ISRCTN12225603 https://doi.org/10.1186/ISRCTN12225603

Improving school feeding programming in Yemen

Submission date 27/10/2023	**Recruitment status** No longer recruiting	[X] Prospectively registered [X] Protocol [X] Statistical analysis plan [X] Results [_] Individual participant data
Registration date 01/11/2023	**Overall study status** Completed	
Last Edited 07/07/2025	**Condition category** Other	

Plain English summary of protocol

Background and study aims

Even before the onset of the current civil war, Yemen was one of the poorest countries in the world ranking 183 out of 191 countries and territories on the UN Human Development Index. The World Food Programme (WFP) estimates that currently 17 million Yemeni (half the population) are food insecure and 2.2 million preschool children are acutely malnourished (World Food Programme, 2023a). In 2022, 17% of school children in Yemen received school meals (WFP, 2022) and in 2023, the humanitarian response will cover only 8% of the needs of education sector, leaving it with the second highest unmet need (OCHA, 2023). WFP provides nutritious snacks (imported or locally procured), either fortified date bars or fortified high energy biscuits, to 1.55 million school children. There is an urgent need to understand how to improve access to nutritious school meals to support students and schools throughout the country. The aim of this study is to evaulate the effectiveness and cost-efficacy of adding a daily drink of milk to an ongoing school feeding program to improve children's diet.

Who can participate?

Children 6-8 years of age attending one of the schools included in the study

What does the study involve?

Schools will be randomly allocated to one of two groups to receive:

1. Standard of care: the standard WFP school feeding program involving daily distribtuion of high energy biscuits
2. The standard of care intervention with addition of a daily drink of milk

The intervention lasts approximately one school year (~7 months).

What are the possible benefits and risks of participating?

The intervention is expected to improve children's diets, cognition, learning scores, and nutritional status by providing additional protein and micronutritients through the milk distribution in addition to the high energy buscuits. The intervention is also expect to improve children's attendance and caregivers perceptions and willingness to pay for school meals. There are no known risks related to the intervention involved.

Where is the study run from?
International Food Policy Research Institute (USA, Egypt)

When is the study starting and how long is it expected to run for?
August 2023 to July 2024

Who is funding the study?
1. CGIAR Initiative on Fragility, Conflict, and Migration (USA)
2. HSA Group (USA)

Who is the main contact?
Dr Aulo Gelli, A.Gelli@cgiar.org

Contact information

Type(s)
Public, Scientific, Principal investigator

Contact name
Dr Aullo Gelli

Contact details
1201 Eye Street NW
Washington
United States of America
20005
+1 202-862-5600
a.gelli@cgiar.org

Additional identifiers

Study information

Scientific Title
Impact evaluation of an added milk intervention to a micronutrient fortified school feeding program: An effectiveness pilot trial in Yemen

Study objectives
The study will evaluate the cost, cost-efficiency and impact of adding a daily drink of milk to an ongoing school feeding program. The hypothesis is that the addition of milk will improve school-aged children's diet, nutrition, health, and education outcomes.

Ethics approval required
Ethics approval required

Ethics approval(s)
Approved 28/09/2023, International Food Policy Research Institute (1201 Eye Street NW, Washington, 20005, United States of America; +1 (202) 862-5600; IFPRI-IRB@cgiar.org), ref: NDH-23-0942

Primary study design
Interventional

Study design
Longitudinal cluster-randomized controlled trial

Study type(s)
Other

Health condition(s) or problem(s) studied
Improvement of dietary diversity in primary school-aged children

Interventions
1. Control - standard of care school feeding program which involves the distribution of high-energy biscuits
2. Intervention - standard of care school feeding program consisting of the distribution of high-energy biscuits plus distribution of 100 ml cartons of ultra high temperature (UHT) milk

The total duration of the intervention will be ~7 months from November 2023 to May 2024. Both study arms will be followed-up for ~7 months and interviewed at baseline and follow-up.

Schools were randomly assigned to intervention and control in Stata 18, stratifying by school size.

Intervention Type
Other

Primary outcome(s)
Diet diversity score in children 6-8 years of age, measured using the Minimum dietary diversity for women (MDD-W) guidelines at baseline and endline

Key secondary outcome(s)
1. Cognition in children 6-8 years of age, measured using the forward and backward digit span and the standard progressive matrices at baseline and endline
2. Learning in children 6-8 years of age, measured using literacy and numeracy scores at baseline and endline
3. Nutritional status, measuring using body mass index and height-for-age Z-score at baseline and endline
4. School attendance, measured using school observations at baseline and endline
5. Perceptions of school feading program, measured using caregiver self-report at baseline and endline
6. Child health, measured using caregiver report of child morbidity symptoms at baseline and endline

Completion date
31/07/2024

Eligibility

Key inclusion criteria

1. Children aged 6-8 years at baseline enrolled in schools involved in the study
2. Adult caregivers (≥18 years of age) of children aged 6-8 included in the study

Participant type(s)
Learner/student

Healthy volunteers allowed
No

Age group
Mixed

Lower age limit
6 Years

Upper age limit
100 Years

Sex
All

Total final enrolment
1299

Key exclusion criteria
Household head, child, parent or guardian unwilling to participate in the study

Date of first enrolment
04/11/2023

Date of final enrolment
30/11/2023

Locations

Countries of recruitment
United States of America

Yemen

Study participating centre
International Food Policy Research Institute
1201 Eye Street NW
Washington
United States of America
20005

Sponsor information

Organisation
International Food Policy Research Institute

ROR
https://ror.org/03pxz9p87

Funder(s)

Funder type
Research organisation

Funder Name
International Food Policy Research Institute

Funder Name
HSA Group

Results and Publications

Individual participant data (IPD) sharing plan
The datasets generated during and/or analysed during the current study will be available upon request from a.gelli@cgiar.org

IPD sharing plan summary
Available on request

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article		01/07/2025	07/07/2025	Yes	No
Protocol file			22/05/2024	No	No
Statistical Analysis Plan		27/08/2024	27/08/2024	No	No