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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

Recruitment status
No longer recruiting

Registration date
21/10/2016

Overall study status
Completed

Last Edited
27/11/2020

Condition category
Infections and Infestations

[_] Prospectively registered
[_] Protocol
[_] Statistical analysis plan
[X] Results
[_] 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

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Netherlands
3721

Additional identifiers

EudraCT/CTIS number

IRAS number

ClinicalTrials.gov number

Secondary identifying numbers
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

Secondary study design
Cluster randomised trial

Study setting(s)
School

Study type(s)
Prevention

Participant information sheet
No participant information sheet available

Health condition(s) or problem(s) studied
Lyme 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 measure
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.

Secondary outcome measures
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.

Overall study start date
01/06/2012

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

Age group
Child

Lower age limit
9 Years

Upper age limit
13 Years

Sex
Both

Target number of participants
200 children per arm (game, leaflet and control).

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

Netherlands Antilles

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
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Kruisdwarsstraat 6
Utrecht
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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
Netherlands
7676 BW

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)

Sponsor details
Antonie van Leeuwenhoek Lane 9
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Netherlands
3721

Sponsor type
Government

Website
www.rivm.nl

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

Publication and dissemination plan
Planned publication of this study in BMC Public Health in 2016.

Intention to publish date
31/12/2016

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 type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article	results	16/11/2016	27/11/2020	Yes	No