

# Sustaining the control of intestinal schistosomiasis mansoni in western Côte d'Ivoire

<b>Submission date</b> 10/09/2014	<b>Recruitment status</b> No longer recruiting	<input type="checkbox"/> Prospectively registered <input checked="" type="checkbox"/> Protocol
<b>Registration date</b> 12/11/2014	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan <input checked="" type="checkbox"/> Results
<b>Last Edited</b> 31/05/2016	<b>Condition category</b> Infections and Infestations	<input type="checkbox"/> Individual participant data

## Plain English summary of protocol

### Background and study aims

Schistosomiasis is a chronic infection caused by parasites that occurs in 78 tropical and subtropical countries. Symptoms of the disease vary widely and can be fairly mild (fever, skin rash, coughing) or more severe (passing blood in diarrhoea or urine, vomiting blood, stomach pains, paralysis of the legs). Over 90% of cases occur in Africa. The World Health Organisation wants to treat 75% of the population at risk of schistosomiasis infection by 2020 and preventive treatment (chemotherapy) will increase massively as a result. In Côte d'Ivoire, where both *S. mansoni* and *S. haematobium* are endemic and many people suffer from intestinal or urogenital schistosomiasis, no large-scale preventive chemotherapy programme had been set up before the start of this study. We want to investigate which combination of annual praziquantel treatments (given in schools) and 'drug holidays' (when no treatment is given) is the most successful for the lowest cost.

### Who can participate?

This 5-year intervention trial takes place in 75 schools in western Côte d'Ivoire.

### What does the study involve?

In a first step, in-depth parasitological surveys are carried out in 75 schools across more than 250 localities where the prevalence of *S. mansoni* (i.e. number of infections) amongst schoolchildren ranges between 10% and 24%. Prevalence is measured using Kato-Katz thick smears from 50 children aged 13-14 years per locality. Each school is then randomly allocated into one of three groups. Schoolchildren attending schools in group 1 are treated with praziquantel once a year for the 5 years of the study. Schoolchildren attending schools in group 2 are treated for the first two years of the study. Children attending schools in group 3 are treated in the first year and the third year of the study. Three days of consecutive parasitological surveys are carried out before each treatment to assess any changes to the prevalence and intensity (severity of infection) of *S. mansoni* infection over time. The praziquantel is administered by trained teachers to all children aged 5-15 years.

What are the possible benefits and risks of participating?

The morbidity due to schistosomiasis will be reduced among children who receive treatment of praziquantel. Praziquantel is generally well tolerated, if not taken on empty stomach. Side effects are typically mild and temporary and do not require treatment. They include malaise (feeling out of sorts), headache, dizziness, abdominal discomfort (with or without nausea), high temperature and, rarely, urticarial (hives). Children will remain under medical supervision after treatment and appropriate measures will be taken if need be.

Where is the study run from?

The study is jointly run by:

1. The Université Félix Houphouët-Boigny in Abidjan (Côte d'Ivoire)
2. The Programme National de Lutte contre la Schistosomiase, les Géohelminthiases et la Filariose lymphatique (PNL-SGF) (Côte d'Ivoire)
3. The Programme National de Santé Scolaire et Universitaire (PNSSU) of the Ministry of Health and Public Hygiene in Abidjan (Côte d'Ivoire)
4. The Swiss Tropical and Public Health Institute (Swiss TPH), Basel (Switzerland)
5. Schistosomiasis Control Initiative (SCI) of Imperial College London (UK)

When is the study starting and how long is it expected to run for?

December 2011 to May 2017.

Who is funding the study?

1. The Bill & Melinda Gates Foundation through the Schistosomiasis Consortium for Operational Research and Evaluation (SCORE) based at the University of Georgia (sub-awards no. RR374-053/4893196)
2. The Schistosomiasis Control Initiative - Imperial College (SCI; London, United Kingdom) donates praziquantel tablets

Who is the main contact?

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## Contact information

### Type(s)

Scientific

### Contact name

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## Additional identifiers

# Study information

## Scientific Title

Sustaining control of schistosomiasis mansoni in moderate endemicity areas in western Côte d'Ivoire

## Study objectives

The implementation of two rounds of preventive chemotherapy with the antischistosomal drug praziquantel to school-aged children (exclusion of children <5 years) over a 4-year period (either alternating with drug holidays in years 2 and 4, or drug holidays in years 3 and 4) will more cost-effectively sustain the control of morbidity due to *Schistosoma mansoni* infection in areas with moderate endemicity (prevalence: 10-24%) in Côte d'Ivoire than the implementation of four rounds of annual chemotherapy.

