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Can insecticide treated window curtains in the household control dengue vectors in the community?

Submission date
17/03/2010

Recruitment status
No longer recruiting

Registration date
25/03/2010

Overall study status
Completed

Last Edited
19/02/2020

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
Dr Philip McCall

Contact details
Liverpool School of Tropical Medicine
Liverpool
United Kingdom
L3 5QA

Additional identifiers

Study information

Scientific Title
A cluster randomised controlled trial of household-based insecticide treated window curtains for control of the dengue vector Aedes aegypti in the community

Acronym
DENCO Thailand

Study objectives

We investigated whether window curtains made of long-lasting insecticide-treated netting and deployed in outer windows of houses could reduce populations of Aedes aegypti, the mosquito vector of dengue, to levels that might lead to reductions in dengue virus transmission in treated communities.

Ethics approval required
Old ethics approval format

Ethics approval(s)
1. UK: Research Ethics Committee of the Liverpool School of Tropical Medicine approved on the 2nd February 2006 (ref: 06/12)
2. Thailand: Ethics Committee of the Faculty of Tropical Medicine, Mahidol University, Bangkok, approved on the 1st December 2006 (ref: MUTM 2006-056)

Study design
Cluster randomised controlled trial

Primary study design
Interventional

Study type(s)
Prevention

Health condition(s) or problem(s) studied
Dengue (including Dengue Haemorrhagic Fever [DHF] and Dengue Shock Syndrome [DSS])

Interventions
Curtains made from deltamethrin-coated polyester netting (Long Lasting Impregnated netting; PermaNet® Vestergaard-Frandsen, Lausanne, Switzerland), hung in outer windows regardless of the presence or absence of other window coverings (World Health Organization Pesticide Evaluation Scheme [WHOPES], approved material for indoor use).

Control households received no treatment.

Following introduction of Insecticide-Treated Materials (ITMs), the total duration of both intervention and follow-up was 12 months.

Intervention Type
Other

Phase
Not Applicable

Primary outcome(s)
Standard larval indices for the Aedes aegypti mosquito:
1. Breteau index: number of containers with immature stages per 100 houses
2. House index: number of houses containing immature stages per 100 houses
3. Container index: number of containers with immature stages per 100 containers with water
4. Pupal surveys were also undertaken to calculate the number of pupae per person index (number of pupae collected/human population in a sector)

Follow up surveys were made to all houses at 3, 6, 9 and 12 months post-intervention. Analyses to measure impact of the intervention on dengue vector populations will be undertaken according to intention to treat and per protocol (based on coverage levels recorded in follow-up surveys).

Key secondary outcome(s))
Interviews used to determine:
1. Household characteristics
2. Previous vector control intervention
3. Better understanding of the local population's knowledge, attitudes and practice about previous methods of dengue prevention and control, and about ITMs for the same purpose
4. Insecticide-susceptibility assays undertaken before and after intervention

Each house was also georeferenced with a handheld global positioning system receiver to permit subsequent overspill effects between adjacent treated and control clusters to be quantified.

Completion date
30/04/2009

Eligibility

Key inclusion criteria
All occupied households

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Other

Sex
All

Total final enrolment
2037

Key exclusion criteria
1. Business-only premises
2. Multi-storey buildings

Date of first enrolment
01/03/2008

Date of final enrolment
30/04/2009

Locations

Countries of recruitment
United Kingdom

England

Thailand

Study participating centre
Liverpool School of Tropical Medicine
Liverpool
United Kingdom
L3 5QA

Sponsor information

Organisation
Liverpool School of Tropical Medicine (UK)

ROR
https://ror.org/03svjbs84

Funder(s)

Funder type
Government

Funder Name
European Union (EU) (Belgium) - Sixth Framework Programme (FP6): INCO-DEV-2 (ref: PL 517708)

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	01/02/2013	19/02/2020	Yes	No