



Schistosomiasis (bilharzia) Job Aid

for health promoters, peer educators,
and resource persons



REPUBLIC OF KENYA



MINISTRY OF HEALTH



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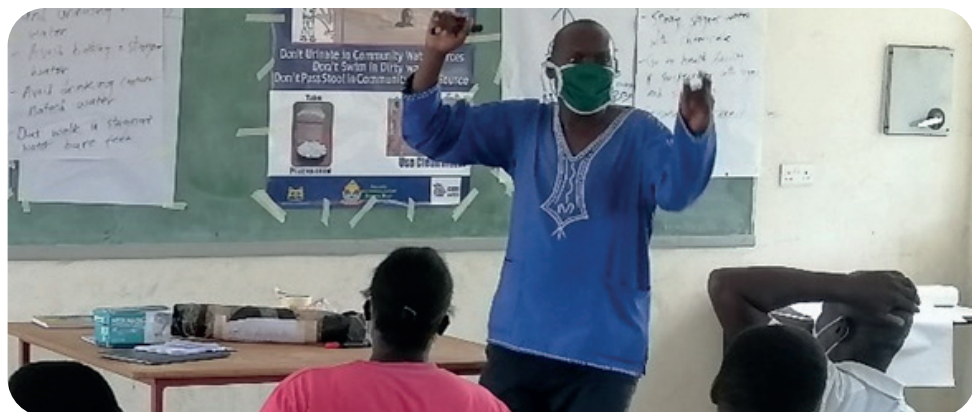
Abbreviations/ acronyms

CHP	community health promoter
FGS	female genital schistosomiasis
GBV	gender-based violence
HIV	human immunodeficiency virus
HPV	human papillomavirus
MDA	mass drug administration
MGS	male genital schistosomiasis
MoH	Ministry of Health
PZQ	praziquantel
SRH	sexual and reproductive health
STIs	sexually transmitted infections

Purpose of the Job Aid

This job aid is designed to be used by community health promoters (CHPs) to support them to include schistosomiasis (bilharzia) and female genital schistosomiasis (FGS) in their community interventions. They can:

- Raise awareness about and provide health information on schistosomiasis and genital schistosomiasis, including risk factors and how to prevent it.
- Explain the common signs and symptoms of schistosomiasis and FGS.
- Explain that FGS is not a sexually transmitted infection (STI) despite having similar symptoms.
- Describe the sexual and reproductive health (SRH) complications of untreated FGS, including subfertility and infertility.
- Explain how untreated FGS can increase the risk of HIV and cervical cancer.
- Screen girls and women for risk of schistosomiasis and FGS.
- Explain the referral process and diagnosis procedures for FGS.
- Provide information on praziquantel as prevention and treatment of FGS, including addressing myths and misconceptions. (And encourage community members to attend mass drug administration (MDA) sessions where praziquantel is distributed).
- Help reduce stigma and promote uptake of services by women and girls affected by FGS through inclusive approaches.
- Refer girls and women to health facilities that provide FGS services.



▲ Training of community health promoters on schistosomiasis (bilharzia)
Image source: LVCT Health

Health literacy

CHPs will primarily be responsible for supporting health literacy.

- 'Ability to obtain, read, understand, and use health care information to make appropriate health decisions and follow instructions for treatment.'¹
- Health literacy helps people learn more about health, gain skills, and feel more confident to make healthier choices for themselves and their community.



▲ Community leaders being sensitized on FGS in Homa bay
Image source: LVCT Health

FGS, schistosomiasis and SRH information can be integrated during community activities including:

1. Peer education engagements/forums
2. Community dialogues and outreach
3. One-to-one support
4. Mass drug administration (MDA)
5. Group sessions
6. Regular household visits
7. Social and behaviour change communication activities.

1. Source: Roundtable on Health Literacy; Board on Population Health and Public Health Practice; Institute of the Medicine (10 February 2012). **Facilitating State Health Exchange Communication Through the Use of Health Literate Practices: Workshop Summary**. National Academies Press. p. 1. ISBN 978-0-309-22029-3.

What is schistosomiasis (bilharzia)?

- Bilharzia is the common name for schistosomiasis
- Schistosomiasis is a disease caused by tiny bilharzia worms

Forms of schistosomiasis (bilharzia)

UROGENITAL SCHISTOSOMIASIS



- Affects the urinary and reproductive systems in men (male genital schistosomiasis) and women (female genital schistosomiasis).
- Symptoms can include:
 - Sores or wounds on the genitals
 - Vaginal bleeding/discharge
 - Pain during sexual intercourse
 - Swelling in private parts.

