Teachers Guide

GUINEA WORM
EDUCATIONAL COMIC

1999

World Health Organization

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Introduction

The teacher plays an important role in the community. His teaching and advice influence the development and behaviour of children. Teachers help children to acquire new knowledge, undertake tasks that can be applied in their village and understand the impact this can have on their lives.

This teacher’s guide is aimed at assisting the readers of the “Dracunculiasis or Guinea Worm” comic book. It has been designed as a teaching tool to educate children about guinea worm, a crippling disease which can be prevented.

The comic book tells the story of a family who is affected by guinea worm disease, and how this, in turn, affects the whole village. It also supplies information on the development of guinea worm and its prevention, suggesting steps that children can take to assist in the control of guinea worm.

What is Guinea Worm?

Guinea worm is a disease which people can only contract from drinking water contaminated by guinea worm babies or “larvae”. When someone swallows the contaminated water larvae will remain in his or her body and grow into an adult worm. About one year later the worm will force its way through the skin to come out.

This disease is very painful and can cause temporary disability or leave permanent disability.
Transmission of Guinea Worm

- The guinea worm releases babies or “larvae” in water, contaminating it.
- The larvae are then eaten by tiny fleas called “Cyclops”.
- The larvae grow inside the Cyclops.
- When people drink the contaminated water they also swallow the Cyclops with the larvae inside – causing guinea worm disease.
- Once inside a person’s body the larvae grow into adult guinea worms.
- The guinea worm takes about one year to fully develop and move into a position where it can come out of the person’s body.
- When the worm is ready to come out, a blister appears on the skin, causing a painful, itchy and burning sensation.
- Once the blister breaks, the worm starts to come out.
- The guinea worm usually comes out of the person’s legs or feet, but it can also come out of the arms or head.
- The number of guinea worms in a person’s body varies; some people may only have one but others may have more.
- When a person with a blister or guinea worm coming out of his or her body enters water, millions of larvae are released by the worm, thus contaminating the water.
- When people drink the contaminated water they swallow the Cyclops with the larvae inside – giving them guinea worm disease.

*Steps of guinea worm transmission*
The Guinea Worm Village Volunteer

Most villages have a guinea worm village volunteer who has been trained to identify, treat and take steps to prevent guinea worm. The village volunteer has a lot of knowledge on how guinea worm affects the village he is responsible for. The village health worker is a useful resource in villages where there is no guinea worm village volunteer. Both play a key role in educating the community about guinea worm disease.

Teachers would greatly benefit from working with the guinea worm village volunteer or health worker.

Learning

It is important that children take an active role in the learning process. Learning that is interactive and enjoyable is easier for children to remember and is an experience they will share with others, particularly their family and friends. Children who have been taught the correct messages in a fun way will take the initiative to tell and even show others what they have learned. Knowing they can help their family and community gives children confidence.

The community also benefits from this information sharing, increasing awareness and interest in the guinea worm problem and in how to solve it.
The Guinea Worm Comic Book

The guinea worm comic book uses a story to discuss guinea worm disease and prevention. To reinforce the messages and learning a number of activities have been included but it is up to the teacher to expand on these.

The story is divided into six sections:
- Introduction
- Guinea worm disease: what is it?
- In which countries is guinea worm disease found?
- How do people contract the disease?
- What should be done when a person is sick?
- How to prevent the disease?

Learning Themes and Actions

Three themes and actions are included in the guinea worm comic book, where learning can take place. This is to facilitate learning and encourage children to actively take part in their local guinea worm programme.

These themes and actions can be taught to children of all ages and can be included in different subject areas.

Theme 1. Teach others
- Share what you have learned about guinea worm with your family and friends;
- Show people how to filter water;
- Tell people who have guinea worm disease why they should not go into the water.

Theme 2. Protect water sources
- Fetch water for someone who has guinea worm disease;
- Help filter water.

Theme 3. Assist people who are sick
- Look for the village volunteer or health worker.
Activities

A number of activities have been included in the guinea worm comic book. These activities will help you to:
- Explain where guinea worm is to be found;
- Discuss ways to prevent guinea worm;
- Check what students have learned and understood.

Activity 1. – Page 2

Ask your pupils to draw where they go to fetch water.

This is the first step in getting children to link water with guinea worm disease.

Activity 2. – Page 3

Ask your pupils to write down what guinea worm is called in their villages.

Activity 3. – Page 5

Ask your pupils to fill in the name of their country and village. As a group or individually, try to identify each country on the map of Africa. Find out which countries are affected by guinea worm disease.

Activity 4. – Page 13

Encourage your pupils to find out which bucket of water is not contaminated.

Activity 5. – Page 14

Each pupil should discover what is true or false. Discuss answers explaining the reason why they are either true or false.