## Ethics approval required

Old ethics approval format

## Ethics approval(s)

1. Comité National d'Éthique et de la Recherche, Ministère de la Santé et de l'Hygiène Publique, 5/5/2010, ref. 1994 MSHP/CNER
2. Ethikkommission beider Basel, 21/10/2010, ref. 279/10

## Study design

Randomised intervention trial

## Primary study design

Interventional

## Study type(s)

Treatment

## Health condition(s) or problem(s) studied

*Schistosoma mansoni* infection

## Interventions

The study will be implemented in 75 schools of western Côte d'Ivoire. The 75 schools are randomly assigned to three study arms (25 schools per arm)

1. Schools of arm A: treated annually with praziquantel in years 1, 2, 3 and 4
2. Schools of arm B: treated with praziquantel in the first two years (years 1 and 2)
3. Schools of arm C: treated with praziquantel in year 1 and again in year 3

## Intervention Type

Drug

## Phase

Not Applicable

## Drug/device/biological/vaccine name(s)

Praziquantel

## **Primary outcome(s)**

As of 21/03/2016:

Prevalence and intensity of *S. mansoni* infections in 9- to-12- year-old schoolchildren.

Initial:

Identification of the most cost-effective strategy that is able to reduce *S. mansoni* infection from moderate (10-24%) to low prevalence levels (<10%). Measured by change in prevalence and intensity of *Schistosoma mansoni* infection in cohorts of 9- to 12-year-old children over the four years of intervention.

## **Key secondary outcome(s)**

As of 21/03/2016:

1. Prevalence and intensity of *S. mansoni* infections in first-year schoolchildren
2. Control of morbidity due to *S. mansoni* (reduction of the prevalence to <10%) in the 75 schools
3. Identification of *S. mansoni* risk factors
4. Mapping and prediction of the distribution *S. mansoni* in western Côte d'Ivoire

Initial

1. Prevalence and intensity of *S. mansoni* infections in 9- to-12- year-old schoolchildren
2. Prevalence and intensity of *S. mansoni* infections in first-year schoolchildren
3. Control of morbidity due to *S. mansoni* (reduction of the prevalence to <10%) in the 75 schools
4. Identification of *S. mansoni* risk factors
5. Mapping and prediction of the distribution *S. mansoni* in western Côte d'Ivoire

Measured by changes in force of transmission, as assessed by infection prevalence and intensity of *S. mansoni* in first-year students and adults.

## **Completion date**

30/05/2017

## **Eligibility**

### **Key inclusion criteria**

1. Schoolchildren, either male or female, aged 9-12 years, attending the selected schools (in each study year)
2. First-year students, either male or female, attending the selected schools (in years 1 and 5)
3. Written informed consent signed by parents or legal guardians of the schoolchildren
4. Oral assent from schoolchildren
5. At least one stool sample provided over three consecutive days from 9- to 12- years- old children each study year
6. At least one stool sample provided from first-year students in years 1 and 5

### **Participant type(s)**

Patient

### **Healthy volunteers allowed**

No

### **Age group**

Child

**Lower age limit**

9 years

**Upper age limit**

12 years

**Sex**

All

**Key exclusion criteria**

1. Children not attending the selected schools
2. Children not aged 9-12 years (in years 2, 3 and 4)
3. Children not aged 9-12 years or being first-year students (in years 1 and 5)
4. No written informed consent by parents or legal guardians of schoolchildren
5. No oral assent given by schoolchildren
6. No stool sample provided (for 9- to12-year-old children in each study year; for first-year students in years 1 and 5)

**Date of first enrolment**

01/12/2011

**Date of final enrolment**

30/05/2017

**Locations****Countries of recruitment**

Côte d'Ivoire

Switzerland

**Study participating centre**

Socinstrasse 57

Basel

Switzerland

4051

**Sponsor information****Organisation**

Swiss Tropical and Public Health Institute (Switzerland)

**ROR**

<https://ror.org/03adhka07>

# Funder(s)

## Funder type

Other

## Funder Name

The Bill & Melinda Gates Foundation through the Schistosomiasis Consortium for Operational Research and Evaluation (SCORE) based at the University of Georgia (sub-awards no. RR374-053 /4893196)

## Funder Name

The Schistosomiasis Control Initiative - Imperial College (SCI; London, United Kingdom) donates praziquantel tablets

# Results and Publications

## Individual participant data (IPD) sharing plan

### IPD sharing plan summary

Not provided at time of registration

## Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">Results article</a>	results	20/01/2016		Yes	No
<a href="#">Protocol article</a>	protocol	17/12/2014		Yes	No
<a href="#">Protocol article</a>	protocol and baseline data	26/05/2016		Yes	No
<a href="#">Other publications</a>	parasitological survey	03/06/2015		Yes	No
<a href="#">Other publications</a>	baseline findings	01/02/2016		Yes	No
<a href="#">Study website</a>	Study website	11/11/2025	11/11/2025	No	Yes