



MODULE 2:

Combating Intestinal Parasites In The Community

- Overview of the problem and impact on health
- Instructions and recommendations for deworming programs

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Child Survival Programs for Sahel region and Haiti are in collaboration with University of Maryland Dental School.

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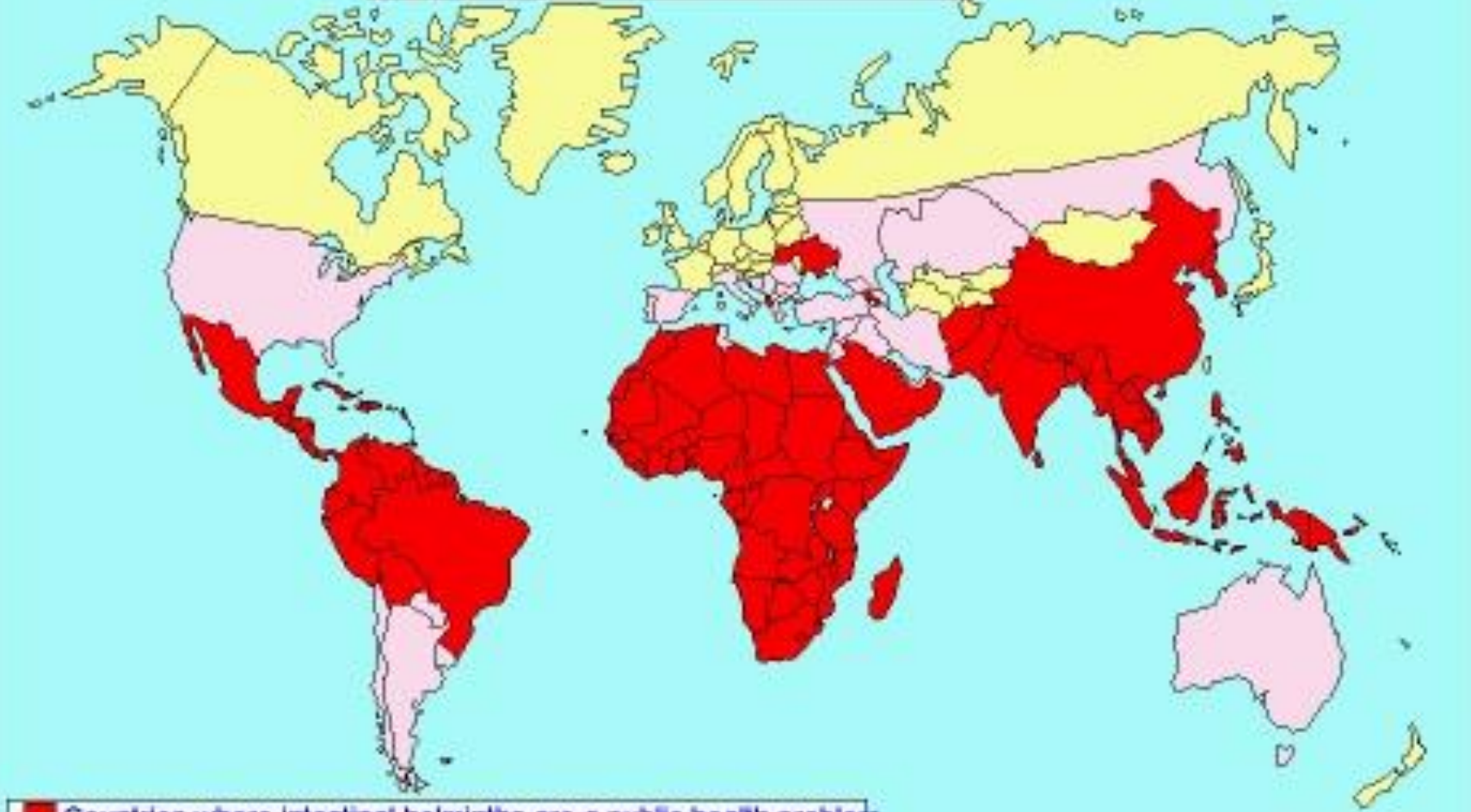
INTESTINAL PARASITES

Human parasites also include blood parasites such as malaria, and skin parasites such as scabies; but, for today, we are addressing the topic of intestinal worms that are sometimes called “Soil Transmitted Helminthes”.

Intestinal parasites- The Scope of the Problem

- Most common infection worldwide
- Prevalence rates in resource poor communities can be over 90%.
- In 2008, 3.5 billion people (mostly children) were estimated to be infested with intestinal parasites.
From: *Tropical Medicine Institute of Sao Paulo Brazil.*
- Estimated over 300 million suffer severe impairments because of high worm burdens.

Intestinal Helminths



■ Countries where intestinal helminths are a public health problem
■ Countries where intestinal helminths are transmitted

Source: WHO/CCTD, 1997

Intestinal parasites cause illness and death from:

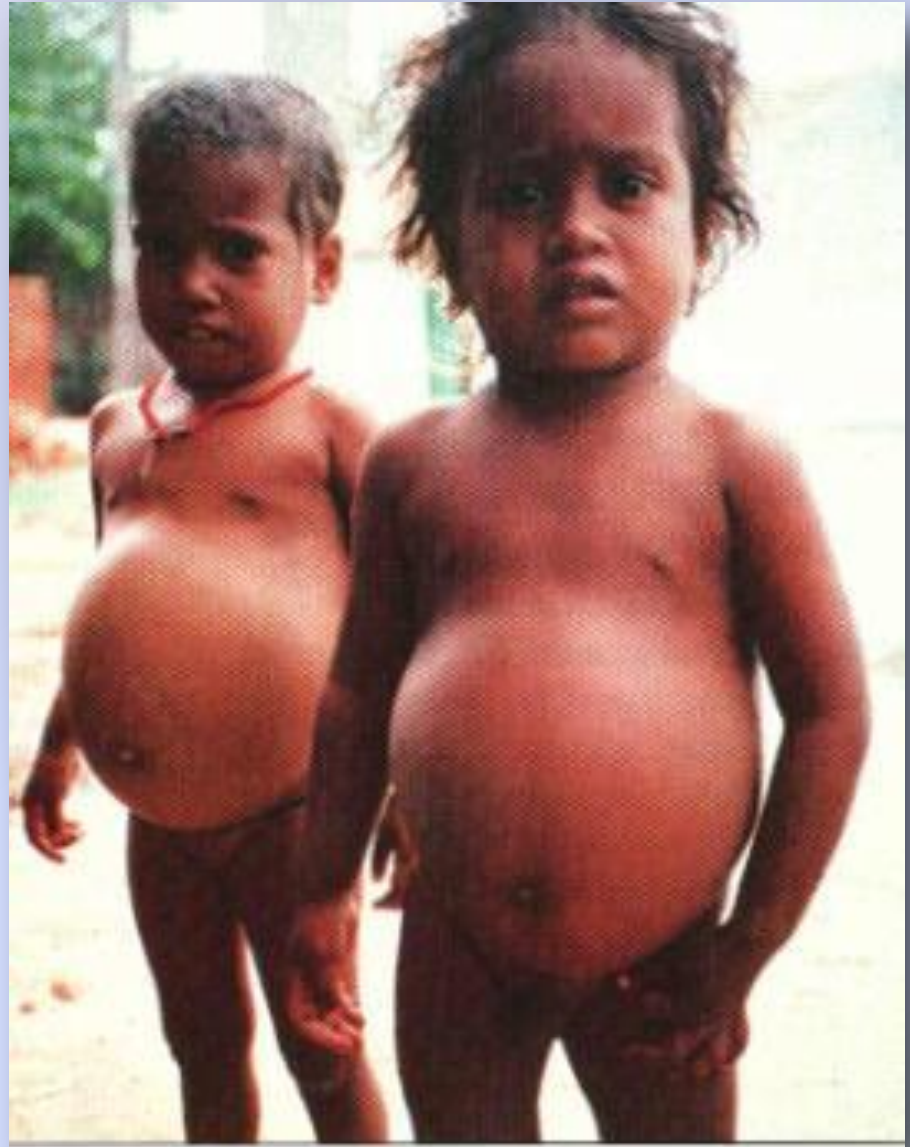
- Anemia
- Malnutrition
- Impairment of physical growth-both stunting and wasting
- Poor intellectual development
- Infections

WHERE DO INTESTINAL PARASITES COME FROM?

- They enter the body through food and water that has been contaminated by human or fecal waste, or through skin if the person steps (or sits) in mud that contains human or animal feces.
- Many people infested with intestinal parasites are not clinically ill but can still spread the disease by not using latrines or toilets.

Children with swollen bellies usually have:

- Severe malnutrition
- A large burden of intestinal parasites



Parasites compete with children for food!

Children with heavy worm burdens may be forced to share $\frac{1}{4}$ or more of their daily nutrients with their parasites.

Deworming promotes child survival.

- Therefore, national level mass deworming campaigns been implemented in many developing countries.
- One tablet of deworming medicine, usually Albendazole, is given every 6 months according to standardized protocols to everyone in the community.
- This is effective in controlling the worm burden and usually well accepted by communities.
- Deworming can be integrated into Child Health Day Events along with immunizations, vitamin A distribution, bed net distribution and growth monitoring.

Albendazole targets the three major intestinal parasites:

- *Ascaris lumbricoides*-Round worm
- *Trichuris*-Whipworm
- *Anclostoma duodenale* (Africa) or *Necator americanus* (Western Hemisphere)-Hookworm

Other medicines that may be used:

- MEBENDAZOLE 500mg tablets can also be used as single dose treatments of intestinal parasites
- LEVAMISOLE 80mg can be used for school age children
- PYRANTEL 10mg/kg
- If Shistosomiasis is a problem in the region, PRAZIQUANTEL is used. Instructions may be added to this seminar if there is need for this medication in the target population.

Each parasite produces a different set of problems:

- **Ascaris** is the large roundworm with a voracious appetite for calories and vitamins.
- **Hookworm** is the parasite that attaches itself to the intestinal lining and dines on the blood of its victim.
- **Whipworm** is the one which attaches to the rectum, causing prolapse and bleeding.

