# The effects of an online educational video game and a leaflet on the knowledge, perception and behavior regarding ticks and Lyme disease among school children in the Netherlands

Submission date 17/10/2016	<b>Recruitment status</b> No longer recruiting	<ul><li>☐ Prospectively registered</li><li>☐ Protocol</li></ul>
Registration date 21/10/2016	Overall study status Completed	<ul><li>Statistical analysis plan</li><li>[X] Results</li></ul>
<b>Last Edited</b> 27/11/2020	Condition category Infections and Infestations	[] Individual participant data

### Plain English summary of protocol

Background and study aims

Lyme disease or Lyme borreliosis (LB) is the most common disease spread by ticks both in the United States and Europe. Lyme disease is caused by a type of bacteria called Borrelia burgdorferi and is passed onto humans through the bite of infected ticks. Typical symptoms include fever, headache, fatigue (extreme tiredness), and a characteristic skin rash called erythema migrans. If left untreated, infection can spread to joints, the heart, and the nervous system. Children in particular, are at high risk of being bitten by a tick and catching LB. Currently, there is a lack of educational tools about ticks, tick bites and LB. The aim of this study is to compare the effectiveness of an online educational video game and a newly developed leaflet aimed to improve prevention of tick bites and LB among Dutch schoolchildren.

### Who can participate?

Children aged between 9 and 13 who are in the final two years of a participating primary school.

#### What does the study involve?

Participants are randomly allocated to one of three groups. Those in the first group play the computer game on their personal computer. The game involves driving around their own neighbourhood and facing five risky situations where they could be bitten by a tick. The player has to avoid being bitten and give warnings to encourage others to check for ticks. The faster the warming is given, the more points the player receives. Those in the second group are given an information leaflet containing information about ticks and Lyme disease. Those in the third group do not receive any information about ticks or Lyme disease. At the start of the study and then again 4-5 months later, participants in all groups complete a number of questionnaires in order to measure their knowledge and preventative behaviour regarding tick bites and Lyme disease.

What are the possible benefits and risks of participating? Participants benefit from learning about ticks and Lyme disease, which could help them to prevent being bitten. There are no risks associated with this study.

Where is the study run from? 25 primary schools in the Netherlands.

When is the study starting and how long is it expected to run for? June 2012 to July 2012

Who is funding the study? Netherlands National Institute for Public Health and the Environment (Netherlands)

Who is the main contact? Mrs Desirée Beaujean

### Contact information

### Type(s)

Scientific

#### Contact name

Mrs Desiree Beaujean

#### Contact details

National Institute for Health and Environment (Rijksinstituut voor Volksgezondheid en Milieu) Antonie van Leeuwenhoek Lane 9 Bilthoven Netherlands 3721

### Additional identifiers

#### Protocol serial number

Game2012

### Study information

#### Scientific Title

Education on tick bite and Lyme disease prevention, aimed at schoolchildren in the Netherlands: comparing the effects of an online video game versus a leaflet and a control group

### Study objectives

The aim of this study is to compare the effectiveness of an online educational video game versus a newly developed leaflet aimed to improve prevention of tick bites and Lyme disease among Dutch schoolchildren.

### Ethics approval required

Old ethics approval format

### Ethics approval(s)

This general survey among a sample of healthy children from the general population did not require formal medical ethical approval according to Dutch law (www.ccmo.nl/en).

### Study design

Three-arm cluster randomised controlled trial

### Primary study design

Interventional

### Study type(s)

Prevention

### Health condition(s) or problem(s) studied

Lvme disease

#### **Interventions**

Children of these 25 schools were randomly assigned per class to one of three groups.

Group 1, game group: Children play the game individually on a personal computer on a single occasion. The scenario of the online educational video game www.teekcontrol.nl is that the player drives around in one's own neighborhood (selected by entering their postal code) and is then faced with different fictive risky situations for tick bites. An example of such a risky situation is children playing in nature and picking flowers in the bushes. The player has to chase tick bite cases across a map as quickly as possible, and while doing so emit warnings that encourage people to check for ticks. The faster the warning is emitted, the more points they earn. It is possible to play the video game individually, or in a league to become the best tick controller in town. At the end of the game, the children obtain their total score. Group 2, leaflet group: Children are given a leaflet to read, which includes information about

ticks and Lyme disease.

Group 3, control group: Children receive no information.

At baseline and after the intervention (4-5 months) participants in all groups complete questionnaires to assess their knowledge and preventative behaviour regarding tick bites and Lyme disease.

### Intervention Type

Behavioural

### Primary outcome(s)

Knowledge of tick bites and Lyme disease is measured using a questionnaire designed for the purpose of this study at baseline and 4-5 months later.

