

Evaluation of the bioavailability of bioactive wheat bran components from bread rolls

Submission date 17/09/2008	Recruitment status No longer recruiting	<input type="checkbox"/> Prospectively registered
Registration date 04/12/2008	Overall study status Completed	<input type="checkbox"/> Protocol
Last Edited 04/03/2016	Condition category Nutritional, Metabolic, Endocrine	<input type="checkbox"/> Statistical analysis plan
		<input checked="" type="checkbox"/> Results
		<input type="checkbox"/> Individual participant data

Plain English summary of protocol
Not provided at time of registration

Contact information

Type(s)
Scientific

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Additional identifiers

Study information

Scientific Title
Evaluation of the bioavailability of bioactive wheat bran components from bread rolls

Study objectives

Bioactive components present in processed wheat grain fraction enriched bread rolls are available to the body and can be detected in the plasma and urine shortly after consumption.

Ethics approval required

Old ethics approval format

Ethics approval(s)

University of Ulster Research Ethics Committee, May 2006, ref: REC/06/0036

Study design

Randomised within subject cross-over design on three occasions carried out in a single-centre

Primary study design

Interventional

Study type(s)

Prevention

Health condition(s) or problem(s) studied

Chronic diseases, particularly cardiovascular disease and cancers

Interventions

1. Test-meal 1: 50 g wheat aleurone incorporated into a bread roll
2. Test-meal 2: 50 g wheat aleurone + 5.2 mg iron incorporated into a bread roll
3. Control-meal: 50 g refined wheat product incorporated into a bread roll

Test and control meals were balanced for energy, fibre and macronutrients.

Intervention Type

Drug

Phase

Not Specified

Drug/device/biological/vaccine name(s)

Wheat grain

Primary outcome(s)

1. Changes in plasma betaine, choline, folate, tocopherols and ferulic acid attributable to treatments, measured at baseline, 0.5 hours, 1 hour, 2 hours and 3 hours post-meal
2. Changes in urinary ferulic acid attributable to treatments, measured at baseline, 0.5 hours, 1 hour, 2 hours, 3 hours and 4 hours post-meal

Key secondary outcome(s)

1. Changes in plasma antioxidant activity attributable to treatments, measured at baseline, 0.5 hours, 1 hour, 2 hours and 3 hours post-meal
2. Changes in urinary antioxidant activity and phenolic activity attributable to treatments, measured at baseline, 0.5 hours, 1 hour, 2 hours, 3 hours and 4 hours post-meal
3. Evaluation of the effects of processing, including iron fortification, on the availability of the bioactive components in wheat fractions, using test-meal 2 and comparisons with previous work

Completion date

31/03/2007

Eligibility

Key inclusion criteria

Healthy 18 - 40 year old men and women with Body Mass Index (BMI) between 18 and 30 kg/m².

Participant type(s)

Patient

Healthy volunteers allowed

No

Age group

Adult

Lower age limit

18 years

Sex

All

Key exclusion criteria

1. Smokers
2. Individuals with diabetes
3. Pre-existing chronic disease
4. On any prescription medicine
5. Individuals who regularly take any vitamin or mineral supplement or did so in the 6 months prior to the study
6. Gluten or wheat intolerant individuals
7. Pregnant or lactating women
8. Individuals who have given blood to the Blood Transfusion Service (BTS) in the 4 months prior to the study

Date of first enrolment

01/01/2007

Date of final enrolment

31/03/2007

Locations

Countries of recruitment

United Kingdom

Northern Ireland

Study participating centre
Northern Ireland Centre for Food and Health (NICHE)
Coleraine
United Kingdom
BT52 1SA

Sponsor information

Organisation
European Commission (Belgium)

ROR
<https://ror.org/00k4n6c32>

Funder(s)

Funder type
Government

Funder Name
HEALTHGRAIN (Europe) - an integrated 6th framework EU project (ref: FOOD-CT-2005-514008)

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 article	results	14/02/2015		Yes	No
Study website	Study website	11/11/2025	11/11/2025	No	Yes