Answers for Activities 3, 4 and 5 can be found on page 16 of the guinea worm comic book.
Primary School Pupils

Particular consideration has been given to the primary school age group when designing the guinea worm comic book. Clear illustrations, simple messages and activities help the pupils follow our two friends as they discover guinea worm.

The guinea worm comic book can be used as a support with primary school pupils in a number of subject areas, including:
- Health
- Small scale projects
- Science
- Geography
- Language – French or English as well as Arabic and other national languages (some words can possibly be translated as a group exercise).

Grades 1, 2, 3 and 4

It is important for the young students to gain an understanding of guinea worm and actions they can take to assist their family and community.

Activity 1.

As a class, read through each section of the guinea worm comic book, and talk about the sections to make sure pupils understand. Perform the activities as you go along. You may want to read particular sections twice as some of them contain a lot of information.

You could discuss with the pupils the following topics:
- the words used for guinea worm in their village;
- where guinea worm is found;
- what happens when someone has guinea worm disease;
- how people become infected with guinea worm;
- what Cyclops are and how they help the guinea worm;
- why you must find the guinea worm village volunteer or health worker if someone is sick;
- why you must protect water sources and prevent people with guinea worm from going into the water;
- how to help filter water.
Activity 2.

With this age group activities should be visual and fun. Encourage the pupils to draw their response to a question or something they remember about the story.

Activity 3.

Ask the class what they think they could do to help people in their village who have guinea worm disease.

Activity 4.

Make up songs about guinea worm or how to carry out a task that would help prevent the disease, such as filtering water.

Activity 5.

Combine the discussion on filtering water with a practical demonstration. If possible let students practise filtering water using a small container or a large pot.

Activity 6.

Invite the local guinea worm village volunteer or health worker to visit the class or school to talk about guinea worm and the class's activity. He can also be invited to attend school events.

Remember
Learning must be fun and seem simple to pupils.

Grades 5, 6, 7 and 8

Pupils in these grades are ready to learn about guinea worm in more detail.

Activity 1.

As a group, read the story and discuss areas that are not clear to the students. Perform activities as you go through, discussing each one. You could read the comic like a play where students are given a part.
There are eight characters in the story:
- our two friends,
- the teacher,
- the professor,
- a village health worker,
- a sick child,
- the mother,
- the village chief.

**Activity 2.**

Discuss the following:
- where guinea worm is found;
- how guinea worm disease infects people (life cycle, larvae and Cyclops entering the human body);
- what you can do to protect water sources from contamination and how to filter water;
- why you must look for the guinea worm village volunteer or health worker if someone is sick.

**Activity 3.**

In groups discuss different ways to eliminate guinea worm from the village. Pupils could write stories on what they can do to participate in guinea worm eradication.

**Activity 4.**

Invite the local guinea worm village volunteer or health worker to visit the class to talk about their role and the ways to protect people from guinea worm disease. This could be combined with a demonstration of water filtering. If possible let the pupils filter water using a small container or a large pot.

**Activity 5.**

Make up songs about guinea worm or how to perform tasks that would help prevent the disease, such as filtering water.

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**Remember**
Make learning an enjoyable experience.
Secondary School Students

The guinea worm comic book is also aimed at educating secondary school students. It can be used in a number of subject areas at this level, such as:

- Health
- Science
- Geography
- Agriculture
- Language – French, English, Arabic or national languages.

Grade 8 and above

Students at this level are able to understand more detailed concepts. Teachers are then able to discuss in depth all of the areas mentioned in the guinea worm comic book, from transmission to prevention and eradication.

The key themes are vital as students are able to follow the logic behind each action.

Activities

At this level a lot of the activities will depend greatly on the subjects taught at school. The teacher may choose to include aspects of guinea worm disease in the curricula of any subject or just in Health.

Activities you may want to include:

- Divide the class into groups and get each group to write a story or design a presentation on an area relating to guinea worm disease;
- Undertake a science or agriculture project where students can examine water sources and assist people in filtering water. This could be done with the help of the guinea worm village volunteer;
- Plan a health project that looks at guinea worm in the human body;
- Study the geography of Africa and where guinea worm is found in relation to the geographical coordinates of your village.

Older students may like to do their own projects, and write a report on a particular aspect of guinea worm.

Remember

Actively involve all students and encourage learning.
Why not have a guinea worm week at school?

During that week, the children could actively spread the knowledge they have acquired about guinea worm to the benefit of their community.

Proposed activities

- Invite parents to the school to attend the games their children will play, and listen to their songs and poems about guinea worm;
- Set up displays and demonstration on the use of filters;
- Organize competitions on the theme of guinea worm control.

The school can involve the whole community in the guinea worm week.

Conclusion

Through education teachers and their students can take an active role in preventing and controlling guinea worm disease in their communities.

Guinea worm can and must be eradicated.