INTESTINAL SCHISTOSOMIASIS



- Affects the stomach and intestines
- Symptoms can include:
 - Abdominal pain
 - Diarrhoea
 - Blood in stool.

Adapted from: London School of Hygiene & Tropical Medicine²

Symptoms for both types of schistosomiasis are caused by the body's reaction to the worms' eggs

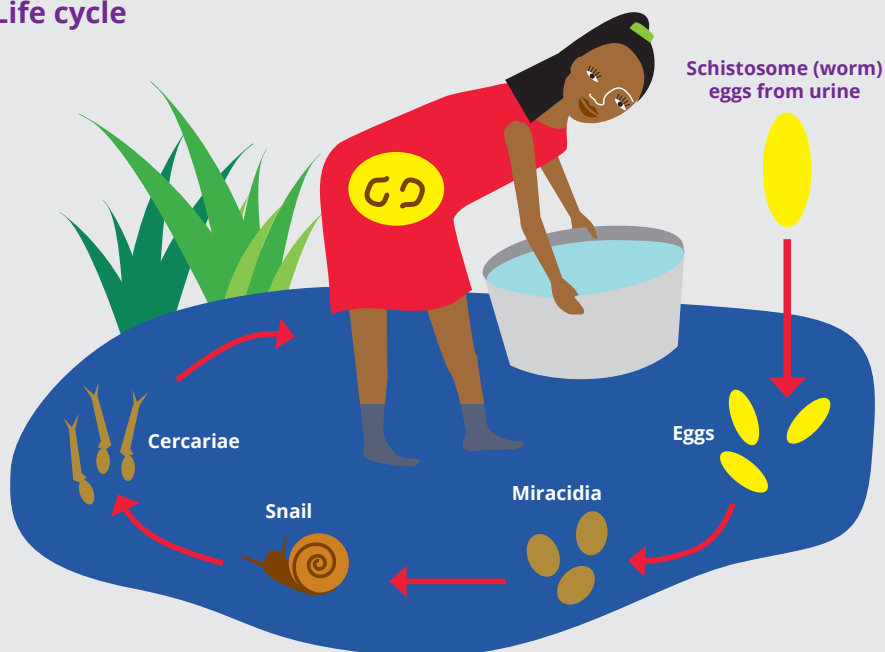
2. Liverpool School of Tropical Medicine, Countdown Liberia. *FGS Intervention Manual*. <https://countdown.lstmed.ac.uk/sites/default/files/centre/Countdown%20FGS%20Training%20Guide%20Liberia%20-%20Proof%203-%20watermarked.pdf>



▲ Image source: Frontline AIDS/Denis Mwangi/2023

- The illness spreads when someone with bilharzia releases the worms' eggs in freshwater by urinating or defecating in ponds, lakes, etc.
- When the worms' eggs hatch, the worms swim to find snails and live in them.
- When the baby worms have grown enough, they leave the snail and swim in the water.
- The worms can enter through people's skin when they are in contact with water, for example, when collecting water, swimming, bathing, washing, or fishing.
- **Note:** Bilharzia and schistosomiasis mean the same.

Life cycle



Adapted from: Countdown Nigeria, 2021³

3. Liverpool School of Tropical Medicine and Sightsavers. 2021. Countdown Nigeria. *Health Worker Training Guide for Managing Female Genital Schistosomiasis (FGS) in Primary Health Care*. [https://countdown.lstmed.ac.uk/sites/default/files/centre/COUNTDOWN Nigeria FGS training guide- watermarked_0.pdf](https://countdown.lstmed.ac.uk/sites/default/files/centre/COUNTDOWN%20Nigeria%20FGS%20training%20guide-watermarked_0.pdf)

Water snails associated with bilharzia

Snail type: *Bulinus* — host to the urinary bilharzia worm



▲ Image source: The Australian Museum, 2023⁴



▲ Image source: WHO 2024⁵

Snail type: *Biomphalaria* — host to the intestinal bilharzia worm



▲ Image source: EurekAlert! 2016⁶



▲ Image source: World Health Organization, 2024⁷



4. The Australian Museum, 2023. *Australian Freshwater Molluscs*. [Online]. https://keys.lucidcentral.org/keys/v3/freshwater_molluscs/key/australian_freshwater_molluscs/Media/Html/entities/bulinus_spp.htm
5. WHO, 2024. Schistosomiasis (Bilharzia). [Online] <https://www.who.int/health-topics/schistosomiasis>
6. EurekAlert! *Stop the snails*. [Online]. <https://www.eurekalert.org/news-releases/514220>
7. World Health Organization, 2024, Eastern Mediterranean Region. *Schistosomiasis* [Online]. <https://www.emro.who.int/health-topics/schistosomiasis/introduction.html>

Myths and misconceptions



- Bilharzia **IS** spread when people with bilharzia urinate and defecate in fresh water sources, spreading the eggs.
- Bilharzia **IS** spread in fresh water where there are bilharzia snails.