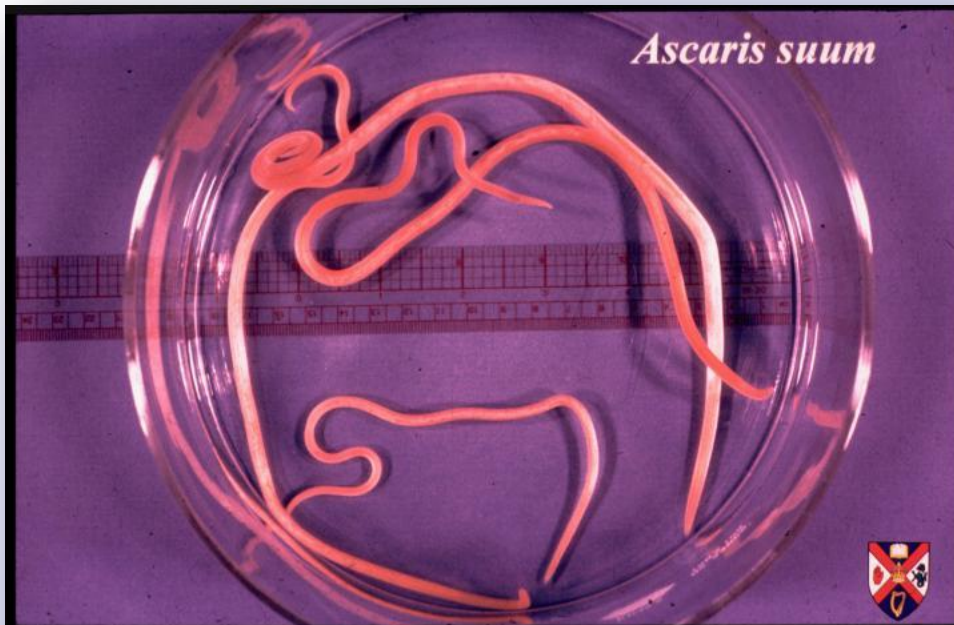
Ascaris



Notice the size of the parasite in centimeters.

Ascariis at surgery





Four specimens of the gastrointestinal pig nematode, *Ascaris suum*. Ascarids are the most common helminth infection of humans. Adult females grow up to 35 cm in length and can produce some 200,000 eggs per day.



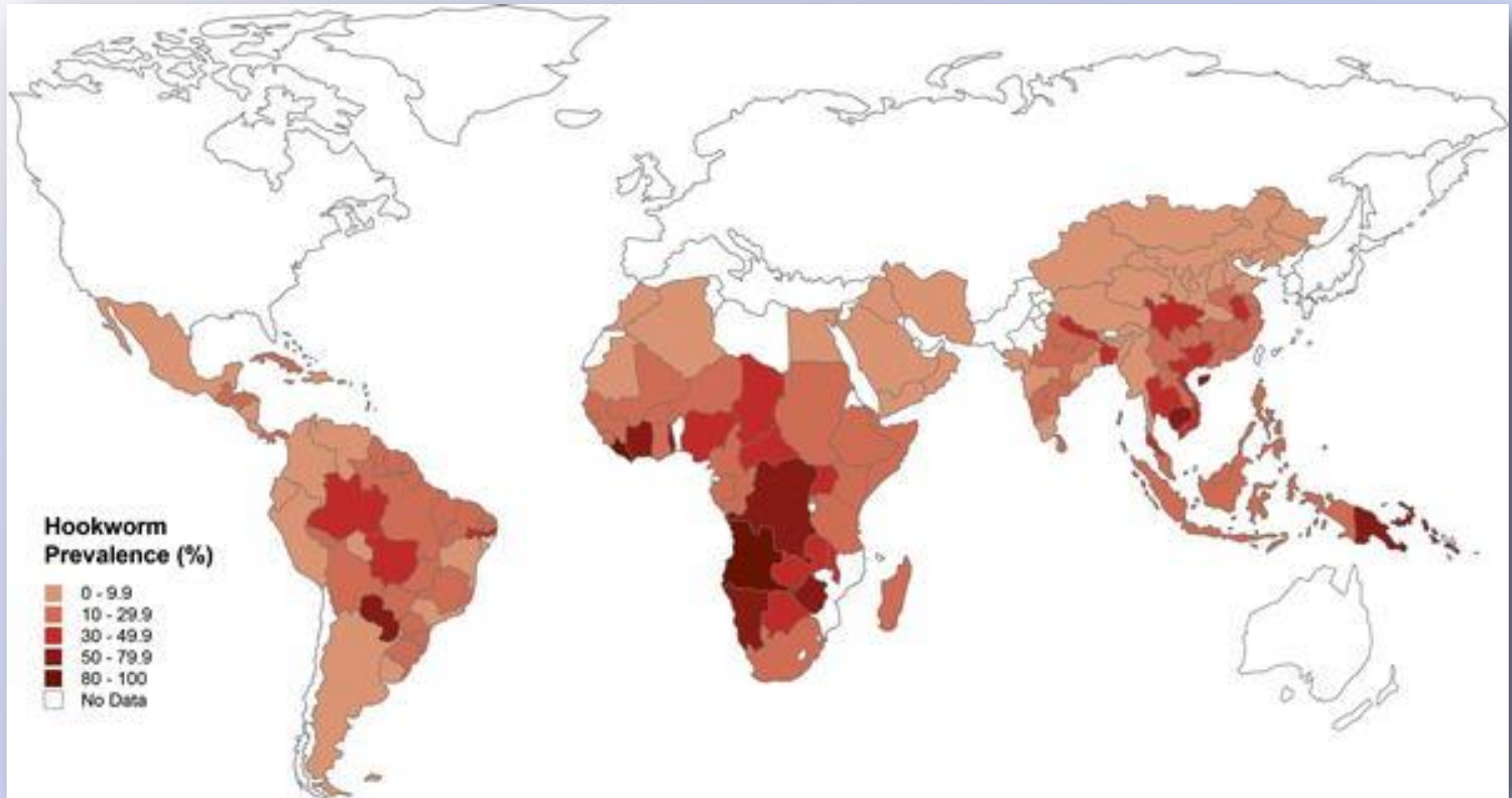
Massive Ascaris infection in child. A large bolus of roundworms expelled following anthelmintic treatment.

