the potential side effects of co-trimoxazole: hypersensitivity reactions, hematological effects (decrease of blood cells), and skin reactions and that if the side effects are bad, take the child to a health facility.

- Explain that the medicine should be taken until the end of the course, even if the child gets better before.

Recommend Giving Fluids, Continuing Feeding/Breastfeeding During Illness

Explain to the parent/caretaker that diarrhea causes loss of salt and fluids in the body, a child with diarrhea needs extra fluids to prevent dehydration**.** Feeding is essential to maintaining nutrition and helping the child fight the virus causing diarrhea or bacteria causing dysentery.

Check/Inquire about Fever or Cough

Children often have more than one illness and the parent/caretaker may not remember to mention all of the child's symptoms.

- If the child also has fever, follow the procedures and treatments outlined in the session on fever.

- If the child also has cough, he or she should be treated following the procedures and treatments outlined in the session on ARI.

Explain to the parent/caretaker signs to watch for that require immediate medical care. Explain that these signs can lead to death in young children. Be sure to mention the following—

- Danger signs (unable to drink or breastfeed, vomits everything, convulsions, lethargic or unconscious)

- Fever

- No improvement or getting worse

- Persistent diarrhea

- Dysentery

Make sure that the parent/caregiver has understood before she/he leaves by asking him/her to repeat the instructions.

Summary

Follow the framework of practices on diarrhea—

- Know how to evaluate a child with diarrhea (non-bloody diarrhea, bloody diarrhea and persistent diarrhea)
- Know when to refer
- Know the correct management of diarrhea
  - Recommending medicine
  - Dispensing
  - Counseling (on dosage and duration, on failure to improve and complementary advice)

ANNEX 1. ADVERSE DRUG REACTION FORM

TANZANIA FOOD AND DRUGS AUTHORITY

Patients' medicines complaints form

PATIENT PARTICULARS

Patient name or serial number: _____

Sex: _____

Date of Birth:_____ Weight (Kg): _____

DESCRIPTION ON DRUG EFFECTS

☐ Headache ☐ Shock /anaphylaxis ☐ Rashes

☐ Diarrhea ☐ Nausea and vomiting ☐ Others

Description of effects _____

_____

Date effects started

_____

Date effects ended

_____

Additional description for example, patient history, pregnancy status, allergy, smoking, alcohol use, etc. (Please attach laboratory results if available.)

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DESCRIPTION OF DRUGS USED BY THE PATIENT

Name of drugs used (please include the brand name if known)	Dose		Route	Treatment date		Batch and expiry date	Reasons for using the drug
				Start	End		
1.							
2.							
3.							
(Other drugs used including herbal drugs)							
1.							
2.							

OUTCOME AND TREATMENT

Did the effects disappear when the drug was stopped? Yes ☐ No ☐ Not known ☐

Did the effects reappear when the drug was used again? Yes ☐ No ☐ Not known ☐

Do you think the effects were serious? Yes ☐ No ☐ Not known ☐

If yes, give reasons for you to think effects were serious **(Tick which applicable)**

☐ The patient died ☐ The patient was hospitalized for a long period

☐ The effects was life threatening ☐ It caused disability

☐ Caused child malformation ☐ Others (explain)_____

Treatment was provided? Yes ☐ No ☐ Not known ☐ If Yes, explain _____

Outcome of effects Did not recover ☐ Recovered ☐ Died (Date) ____ _____ _____