

Effect of breakfast cereals compared with corn flakes on blood glucose, gastric emptying and satiety in healthy subjects.

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The aim of this study was to evaluate the effect of β -glucan on the rate of gastric emptying, postprandial glucose response and satiety in healthy subjects.

Ethische beoordeling	Niet van toepassing
Status	Werving gestopt
Type aandoening	-
Onderzoekstype	Interventie onderzoek

Samenvatting

ID

NL-OMON27992

Bron

NTR

Verkorte titel

N/A

Aandoening

1. Beta-glucan;
2. healthy subjects;
3. gastric emptying;
4. postprandial blood glucose.

Ondersteuning

Overige ondersteuning: This study was supported by grants from Skånemejerier, Malmö, Sweden

Onderzoeksproduct en/of interventie

Uitkomstmaten

Primaire uitkomstmaten

The β -glucan effect on the rate of gastric emptying was statistically not significant compared with cornflakes. Consumption of β -glucan lowered the postprandial glucose response significant ($p < 0.05$).

Toelichting onderzoek

Achtergrond van het onderzoek

World wide the incidence of type 2 diabetes mellitus is increasing rapidly. To prevent development of diabetes mellitus it is recommended by the American Diabetes Association to consume dietary fiber food. Products enriched with β -glucan have been shown to reduce postprandial glucose and insulinemic responses in healthy subjects and in type 2 diabetes patients. Gastric emptying, among other factors, regulates the postprandial blood glucose response, and a delay in gastric emptying rate leads to a lower postprandial blood glucose response. Delayed gastric emptying occurs in 30-50 % of diabetes patients. This is an important issue that should be evaluated because of the nutrition recommendations with an increased intake of fiber and a high prevalence of delayed gastric emptying among diabetes patients. Patients with diabetes are recommended to consume commercial products with fibre to control the blood glucose levels. However, commercial products have not been properly evaluated regarding postprandial blood-glucose levels and gastric emptying. The result of this randomized crossover blinded study demonstrates that intake of commercial breakfast cereals with fiber affects gastric emptying without reducing the postprandial blood glucose in the same extent and can therefore not be recommended to be consumed to control the blood glucose levels.

Doel van het onderzoek

The aim of this study was to evaluate the effect of β -glucan on the rate of gastric emptying, postprandial glucose response and satiety in healthy subjects.

Onderzoeksopzet

N/A

Onderzoeksproduct en/of interventie

Twelve healthy subjects were assessed using a randomized crossover blinded trial. The

subjects were examined after an 8 hours fast and assessment of normal fasting blood glucose level. Gastric emptying rate was calculated as the percentage change in the antral cross-sectional area 15 and 90 minutes after ingestion of vanilla yoghurt with flakes containing 4 g beta-glucan (GER1) or vanilla yoghurt with Kellogg's cornflakes (GER2). Significant differences were evaluated with Wilcoxon t-test.

Contactpersonen

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Deelname eisen

Belangrijkste voorwaarden om deel te mogen nemen (Inclusiecriteria)

Healthy subjects without symptoms or a prior history of gastrointestinal disease, abdominal surgery or diabetes mellitus were included in the study.

Belangrijkste redenen om niet deel te kunnen nemen (Exclusiecriteria)

1. Diabetes mellitus;
2. prior abdominal surgery;

3. symptoms of gastrointestinal disease;

4. Obesity.

Onderzoeksopzet

Opzet

Type:	Interventie onderzoek
Onderzoeksmodel:	Cross-over
Toewijzing:	Gerandomiseerd
Blinding:	Dubbelblind
Controle:	N.v.t. / onbekend

Deelname

Nederland	
Status:	Werving gestopt
(Verwachte) startdatum:	01-04-2003
Aantal proefpersonen:	12
Type:	Werkelijke startdatum

Ethische beoordeling

Niet van toepassing	
Soort:	Niet van toepassing

Registraties

Opgevolgd door onderstaande (mogelijk meer actuele) registratie

Geen registraties gevonden.

Andere (mogelijk minder actuele) registraties in dit register

Geen registraties gevonden.

In overige registers

Register	ID
NTR-new	NL946
NTR-old	NTR971
Ander register	:
ISRCTN	ISRCTN90535566

Resultaten

Samenvatting resultaten

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