Aberrant migration of *Ascaris* with fever



Most common Hookworm in Africa





Whipworm



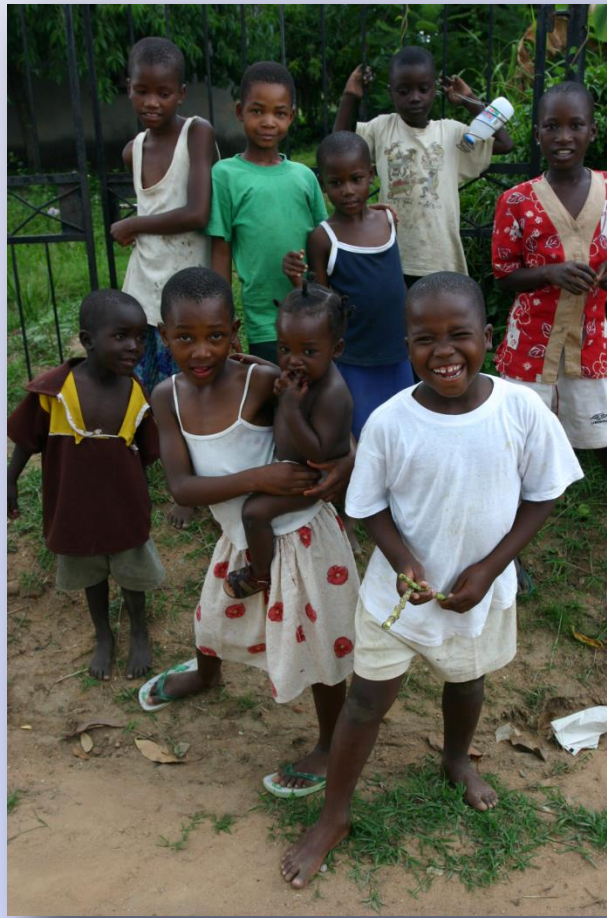
**The entire
community
should be
dewormed.**

Correct Practices of Albendazole Administration

Children over age 1 and all adults can be dewormed.



- Follow the recommendation of the Ministry of Health regarding pregnant women.
- Albendazole is safe in lactation but the woman can save her pill to take after the first 3 months of pregnancy.
- Note: Follow norms of MOH in country for children age 12-24 months and pregnant women.



**Always include the children
not enrolled in school in
the deworming.**

Albendazole

400mg Chewable Tablets

International Norms for Treatment of Intestinal Parasites in Community Deworming Campaigns Given with Megadose Vitamin A Capsules

Infants under 1 year	No treatment with Albendazole
Children 1-2 years (12-24months)	200mg (1/2 tablet) (Crushed and suspended in water)
Children over 2 years and Adults	400mg (1 tablet) (Crushed and suspended in water up to age 3, or as long as needed)
Pregnant Woman?	Safe in pregnancy after the first 3 months

**SAFETY
FIRST!**

I. Wash your hands with soap and water if you touch the child's mouth.



2. Ask all mothers to help you by washing their hands first, then you give the pill to the mother, who places it in her child's mouth after reassuring the child.



3. Never put pill in the mouth of a crying child.



4. Do not coerce, threaten, or unnecessarily frighten the child. Treat him or her gently and with patience.

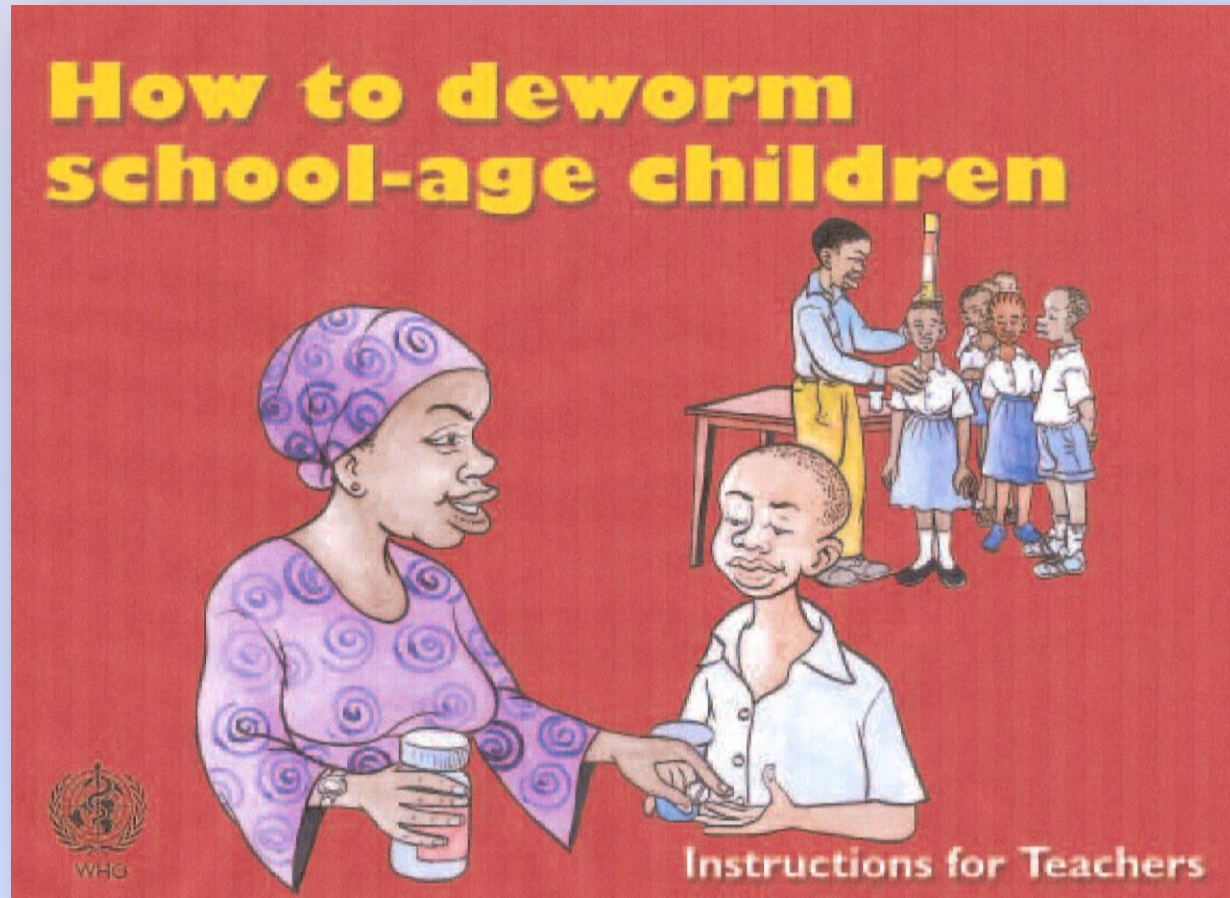


A child that is regularly treated for worms:

- is more active in school.
- grows and learns better.
- is more resistant to other infections.

