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# Insecticide-treated bednets for control of domestic ticks and prevention of African tick-borne relapsing fever

**Submission date**
14/04/2009

**Recruitment status**
No longer recruiting

**Registration date**
13/05/2009

**Overall study status**
Completed

**Last Edited**
13/05/2009

**Condition category**
Infections and Infestations

[_] Prospectively registered
[_] Protocol
[_] Statistical analysis plan
[X] Results
[_] Individual participant data

**Plain English summary of protocol**
Not provided at time of registration

## Contact information

**Type(s)**
Scientific

**Contact name**
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## Additional identifiers

## Study information

**Scientific Title**
A randomised controlled trial of insecticide-treated bednets for control of domestic ticks and prevention of African tick-borne relapsing fever

**Study objectives**
We investigated whether insecticide-treated bednets, using the insecticide formulation and standard practices currently promoted and used widely for malaria prevention in Africa, could

control household infestations of soft ticks (Argasids) and prevent transmission of tick-borne relapsing fever (TBRF) to humans.

## Ethics approval required
Old ethics approval format

## Ethics approval(s)
1. The Medical Research Coordinating Committee (MRCC) of the National Institute for Medical Research (NIMRI) Tanzania gave approval on the 24th May 2001 (ref: NIMR/HQ/R.8a/Vol.IX /28)
2. The Research Ethics Committee of the Liverpool School of Tropical Medicine gave approval on the 4th July 2001 (ref: 01.30)

A research permit (03849) was issued by the Tanzanian Committee for Science and Technology (COSTECH), Dar es Salaam, Tanzania on 02/04/2001.

## Primary study design
Interventional

## Study design
Randomised controlled trial

## Study type(s)
Treatment

## Health condition(s) or problem(s) studied
Tick-borne relapsing fever (TBRF)

## Interventions
This is a randomised controlled trial performed over 29 months; households are selected by two-stage random sampling and randomised to either receive insecticide-treated nets (ITNs) or no nets (control). Households in both arms were unmatched.

Treated households were provided with insecticide-treated bednets: standard green medium-sized circular bednets (1.5 m x 1.8 m at base, 2.1 m high; total net area of 2.7 sq m), of 75-denier polyester fibre (Tanzania manufacturing Textile Limited factory), impregnated with the pyrethroid lambdacyhalothrin (ICONET; Syngenta Crop Protection AG, Basel, Switzerland), using NGAO sachets (dosage of 55.6 mg/m^2) locally marketed for malaria control. Nets were retreated by staff at time of distribution and at 6, 18 and 24 months later.

Control households received no treatment.

## Intervention Type
Drug

## Phase
Not Applicable

## Drug/device/biological/vaccine name(s)
Insecticide-treated bednets (impregnated with pyrethroid lambdacyhalothrin)

## Primary outcome(s)

Percentages of households infested with O. moubata s.l. (domestic infestations with the soft tick vector of TBRF), numbers of O. moubata s.l. per house (tick-density) and incidence of Borrelia infections in under five year-old children. Surveys were carried out at baseline, with five follow-ups at 3, 7, 15, 18 and 25 months post-intervention.

### Key secondary outcome(s)
Using a structured questionnaire, studies on knowledge, attitudes, perceptions and behaviours with regard to the efficacy of ITNs in reducing tick infestations and tick-biting and their perceived benefits were conducted in April 2004 (14 months after the trial began) and at the end of the trial (April 2005). In the latter study, behaviours in the control households and the practice of anti-tick activities were additionally investigated in response to perceived anomalies in the data collected in the previous 12 months.

### Completion date
30/04/2005

## Eligibility

### Key inclusion criteria
All members of families living in traditional style constructed tembe houses (rectangular with a flat roof of sod or earth supported by poles and walls of mud plastered wicker or sun-dried bricks) were eligible for inclusion.

### Participant type(s)
Patient

### Healthy volunteers allowed
No

### Age group
Other

### Sex
All

### Key exclusion criteria
Families living in households in which floors and walls were plastered with cement and/or roofed with corrugated metal were excluded because it has long been known that they are rarely, if ever, infested with ticks

### Date of first enrolment
01/01/2003

### Date of final enrolment
30/04/2005

## Locations

### Countries of recruitment
United Kingdom

England

Tanzania

**Study participating centre**
**Liverpool School of Tropical Medicine**
Liverpool
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# Sponsor information

**Organisation**
Sir Halley Stewart Trust (UK)

**ROR**
https://ror.org/020w7x032

# Funder(s)

**Funder type**
Charity

**Funder Name**
Sir Halley Stewart Trust (UK)

**Alternative Name(s)**

**Funding Body Type**
Private sector organisation

**Funding Body Subtype**
Trusts, charities, foundations (both public and private)

**Location**
United Kingdom

# Results and Publications

**Individual participant data (IPD) sharing plan**

## IPD sharing plan summary

### Study outputs

| Output type | Details | Date created | Date added | Peer reviewed? | Patient-facing? |
|---|---|---|---|---|---|
| Results article | results | 18/10/2003 | | Yes | No |