CHRIS Study

Interview – Cardiac Arrhythmias

Version 1.1

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1. Introduction

This module stores information related to the cardiac arrhythmia history of the participant, that was collected at the interview.

Participants book a morning appointment at the CHRIS study center, ranging from 7.45 to 8.45 a.m. Each study participant is assigned a workflow at the reception. If there are ten study participants (maximum capacity), there are ten different workflows, marked with the letters from "A" to "K". The current workflow is as follows: A-B-C-D-E-F-G-H-I-K. All the workflows can be found in the documentation of CHRIS Baseline/General information/Administrative data, in the file named "Workflows at baseline assessment". The interview occurs always after the spiralography and the blood drawing, for most as the last session, after the ECG assessment and the self-administered questionnaire (workflows B, C, E, F, H, I, L). For the remainder, the interview occurs after breakfast and just before the self-administered questionnaire (workflows A and G) or in between the blood drawing and the anthropometry (workflow D).

The interview full text and its corresponding answer lists are available at CHRIS Baseline/Interview. Part of this module is based on the KORA study (*Kooperative Gesundheitsforschung in der Region Augsburg*) follow-up F4 questionnaire, module HERZRHYTHMUSSTÖRUNGEN.

2. History version changes

Version 1 of this interview module was in use between August 24th,2011 and November 2nd, 2012; Version 2 was then in use since November 5th, 2012.

Version 1 to Version 2

variables dropped: x0af01, x0af01b, x0af01c, x0af01d

variables added: x0af12, x0af12a

question filtering criteria changed: x0af05 (only if x0af04=2), x0af06 (only if x0af04=2)

question rephrased: x0af02 (it), x0af02a (it), x0af02d (it), x0af05-response options (de), x0af08 (de), x0af09a (de)

3. Data cleaning

1. The main CHRIS dataset was loaded.
2. The variable on heart valve defects, x0af01, had its observations transformed into:
    a) "Not in use" (-98) if they were missing and the questionnaire version x0afver was not the first,
    b) "Unexpected missing" (-89) if they were still missing,
    c) "Don't know" (-88) if the participant chose the answer option "I do not know".

3. The other variables on heart valve defects, x0af01b-x0af01d, had their observations transformed into:
    a) “Not in use” (-98) if they were missing and the questionnaire version x0afver was not the first,
    b) “Missing by design” (-99) if they were missing and no heart valve defect was reported (x0af01= “No”, “Don’t know” or “Missing by design”),
    c) “Unexpected missing” (-89) if they were still missing,
    d) “Don’t know” (-88) if the reported age at diagnosis was 99 or the chosen answer option was “I do not know”.
4. The variable on atrial fibrillation, x0af02, had its observations transformed into “Unexpected missing” (-89) if they were missing, and their “I don’t know” answer option was transformed into the missing type “Don’t know” (-88).
5. The variables on atrial fibrillation diagnosed by a doctor, x0af02a, on discomfort during atrial fibrillation, x0af03, and on chronic atrial fibrillation, x0af04, had their observations transformed into:
    a) “Missing by design” (-99) if they were missing and no atrial fibrillation was reported (x0af02=”No”, “Don’t know” or “Missing by design”),
    b) “Unexpected missing” (-89) if they were still missing,
    c) “Don’t know” (-88) if the chosen answer option was “I do not know”.
6. The variables on time of atrial fibrillation diagnosis, x0af02b and x0af02c, and atrial fibrillation treatment, x0af02d, had their missing observations transformed into:
    a) “Missing by design” (-99) if the atrial fibrillation was not diagnosed by a doctor (x0af02a=”No”, “Don’t know” or “Missing by design”),
    b) “Unexpected missing” (-89) otherwise.
7. The variables on atrial fibrillation symptoms, x0af03a-x0af03h, had their missing observations transformed into:
    a) “Missing by design” (-99) if discomfort during atrial fibrillation was not reported (x0af03=”No”, “Don’t know” or “Missing by design”),
    b) “Unexpected missing” (-89) otherwise.
8. The variables on frequency and duration of atrial fibrillation, x0af05 and x0af06, had their missing observations transformed into:
    a) “Missing by design” (-99) if the questionnaire version x0afver was the first and atrial fibrillation was not reported (x0af02=”No”, “Don’t know” or “Missing by design”),
    b) “Missing by design” (-99) if the questionnaire version x0afver was the second and chronic atrial fibrillation was not reported (x0af04=”No”, “Don’t know” or “Missing by design”),
    c) “Unexpected missing” (-89) otherwise.
9. The variables on extrasystole/irregular heartbeat, x0af07, electric shock therapy, x0af08, syncope, x0af09, ever being resuscitated by a physician, x0af10, and on carrying a pacemaker or defibrillator, x0af11, had their observations transformed into “Unexpected missing” (-89) if they were missing, and their “I don’t know” answer option was transformed into the missing type “Don’t know” (-88).
10. The variable on age at extrasystole/irregular heartbeat diagnosis, x0af07b, had its observations transformed into:

