

# A web-based program to reduce food-related fears and promote healthy dietary habits in toddlers

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<b>Registration date</b> 23/05/2017	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan <input checked="" type="checkbox"/> Results
<b>Last Edited</b> 13/10/2021	<b>Condition category</b> Nutritional, Metabolic, Endocrine	<input type="checkbox"/> Individual participant data

## Plain English summary of protocol

### Background and study aims

A child's first years of life are crucial for cognitive (mental) development and future health. Studies show that a varied diet with a high intake of vegetables is positive for weight development, mental health and cognitive development. A low intake of vegetables is considered one of the greatest challenges in children's diets in Norway. Researchers suggest that one barrier for vegetable intake among children is food neophobia. Food neophobia is defined as a reluctance to taste and eat new foods. Food neophobia increases from the age of 2 years and decreases later in childhood. Interventions that can increase children's intake of vegetables should be introduced early in life to overcome children's neophobia. The aim of this study is to develop and measure the effect of two different interventions for one-year-old children in kindergartens to reduce food neophobia and promote healthy diets.

### Who can participate?

Children born in 2016 attending kindergartens in the counties of Oppland, Telemark, Møre og Romsdal and Sør-Trøndelag in Norway

### What does the study involve?

The participating kindergartens are randomly allocated to one of three groups: two different intervention groups and one control group. The first intervention group are served a warm lunch meal with a variety of vegetables on three days a week during the 3-month study period. The second intervention group are served the same meals and also give lessons and advice on meal and feeding practices. Questionnaires, information videos and recipes are included on a study web page. The control group continue their usual meal practices. To measure the effect of the interventions, parents and kindergarten staff complete questionnaires at the start of the study and after the intervention. Food neophobia, diet, food variety, vegetable liking, cognitive development, parent and kindergarten staff feeding practices, and child weight and height are all recorded. There are follow-up-questionnaires when the children are 36 and 48 months old.

### What are the possible benefits and risks of participating?

The results of this study will provide new knowledge about whether or not education and a

healthy meal intervention targeting children, kindergarten staff and parents will reduce levels of food neophobia in toddlers, improve parental and kindergarten feeding practices, improve children's dietary variety, improve children's cognitive development and reduce childhood obesity. Kindergartens in the intervention groups will increase their knowledge and competence when it comes to food and meal serving. There are no risks of participating in this study.

Where is the study run from?  
University of Agder (Norway)

When is the study starting and how long is it expected to run for?  
August 2016 to August 2021

Who is funding the study?  
1. Norske Kvinners Sanitetsforening (Norway)  
2. University of Agder (Norway)

Who is the main contact?  
Prof. Nina Øverby  
nina.c.overby@uia.no

## Contact information

**Type(s)**  
Scientific

**Contact name**  
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## Additional identifiers

**EudraCT/CTIS number**

**IRAS number**

**ClinicalTrials.gov number**

**Secondary identifying numbers**  
N/A

## Study information

## **Scientific Title**

A cluster randomized web-based intervention trial among one-year-old-children in kindergarten to reduce food neophobia and promote healthy diets

## **Study objectives**

A web-based intervention that gives specific pedagogical tools and instructions to serve warm meals with a variety of vegetables aimed at one-year-old children, kindergarten personnel and parents will:

1. Reduce the children's level of food neophobia
2. Increase the children's vegetable intake
3. Improve the children's cognitive development
4. Prevent future obesity

There are two different intervention groups, and the trialists hypothesize that the group with both pedagogical tools and instructions to serve warm meals will be more effective regarding the hypotheses than the intervention group with only instructions are to serve warm meals with different vegetables.

## **Ethics approval required**

Old ethics approval format

## **Ethics approval(s)**

Norwegian centre for research data (NSD), 21/10/2016, ref: 49951

## **Study design**

Single-center interventional cluster randomised trial

## **Primary study design**

Interventional

## **Secondary study design**

Cluster randomised trial

## **Study setting(s)**

School

## **Study type(s)**

Prevention

## **Participant information sheet**

Participant information will be distributed by email and on the study webpage that will be password protected. Please use contact details to request the participant information sheets. The participant information sheets are only available in Norwegian.

