CHRIS Study

Food Frequency Questionnaire

Version 1.1

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1. Introduction

This module stores information related to nutrition, collected with the Food Frequency Questionnaire (FFQ), that was completed by the participants prior to the examination at the CHRIS Center.

Since May 5th, 2014, when receiving the invitation letter to the CHRIS study center, participants also received a questionnaire on their food consumption habits over the past year, that they were asked to complete at home and bring along at the study center. If several family members participated in the CHRIS study at the same time, they could write their name on the front page. Upon receiving the questionnaire, the receptionist removes the front page and shreds it. On the first page of the FFQ, the barcode with the participant's ID is pasted in the space provided.

Such questionnaire, called Food Frequency Questionnaire (FFQ), is a modified version of the German and Italian FFQ of the Global Allergy and Asthma European Network of Excellence (GA2LEN) study. The questionnaire was modified by IfB researchers under the supervision of Vanessa Garcia-Larsen (Imperial College London, London, UK), to incorporate food items that are typical of South Tyrol.

The investigated food groups, each with its typical consumption unit, are the following:

- Bread and rolls (1 slice or a medium dish)
- Breakfast cereals (1 medium dish)
- Semolina (1 tablespoon)
- Pasta / noodles (1 medium dish)
- Bakery products (a biscuit, a unit or a medium dish)
- Rice (1 cup, cooked)
- Sugar (teaspoon) and jam (enough for a slice of bread)
- Sweets excluding chocolate (one unit)
- Chocolate
- Vegetable oil (1 tablespoon)
- Margarine and fats of mixed origin (1 tablespoon)
- Butter and animal fats (enough for a slice of bread)
- Nuts (a small amount, a handful)
- Legumes (1 cup, cooked)
- Vegetables excluding potatoes (1 medium dish)
- Potatoes or starchy roots (1 medium dish)
- Fruit (1 piece)
- Fruit juice (1 glass 200 ml)
- Soft drinks (1 glass 200 ml)
- Coffee / tea (1 cup)
- Beer (1 glass 200 ml)
- Wine (1 glass 125 ml)
- Other alcoholic drinks (1 glass 50 ml)
- Red meat and meat products (an average portion)
- Poultry and poultry products (1 medium dish)
- Offal (1 medium dish)

- Fish and seafood (1 medium dish)
- Eggs (1 egg)
- Milk and soy milk (1 glass 200ml)
- Cheese (1 piece or enough to spread on a slice of bread)
- Other milk (1 tablespoon unless otherwise stated)
- Other foods (1 tablespoon or 1 medium dish)
- Additional questions

The FFQ questionnaires are available at CHRIS Baseline/Self-Assessment/Food Frequency Questionnaire.

2. History version changes

Until May 16th, 2014, participants answered questions on food and alcohol consumption during the interview (see x0fd* and x0al* variables). Since May 5th, 2014, the GA2LEN FFQ was introduced as part of the self-administered questionnaires. No version change occurred afterwards.

The cleaning process did not add other variables.

3. Data cleaning

1. The main CHRIS dataset was loaded.
2. The variable on the language of the FFQ questionnaire, x0ff229, obtained from scanning the barcode on the questionnaire's first page, was standardized into "German" and "Italian", and any not clear value was set to missing.
3. The data entry operator variables x0ff241 and x0ff242 were merged into a new variable called x0ff241a, where the value "other" in x0ff241 was corrected if the operator mentioned in x0ff242 was one of the most frequent ones.
4. There were two variables on the questionnaire completion location: one stemming from the scanning procedure and one manually entered by the operator. The variable x0ff243, was dropped because it did not add any information with respect to the other variable, x0ff244.
5. There were two variables on the consumption of other food not mentioned elsewhere: one stemming from the scanning procedure and one manually entered by the operator. Consistency between these two variables, x0ff230 and x0ff245, was checked. The variable x0ff245 was assigned the values of x0ff230 when it was missing and it differed from x0ff230. The variable x0ff230 was dropped.
6. Consistency between two variables, one scanned and one manually entered on Limesurvey, on the avoidance of certain food types, x0ff233 and x0ff259, was checked. The variable x0ff259 was assigned the values of x0ff233 when it was missing and it differed from x0ff233. The variable x0ff233 was dropped.
7. All FFQ variables, x0ff001-x0ff238, x0ff244, x0ff245, x0ff252-x0ff259, had their missing observations set to:
    a) "Not in use" (-98) if the examination date was before May 5th, 2014,
    b) "Unexpected missing" (-89) otherwise.
8. The reasons for avoiding specific foods, x0ff260a-x0ff263a, were translated and categorized, when possible.

9. The baseline dataset was saved.

4. Advices for the analysis

The information collected with the GA2LEN FFQ questionnaire was used to compute the weekly nutrients and flavonoids intake of the CHRIS participants, saved respectively in the modules x0nu and x0fl.

The variables that are best comparable with the first versions of the nutrition module x0fd and of the alcohol module x0al, part of the interview, available for the first 5,000 participants, are the following: x0ff001, x0ff009, x0ff012, x0ff019, x0ff029, x0ff036, x0ff040, x0ff043, x0ff050, x0ff054, x0ff057, x0ff061, x0ff069, x0ff104, x0ff112, x0ff145, x0ff146, x0ff147, x0ff148, x0ff149, x0ff150, x0ff151, x0ff152, x0ff153, x0ff154, x0ff155, x0ff159, x0ff160, x0ff161, x0ff176, x0ff184, x0ff193, x0ff195, x0ff205, and x0ff208.

The additional variables on specific diet patterns (x0ff231-x0ff263a) were translated and categorized only for what concerned the reasons for avoiding specific foods. The food items consumed and not yet mentioned, x0ff246-x0ff249, and those avoided, x0ff260-x0ff263, were left written as the data entry operators transcribed them.

The FFQ data entry operator, x0ff241a, might have played a role in how the free text variables have been entered, however the food frequency questions, x0ff001-x0ff229, were directly derived from the scanning software.

5. References

Garcia-Larsen V, Luczynska M, Kowalski ML, Voutilainen H, Ahlström M, Haahtela T, et al. Use of a common food frequency questionnaire (FFQ) to assess dietary patterns and their relation to allergy and asthma in Europe: pilot study of the GA2LEN FFQ. Eur J Clin Nutr. 2011 Jun;65(6):750-6. DOI: 10.1038/ejcn.2011.15

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