- Bilharzia can **NOT** be spread by walking on urine-contaminated paths, in latrines, or other land areas where someone has urinated.
- Bilharzia is **NOT** a sexually transmitted infection.
- Bilharzia is **NOT** spread by drinking dirty fresh water.
- Bilharzia is **NOT** caused by *chira/uchawi*/taboo.



Fever



A rash



Painful/
red (bloody)
urine



Liver
fibrosis



Headache

Symptoms of
BILHARZIA
may include



Body aches



Diarrhoea/
constipation



Blood in
the faeces



Intestinal
ulcers

Adapted from: Mopani Pharmacy, 2021

First signs of bilharzia



▲ Image source: First Derm®

Risk factors for bilharzia

Skin contact with infected water during activities such as:

- Collecting water
- Swimming
- Bathing
- Washing clothes
- Fishing.

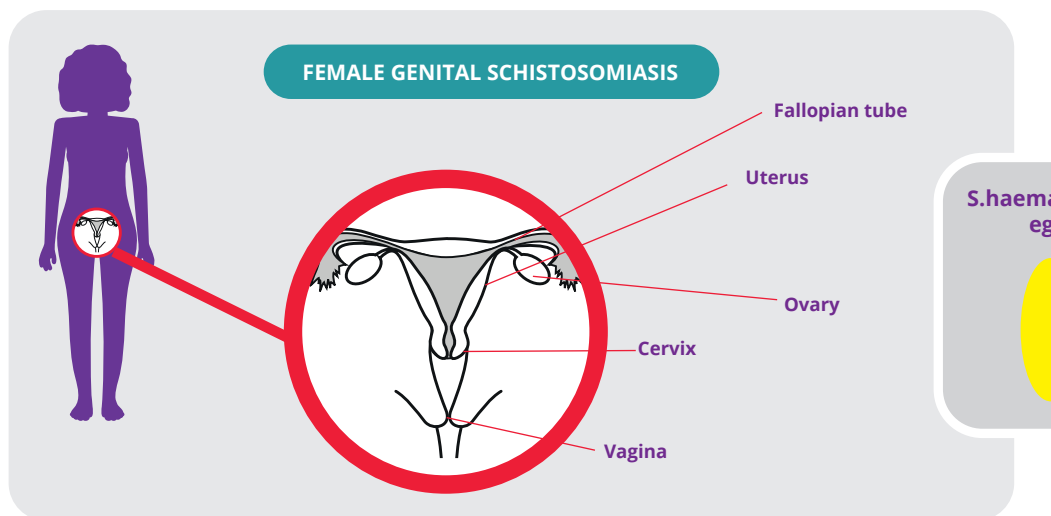
▼ Image source: First Derm®



QUESTION:

What do you call this disease in your local language?

Genital schistosomiasis and sexual and reproductive health



What is female genital schistosomiasis?

- FGS stands for female genital schistosomiasis.
- FGS occurs when the eggs laid by the worms affect the female genital tract.
- The first case of schistosomiasis in the genital tract was noted in 1943.
- FGS is often confused with a sexually transmitted infection (STI) and wrongly diagnosed. This can lead to women and girls being accused of sexually promiscuous behaviour and increasing gender-based violence (GBV).