a) "Missing by design" if they were missing and no irregular heartbeat was reported (x0af07= "No", "Don't know" or "Missing by design"),
b) "Unexpected missing" if they were still missing,
c) "Don't know" if the reported age was 99.

11. The variable on extrasystole/irregular heartbeat, x0af07, was corrected into "Yes" if an age at diagnosis in x0af07b was provided.
12. The variable on age at syncope, x0af09a, had its missing observations transformed into:
    a) "Missing by design" if no syncope was reported (x0af09= "No", "Don't know" or "Missing by design"),
    b) "Unexpected missing" otherwise.
13. The last questions of the cardiac arrhythmia module, x0af12, x0af12a and x0afn6, were renamed as x0cv01, x0cv01a, and x0cvn1, given they referred to other heart diseases and not cardiac arrhythmia.
14. The year variables, x0af01a, x0af02b, and x0af07a, were dropped in favor of the age variables, x0af01b, x0af02c, and x0af07b.
15. The free text variables describing the diseases/problems, x0af03i, and x0af07c, were translated and categorized when possible.
16. The variables storing the notes additional information on atrial fibrillation, its symptoms, its frequency, other cardiac arrhythmias and their treatment, x0afn1, x0afn2, x0afn3, x0afn4, x0afn5, and x0afnote, were translated and categorized when possible. Their elaborated versions were saved as x0afn1b, x0afn2b, x0afn3b, x0afn4b, x0afn5b, and x0afnoteb.
17. The baseline dataset was saved.

4. Advices for the analysis

The content of the nurse's notes, referring to cardiac arrhythmia, can include information on circumstances around the diagnosis, as well as its symptoms, timing, and treatment. Furthermore, the variable x0afnote can reveal that the syncope they reported was related to a bee sting or an accident, so not due to sudden cardiac arrest as requested by the question.

The current medications can be looked at in the drugs module x0dd, where the participant let their current medication packages be scanned by the nurse at the study center. Specifically, the variable x0dd32 describes current use of Class I and III antiarrhythmics.

The syncope question, x0af09, should not be trusted, as many answers referred to situational syncope, i.e. a syncope due to external causes, such as an allergic reaction to an insect sting, or an accident, or during a surgical procedure. The analyst is highly encouraged to use the cleaned version of x0af09, called x0cv15, derived considering reported fainting in x0af09, reported resuscitation in x0af10, and all the character variables in the modules x0mi, x0hf, and x0af. Cardiac arrest was considered due to primary cardiac reason (e.g. arrhythmia, myocardial infarction) only in presence of resuscitation.

Finally, the analyst should always take into account that the operator in charge of carrying out the interview might have influenced how the participant reported their answers. The analyst should therefore adjust for the operator variable, x0_opintc, when possible.

5. References

Löwel H, Döring A, Schneider A, Heier M, Thorand B, Meisinger C. The MONICA Augsburg surveys - basis for prospective cohort studies. Gesundheitswesen. 2005;67(Sonderheft 1):S13–S18. DOI: 10.1055/s-2005-858234

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