## **Health condition(s) or problem(s) studied**

Dietary habits, food neophobia, cognitive development, child obesity and parental and kindergarten personal feeding practices

## **Interventions**

The kindergartens will be randomly, consecutively allocated to either one of the intervention groups or control group based on a computer-generated list:

1. Intervention group 1 will be asked to serve a warm lunch meal with a variety of vegetables three days a week during the intervention period which will last for 3 months
2. Intervention group 2 will be asked to use given pedagogical tools including sensory lessons (the Sapere method) and advice on meal practice and feeding styles, in addition to serving the same meals as intervention group 1
3. The third group will be the control group and continue their usual practices

All the information given to the intervention groups, i.e. information videos, recipes and other necessary information, will be found in a study web page.

To evaluate effect of the interventions on the given outcomes, parents and kindergarten personnel will fill in questionnaires at baseline and post intervention. Questionnaires will be distributed by e-mail. There will be follow-up-questionnaires when the children are 36 and 48 months old.

## **Intervention Type**

Behavioural

## **Primary outcome measure**

1. Child vegetable intake, assessed at baseline, after the intervention, and at the ages 36 and 48 months
2. Children's level of food neophobia, assessed at baseline, after the intervention, and at the ages of 36 and 48 months
3. Child dietary habits and food variety, assessed at baseline, after the intervention, and at the ages of 36 and 48 months

All primary outcomes are measured using detailed questionnaires developed for this specific study.

## **Secondary outcome measures**

1. Child cognitive development, assessed with the questionnaire Ages and Stages at baseline, after the intervention, and at the ages of 36 and 48 months
2. Weight and height, assessed by self-report at baseline and at the ages of 36 and 48 months
3. Parental and kindergarten staff feeding practices and role modeling, assessed with the Comprehensive Feeding Practices Questionnaire at baseline, after the intervention, and at the ages of 36 and 48 months

## **Overall study start date**

01/08/2016

## **Completion date**

01/08/2021

# **Eligibility**

## **Key inclusion criteria**

Current inclusion criteria as of 24/01/2020:

Children born in the year of 2016 attending kindergartens in the counties of Oppland, Telemark, Møre og Romsdal and Sør-Trøndelag in Norway

Previous inclusion criteria:

Children born in the year of 2016 attending kindergartens in the counties of Oppland and Telemark in Norway

**Participant type(s)**

Mixed

**Age group**

Child

**Sex**

Both

**Target number of participants**

210 children

**Total final enrolment**

267

**Key exclusion criteria**

Children whose parents do not understand written Norwegian language

**Date of first enrolment**

15/08/2017

**Date of final enrolment**

01/11/2017

## **Locations**

**Countries of recruitment**

Norway

**Study participating centre**

University of Agder

PO Box 422

Kristiansand

Norway

4604

## **Sponsor information**

**Organisation**

University of Agder

**Sponsor details**

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**Sponsor type**

University/education

**Website**

www.uia.no

**ROR**

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

**Funder(s)****Funder type**

Charity

**Funder Name**

Norske Kvinners Sanitetsforening

**Alternative Name(s)**

Norwegian Women's Public Health Association, NKS

**Funding Body Type**

Private sector organisation

**Funding Body Subtype**

Associations and societies (private and public)

**Location**

Norway

**Funder Name**

University of Agder

**Results and Publications**

Publication and dissemination plan

1. Autumn 2017/winter 2018: study protocol
2. Autumn 2018, winter 2019 and spring 2019:
  - 2.1. Effect of two different dietary interventions on child food neophobia, vegetable intake and food variety
  - 2.2. Effect of two different dietary interventions on child cognitive development
  - 2.3. Effect of two different dietary interventions on parental and child care personnel feeding practices
3. Autumn 2019: Evaluation and perceived cost -effectiveness of two healthy diet intervention to increase one-year-olds intake of vegetables and food variety and reduction in food neophobia. A qualitative study

## Intention to publish date

01/09/2021

## 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. Nina Øverby (nina.c.overby@uia.no).

## IPD sharing plan summary

Available on request

## Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">Protocol article</a>	protocol	14/07/2018	10/05/2019	Yes	No
<a href="#">Other publications</a>	baseline data on association between diet and neurodevelopmental score	21/07/2019	24/01/2020	Yes	No
<a href="#">Other publications</a>	data on breastfeeding and food neophobia	14/02/2020	19/03/2020	Yes	No
<a href="#">Other publications</a>	teachers' experiences	30/06/2021	05/07/2021	Yes	No
<a href="#">Results article</a>	results	08/10/2021	13/10/2021	Yes	No