

A school-based study to improve healthy eating habits amongst Malaysian teenagers

Submission date 28/08/2018	Recruitment status No longer recruiting	<input type="checkbox"/> Prospectively registered <input checked="" type="checkbox"/> Protocol
Registration date 02/10/2018	Overall study status Completed	<input type="checkbox"/> Statistical analysis plan <input checked="" type="checkbox"/> Results
Last Edited 30/06/2022	Condition category Other	<input type="checkbox"/> Individual participant data

Plain English summary of protocol

Background and study aim

Recent research has shown that Malaysian adolescents are more likely to have an unhealthy food intake. Therefore, it is crucial to promote healthy eating and the regular intake of meals amongst adolescents, especially in Malaysian schools, as this is where breakfast and lunch are often consumed by adolescents. Therefore, the school canteen plays an important role in influencing, creating and instilling awareness of a healthy diet in schoolchildren. Studies have shown that environmental interventions can play an important role in providing healthier food and drinks. To promote a healthy diet amongst Malaysian adolescents, a canteen-based intervention was considered necessary. This study aims to look at the feasibility and effectiveness of an intervention involving training canteen operators to provide healthy food, and promoting healthy eating practices amongst adolescents.

Who can participate?

Malaysian adolescents aged 14 years at recruitment

What does the study involve?

Six schools will be selected to participate, including schools from rural and urban areas in Selangor and Perak states. Schools will be randomly allocated into 3 groups - 2 intervention groups and 1 control group, with 2 schools in each group.

One of the intervention groups will receive canteen operator training to promote provision of healthy options. The other intervention group will also receive this training, in addition to changing food provision, which will involve a subsidy for fruit, vegetables and kuih, and free drinking water.

The control group will not experience any changes to their usual canteen service.

All schools will have their canteen menu audited by trained dietitians.

Students will have their diet history assessed, along with body measurements and focus group discussions. Sales of food and drink will also be estimated using weekly receipts from canteen operators.

What are the possible benefits and risks of participating?

Participants in this study may benefit from increased healthy options available to them and from encouragement of healthy eating. There are no known risks to participants taking part in this study.

Where is the study run from?

University of Malaya (Malaysia)

Who is funding the study?

1. Academy of Science Malaysia (Newton Ungku Omar Fund) (Malaysia)
2. UK Medical Research Council between the University of Malaya and University of Bristol (UK)

Who is the main contact?

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Contact information

Type(s)

Scientific

Contact name

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Additional identifiers

Protocol serial number

NMRR-18-965-41783

Study information

Scientific Title

Dietary patterns and their relation to cardiometabolic health among Malaysian adolescents: a school-based intervention feasibility study

Acronym

MyHeARTBEaT

Study objectives

Adolescents from the intervention arm will engage with possible changes of food choices into healthy options after the intervention to a greater extent than adolescents in the control arm

Ethics approval required

Old ethics approval format

Ethics approval(s)

Medical Research Ethics Committee, University Malaya Medical Centre, 21/03/2018, MREC ID NO: 2018214-6029

Study design

Interventional quasi-experimental study

Primary study design

Interventional

Study type(s)

Prevention

Health condition(s) or problem(s) studied

Dietary intake among Malaysian adolescents

Interventions

The study will be conducted in 6 secondary schools in Malaysia. The sample will include schools from rural and urban areas in Selangor and Perak states, which will be randomised into 2 intervention arms and 1 control arm, with 2 schools in each arm, by an independent statistician using a computer-generated randomisation method. Intervention 1 will focus on training and change of food provision, whilst intervention 2 will focus on training only. The control group will not receive any intervention and will continue the usual service operation. All schools will have their canteen menu audited by trained dietitians. Study outcome measures will be assessed at the organisational level, and include 3-day diet history assessments, anthropometric measurements and focus group discussion among students conducted at baseline and post-intervention (4 weeks after intervention). Sales of food and drink items will be crudely estimated using weekly receipts from the canteen operators.