Some symptoms of female genital schistosomiasis



**Lower
abdominal
pain**



**Genital
itching**



**Abnormal
genital
bleeding and
discharge**

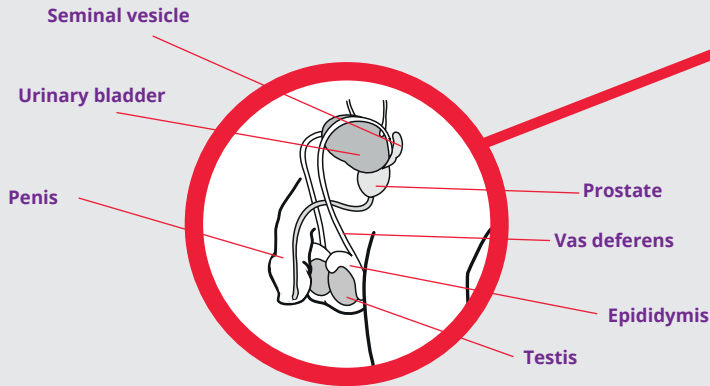


**Pain or bleeding
during or
after sexual
intercourse**

Adapted from: Bustinduy A. L et al, 2022⁹

9. Bustinduy A. L., Randriansolo B., Sturt, A.S., Kayuni, A., Leutscher P., Webster B.I., Van Lieshout L., Stothard R., Feldmeier H., Gyapong M. 2022. Chapter One – An update on female and male genital schistosomiasis and a call to integrate efforts to escalate diagnosis, treatment and awareness in endemic and non-endemic settings: The time is now. *Advances in Parasitology*, Vol 115: Pgs. 1-44. [Doi: 10.1016/bs.apar.2021.12.003](https://doi.org/10.1016/bs.apar.2021.12.003)

MALE GENITAL SCHISTOSOMIASIS



Male genital schistosomiasis (MGS)

- MGS stands for male genital schistosomiasis
- MGS happens when schistosome eggs are trapped in semen and male reproductive organs.
- Awareness of MGS is very limited among health care providers and communities, affecting diagnosis and treatment.

Some symptoms of male genital schistosomiasis



Pain in the pelvic region



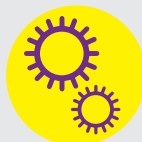
Pain or bleeding during or after sexual intercourse



Erectile dysfunction and infertility



Enlarged genital organs



Possibility of increased risk for HIV infection

Bilharzia and FGS prevention

FGS is an important SRH issue because:

- Untreated FGS can lead to the SRH complications shown on p.13.
- FGS is preventable and treatable if diagnosed early.
- FGS often goes undetected or gets confused with other illnesses like STIs and cervical cancer.
- Misdiagnosis of FGS has costs for women and girls, their households, and the health service through repeat referrals and wrong treatment, such as treatment for cervical cancer.
- Women and girls may experience violence from intimate partners or others who think FGS is a result of sex or sex outside a relationship.
- FGS increases the risk of HIV transmission, and if you have HIV, FGS can make you sicker faster, as it increases the viral load. Taking HIV medicine (ARTs) can help slow this down.
- FGS might also make it easier to get HPV, a virus that can lead to cervical cancer.

Risk assessment for bilharzia and FGS

How to prevent and control schistosomiasis (bilharzia) and FGS

Schistosomiasis can be prevented by taking preventive praziquantel (PZQ).

PZQ is distributed during MDAs. PZQ is also available in some health facilities.

CHPs can also support health literacy with messages:

- Use toilets and pit latrines and don't urinate or defecate in ponds, lakes, etc.
- Try to stay away from freshwater bodies where bilharzia is common.
- Boil water from these sources for at least one minute before using it for bathing or washing.
- Store water for one to two days before using it for bathing or washing.



▲ Image source: PLOS, 2024¹⁰

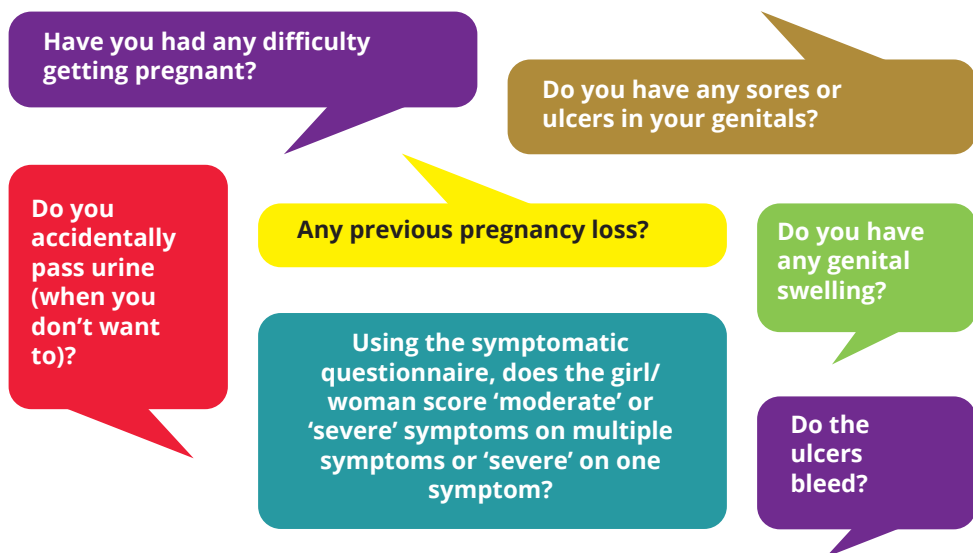
10. PLOS, 2024. Neglected Tropical Diseases.
<https://journals.plos.org/plosntds/article/figure?id=10.1371/journal.pntd.0005812.g001>

