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Study of COVID-19 transmission in Belgian French-speaking primary schools of the Federation Wallonia – Brussels in Belgium

Submission date
06/04/2022

Recruitment status
No longer recruiting

Registration date
20/04/2022

Overall study status
Completed

Last Edited
27/01/2025

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
In order to limit the transmission of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and the spread of coronavirus disease (COVID-19), many countries closed their schools as a preventive measure. However, there was a lack of evidence regarding the role of children in the transmission of the virus. It has been shown that the pandemic and school closures can have a significant impact on the well-being of children. In Belgium, this study invited 2488 children and 444 school attenders of 11 primary schools of the Federation Wallonia Brussels. Every participant performed a serological antibody test (finger prick) only at the inclusion date, saliva testing (PCR), and answered questionnaires for 6 weeks. This study aimed to describe the transmission dynamics of SARS-CoV-2 in the primary schools of Belgium. The results of the study should contribute to improved decision making regarding measures for schools and children in the context of current and future pandemics.

Who can participate?
Children from 6 to 12 years of age and school attenders from selected primary schools of the Federation Wallonia Brussels in Belgium

What does the study involve?
All participants (children and adults school attenders) were tested on the inclusion day with a saliva test and a rapid finger-prick blood test to measure SARS-CoV-2 antibodies. All participants were invited to fill out a questionnaire in a paperback format. Over six consecutive weeks, all participants were tested once a week with a saliva test and were invited to complete a follow-up questionnaire to assess any symptoms compatible with a SARS-CoV-2 infection or a contact with a confirmed SARS-CoV-2 case or a travelling return from a risk area.

What are the possible benefits and risks of participating?
There was no immediate direct benefit to participants. There will be benefits on future decision making regarding COVID-19 and future pandemics. The extremely rare risk was a mild finger bruise for testing.

Where is the study run from?
Université Catholique de Louvain (UCLouvain) (Belgium)

When is the study starting and how long is it expected to run for?
September 2020 to May 2025

Who is funding the study?
Federation Wallonia Brussels (Belgium)

Who is the main contact?
Prof. Annie Robert
annie.robert@uclouvain.be

Contact information

Type(s)
Principal investigator

Contact name
Mrs Annie Robert

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Additional identifiers

Clinical Trials Information System (CTIS)
Nil known

ClinicalTrials.gov (NCT)
NCT05046470

Protocol serial number
2020/16NOV/552

Study information

Scientific Title
SARS-CoV-2 transmission in Belgian primary schools of the Federation Wallonia - Brussels: an epidemiological pilot study (DYNAtracs)

Acronym
DYNAtracs

Study objectives

The investigators hypothesize that children are less likely to become infected in the school environment, compared to the household or outside the school setting. Primary schools do not play a major role in SARS-CoV-2 spreading. They hypothesize that the incidence level in schools is mainly a consequence of community transmission ie. the incidence level in households and that the secondary attack rate in schools remains at least five times lower than the transmission level in households.

Ethics approval required
Old ethics approval format

Ethics approval(s)
Approved 20/11/2020, Hospital-Faculty Ethics Committee Saint-Luc - UCLouvain (Promenade de l' Alma 51 bte B1.43.03, 1200 Brussels, Belgium; +32(0) 2 764 55 14; commission.ethique-saintluc@uclouvain.be), ref: 2020/16NOV/552

Study design
Prospective non-interventional observational longitudinal study

Primary study design
Observational

Study type(s)
Screening

Health condition(s) or problem(s) studied
COVID-19 (SARS-CoV-2 infection)

Interventions
Sampling procedure
Each participating primary school will be considered as a cluster. Eight schools will be chosen by purposive sampling on three criteria: either high or low size of the school, a school within an area with either a high or a low incidence of SARS-CoV-2 on 06/05/2020, the first wave of COVID-19 in Belgium, and a school with either a high or a low socioeconomic level (Belgian 20-point-scale ISE index superior to thirteen or inferior to seven). As direct partners in the project, the ONE ("Office de la naissance et de l'enfance") and the PSE teams ("Promotion de la Santé à l'Ecole") will give a list of schools corresponding to these three criteria.

All participants (children and adults school attenders) will be tested on the inclusion day with a salivary SARS-CoV2 test and a rapid serological test by finger prick (AVIOQ®) to determine the seroprevalence of SARS-CoV-2. All participants will be invited to fill out a questionnaire in a paperback format. During six consecutive weeks, all participants will be tested once a week with a salivary test and will be invited to complete a follow-up questionnaire to assess any symptom compatible with a SARS-CoV-2 infection or a contact with a confirmed SARS-CoV-2 case or a travelling from a risk area.

Intervention Type
Other

Primary outcome(s)
SARS-CoV-2 transmission measured by polymerase chain reaction (PCR) 6 times over 6 weeks

Key secondary outcome(s))
1. Seroprevalence measured using a lateral flow test (AVIOQ) by finger prick on the day of inclusion
2. Potential exposition of SARS-CoV-2 measured using questionnaires over 6 weeks

Completion date
31/05/2025

Eligibility

Key inclusion criteria
All children between the ages of 6 and 12 years and all school attenders from selected primary schools were invited to participate

Participant type(s)
Other

Healthy volunteers allowed
No

Age group
Mixed

Lower age limit
6 years

Upper age limit
12 years

Sex
All

Total final enrolment
1233

Key exclusion criteria
Refusal to provide written informed consent before enrolment

Date of first enrolment
14/01/2021

Date of final enrolment
18/05/2021

Locations

Countries of recruitment
Belgium

Study participating centre
UCLouvain
Clos Chapelle-aux-champs, 30 bte B1.30.13
Brussels
Belgium
1200

Sponsor information

Organisation
Université Catholique de Louvain

ROR
https://ror.org/02495e989

Funder(s)

Funder type
Government

Funder Name
Fédération Wallonie-Bruxelles

Alternative Name(s)
French Community of Belgium, Federation Wallonia-Brussels, Communauté Française de Belgique

Funding Body Type
Government organisation

Funding Body Subtype
Local government

Location
Belgium

Results and Publications

Individual participant data (IPD) sharing plan
Consent was obtained from each participant. The data is kept for 20 years. All data was coded with a unique number containing no personally identifiable information. A sequential

identification number was automatically allocated to each participant enrolled in the study. This number identified the participant and is composed of 12 digits: a two-digit number allocated to the school he/she is attending; a two-digit number allocated to the class, with a first digit for the grade, or 9 for adults and a second digit numbering classes within each grade; a two-digit serial number within the class he/she is in; a two-digit control number (such as modulo 89 of the 8 first digits); a two-digit number corresponding to the calendar week of data collection. Data will be shared after approval by the ethics committee. They are available upon request to Annie Robert (annie.robert@uclouvain.be).

IPD sharing plan summary

Available on request

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article		06/10/2022	17/10/2022	Yes	No
Results article		30/06/2023	03/11/2023	Yes	No
Results article		04/09/2023	03/11/2023	Yes	No
Participant information sheet	Children		12/04/2022	No	Yes
Participant information sheet	Parents		12/04/2022	No	Yes
Participant information sheet	School attenders		12/04/2022	No	Yes
Participant information sheet	Participant information sheet	11/11/2025	11/11/2025	No	Yes
Study website	Study website	11/11/2025	11/11/2025	No	Yes