

The impact of micronutrients and docosahexaenoic acid (DHA) on cognitive development of school-aged children: the NEMO studies

Submission date 19/12/2005	Recruitment status No longer recruiting	☐ Prospectively registered
Registration date 19/12/2005	Overall study status Completed	☐ Protocol
Last Edited 03/11/2008	Condition category Nervous System Diseases	☐ Statistical analysis plan
		☒ Results
		☐ Individual participant data

Plain English summary of protocol

Not provided at time of registration

Contact information

Type(s)

Scientific

Contact name

Dr Jan Willem van Klinken

Contact details

Unilever Food and Health Research Institute (UFHRI)

P.O. Box 114

Vlaardingen

Netherlands

3130 AC

Jan-Willem-van.Klinken@Unilever.com

Additional identifiers

Protocol serial number

NTR362

Study information

Scientific Title

The impact of micronutrients with or without docosahexaenoic acid (DHA) on cognitive development of school-aged children in Indonesia and South Australia: a randomised controlled trial

Acronym

NEMO

Study objectives

An intervention with a fortified drink containing iron, zinc, vitamin A, vitamin C, folate, vitamin B-12 and B-6 and/or omega-3 polyunsaturated fatty acids over one year can improve cognitive performance in Australian well-nourished children and Indonesian marginally-nourished children.

Ethics approval required

Old ethics approval format

Ethics approval(s)

Received from the local medical ethics committee

Study design

Multicentre, randomised, double blind, placebo controlled, factorial trial

Primary study design

Interventional

Study type(s)

Treatment

Health condition(s) or problem(s) studied

Cognitive development

Interventions

Children receiving fortified drink containing either:

1. Micronutrient mix (iron, vitamin A, vitamin C, vitamin B12, vitamin B6 at one recommended daily allowance [RDA], zinc at half RDA)
2. 88 mg DHA and 22 mg EPA
3. Both
4. Placebo

Intervention Type

Supplement

Phase

Not Specified

Drug/device/biological/vaccine name(s)

Iron, zinc, vitamin A, vitamin C, folate, vitamin B-12 and B-6 and/or omega-3 polyunsaturated fatty acids

Primary outcome(s)

Cognitive performance (working memory, attention and concentration, perceptual speed, problem solving, executive function, learning and memory, school performance)

Key secondary outcome(s)

1. Biochemical indicators (blood iron status, zinc status, folate, vitamin B12)
2. Fatty acids status (plasma EPA, DPA, DHA, ALA and total n-3 plasma mass)
3. Growth (weight, height, body mass index)

Completion date

01/04/2005

Eligibility**Key inclusion criteria**

1. Children aged 6-9 years of age from six selected schools in urban Jakarta and 42 public schools in Southern Australia
2. Parents or carers provided informed consent

Participant type(s)

Patient

Healthy volunteers allowed

No

Age group

Child

Lower age limit

6 years

Upper age limit

9 years

Sex

All

Key exclusion criteria

In the two study sites:

1. Children with severe physical and neurological health problems
2. No (intended) use of micronutrient/mineral and/or fatty acid supplements

In addition in Indonesia:

3. Children who are severely malnourished (weight/height Z-score less than or equal to -3 standard deviation [SD]) or severely anaemic (haemoglobin less than 8 g/l)

Date of first enrolment

01/08/2003

Date of final enrolment

01/04/2005

Locations

Countries of recruitment

Australia

Indonesia

Netherlands

Study participating centre

Unilever Food and Health Research Institute (UFHRI)

Vlaardingen

Netherlands

3130 AC

Sponsor information

Organisation

Unilever Nederlands BV (The Netherlands)

ROR

<https://ror.org/02436cs38>

Funder(s)

Funder type

Not defined

Funder Name

Not provided at time of registration

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary

Not provided at time of registration

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
	Results				

[Results article](#)

01/10/2007

Yes

No