

Promotion of fruit and vegetable consumption among low income groups using a pricing strategy

Submission date 18/10/2011	Recruitment status No longer recruiting	<input type="checkbox"/> Prospectively registered
		<input type="checkbox"/> Protocol
Registration date 19/12/2011	Overall study status Completed	<input type="checkbox"/> Statistical analysis plan
		<input checked="" type="checkbox"/> Results
Last Edited 01/03/2013	Condition category Nutritional, Metabolic, Endocrine	<input type="checkbox"/> Individual participant data

Plain English summary of protocol

Background and study aims:

A sufficient intake of fruits and vegetables forms one of the principal components of dietary recommendations. In the USA and Europe, intake of fruits and vegetables are far below the minimum recommended levels. Increasing the intake of these products to meet dietary recommendations could reduce the burden of some diseases. There is growing opinion that making fruits and vegetables cheaper may be a good strategy to promote their purchase. Mainly consumers with a lower socio economic status perceive fruits and vegetables to be expensive and indicate they would buy more of those products if they would become cheaper. Evidence on the true effects of making healthy foods cheaper is limited and mostly restricted to small scale studies.

Who can participate?

Adults, who could speak Dutch, had a lower socio-economic status and were regular shoppers at the supermarkets that joined this study.

What does the study involve?

We conducted an experiment on the effects of providing a 50% discount on fruits and vegetables, and we tested the additional effect of nutrition education.

What are the possible benefits and risks of participating?

Participants will benefit from cheaper fruit and vegetables, and a more balanced diet. There are no known risks associated with participating in the study.

Where is the study run from?

Four supermarkets in the Netherlands.

When is the study starting and how long is it expected to run for?

The study started in September 2010 and ended in July 2011.

Who is funding the study?
Netherlands Organization for Health Research and Development (ZonMw).

Who is the main contact?
Dr Ingrid Steenhuis
ingrid.steenhuis@vu.nl

Contact information

Type(s)
Scientific

Contact name
Dr Ingrid Steenhuis

Contact details
VU University Amsterdam
De Boelelaan 1085
Amsterdam
Netherlands
1081 HV
ingrid.steenhuis@vu.nl

Additional identifiers

Protocol serial number
NL22568.029.08

Study information

Scientific Title
Promotion of fruit and vegetable consumption among low income groups using a pricing strategy: a randomized controlled trial

Study objectives
The study examines whether price discounts and nutrition education are effective in stimulating fruit and vegetable purchases among low income groups.

Hypotheses:
1. Lowering the price of fruits and vegetables will lead to higher purchases of these products
2. Nutrition education will lead to higher purchases of fruits and vegetables, but not in the same amount as the price discounts
3. Price discounts on fruits and vegetables combined with nutrition education will provide the largest increase in fruit and vegetable purchases

Ethics approval required
Old ethics approval format

Ethics approval(s)
Medical Ethical Committee of the VU Medical Centre Amsterdam, 12 February 2009

Study design

Parallel single-center randomized controlled trial

Primary study design

Interventional

Study type(s)

Quality of life

Health condition(s) or problem(s) studied

Obesity, Healthy diet

Interventions

The trial contained four research arms:

1. Price discounts on fruits and vegetables
2. Nutrition education with a special focus on fruits and vegetables
3. Price discounts on fruits and vegetables plus nutrition education
4. Control (no intervention)

The nutrition education consisted of two elements, being recipe books and telephone counseling. This telephone counseling consisted of four different calls, taking around 20 minutes each, that were conducted by a qualified dietitian.

The pricing intervention consisted of a 50% discount on fruits and vegetables. The discounts were provided to the participants by use of specifically designed coupons. Participants were sent discount coupons for seven types of vegetables and five types of fruits every two weeks. The coupons were sent by post and participants were provided with two coupons for each item.

Intervention Type

Other

Phase

Not Applicable

Primary outcome(s)

1. Purchases of fruit and vegetables (grams): measured at baseline, 1 month, 3 months, 6 months (end of intervention) and 9 months (3 month follow-up) using cash receipts and schemes listing purchased fruits and vegetables during a two-week period
2. Intake of fruit and vegetables (grams) measured at baseline, 1 month, 3 months, 6 months (end of intervention) and 9 months (3 month follow-up) using a validated shortened Food frequency questionnaire (FFQ) specifically developed for fruit and vegetable intake

Key secondary outcome(s)

1. The concepts of TBP (attitudes, social norm, and perceived behavioral control) were measured as proposed by Conner and Sparks (1996)
2. Behavioral intention and awareness of own consumption levels were measured in accordance with earlier studies (see Brug et al. 2006)
3. Levels of action planning and levels of coping planning were measured as proposed by Scharzer and Renner
4. Some additional concepts that previously have found to be of importance in food pricing

studies were measured, being levels of habit strength (using scal of Verplanken) and price perception (using scale of Lichtenstein). Scores for all these concepts were measured by summing the scores of the relevant items and dividing this by the number of relevant items. All items were measured on a 5 point Likert scale

5. Finally, participants were asked to report some basic personal characteristics, their use of the discount coupons, their evaluation of the nutrition education, and frequency of shopping at the participating supermarket

Completion date

01/07/2011

Eligibility

Key inclusion criteria

1. Adults (18 years or older)
2. Familiar with the Dutch language
3. Lower socio-economic status (based on education level and working status)
4. Regular shoppers at the participating supermarkets

Participant type(s)

Patient

Healthy volunteers allowed

No

Age group

Adult

Lower age limit

18 years

Sex

All

Key exclusion criteria

Does not meet inclusion criteria

Date of first enrolment

01/09/2010

Date of final enrolment

01/07/2011

Locations

Countries of recruitment

Netherlands

Study participating centre
VU University Amsterdam
Amsterdam
Netherlands
1081 HV

Sponsor information

Organisation

Netherlands Organisation for Health Research and Development (ZonMw) (Netherlands)

ROR

<https://ror.org/01yaj9a77>

Funder(s)

Funder type

Government

Funder Name

Netherlands Organization for Health Research and Development (ZonMw) (Netherlands) ref: 50-50105-96-426

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	01/04/2013		Yes	No
Participant information sheet	Participant information sheet	11/11/2025	11/11/2025	No	Yes