CHPs can screen women and girls for risk of schistosomiasis and FGS.

Questions about environmental risk¹⁰

1. Do you, or have you ever, used rivers, lakes, or ponds for water, washing clothes, bathing, swimming, playing, fishing, or farming? *Yes, No. The higher exposure the higher risk.*
2. How far do you live from the nearest water source(s) such as, a lake, river, stream, dam? *Less than 5km? More than 5 km? More than 10km?*
3. What other water sources are available locally? For example, wells, boreholes, water brought in by trucks? *If there are no other water sources available, they may be at a higher risk.*

Questions about FGS signs and symptoms



Referral to a health facility – in cases of suspected female genital schistosomiasis



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MOH 100: COMMUNITY REFERRAL FORM

SECTION A: Patient /Client Data	
Date:	Time of referral:
Name of the patient:	
Sex: Male <input type="checkbox"/> Female <input type="checkbox"/>	Age:
Name of Community Health Unit:	
Name of Link Health Facility:	
Reason(s) for Referral	
Main problem(s):	
Treatment given:	
Comments:	
CHV Referring the Patient:	
Name:	Mobile No:

1. Suspected FGS can be identified through screening clients for symptoms of FGS and environmental risk factors.
2. Refer to a health facility able to do pelvic exam/screening with visual exam.
3. Refer clients with suspected FGS for treatment with praziquantel (PZQ).
4. In case of suspected GBV refer to local facilities for counselling or GBV services.

Counselling about female genital schistosomiasis

- Women and girls might be afraid to tell a CHP about FGS symptoms because they worry about being judged or discriminated against.
- It is important that the woman feels supported and feels safe to disclose.
- **If you suspect FGS counsel the woman about how FGS is caused and how it can be prevented.**
- **Remember that FGS is commonly misdiagnosed as an STI.**
 - Inform her that it is not sexually transmitted but if left untreated there is an increased risk of HIV transmission and HPV/cervical cancer.
 - Explain that other family members using the same water source may also be at risk.
 - Explain that it is treatable and preventable.

Diagnosis of urogenital schistosomiasis

- Refer community members to your local health facility and record in the MoH 100.
- Remember to follow up the referral and document again in the MoH 100.
- Health workers will order tests in the facilities:
 - **Urinary schistosomiasis:** A urine sample is checked for eggs under a microscope.
 - **FGS:** A health worker checks the cervix and vaginal walls.
 - **MGS:** Semen is checked for eggs under a microscope.



▲ Image source: Linguava, 2010-2023.

Bilharzia treatment

- Seek early treatment in cases of signs and symptoms of bilharzia.
- Treatment with PZQ kills the adult worms and prevents new lesions.
- Schistosomiasis can be prevented by taking preventive PZQ.

Benefits of praziquantel treatment

- Reduces bladder and liver complications
- Reduces anaemia
- Improves growth and development in children
- Reduces sores from genital schistosomiasis, which could lower the chance of getting HIV and HPV (and it getting worse).



▲ Image source: WHO, 2023¹²

12. WHO, 2023. Kenya celebrates immunization as more children are reached with RTS,S. [Online]. <https://www.afro.who.int/countries/kenya/news/kenya-celebrates-immunization-more-children-are-reached-rtss>

Delivering praziquantel in communities:

- PZQ works!
- **Take PZQ after eating to reduce side effects.**
- Side effects are usually mild and temporary, including headache, dizziness, stomach pain, nausea, tiredness, weakness, joint and muscle pain, loss of appetite, vomiting, and sweating.
- PZQ can be safely combined with other deworming drugs like albendazole.
- Remember, the severe risks of FGS are worse than taking PZQ.
- Encourage finishing doses.
- Encourage those benefited by PZQ to share their experiences with others at risk.



