Diarrhoea

Dehydration

Home Fluids

Dysentery

Shigella

Persistent Diarrhoea

• Classification

• Therapy

• Assessment

• Classification

• Selection

• Fluids to avoid

• Antibiotics

• Antibiotics

• Definition

• Causes

• Classification

• Therapy
Diarrhoea

Assessment

- Assessment of dehydration for ALL
- Persistent diarrhoea conditional
- Dysentery conditional
Dehydration

Assessment

- Sensorium (lethargic OR restless)
- Sunken Eyes (ask caretaker as well)
- Drinking (poorly OR eagerly)
- Skin Pinch (very slowly OR slowly OR immediately)
  - Pinched in longitudinal manner
  - Pinched between the thumb and the bent fore-finger
**Diarrhoea**

**Dehydration**

**Assessment**

- **Mistakes in taking a skin pinch:**
  - Pinching either too close to the midline or too far laterally
  - Pinching the skin in an horizontal direction
  - Not pinching the skin long enough
  - Releasing the skin so that the finger and thumb remain in a closed position

- **Classification of skin pinches:**
  - Normal — it goes back immediately
  - Slowly — the fold is visible for less than 2 second
  - Very slowly — the fold is visible for more than 2 seconds.
Dehydration Assessment

- Severe dehydration will have two of these signs:
  - sensorium abnormally sleepy or lethargic
  - sunken eyes
  - drinking poorly or not at all
  - very slow skin pinch

- Some dehydration will have two of these signs:
  - restlessness or irritability
  - sunken eyes
  - drinking eagerly
  - slow skin pinch

- No dehydration...
Diarrhoea

Dehydration

Assessment

- Simplified to two of our of four possible signs
- Use of term “floppy” eliminated
- Tears and dryness of mouth and tongue excluded
- “Very sunken” eyes modified to “sunken” eyes
- Skin pinch test qualified
Dehydration

Classification

- The Star signs (*) that marked essential signs for the classification of dehydration complicated assessment and have been excluded.

- Any two of the four possible signs are sufficient to classify the child as dehydrated or severely dehydrated.
Home Fluids for Diarrhoea Must Be:

- Safe when given in large volumes
- Easy to prepare
- Acceptable color and palatability
- Effective in preventing dehydration
Diarrhoea

Home Fluids

Selection

- Ideal home fluids contain:
  - salts and nutrients (sodium, potassium, chloride, and bicarbonate)
  - calories to replenish diet

- Examples of home fluids:
  - ORS solution
  - salted soup
  - salted drinks
Other acceptable home fluids that do not contain salt:
- plain clean water
- water in which a cereal has been cooked (unsalted)
- soup (unsalted)
- yoghurt-based drinks (unsalted)
- green coconut water
- weak tea (unsweetened)
- fresh fruit juice (unsweetened)
Diarrhoea

Home Fluids

Fluids to avoid

• Fluids causing hypernatraemia
  – most soft drinks
  – sweetened fruit drinks
  – sweetened tea

• Fluids with stimulant, diuretic or purgative effects
  – coffee
  – some medicinal teas or infusions
Dysentery

Antibiotics

- Effective for *Shigella* species and for *Salmonella* in infants under one year of age

- Early Treatment with Antibiotics:
  - shortens the duration of the illness
  - reduces the risk of serious complications and death
Antibiotics

- Delaying treatment or giving ineffective antibiotics can progress the disease.
- Complications that could result:
  - extensive damage to the bowel
  - septicaemia and septic shock, hematogenous spread to bones, brain and meninges
  - hemolysis, renal failure and hemorrhage
  - haemolytic uremic syndrome
- Complications occur more often in infants and undernourished children, and may be fatal.
Antimicrobials for home treatment of dysentery should be:

- effective against most strains of *Shigella* (Sd1 is the most important pathogen) based on local data
- effective when given by mouth
- affordable
- readily available, or can be rapidly obtained
Ineffective Antibiotics

- *Shigella* are resistant to:
  - Metronidazole
  - Streptomycin
  - Tetracyclines
  - Chloramphenicol
  - Sulfonamides
Shigella are sensitive to, but are ineffective in vivo, with:

- Nitrofurans
- Aminoglycosides
- First- and second-generation cephalosporins
- Amoxicillin
Diarrhoea

Shigella

Effective Antibiotics

- Ampicillin and Trimethoprim-Sulfamethoxazole
  - Inexpensive, but becoming resistant

- Nalidixic acid
  - More expensive, less available, has side effects

- Pivmecillinam, Ciprofloxacin and other quinolones
  - Much more expensive and not readily available in most countries

- Ceftriaxone
Persistent Diarrhoea

Definition

- Diarrhoea that occurs for 14 or more days
- Less than 10 percent of all diarrhoea but associated with 30 to 50 percent of diarrhoea deaths
- Malnutrition greatly increases the risk of death
Persistent Diarrhoea

Causes

- **Proximate Causes**
  - Secondary disaccharidase deficiency
  - *Salmonella* sp.
  - *Shigella* sp.
  - Enteroadherent *E. coli*
  - Cryptosporidium

- **Contributing Factors**
  - Protein energy malnutrition
  - Micronutrient deficiencies
  - Immunodeficiency
Severe Persistent Diarrhoea

Classification

- Refer those who have persistent diarrhoea AND who are also dehydrated to hospital
  - mortality is 8 to 10 times higher than that with acute diarrhoea
  - may need nutritional rehabilitation
  - may need investigation for immune deficiencies and/or resistant bacteria
Persistent Diarrhoea

Therapy

• Correct Dehydration

• Correct Nutritional Problems
  - Reduce disaccharides
  - Increase energy intake
  - Supplement micronutrients (possibly)

• Give Antibiotics for Dysentery

• Avoid These Therapies
  - Antibiotics for watery diarrhoea
  - Anti-motility agents
  - Diluted feeds