

The School Meal Project in Southern Norway investigated whether a free school meal every day for one year was associated with children's intake of healthy food during school, weight status and learning environment

Submission date 23/11/2018	Recruitment status No longer recruiting	☐ Prospectively registered ☐ Protocol
Registration date 03/12/2018	Overall study status Completed	☐ Statistical analysis plan ☒ Results
Last Edited 18/01/2023	Condition category Nutritional, Metabolic, Endocrine	☐ Individual participant data

Plain English summary of protocol

Background and study aims

There are no organized school meals in Norway and children bring packed lunches from home. Milk prescription programs exist in most schools (parent paid) and fruit prescription programs exist in some schools (also parent paid). Norway has "Guidelines for school meals", but since the parents are responsible for the quality of the food that the children bring for the school meal, socio economic differences in families are highly visible and guidelines exist mostly in theory and not in practice. No vending machines are allowed in schools. The prevalence of overweight (including obesity) among children in Norway is 16%. The area where this study took place had a higher prevalence of childhood overweight and was one of the reasons for starting the study. The prevention of childhood obesity through promoting healthy eating habits at school was therefore a main aim. The study also aimed at promoting a healthy meal pattern, increasing motivation for learning and promoting a healthy weight status.

Who can participate?

All schoolchildren aged 10-12 from two selected schools in southern Norway were invited to participate together with one of their parents.

What does the study involve?

One group is selected to receive a free healthy school meal every day for one full school year (August 2014- June 2015) - a cold meal prepared by a local cook and consisting of wholegrain bread, healthy spread like ham, cheese, liver paste, fish spread etc., milk and fruit/vegetables cut into small pieces. The children in the control group do what they usually do: eat their packed lunch from home. Dietary habits are assessed using questionnaires answered by children and their parents in August 2014, January 2015, and June 2015.

What are the possible benefits and risks of participating?

The possible benefits for the children in the intervention group (getting the free meal) are improved diet, and for society more knowledge about school children's dietary habits and preference and liking for different food items. There is no potential risk to the children participating in the study.

Where is the study run from?

The study is run from the University of Agder in Norway. Birkeland and Froland schools were the locations where the study took place.

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

May 2013 to December 2015

Who is funding the study?

The University of Agder is funding the study. A local cook, Kiwi Birkeland, Bakers Lillesand, Birkeland Medical Center, the Norwegian Womens Public Health Association, and Aust-Agder county council also supported the work in The School Meal Project.

Who is the main contact?

Prof. Frøydis N. Vik

Contact information

Type(s)

Scientific

Contact name

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Study information

Scientific Title

The School Meal Project in Southern Norway investigated whether a free school meal every day for one year was associated with children's intake of healthy food during school, weight status and learning environment

Acronym

School Meal Project

Study objectives

Rationale: The School Meal Project was developed based on the assumption that a healthy free school meal may influence children to eat a meal rich in healthy nutrients and thereby contribute to healthy eating habits – which in turn may contribute to prevention of childhood obesity.

Hypothesis: A free healthy school meal every day for one year improves meal pattern, dietary habits at school, learning environment, motivation for learning and weight status among children 10-12 years old.

Ethics approval required

Old ethics approval format

Ethics approval(s)

Norwegian Centre for Research Data, 25/06/2014, ref: 38980

Primary study design

Interventional

Study design

Multicentre non-randomized intervention study with an intervention and a control group

Study type(s)

Prevention

Health condition(s) or problem(s) studied

Dietary status of schoolchildren and prevalence of childhood obesity

Interventions

A convenience sample was chosen to make the study feasible resulting in a non-randomized design. In total, 164 children from two schools were included, 55 in the intervention group and 109 in the control group.,

Intervention: A cold healthy school meal prepared according to the Norwegian dietary guidelines was served every school day for one full school year (August 2014- June 2015) (wholegrain bread, healthy spread, milk, fruit/vegetables). A local cook administered the serving of the meals.

Control: The children ate packed lunch brought from home as they normally do in Norway.

Intervention Type

Behavioural

Primary outcome(s)

Dietary habits at school, assessed using questionnaires answered by children and their parents in August 2014, January 2015, and June 2015

Key secondary outcome(s)

1. Meal pattern, learning environment, motivation for learning, assessed using questionnaires answered by children and their parents in August 2014, January 2015, and June 2015
2. Weight status: height, weight and waist circumference of children measured in August 2014, January 2015, and June 2015

Completion date

10/12/2015

Eligibility

Key inclusion criteria

1. 10-12 year-old children and their parents
2. Gender: boys and girls
3. All ethnic groups

Participant type(s)

All

Healthy volunteers allowed

No

Age group

Child

Lower age limit

10 Years

Upper age limit

12 Years

Sex

All

Total final enrolment

164

Key exclusion criteria

1. Children without written parental consent
2. Children who did not want to participate since the intervention was voluntary

Date of first enrolment

20/05/2014

Date of final enrolment

20/08/2014

Locations

Countries of recruitment

Norway

Study participating centre

Birkeland Elementary School
Valtjønnveien 41
Birkeland
Norway
4760

Sponsor information

Organisation
University of Agder

ROR
<https://ror.org/03x297z98>

Funder(s)

Funder type
University/education

Funder Name
University of Agder

Funder Name
A local cook in Birkeland County, Trude Karlsen

Funder Name
Kiwi Birkeland and Bakers Lillesand (local food stores providing food for the study)

Funder Name
Birkeland Medical Center

Funder Name
The Norwegian Womens Public Health Association

Funder Name

Aust-Agder county council

Results and Publications

Individual participant data (IPD) sharing plan

The datasets generated during and/or analysed during the current study are/will be available upon request from Prof. Frøydis N. Vik. Type of data: questionnaire data and height/weight /waist circum.data entered in a SPSS file. The data are available on reasonable request to other research colleagues who are interested in this area of research and will be kept on password-secured PC at the University of Agder for 10 years. Consent was obtained from the parents of the children since they were under the age of 16. ID numbers were used to match parent and child questionnaires. No names were visible on any questionnaire. A key with ID numbers and names existed at the start of the project, but is now deleted. Ethical clearance in Norway is very strict, and opt out is not an option for participants under the age of 16. Every child must therefore have a written consent from a parent/legal guardian in order to participate in the study. All the children in the intervention group were offered a free school meal regardless of whether they had a parental consent to fill in the questionnaire and be measured (H/W/WC) or not.

IPD sharing plan summary

Available on request

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article	results	01/07/2017		Yes	No
Results article	results	05/07/2019	08/07/2019	Yes	No
Results article	results	07/09/2020	09/09/2020	Yes	No
Results article		16/07/2019	18/01/2023	Yes	No