

An in-classroom physical activity breaks program to improve academic achievement, movement behaviors and health outcomes in grade five students in Sri Lanka

Submission date 11/07/2022	Recruitment status No longer recruiting	<input type="checkbox"/> Prospectively registered <input checked="" type="checkbox"/> Protocol
Registration date 20/07/2022	Overall study status Completed	<input type="checkbox"/> Statistical analysis plan <input type="checkbox"/> Results
Last Edited 11/08/2025	Condition category Other	<input type="checkbox"/> Individual participant data <input checked="" type="checkbox"/> Record updated in last year

Plain English summary of protocol

Background and study aims

Recent evidence has indicated that physical inactivity is affecting academic achievement and health outcomes among primary school children. To mitigate the impacts of physical inactivity, classrooms were identified as the most suitable settings to keep elementary-level students physically active, while contributing to the development of their academic achievement and health enhancement. However, recent review studies indicated that there is a research niche on how the classroom can be utilised as a setting to promote healthy behaviors such as engaging in physical activities while improving multiple outcomes of primary school children. Hence, this study aimed to introduce in-classroom physical activity breaks (IcPAB) for elementary-level students, as a means to promote academic achievement, movement behaviors and health outcomes.

Who can participate?

Grade Five students at the government schools in Badulla District, Sri Lanka

What does the study involve?

Schools in Badulla District will be contacted to collect data. A range of models for the analysis of grouped data and behavioral modelling will be utilised to analyse data to bring significant recommendations for future health promotion among children in education institutes in Sri Lanka.

The specific objectives are to evaluate the effects of IcPAB on Grade Five students:

1. Mathematics and reading performance
2. Physical activity levels and sedentary behavior
3. Body mass index, aerobic fitness and perceived stress.

What are the possible benefits and risks of participating?

Both the students and teachers at the participating schools will benefit from the experience of a new approach added to the traditional seated teaching and learning. It is assumed that the

students will improve their grades, perform better in the examinations, be more active, physically, and mentally fit.

Should the children or the classroom teachers not want to do the intervention activities, they can opt-out without any reason. Parents, children, and teachers will be reassured that they can withdraw their permission at any time during this project without any penalties. There are no foreseeable added risks identified above the risks of everyday life.

The teachers will be requested to implement physical activity breaks for five minutes (three times per day). Therefore, teachers have to risk their time management. However, the intervention fidelity will be evaluated through personal visits to the intervention schools and logbooks. This will minimize the time management issues and physical activity breaks implementation from the teachers' side. In addition, implementing the activities would not harm the students' physical or emotional health as the teachers have complete autonomy to choose the most appropriate time slot to carry on in-classroom physical activity breaks. Data collection will be conducted by adhering to the Helsinki declaration, national and school level safety protocols, and COVID-19 prevention guidelines.

Where is the study run from?

Hong Kong Baptist University (Hong Kong)

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

March 2022 to December 2022

Who is funding the study?

Hong Kong Baptist University, Hong Kong PhD Fellowship Scheme (Hong Kong)

Who is the main contact?

Ms Hashi Peiris

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Contact information

Type(s)

Principal investigator

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Additional identifiers

Clinical Trials Information System (CTIS)

Nil known

Protocol serial number

Nil known

Study information

Scientific Title

Classroom-based physical activity breaks to improve academic achievement, behavioral health and health outcomes among primary school children in Badulla District Sri Lanka

Study objectives

A classroom-based physical activity breaks program will improve the academic achievement, movement behaviors and health outcomes of grade five school children in the Badulla district, Sri Lanka

Ethics approval required

Old ethics approval format

Ethics approval(s)

Approved 08/07/2022, Ethics Review Committee of University of Kelaniya (University of Kelaniya, Dalugama, 11600, Kelaniya, Sri Lanka; +94112911391; erc@kln.ac.lk), ref: UOK/ERC/SS/2022/009

Study design

Interventional parallel-group randomized single-blind controlled trial

Primary study design

Interventional

Study type(s)

Treatment

Health condition(s) or problem(s) studied

A classroom-based physical activity breaks program

Interventions

This is a two-group parallel randomized controlled trial. Control schools will not receive any treatments. Intervention schools will receive five-minute physical activity breaks at least three times per day by the classroom teachers for 12 weeks. This is a pre-post-test intervention only. There will be no treatment during the follow-up period.

The schools that consent to participate in the study will be randomized by shuffling sealed envelopes with the treatment allocation inside. Shuffling will be done by a resource person from a randomly selected school who will not be involved in the participant recruitment, intervention implementation, and outcome evaluation.

Classroom teachers, children, and parents will sign the written informed consent form before the study commencement.

Intervention Type

Behavioural

Primary outcome(s)

Academic achievement (mathematics and reading) measured using curriculum-related tests designed and approved by teachers at baseline and post-intervention at week 12

Key secondary outcome(s)

1. Movement behaviors (LPA, MPA, MVPA, SED) measured using accelerometers at baseline and post-intervention at week 12
2. Health outcomes (BMI, Aerobic fitness, Perceived stress) measured using height in cm, weight in kg, beep test and a validated perceived stress evaluation questionnaire at baseline and post-intervention at week 12

Completion date

30/12/2022

Eligibility

Key inclusion criteria

1. Grade 5 students (aged 9 to 10 years old regardless of gender) from the Badulla district
2. Informed consent and confirmed ascent
3. Healthy condition
4. No special education needs

Participant type(s)

Learner/student

Healthy volunteers allowed

No

Age group

Child

Lower age limit

9 years

Upper age limit

10 years

Sex

All

Total final enrolment

270

Key exclusion criteria

1. Special education needs
2. Special health conditions
3. No informed consent and assent

Date of first enrolment

18/05/2022

Date of final enrolment

08/06/2022

Locations**Countries of recruitment**

Sri Lanka

Study participating centre

School in Sri Lanka care of the Bandarawela Zonal Education Office

32, Esplanade Road

Bandarawela

Badulla District

Sri Lanka

90100

Sponsor information

Organisation

Hong Kong Baptist University

ROR

<https://ror.org/0145fw131>

Funder(s)

Funder type

University/education

Funder Name

Hong Kong Baptist University (Hong Kong Ph.D. Fellowship Scheme)

Alternative Name(s)

, , HKBU, BaptistU

Funding Body Type

Government organisation

Funding Body Subtype

Universities (academic only)

Location

Hong Kong

Results and Publications

Individual participant data (IPD) sharing plan

All data including code books will be stored on the office computer's hard drive, which is encrypted and password protected. Any raw data that encloses participant-level information will not be disclosed to the public. Relevant data without disclosing the information of individuals will be shared upon request to Ms Hashi Peiris, hashi_peiris@life.hkbu.edu.hk, or Dr Duan Yanping, duanyp@hkbu.edu.hk, at the time of sending the final report to a peer-reviewed journal, with its DOI corresponding to the data associated with the research.

IPD sharing plan summary

Available on request

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Protocol article		22/04/2024	08/05/2024	Yes	No

Other publications	teachers' opportunity, capability and motivation relating to the implementation of an in-classroom physical activity breaks programme	20/07/2023	11/08/2025	Yes	No
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