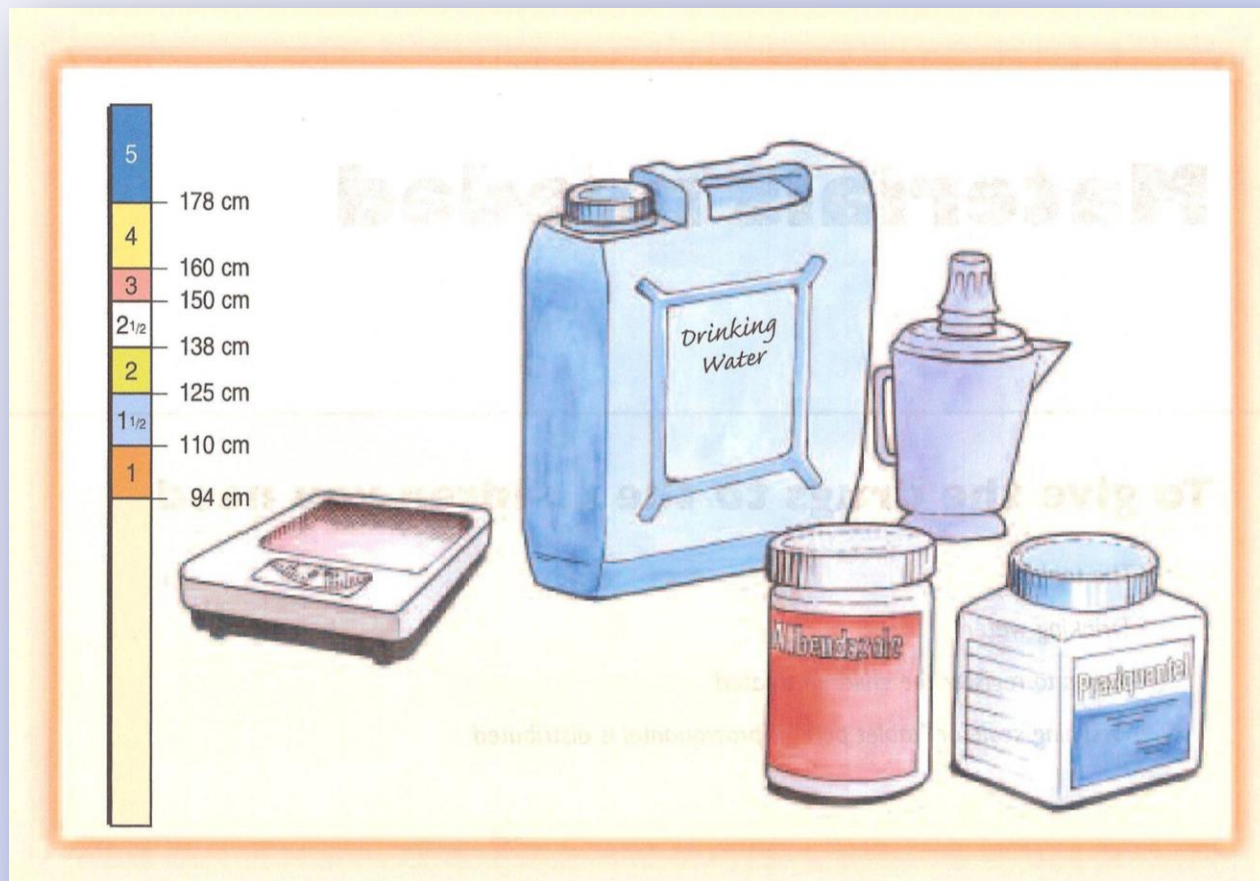


Deworming School Children Summary



Children who get dewormed learn better.





Materials Needed:

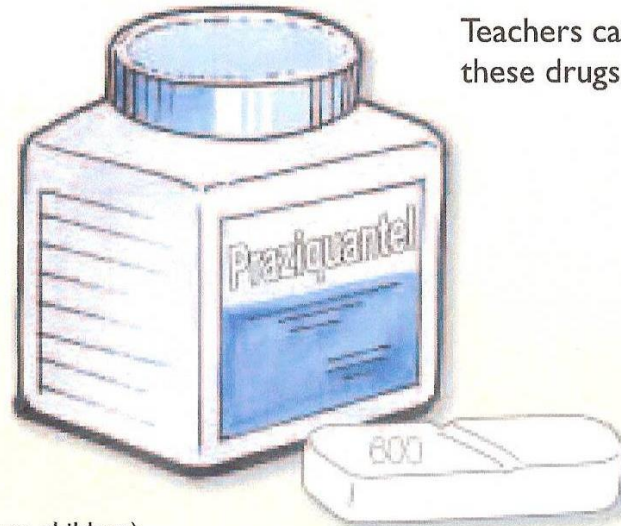
- The Tablets
- Drinking water
- Forms to register the children treated
- Weighing scale if using praziquantel for schistosomiasis. (Follow Ministry of Health instructions)

The following drugs can be used for deworming:

- **Albendazole 400 mg** (single dose)* for the worms that are transmitted through contaminated soil
- **Praziquantel 40 mg/kg** for the schistosomes that are transmitted through contaminated water

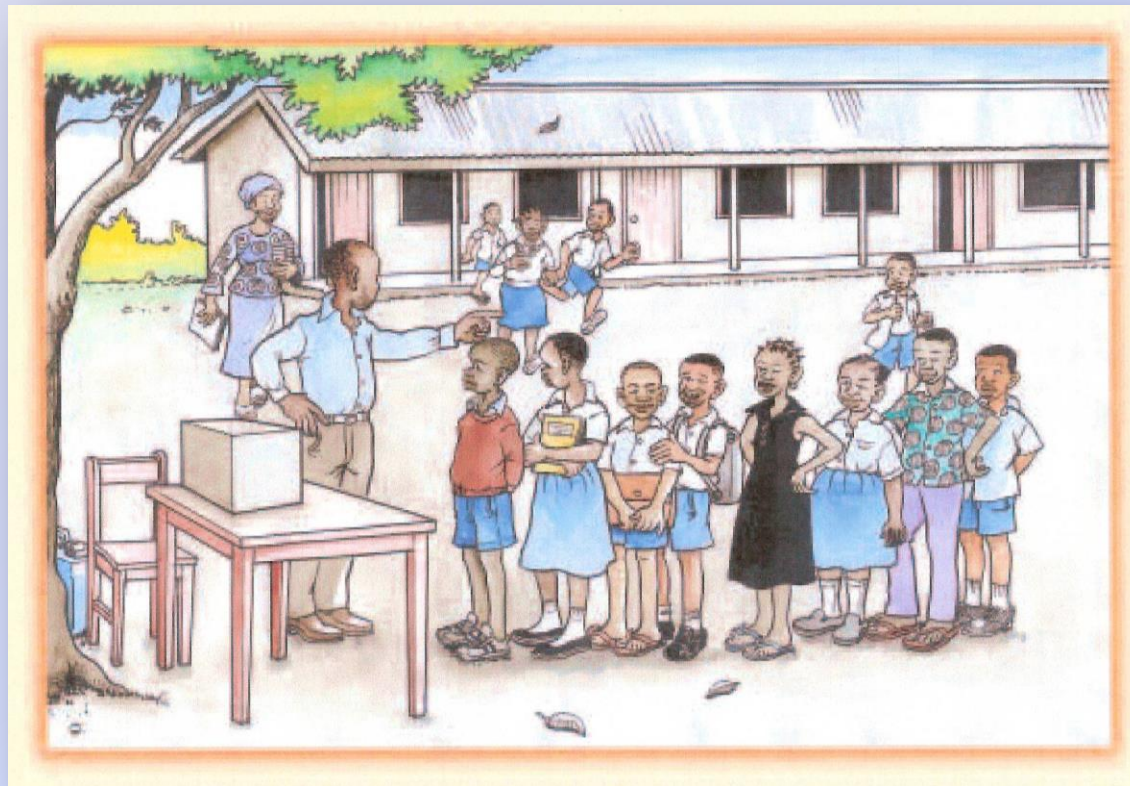
These drugs are extremely effective and safe.
Several million children have already been treated without problems.

Teachers can easily and safely distribute these drugs.



* as an alternative:
mebendazole 500 mg (single dose)
levamisole 80 mg (single dose for school-age children)
pyrantel 10 mg/kg can also be used