▲ Image source: Liverpool School of Tropical Medicine¹³

13. Liverpool School of Tropical Medicine <https://www.lstmed.ac.uk/news-events/news/community-views-on-mass-drug-administration-for-filariasis-a-qualitative-evidence>

Social inclusion and equity

Definition of social inclusion



Making it easier for people who are disadvantaged because of who they are to have better chances, more opportunities, and to be treated with respect.

Definition of equity



Recognising that we do not all start from the same place and realising we need to recognise and fix these unfair differences.

Who is missing out on services?

- Are your services for everyone? Are some people in the communities you serve being left out? For instance, are girls with symptoms of FGS being judged because these symptoms are linked to STIs?
- Do you see a fairness problem in these communities? Are some groups unable to get information and help? For instance, girls who aren't in school or women and girls with disabilities?

What is stigma?

- A negative response to our differences.
- They can be obvious, for example, name-calling or making someone sit somewhere else because of who they are.

OR

- We might have good intentions, but sometimes we don't realise that our questions could hurt others. For instance, asking someone "Why do you look like that?" or "Why don't you have children?" could be hurtful.
- When we do these things because someone has a health condition, like FGS, this is called 'health-related stigma'.

Types of stigma

- **‘Experience’ stigma:** When someone is treated differently because of their health condition, for example, they lose their job.
- **‘Anticipated’ stigma:** When someone is scared that people will treat them differently because of their health condition.
- **‘Internalised’ stigma:** When someone holds a negative belief about a health condition and, if diagnosed with it applies these feelings to themselves.

Female genital schistosomiasis — what can you do to improve social inclusion and equity?

1. Work with the community, MDA providers, and health facilities to ensure access to praziquantel and screening services for those who are most in need.
2. Educate people that FGS isn't spread through sex and screen patients with STI symptoms in affected areas for schistosomiasis risk.
3. Share FGS information to increase awareness of symptoms and prevention methods.
4. Provide a safe and confidential environment for open communication, and refer women and girls with FGS to relevant service providers for support with GBV and mental health issues.



▲ Image source: OFFINSO Municipal, 2021¹⁴

14. OFFINSO, 2021. <https://ofma.gov.gh/2022/07/14/offinso-municipal-ncce-has-called-on-ghanaians-to-register-their-sim-cards-before-end-september/>

Summary

Your role in bilharzia control

1. Teach your community about bilharzia and FGS including risk factors and how to prevent it.
2. Teach your community about the common signs and symptoms of bilharzia and FGS.
3. Raise awareness that FGS is not an STI and help reduce stigma associated with FGS.
4. Raise awareness in your community about the SRH complications of untreated FGS, including infertility and increased risk of HIV transmission and cervical cancer.
5. Provide information about praziquantel as treatment and prevention for schistosomiasis and FGS, including addressing myths and misconceptions.
6. Encourage community members to attend MDA sessions.
7. Screen girls and women for risk of bilharzia and FGS Refer possible FGS cases to a health facility providing FGS services.



▲ Image source: Frontline AIDS/Denis Mwangi/2023

Bilharzia can be controlled

1. Bilharzia has been eliminated in some places.
2. Water, sanitation and behaviour change make it easier to eliminate bilharzia.
3. Encourage community members to use toilets and not urinate/defecate in water sources.
4. Keep asking leaders and County government to focus on watching out for bilharzia and committing to tackling it.



DISEASE

- Infection is widespread in poor communities



- **221 million** people affected, worldwide



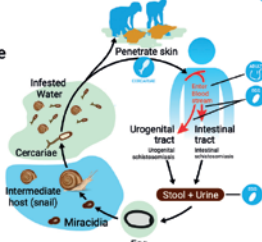
- 9 out of 10 infected people live in Africa
- Spread through open defecation and urination

- Devastating health and economic consequences



AFFECTED POPULATIONS

- Women
- Children
- Manual workers
- Fishermen



People become infected when larval forms of the parasite – released by freshwater snails – penetrate the skin during contact with infested water



DISEASE FORMS

- 1 Intestinal
- 2 Urogenital



FEMALE GENITAL SCHISTOSOMIASIS

A major risk factor for HIV infection

PREVENTION AND CONTROL

WHO recommends praziquantel for treatment of all forms of schistosomiasis

- Preventive chemotherapy
- Snail control
- Environmental management
- Health education and social mobilization
- Sanitation
- Access to safe water



▲ Image source: WHO

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