

To assess whether addition of pyriproxyfen to long-lasting insecticidal mosquito nets increases their durability compared to standard long-lasting insecticidal mosquito nets

Submission date 08/07/2014	Recruitment status No longer recruiting	<input type="checkbox"/> Prospectively registered <input checked="" type="checkbox"/> Protocol
Registration date 13/08/2014	Overall study status Completed	<input type="checkbox"/> Statistical analysis plan <input checked="" type="checkbox"/> Results
Last Edited 17/08/2018	Condition category Infections and Infestations	<input type="checkbox"/> Individual participant data

Plain English summary of protocol

Background and study aims

Malaria is a major cause of sickness and death in sub-Saharan Africa. Sleeping under an effective and long-lasting insecticidal net will protect people from malaria. Pyrethroid-treated bed nets are one of the major mosquito control methods used against malaria in sub-Saharan Africa. However, there are few places where vector mosquitoes (those that can cause malaria) are fully vulnerable to pyrethroid insecticides, so alternative treatments for nets are required urgently. Here we assess the durability of nets with a new combination of insecticides called permethrin and pyriproxyfen in comparison with a typical permethrin-treated net.

Who can participate?

Village residents who usually sleep on a bed can take part in this study.

What does the study involve?

Participating households in each village will be randomly allocated to receive either permethrin and pyriproxyfen treated nets or permethrin-treated nets. We will distribute the nets at the start of the transmission season and follow net use at the start and end of the transmission season, i.e. from 0 to 36 months after distribution. The effectiveness of the insecticide, chemical content along with net durability and fabric integrity will be recorded immediately after distribution, and then at 6, 12, 18, 24, 30 and 36 months. Routine measurements of indoor temperature and relative humidity will be made in both villages during the study. Residents will be followed for possible side effects of the permethrin and pyriproxyfen treated nets by looking for known asthmatic people during the first month after distribution and pregnancy outcomes will be monitored from antenatal clinic records.

What are the possible benefits and risks of participating?

The results from this study will be of interest to those working on malaria control in Burkina

Faso and other African countries. Although permethrin and pyriproxyfen are safe to humans, they have not been used together on a mosquito net before. For this reason we will monitor any side effects from both the combination nets and the nets just with permethrin.

Where is the study run from?

This study is run from two villages in Burkina Faso.

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

The study started in March 2014 and runs until May 2017.

Who is funding the study?

Innovative Vector Control Consortium (UK).

Who is the main contact?

Prof Steve Lindsay

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Contact information

Type(s)

Scientific

Contact name

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Additional identifiers

Protocol serial number

v1.0

Study information

Scientific Title

To assess whether addition of pyriproxyfen to long-lasting insecticidal mosquito nets increases their durability compared to standard long-lasting insecticidal mosquito nets: protocol for a cluster randomized study

Study objectives

Pyriproxyfen combined with permethrin on bednets will be just as durable as standard permethrin-treated nets.

Ethics approval required

Old ethics approval format

Ethics approval(s)

1. Ethics Committee for Health Research (Comité d'Ethique pour la Recherche en Santé), 02/05/2014, ref: 2014-0-025
2. National Centre for Research and Training on Malaria (Centre National de Recherche et de Formation sur le Paludisme), 27/03/2014, ref. 2014/025/MS/SG/CNRFP/CIB

Study design

Cluster randomized controlled trial of net durability, with clustering at the level of the compound with entomological outcome measurements.

Primary study design

Interventional

Study type(s)

Prevention

Health condition(s) or problem(s) studied

Durability of mosquito nets

Interventions

Two villages will take part in the trial. The compounds within each village will be randomly allocated to receive one of two types of bednets on a 50/50 basis

Control bednet: Olyset net with 2% w/w permethrin incorporated into polyethylene fibres

Intervention bednet: DUO net which contains 2% w/w permethrin and 1% w/w pyriproxyfen incorporated into polyethylene fibres.

Intervention Type

Other

Phase

Not Applicable

Primary outcome(s)

Bio-efficacy is either measured as:

1. Percentage adult female mortality 24 hours after exposure to netting
 2. Percentage of viable offspring (1st or 2nd stage larvae) relative to the control group
- This will be recorded immediately after net distribution and at 6, 12, 18, 24, 30 and 36 months.

Key secondary outcome(s)

Proportion of nets in 'poor' condition, defined as:

1. Those that are not long enough to be tucked under the mattress
 2. Torn or badly damaged
 3. Has more than five holes (finger-width, approximate diameter 2 cm)
- All outcomes will be measured at 0 weeks, 6, 12, 18, 24, 30 and 36 months.

Completion date

30/05/2017

Eligibility

Key inclusion criteria

1. Village residents who sleep in a bed
2. Those that provide their informed consent to participate in the trial

Participant type(s)

Patient

Healthy volunteers allowed

No

Age group

Other

Sex

All

Key exclusion criteria

1. Non-residents
2. Residents who do not sleep in a bed
3. Those that do not provide their informed consent

Date of first enrolment

01/03/2014

Date of final enrolment

30/05/2017

Locations

Countries of recruitment

United Kingdom

England

Burkina Faso

Study participating centre

Durham University

Durham

United Kingdom

DH1 3LE

Sponsor information

Organisation

Durham University (UK)

ROR

<https://ror.org/01v29qb04>

Funder(s)**Funder type**

Charity

Funder Name

Innovative Vector Control Consortium (UK)

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?
Results article	results:	18/08/2018		Yes	No
Protocol article	protocol	28/04/2015		Yes	No
Participant information sheet	Participant information sheet	11/11/2025	11/11/2025	No	Yes