Solarmal: Solar energy for malaria elimination.

Gepubliceerd: 20-06-2012 Laatst bijgewerkt: 18-08-2022

To demonstrate proof of principle for the elimination of malaria from Rusinga Island using the nation-wide adopted strategy of LLINs and case management augmented with mass trapping of mosquito vectors.

Ethische beoordeling	Positief advies
Status	Werving nog niet gestart
Type aandoening	-
Onderzoekstype	Interventie onderzoek

Samenvatting

ID

NL-OMON22265

Bron
NTR

Verkorte titel
Solarmal

Aandoening

Malaria
Vector control

Ondersteuning

Primaire sponsor: Wageningen University Fund
Overige ondersteuning: COmON Foundation, The Netherlands

Onderzoeksproduct en/of interventie

Uitkomstmaten

Primaire uitkomstmaten

Confirmed clinical malaria incidence (fever plus positive RDT) and malaria parasitaemia

(positive RDT with or without clinical symptoms tested in a randomly selected 10% of the population every 4 months).

Toelichting onderzoek

Achtergrond van het onderzoek

The Solarmal project aims to eliminate malaria from Rusinga Island through the mass provision of odour-baited mosquito traps to all households over the course of two years (2013-2014). Baseline measures of malaria epidemiology will be taken during 2012 and the implementation of the intervention will tke place according to a randomised step wedge design. It is anticipated that daily trapping of malaria vector mosquitoes will reduce daily exposure to mosquito bites and that this will lead to a reduction in malaria transmission intensity on the island.

Doel van het onderzoek

To demonstrate proof of principle for the elimination of malaria from Rusinga Island using the nation-wide adopted strategy of LLINs and case management augmented with mass trapping of mosquito vectors.

Onderzoeksopzet

Enrollment of study participants to commence in August 2012, baseline measures of malaria, entomological and sociological outcomes to commence August 2012, roll out of intervention to commence early 2013, complete coverage with intervention due by end 2014.

Onderzoeksproduct en/of interventie

Our study is a variation on a crossover study design which is referred to as a "stepped-wedge" design. In this approach we will provide our intervention (mosquito trap) to every household in our study population gradually, over the course of two years. Commencing in early 2013, the first study households will each receive a mosquito trap and traps will be provided to all households at a rate of 60 households per week. Once a household receives the intervention it will remain in place for the duration of the study.

The order in which the intervention will be provided to households is randomised at the level of "household cluster". This means that during the first few weeks of intervention roll-out, the traps will be provided to households which are geographically clustered together in one randomly selected geographical region of the study area (Rusinga Island). When all households in this area have been provided with the intervention, the deployment will move to another randomly selected geographical area. This process will continue gradually so that

at the beginning of the study there are relatively few intervention households and many control households. Half way through the study, half of the households will be part of the intervention group, and the other half will be part of the control group. At completion of the intervention roll-out, every household will be in the intervention group.

The intervention is a mosquito trap which is used to capture mosquitoes that transmit malaria. Inside the trap is a synthetic blend of chemicals which mosquitoes find as attractive as a human. This "odour bait" lures mosquitoes towards the trap. When mosquitoes are close to the trap they are sucked inside it by an electrical fan. Once inside the trap they are unable to escape and they die. By daily trapping of malaria mosquitoes, the mosquito population size will gradually be reduced. As there are fewer and fewer mosquitoes, people will receive fewer bites, and there will be less chance of infection with malaria, thus the incidence of malaria will decline. Our odour-baited mosquito traps will augment the existing strategies of long lasting insecticide treated bed nets and case management using Coartem, as stipulated by the Kenyan national malaria programme.

The electrical fan in the mosquito traps will be powered using solar electricity and so, as well as receiving a mosquito trap, every household will also receive a solar panel. This solar panel will power two lights in the house and a mobile phone charging socket so, in addition to the primary aim of malaria control, the project will also provide improved lighting conditions for houses on Rusinga Island.

Once the intervention is in place at a given household it will remain in place at least until the end of the trial. Arrangements for handing over the traps and solar systems to the local health service or other local Kenyan collaborator, will be set up before the end of the trial.

All households on Rusinga Island, Lake Victoria, will be eligible for inclusion in the study. Every household deciding to take part will receive a trap although the order in which households receive the trap will be randomised, as described above.

Our outcome measure (malaria parasitaemia) will be recorded in a randomly selected 10% of individuals every 4 months, using rapid diagnostic test kits, the results of which will be validated using PCR. We will be able to determine whether the prevalence of malaria infection is lower in residents of households with the intervention (mosquito trap), compared with residents of households without the intervention, at given points in time. It is expected that an overall decline in malaria incidence will be observed over the course of the project.

Contactpersonen

Publiek

Wageningen University and Research Centre
P.O. Box 8031
Willem Takken
Wageningen 6700 EH
The Netherlands
+31 (0)317 484652

Wetenschappelijk

Wageningen University and Research Centre
P.O. Box 8031
Willem Takken
Wageningen 6700 EH
The Netherlands
+31 (0)317 484652

Deelname eisen

Belangrijkste voorwaarden om deel te mogen nemen (Inclusiecriteria)

Every resident of Rusinga Island, Mbita District, Nyanza Province, Western Kenya, will be eligible for inclusion in the study.

Belangrijkste redenen om niet deel te kunnen nemen (Exclusiecriteria)

N/A

Onderzoeksopzet

Opzet

Type:	Interventie onderzoek
Onderzoeksmodel:	Cross-over
Toewijzing:	Gerandomiseerd
Blindering:	Open / niet geblindeerd
Controle:	N.v.t. / onbekend

Deelname

Nederland

Status:	Werving nog niet gestart
(Verwachte) startdatum:	01-01-2012
Aantal proefpersonen:	30000
Type:	Verwachte startdatum

Ethische beoordeling

Positief advies

Datum:	20-06-2012
Soort:	Eerste indiening

Registraties

Opgevolgd door onderstaande (mogelijk meer actuele) registratie

Geen registraties gevonden.

Andere (mogelijk minder actuele) registraties in dit register

Geen registraties gevonden.

In overige registers

Register	ID
NTR-new	NL3348

Register	ID
NTR-old	NTR3496
Ander register	Kenyan Medical Research Institute (KEMRI) : Non-SSC protocol No. 350
ISRCTN	ISRCTN wordt niet meer aangevraagd.

Resultaten

Samenvatting resultaten
N/A