‘The effect of L-arabinose on the glycaemic and insulinemic responses after consumption of a liquid product’

Gepubliceerd: 04-08-2017 Laatst bijgewerkt: 19-03-2025

The main objective is to understand the effects of the addition of L-arabinose to a drink that has disturbing factors like fat and starch on the reducing glycemic and insulinemic responses of L-arabinose after ingestion of a combined L-arabinose-…

Ethische beoordeling	Positief advies
Status	Werving gestart
Type aandoening	-
Onderzoekstype	Interventie onderzoek

Samenvatting

ID

NL-OMON22940

Bron
Nationaal Trial Register

Verkorte titel
Ara3-study

Aandoening

Eating behaviour, Obesity, Diabetes Mellitus, Metabolic health

Ondersteuning

Primaire sponsor: Wageningen University (WUR)
Overige ondersteuning: EU grant

Onderzoeksproduct en/of interventie

Uitkomstmaten

Primaire uitkomstmaten

blood glucose and insuline levels

Toelichting onderzoek

Achtergrond van het onderzoek

L-arabinose is a pentose which is naturally present in plants. L-arabinose is a sucrase inhibitor and thereby lowers glycaemic and insulinemic responses when consumed together with sucrose as a drink. However, when L-arabinose is consumed in solid form or in a mixed meal, no glycaemic lowering was observed. The main objective is to determine the disturbing effects of the macornutrients fat and starch, which are more often found in solid food products, on the reducing glycemic and insulinemic responses of L-arabinose after ingestion of a combined L-arabinose-sucrose drink with or without these macronutrients. Secondary objectives are appetite ratings, subsequent ad libitum energy intake, tolerance of the treatments, gastro-entero endocrine markers, L-arabinose in the blood, and excretion of L-arabinose in urine.

The study is a randomized within blocks, cross-over study. Within the three blocks sucrose, starch and fat, the study is double-blind.

All subjects will receive six interventions in a randomized order. Twentyfour healthy adults between 18-35y old will be included. The food products will be consumed in fasting state as a breakfast. All products contain 50g available carbohydrates.

Doel van het onderzoek

The main objective is to understand the effects of the addition of L-arabinose to a drink that has disturbing factors like fat and starch on the reducing glycemic and insulinemic responses of L-arabinose after ingestion of a combined L-arabinose-sucrose drink with or without these macronutrients.

Onderzoeksopzet

Every subject will visit the research site 8 times:

1: For an information meeting;

2: For a screening meeting;

3: 6 test sessions

A. Blood collection and appetite feelings by VAS questionnaire: baseline, 15, 30, 45, 60, 90, 120, 180 minutes after start of the treatment;

B. Ad libitum test meal at 190 minutes after start of the treatment;

C. Gastro-intestinal comfort at baseline and 3 hours after start of the treatment.

Onderzoeksproduct en/of interventie

1) Sugar drink; 2) L-arabinose and Sugar drink; 3) Sugar and Starch drink; 4) L-arabinose and Sugar and Starch drink; 5) Sugar and Fats drink; 6) L-arabinose and Sugar and Fat drink

Contactpersonen

Publiek

P.O. Box 17

Marie-Luise Puhlmann
Wageningen University & Research, AFSG – Human Nutrition

Wageningen 6700 AA
The Netherlands
+31 (0) 317 48 98 86

Wetenschappelijk

P.O. Box 17

Marie-Luise Puhlmann
Wageningen University & Research, AFSG – Human Nutrition

Wageningen 6700 AA
The Netherlands
+31 (0) 317 48 98 86

Deelname eisen

Belangrijkste voorwaarden om deel te mogen nemen (Inclusiecriteria)

• 18-35 years old while signing the informed consent

• Good Dutch speaking, writing, understanding

• Healthy: as judged by the subject

• Stable body weight, i.e. no reported weight loss or weight gain of >5kg in the two months prior to the screening session

• Normal fasting glucose concentration <6.1 mmol/L, measured by finger prick

• Normal hemoglobine (Hb) concentration >8.5 mmol/L for men and >7.5 mmol/L for females, measured by finger prick

Belangrijkste redenen om niet deel te kunnen nemen (Exclusiecriteria)

• Women being pregnant or lactating

• Allergy, intolerance or oversensitivity for food products

• Having gastro-intestinal problems

• Medical drug use prescribed by a physician (except contraceptives, antihistamines, and occasionally painkillers)

• Use of dietary supplements that may affect the study outcome

• Current antibiotics usage or in the two months prior to the screening session

• Not willing to eat or drink the test products

• Use of dietary supplements that may affect the study outcome

• Currently using a slimming or medically prescribed diet or having used one in the two months prior to the screening session

• Excessive alcohol consumption (≥21 glass/week on average)

• Planning to change physical activity pattern during the study period

• Having blood vessels that are too difficult for inserting a cannula, as judged by the study nurse

• Recent blood donation (<1 month prior to the first study day)

• Planning to donate blood as a blood donor during the study

• Not having a general practitioner

• Being an employee or student doing a thesis or internship of Wageningen University, division of Human Nutrition

• Current participation in other research

Onderzoeksopzet

Opzet

Type:	Interventie onderzoek
Onderzoeksmodel:	Cross-over
Toewijzing:	Gerandomiseerd
Blindering:	Dubbelblind
Controle:	Placebo

Deelname

Nederland

Status:	Werving gestart
(Verwachte) startdatum:	18-09-2017
Aantal proefpersonen:	24
Type:	Verwachte startdatum

Ethische beoordeling

Positief advies

Datum:	04-08-2017
Soort:	Eerste indiening

Registraties

Opgevolgd door onderstaande (mogelijk meer actuele) registratie

ID: 45701
Bron: ToetsingOnline
Titel:

Andere (mogelijk minder actuele) registraties in dit register

Geen registraties gevonden.

In overige registers

Register	ID
NTR-new	NL6458
NTR-old	NTR6636
CCMO	NL61428.081.17
OMON	NL-OMON45701

Resultaten