Intervention 1: Training & enabling healthy food environment

1. Training: Canteen operators will be trained to provide healthy foods and consider alternative methods for cooking by using a training manual which will be developed based on the Malaysian healthy canteen guidelines.
2. Subsidy for fruits, vegetables and low-energy dense (low ED) kuih (traditional cakes). The canteen operators will receive a weekly allowance (the amount can be revised when necessary) for the subsidy of fruit, veg and low ED kuih.
3. Providing free drinking water by installing a proper water container/tank to dispense drinking water. It can be assessed through diet history and focus group discussion with students.
4. All students (Form 2 students) will receive Ringgit Malaysia (RM) valued coupons to pay for fruits (given for 2 days per week over 4 weeks) and low ED kuih (given for 2 days per week over 4 weeks).

A trained dietitian will deliver the training in these two schools and the canteens will be examined each week to assess the foods provided.

Intervention 1 will entail the adjustments to the choice of healthier food options by students which will be mainly led by the research team with the cooperation of food vendor operators. The issue of unhealthy dietary habits and practices will be addressed by encouraging and training the operators on healthy cooking methods, such as steaming and grilling.

Intervention 2: Training

Intervention 2 involves training only. Canteen operators will be trained to provide healthy foods and consider alternative methods for cooking by using a training manual which will be developed based on the Malaysian healthy canteen guidelines.

Control: Control group will receive usual practices of food service delivery by the canteen operators

The control group will receive usual practice of food service delivery by the canteen operators - there will be no changes to their food choices or delivery of service.

This study will mainly focus on altering the availability of foods/drinks in the school canteen. This 4-week intervention will be divided intervention and control group which involved 6 schools (3 from rural and 3 from urban).

Intervention Type

Behavioural

Primary outcome(s)

The following will be assessed using the checklist for healthy school canteens and sales receipts from the canteen by an external evaluator at the baseline, weekly during the intervention and at the end of the intervention:

1. Feasibility of providing healthier food options at the school canteen with cooperation of the food vendors
2. Possible changes of food choices into healthy options among adolescents before and after intervention

Key secondary outcome(s)

1. Dietary intake (3-days diet history), assessed using a focus group with students who participate in the intervention at the baseline and at the end of the intervention:
2. Anthropometric measurements related to the health outcome, assessed at the baseline and at the end of the intervention:
 - 2.1. Height (without socks and shoes), recorded to the nearest mm using a calibrated vertical audiometer
 - 2.2. Weight (measured with light clothing), recorded to the nearest 0.1 kg using a digital electronic weighing scale
 - 2.3. Waist circumference, recorded to the nearest mm using a non-elastic Seca measuring tape
 - 2.4. Percentage body fat, measured using a portable body composition analyser

Completion date

15/05/2019

Eligibility

Key inclusion criteria

1. Malaysian adolescent
2. Aged 14 years

Participant type(s)

Healthy volunteer

Healthy volunteers allowed

No

Age group

Other

Sex

All

Total final enrolment

441

Key exclusion criteria

1. Boarding schools
2. Religious schools
3. Vernacular schools

Date of first enrolment

28/08/2018

Date of final enrolment

15/04/2019

Locations**Countries of recruitment**

Malaysia

Study participating centre

Department of Social and Preventive Medicine

Faculty of Medicine,

University of Malaya

Kuala Lumpur

Malaysia

50603

Sponsor information**Organisation**

University of Malaya

ROR

<https://ror.org/00rzspn62>

Organisation

University of Bristol

Funder(s)

Funder type

University/education

Funder Name

Academy of Science Malaysia (Newton Ungku Omar Fund)

Funder Name

UK Medical Research Council between the University of Malaya and University of Bristol

Results and Publications

Individual participant data (IPD) sharing plan

The 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	qualitative study results	01/06/2021	08/06/2021	Yes	No
Results article	qualitative results	01/09/2021	02/09/2021	Yes	No
Results article		30/06/2022	30/06/2022	Yes	No
Protocol article		22/09/2020	08/06/2021	Yes	No
Participant information sheet	Participant information sheet	11/11/2025	11/11/2025	No	Yes