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Dietary patterns and mortality in Switzerland

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Registration date 04/10/2017	**Overall study status** Completed	[ ] Statistical analysis plan [ ] Results
Last Edited 03/10/2017	**Condition category** Other	[ ] Individual participant data [ ] Record updated in last year

Plain English summary of protocol

Background and study aims
Dietary patterns and quality can be assessed based on a posteriori approach which is based on a study population. The association of a posteriori dietary patterns with mortality allows researchers to assess the influence of dietary choices on the development of disease. In Switzerland, several population-based surveys included comparable nutrition-related information that can be linked to mortality data. The MONICA participants to fill out questionnaires about their dietary patterns and provide body measurements. The NFP1A study was a study that invited participants to complete a questionnaire about nutrition, physical activity, demographic and socioeconomic information. Then participants are provided in a programme to lower risk factors for heart diseases. Another study linked these studies to the Swiss census data to see if the participants are still alive. The aims of this study is to study a posteriori dietary patterns in Switzerland, to characterize groups of individuals sharing similar dietary patterns and to examine whether certain dietary patterns are associated with changes in all-cause, cancer or cardiovascular mortality.

Who can participate?
Participants from the MONICA or NRP1A studies with successful linkages to the Swiss National Cohort.

What does the study involve?
This is a secondary analysis of the MONICA and the NFPA1A studies, as well as the linkage study between those two studies to the census data of Switzerland to determine whether they are dead or alive. The data is analysed to examine posteriori dietary patterns, the association between dietary patterns and demographics and the mortality ratio for different dietary patterns.

What are the possible benefits and risks of participating?
There are no benefits or risks with participation.

Where is the study run from?
University of Zurich (Switzerland)

When is the study starting and how long is it expected to run for?
February 2017 to September 2018

Who is funding the study?
Swiss National Science Foundation (Switzerland)

Who is the main contact?
Dr Jean-Philippe Krieger

Contact information

Type(s)
Scientific

Contact name
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Additional identifiers

Protocol serial number
DP2017JPK

Study information

Scientific Title
A posteriori dietary patterns and mortality in a general population sample of Switzerland

Study objectives
A posteriori dietary patterns are associated with changes in all-cause or disease-specific mortality in the general population.

Ethics approval required
Old ethics approval format

Ethics approval(s)
Ethics Committee of the Canton of Zurich, 12/06/2008, ref: KEK-StV no. 13/06

Study design
Observational cohort study

Primary study design
Observational

Study type(s)
Prevention

Health condition(s) or problem(s) studied
Mortality (all-cause; cancer; cardiovascular; others)

Interventions
This study is an analysis of already available and published data. It is based upon two original studies: MONICA from the WHO and NFPA1A from the Swiss National Science Foundation and the linkage of these studies with census data to create a cohort.

There are no interventions for participants in this study. This study includes a secondary analysis of the original studies and the linkage study. This study included 15,936 participants from 2 population-based studies (NFP1A, MONICA1-3 - 1977 to 1993) who fully answered a simplified 24-hour recall. Mortality data was available through anonymous record linkage with the Swiss National Cohort. Multiple correspondence analysis (MCA) and hierarchical clustering on principal components (HCPC) are used to identify dietary patterns and cluster individuals with similar patterns. The association between dietary patterns and demographics or behavioral data will be further examined. Mortality hazard ratios (HR) are calulated for all-cause, cancer and cardiovascular mortality using Cox regression. For the linkage study the data is matched between the MONICA or NFP1A study and the census data of Switzerland to determine whether they are dead or alive.

The two original studies include:
MONICA: The selected persons were invited to attend a health examination in their community of residence and to complete a self-administered questionnaire. Weight and height were measured, blood pressure, blood lipids and other biological parameters were obtained following standardized procedures methods of the MONICA Project.
NFP: NFP was a community-based intervention led in four cities of Switzerland. In a first phase (1977-1978) participants were submitted to health examination and had to complete a self-administered questionnaire (that includes nutrition, physical activity, demographic and socioeconomic information). In a second phase, participants of two of the four cities were encouraged to enrol in a broad program of actions aimed at reducing the exposure to cardiovascular risk factors, while the two other cities were used as controls. A final evaluation was done in 1980. For our analysis, we only used the original evaluation of the participants (1977-1978).

Intervention Type
Other

Primary outcome(s)
A posteriori dietary patterns are not directly measured, but are calculated based on the questionnaires that participants to the MONICA and NFP1A studies had to fill out, which included a simplified 24-hour recall checklist (from this information, we use the diets of the overall population to cluster diets into coherent patterns, the so-called dietary patterns). The questionnaires are answered at study entry (which spans from 1977 to 1992, depending on whether we talk about NFP1A or MONICA).

Key secondary outcome(s))
1. Association between dietary patterns and demographic (age, sex, language region of residence, nationality), socioeconomic (education), morphologic (BMI) and behavioural (smoking,

physical activity) factors are measured using testing whether the distribution (for continuous variables) or the proportion of categories (for qualitative variables) differ from those obtained from the rest of the population, using v-test as previously described at study entry
2. Mortality hazard ratio for groups of individuals following different dietary patterns is measured using Cox proportional hazards regression models at the most recent update of the Swiss National Cohort (30.06.2016)

Completion date
30/09/2018

Eligibility

Key inclusion criteria
1. All participants from MONICA or NRP1A study with successful Swiss National Cohort Linkage
2. Aged 16 to 74 years old

Participant type(s)
All

Healthy volunteers allowed
No

Age group
Adult

Sex
All

Key exclusion criteria
Participants who do not fully answered the 24 hour recall checklist.

Date of first enrolment
05/06/2017

Date of final enrolment
06/06/2017

Locations

Countries of recruitment
Switzerland

Study participating centre
University of Zurich
Epidemiology, Biostatistics and Prevention Institute
Hirschengraben 82

Zurich
Switzerland
8001

Sponsor information

Organisation
Swiss National Science Foundation

ROR
https://ror.org/00yjd3n13

Funder(s)

Funder type
Charity

Funder Name
Schweizerischer Nationalfonds zur Förderung der Wissenschaftlichen Forschung

Alternative Name(s)
Schweizerischer Nationalfonds, Swiss National Science Foundation, Fonds National Suisse de la Recherche Scientifique, Fondo Nazionale Svizzero per la Ricerca Scientifica, Fonds National Suisse, Fondo Nazionale Svizzero, Schweizerische Nationalfonds, The Swiss National Science Foundation (SNSF), SNF, SNSF, FNS

Funding Body Type
Private sector organisation

Funding Body Subtype
Trusts, charities, foundations (both public and private)

Location
Switzerland

Results and Publications

Individual participant data (IPD) sharing plan
Individual data from different data sets were used for the construction of the Swiss National cohort (SNC). All these data are the property of the Swiss Federal Statistical Office (SFSO) and can only be made available by legal agreements with the SFSO. This also applies to derivatives such as the analysis files used for this study. However, after approval of the SNC Scientific Board,

a specific SNC module contract with the SFSO would allow researchers to receive analysis files for replication of the analysis. Data requests should be sent to Prof. Milo Puhan (chairman of the SNC Scientific Board, miloalan.puhan@uzh.ch).

IPD sharing plan summary

Not expected to be made available