Steps for the Administration of Drugs

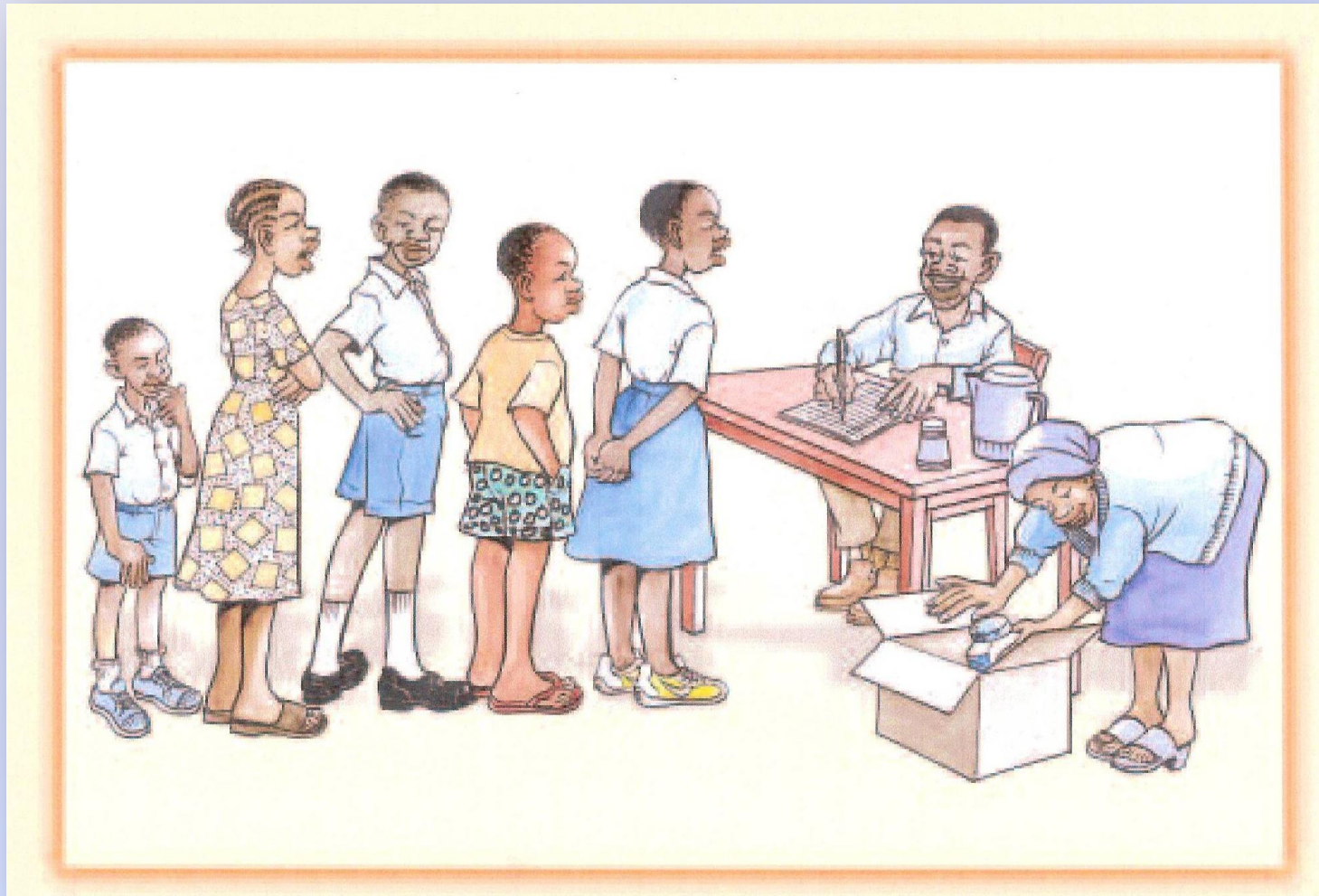


Step One:

Ask all the children to stand in a queue.

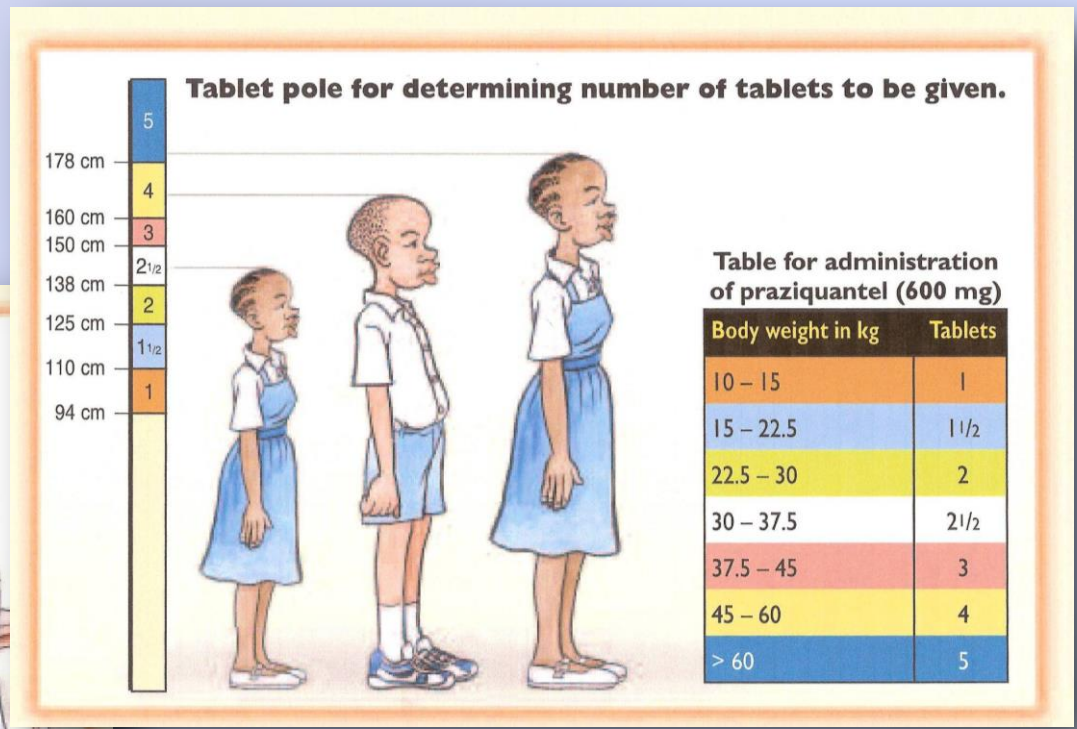
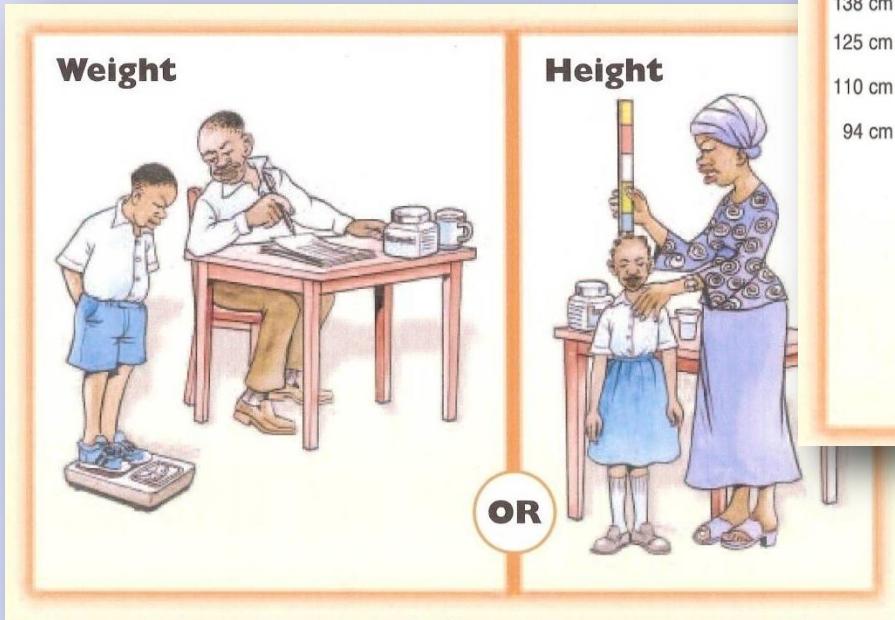
Step Two:

Register the name of each child to be treated on the form provided.



