

# Healthy Kitchens, Healthy Children: the impact of linking community kitchens to a school food program on children's diet diversity, nutritional status and school performance

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<b>Registration date</b> 22/10/2018	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan <input checked="" type="checkbox"/> Results
<b>Last Edited</b> 25/04/2022	<b>Condition category</b> Other	<input type="checkbox"/> Individual participant data

## Plain English summary of protocol

### Background and study aims

Palestinian refugee children in Lebanon attend schools run by the UN Relief Works Agency for Palestine Refugees (UNRWA). Most schools have a small private food seller selling packaged foods inside the school, with products generally high in fat, sugar and salt. The aim of this study was to investigate the effect of the offering of a subsidised healthy daily school meal at these schools on diet diversity, nutritional status, school attendance and school performance of children.

### Who can participate?

Children aged 6 years or older, attending one of four selected elementary schools in two Palestinian camps in Beirut. Children were asked to declare any food allergies they may have in advance of participation.

### What does the study involve?

Children attending two intervention schools were offered the option of purchasing a subsidised healthy school meal on a daily basis, in addition to receiving nutrition and health education sessions. Children attending two control schools were offered nutrition and health education sessions only.

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

Possible benefits of participating include a potentially improved school meal, and therefore nutrition for children. There are no known risks to participants taking part in this study. Risks of food-borne illness were mitigated by ensuring rigorous food safety standards for the program. Risks of allergies were mitigated by ensuring that children declared allergies in advance.

### Where is the study run from?

The study is run from the Center for Research on Population and Health at the American University of Beirut and four schools in two Palestinian camps in Lebanon will participate

When is the study starting and how long is it expected to run for?  
September 2013 to December 2017

Who is funding the study?  
The Nestle Foundation for the Study of Problems of Nutrition in the World (Switzerland)

Who is the main contact?  
Dr Hala Ghattas  
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## Contact information

**Type(s)**  
Scientific

**Contact name**  
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## Additional identifiers

**Protocol serial number**  
A 102829 -P 22047

## Study information

**Scientific Title**  
Healthy Kitchens, Healthy Children: a community-based intervention linking community kitchens to a school food program - the Healthy Children component

**Acronym**  
Healthy Kitchens, Healthy Children- Children's study (HKHC-C)

**Study objectives**  
This study aimed to investigate the effect of a two-pronged intervention that employed women through social enterprises (Healthy Kitchens) to deliver a subsidised healthy daily school meal to elementary schoolchildren in Palestinian camps (Healthy Children).

We hypothesised that children participating in the Healthy children component of the intervention would have improved dietary diversity, nutritional status, school absenteeism and educational achievements.

## **Ethics approval required**

Old ethics approval format

## **Ethics approval(s)**

1. American University of Beirut Social and Behavioral Sciences Institutional Review Board (AUB SBS IRB), 20/12/2013, ref: FHS.HG.01 / FHS.HG.02
2. University of Maryland Institutional Review Board (UMD IRB), 02/12/2013, ref: 535188-1

## **Study design**

Interventional non-randomised study

## **Primary study design**

Interventional

## **Study type(s)**

Other

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

Children's diet diversity and nutritional status

## **Interventions**

This study, Healthy Children, is a component of a wider study called Healthy Kitchens, Healthy Children.

The Healthy Schools component is an 8 month, non-randomised school-based intervention, where 2 schools are allocated to receive the intervention and 2 neighbouring schools are allocated to the control group. Intervention schools received a series of 4 interactive health and nutrition classes, and a daily health subsidised snack, made by the women in the Healthy Kitchens component (covering 15% of children's energy requirements and over 30% of iron, folate and Vitamin A requirements), which children purchased at a cost of 0.25 USD/day. Children in the control group received the 4 interactive health and nutrition classes only.

## **Intervention Type**

Other

## **Primary outcome(s)**

Schoolchildren's diet diversity assessed using the Diet Diversity Score (DDS) at the baseline and after 8 months

## **Key secondary outcome(s)**

The following are assessed at the baseline and after 8 months:

1. Nutritional status, assessed by measuring height and weight and recording age and calculating indices such as height-for-age Z-score and BMI-for-age Z-score
2. Haemoglobin, assessed using a Hemocue
3. School absence, assessed by the number of school days missed between the baseline and the end of the study
4. Educational outcomes, including final language and maths grades

## **Completion date**

01/12/2017

# Eligibility

## Key inclusion criteria

1. Child aged over 6 years
2. Registered student in one of four specified UNRWA schools

## Participant type(s)

Other

## Healthy volunteers allowed

No

## Age group

Child

## Lower age limit

6 years

## Sex

All

## Total final enrolment

1362

## Key exclusion criteria

None - children were asked to declare any food allergies they might have

## Date of first enrolment

04/06/2014

## Date of final enrolment

31/05/2016

# Locations

## Countries of recruitment

Lebanon

## Study participating centre

**Center for Research on Population and Health**

Faculty of Health Sciences

American University of Beirut

Bliss Street

Hamra

Beirut

Lebanon

1107 2020

# Sponsor information

## Organisation

The Nestle Foundation for the Study of Problems of Nutrition in the World

## ROR

<https://ror.org/021k07d19>

## Funder(s)

### Funder type

Research organisation

### Funder Name

The Nestle Foundation for the Study of Problems of Nutrition in the World

# Results and Publications

## Individual participant data (IPD) sharing plan

The datasets generated during and/or analysed during the current study are not expected to be made available due to the fact that studies were conducted with vulnerable refugee populations, and data transfer agreements with the collaborating organisations restrict our ability to share these data with third parties.

## IPD sharing plan summary

Not expected to be made available

## Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">Results article</a>		24/11/2020	25/04/2022	Yes	No
<a href="#">Abstract results</a>	results presented at 21st International Congress of Nutrition	01/01/2017		No	No
<a href="#">Abstract results</a>	results presented at Experimental Biology, Chicago,	01/04/2017		No	No
<a href="#">Other publications</a>	Process evaluation	22/11/2019	25/04/2022	Yes	No