### Key secondary outcome(s))

Perception and preventive behavior regarding tick bites and Lyme disease is measured using a questionnaire designed for the purpose of this study at baseline and 4-5 months later.

### Completion date

31/07/2012

### **Eligibility**

### Key inclusion criteria

- 1. Children aged 9-13 years
- 2. Attending the two final years of primary school at a participating primary school

### Participant type(s)

Healthy volunteer

### Healthy volunteers allowed

No

### Age group

Child

### Lower age limit

9 years

### Upper age limit

13 years

#### Sex

All

### Total final enrolment

887

### Key exclusion criteria

No exclusion criteria

#### Date of first enrolment

01/06/2012

#### Date of final enrolment

31/07/2012

### **Locations**

### Countries of recruitment

Netherlands

### Study participating centre Paus Johannes School

Galileïlaan 9 Spijkenisse Netherlands 3204 AN

### Study participating centre Basisschool Nieuwe Regentesse

Kruisdwarsstraat 6 Utrecht Netherlands 3581

# Study participating centre St. Antoniusschool

Opperstraat 32 Liedekerke Netherlands 1770

### Study participating centre Kohnstammschool

Marislaan 1 Utrecht Netherlands 3582

# Study participating centre Alfonsusschool

Pastoor Geertmanstraat 10 Enschede Netherlands 7535

### Study participating centre De Sprankel

Essink Lane 1 Grave Netherlands 5361 JT

# Study participating centre CBS Hoog Moersbergen

Tromplaan 1 Doorn Netherlands 3941 VR

### Study participating centre De Wingerd

Marnixstraat 1 Hengelo Netherlands 7553

### Study participating centre De Schothorst

Klaas de Rookstraat 53 Hengelo Netherlands 7558 DJ

# Study participating centre School met de Bijbel

Vijverhofstraat 2 Venlo Netherlands 5913 TV

### Study participating centre De Dagobert

Predikbroedersweg 1 Tiel Netherlands 4003 AL

### Study participating centre r.k. Josefschool

Sint Janskerkstraat 10-12 Culemborg Netherlands 4101

### Study participating centre

### OBS de Brink

Mijehof 302 Amsterdam-Zuidoost Netherlands 1106

### Study participating centre Willem-Alexanderschool

Orion 15-17 Amstelveen Netherlands 1188

### Study participating centre Basisschool St Theresia

Postweg 131 Barger-Compascuum Netherlands 7884

### Study participating centre RKPC basisschool De Toekomst

Ageommeleane 14 Bakhuizen Netherlands 8574 TN

# Study participating centre a.b.b.s. Us Nije Gea

Buorren 8 8185 KE Netherlands Elahuizen

### Study participating centre Basisschool Nieuwe Regentesse

Kruisdwarsstraat 6 Utrecht Netherlands 3581 GL

### Study participating centre St. Antoniusschool

Oud-Oosteinde 2 Axel Netherlands 4571 DE

### Study participating centre Louise de Colignyschool

Alexander Gogelweg 65 Vlissingen Netherlands 4384 EV

### Study participating centre De Branding

Bouwen Ewoutstraat 51 Vlissingen Netherlands 4381 PP

# Study participating centre R -K basisschool de Vlieger

Eikvaren 41 Deventer Netherlands 7422 NR

### Study participating centre De Sprankel

Oude Wetering 80 Zwolle Netherlands 8044 PA

# Study participating centre CBS De Fontein

Asterstraat 1 Westerhaar

# Study participating centre De Wierde

Suze Robertsonlaan 2 Almelo Netherlands 7606 HZ

### Sponsor information

### Organisation

National Institute for Public Health and the Environment (Rijksinstituut voor Volksgezondheid en Milieu)

#### **ROR**

https://ror.org/01cesdt21

### Funder(s)

### Funder type

Government

#### **Funder Name**

Netherlands National Institute for Public Health and the Environment (Rijksinstituut voor Volksgezondheid en Milieu)

### Alternative Name(s)

Netherlands National Institute for Public Health and the Environment, RIVM

### **Funding Body Type**

Government organisation

### **Funding Body Subtype**

National government

#### Location

Netherlands

### **Results and Publications**

### Individual participant data (IPD) sharing plan

The current data sharing plans for the current study are unknown and will be made available at a later date

### IPD sharing plan summary

Data sharing statement to be made available at a later date

### **Study outputs**

Output ty	pe	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results ar	<u>ticle</u>	results	16/11/2016	27/11/2020	Yes	No
Participan	t information sheet	Participant information sheet	11/11/2025	11/11/2025	No	Yes