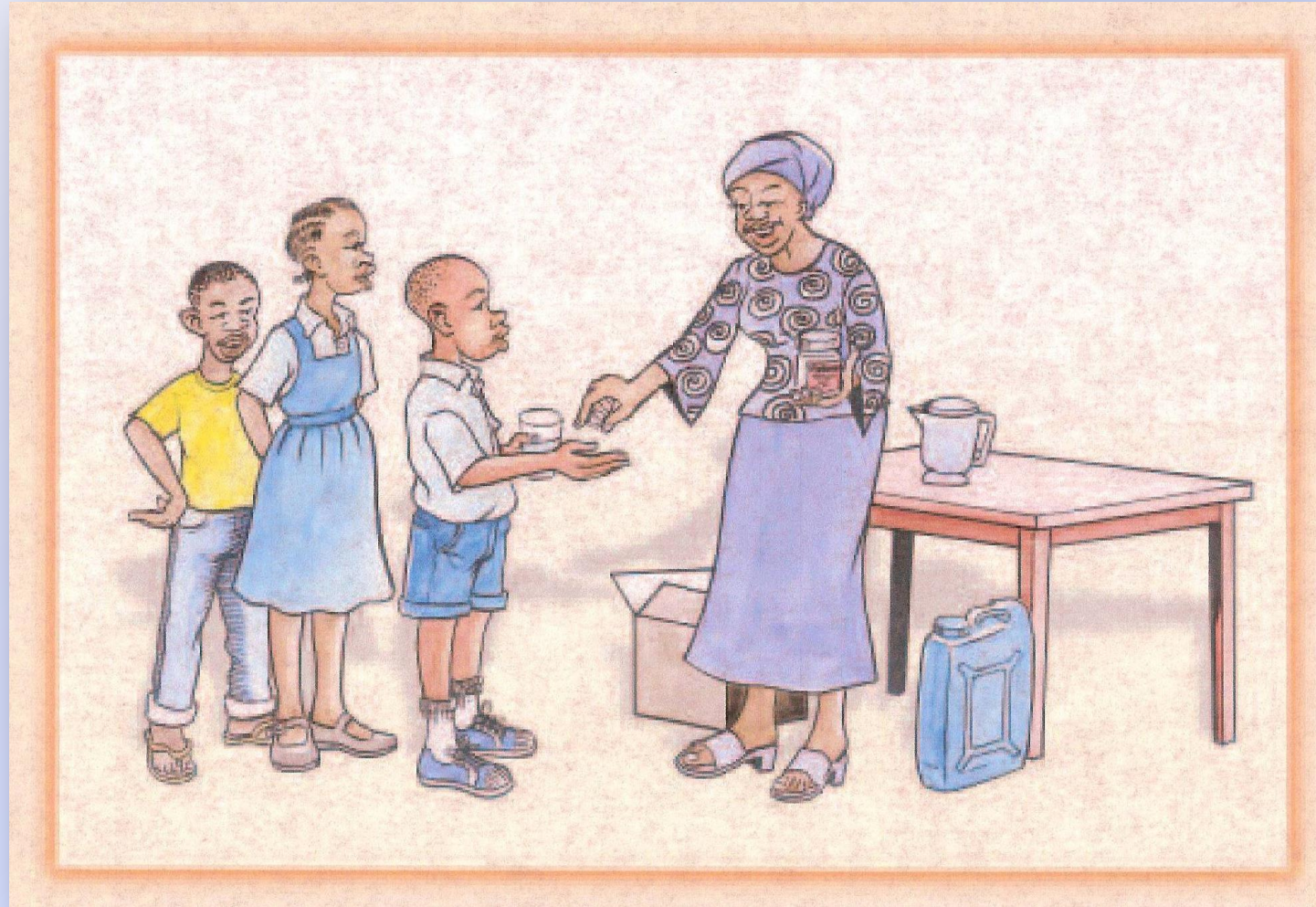
Step Three:

If praziquantel is distributed, a scale or tablet pole is needed to determine the number of tablets that will be given to each child.



Step Four:

Give Albendazole tablet in the appropriate dose for the child's age.



Step Five:

Provide water and make sure that every child chews, then swallows the tablet.



**Do not give
to infants
less than 1
year old.**

For Children From 1-3 Years Old:

- Crush the tablet.
- Mix with water.
- Have mother help child to drink.
- Give with Vitamin A capsule at the same time.
- Don't risk aspiration by forcing a child to take the medicine until they are calm.

For Children Older Than 3 Years Old:

- Have the child chew the tablet and swallow with water.
- Ask the child to show you that he or she has swallowed the tablet and has the residue in his or her mouth.
- Children may not want to take their medicine.
 - It is also okay to crush the tablet for any child or adult and mix with water that has been boiled and cooled.

Teach hygiene! The community needs to learn to protect the water that is used for drinking and bathing, to wear shoes, dispose of human waste properly, keep animals away from homes and children, and much more! When habits change, deworming programs will not be needed.

**Learn the Heimlich
Maneuver.
Refer to your packet.**

If a person chokes on the tablet or any object at any time: Perform the Heimlich Maneuver

- At this time pull out your Heimlich Maneuver Instruction Sheet from your packet. Read and study the sheets.
- Practice on each other and on a baby doll.

Thank you!