

Entomological research, training and prevention strategies for malaria in Africa

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| Submission date 18/04/2012 | Recruitment status No longer recruiting | <input type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol |
| Registration date 30/04/2012 | Overall study status Completed | <input type="checkbox"/> Statistical analysis plan <input checked="" type="checkbox"/> Results |
| Last Edited 24/04/2017 | Condition category Infections and Infestations | <input type="checkbox"/> Individual participant data |

Plain English summary of protocol

Background and study aims

Malaria is a serious tropical disease caused by a type of parasite known as Plasmodium that is spread by mosquitoes. Malaria can be prevented by sleeping under a mosquito net treated with insecticide (long lasting insecticidal mosquito nets [LLINs]), by applying insecticide to the inside of dwellings (indoor residual spraying [IRS]), or by covering the walls with plastic sheeting treated with carbamate insecticide (CTPS). However, efforts to control and eliminate malaria in Africa are being challenged by parasites becoming resistant to antimalarial drugs and mosquitoes becoming resistant to insecticides. The aim of this study is to find out whether combinations of LLINs and IRS or an IRS-like treatment (CTPS) are more effective at protecting against malaria than LLINs alone.

Who can participate?

Children aged 0-71 months living in the 28 selected villages

What does the study involve?

Participants are randomly allocated to use one of four malaria prevention strategies:

1. LLINs for pregnant women and children aged under 6
2. LLINs to cover all sleeping units
3. LLINs for pregnant women and children aged under 6 and full coverage with carbamate-IRS
4. LLINs to cover all sleeping units and full coverage with CTPS

Malaria infection rates are compared between the four groups.

What are the possible benefits and risks of participating?

Using a combination of LLINs and IRS could be more effective at reducing malaria-related illness.

Where is the study run from?

The health district of Ouidah-Kpomassè-Tori Bossito (OKT) (Benin)

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

July 2008 to December 2009

Who is funding the study?

1. Ministry of Foreign and European Affairs (France)
2. Institute of Development Research [Institut de Recherche pour le Développement] (France)
3. The President's Malaria Initiative (PMI) (USA)

Who is the main contact?

Dr Vincent Corbel

Contact information

Type(s)

Scientific

Contact name

Dr Vincent Corbel

Contact details

Institut de Recherche pour le Développement/Centre de Recherche Entomologique de Cotonou (IRD/CREC)

Quartier les cocotiers

Près de la direction générale des impôts

01 BP 4414 RP

Cotonou

Benin

00229

Additional identifiers

EudraCT/CTIS number

IRAS number

ClinicalTrials.gov number

Secondary identifying numbers

FSP project 2006-22

Study information

Scientific Title

Combining vector control interventions for malaria control in pyrethroid resistance area: a cluster randomized controlled trial in Benin, West Africa

Study objectives

The combination of long lasting insecticidal mosquito nets (LLIN) and indoor residual spraying (IRS) or an IRS-like treatment (i.e. carbamate treated plastic sheeting, CTPS) confer protection against malaria and better management of pyrethroid-resistance in vectors than LLIN alone.

Ethics approval required

Old ethics approval format

Ethics approval(s)

National Ethical Committee for Medical Research (CNPERS), Benin, 16/12/2010

Study design

Cluster randomized controlled trial with 18 months follow-up

Primary study design

Interventional

Secondary study design

Cluster randomised trial

Study setting(s)

Home

Study type(s)

Prevention

Participant information sheet

Not available in web format, please contact Georgia Bakiri (barikiss2000@yahoo.fr) to request a patient information sheet

Health condition(s) or problem(s) studied

Malaria prevention by vector control strategies

Interventions

Four malaria vector control interventions were evaluated as follows:

1. LLIN-targeted coverage [TLLIN] to pregnant women and children <6 years that served as a control group
2. LLIN-universal coverage of all sleeping units [ULLIN]
3. LLIN-targeted coverage to pregnant women and children <6 plus full coverage of Carbamate-IRS [TLLIN+IRS]
4. LLIN-universal coverage of sleeping units plus full coverage of CTPS lined up to the walls of the household [ULLIN+CTPS]

Intervention Type

Other

Primary outcome measure

Incidence density rates of Plasmodium falciparum clinical malaria in children aged under 6 years

Secondary outcome measures

1. The prevalence and parasite density of asymptomatic infections among children aged under 6 years
2. The entomological inoculation rates [(EIR), as defined by the number of infected bites per human per year]
3. The human biting rates [(HBR), as defined by the number of bites per human per year]
4. The prevalence of pyrethroid resistant 1014F kdr allele in malaria vectors

Overall study start date

09/07/2008

Completion date

23/12/2009

Eligibility

Key inclusion criteria

1. Children aged 0-71 months
2. Lives in villages selected for study

Participant type(s)

Other

Age group

Child

Lower age limit

0 Months

Upper age limit

71 Months

Sex

Both

Target number of participants

4 arms of 7 villages each with overall 1126 children aged 0-71 months

Key exclusion criteria

1. Inhabitants older than 6 years
2. Children not living in selected villages

Date of first enrolment

09/07/2008

Date of final enrolment

23/12/2009

Locations

Countries of recruitment

Benin

Study participating centre

Institut de Recherche pour le Développement/Centre de Recherche Entomologique de Cotonou (IRD/CREC)

Cotonou

Benin
00229

Sponsor information

Organisation

Institute of Development Research [Institut de Recherche pour le Développement] (France)

Sponsor details

Centre de Recherche Entomologique de Cotonou (CREC)
Quartier les cocotiers
Près de la direction générale des impôts
01 BP 4414 RP
Cotonou
Benin
00229

Sponsor type

Government

Website

<http://en.ird.fr/>

ROR

<https://ror.org/032qezt74>

Funder(s)

Funder type

Government

Funder Name

Ministry of Foreign and European Affairs (France) ref: FSP project 2006-22

Funder Name

Institute of Development Research [Institut de Recherche pour le Développement] (France)

Funder Name

President's Malaria Initiative (USA)

Results and Publications

Publication and dissemination plan

Not provided at time of registration

Intention to publish date

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? |
|---------------------------------|---------|--------------|------------|----------------|-----------------|
| Results article | results | 01/08/2012 | | Yes | No |