CHRIS Study

Interview – Myocardial infarction

Version 1.1

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1. Introduction

This module stores information related to the myocardial infarction 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. This module is based on the KORA study (*Kooperative Gesundheitsforschung in der Region Augsburg*) follow-up F4 questionnaire, specifically the modules FRAGEN ZUR GESUNDHEIT and ANGINA PECTORIS.

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 between November 5th, 2012, and August 29th, 2014. Version 3 has been in use since September 1st, 2014.

Version 1 to Version 2

variables dropped: x0mi08a

question rephrased: x0mi08 (de, it), x0mi08b (de, it), x0mi08d (it), x0mi18 (de, it)

Version 2 to Version 3

question filtering criteria changed: x0mi05a-x0mi05e, x0mi06

3. Data cleaning

1. The main CHRIS dataset was loaded.
2. The variables on chest pain or discomfort, x0mi00, had it observations transformed into "Unexpected missing" (-89) if they were missing,
3. The variable on chest pain or discomfort when walking uphill or in a hurry, x0mi01, had it missing observations set to:
   a) "Missing by design" (-99) if no chest pain or discomfort was reported (x0mi00="No" or "Missing by design")
   b) "Unexpected missing" (-89) otherwise.

4. The variables on chest pain or discomfort, x0mi00, was corrected from "No" to "Yes" if an answer was given in the following dependent question, x0mi01.
5. The variables on chest pain or discomfort when walking at a normal pace on level ground and the reaction to such pain, x0mi02 and x0mi03, had their missing observations set to:
    a) "Missing by design" (-99) if no chest pain or discomfort was reported when walking uphill or in a hurry (x0mi01="No" or "Missing by design")
    b) "Unexpected missing" (-89) otherwise.
6. The variable on pain/discomfort duration, x0mi04, had its missing observations set to:
    a) "Missing by design" (-99) if the reaction to chest pain or discomfort was to keep walking at the same pace (x0mi03="I carry on walking at the same pace" or "Missing by design")
    b) "Unexpected missing" (-89) otherwise.
7. The variables on pain/discomfort location, x0mi05a-x0mi05e, x0mi06, had their missing observations set to:
    a) "Missing by design" if the questionnaire version, x0miver, was the first or the second and the pain/discomfort lasted less than 10 minutes (x0mi04="Yes" or "Missing by design"),
    b) "Missing by design" if the questionnaire version, x0miver, was the third and no chest pain or discomfort was reported when walking uphill or in a hurry (x0mi01="No" or "Missing by design")
    c) "Unexpected missing" otherwise.
8. The variable on possible infarction, x0mi07, had it missing observations set to:
    a) "Missing by design" (-99) if no chest pain or discomfort was reported (x0mi00="No" or "Missing by design")
    b) "Unexpected missing" (-89) otherwise.

    Note that between November 21st, 2013 and August 29th, 2014, due to technical problems, the filtering condition was to have the pain/discomfort not vanish for 10 minutes (x0mi04="No") instead of ever chest pain/discomfort (x0mi00="Yes").

9. A new variable was created on angina pectoris without localization, x0mi19a, with values:
    a) "Yes" if chest pain or discomfort was reported (x0mi00="Yes") and chest pain arose either when walking uphill or in a hurry or when walking on level ground (x0mi01="Yes" or x0mi02="Yes") and when this pain occurs they either slow down/stop or take nitroglycerine (x0mi03="I slow down/stop" or "I take nitroglycerine") and the pain disappears after 10 minutes (x0mi04="Yes")
    b) "Unexpected missing" if all those above-mentioned variables were "Unexpected missing",
    c) "No" otherwise.
10. Another variable was created on angina pectoris with localization, x0mi19b, with values:
    a) "Not in use" (-98) if x0miver was the first or the second,
    b) "Yes" if angina pectoris was present (x0mi19a="Yes") and the pain was at the sternum or the pain was at the left arterial chest radiating into the left arm (x0mi05a="Yes" or (x0mi05b="Yes" and x0mi06="Yes"))
    c) "Unexpected missing" if x0mi19a was "Unexpected missing",
    d) "No" otherwise.

11. The variables on coronary heart disease and myocardial infarction diagnosis, x0mi08 and x0mi09, had their observations set to "Unexpected missing" if they were missing, and "Don't know" (-88) if the third answer option, "I do not know", was chosen.

12. The variable on coronary heart disease being diagnosed by a doctor, x0mi08a, had it missing observations set to:
    a) "Not in use" if the version x0miver was not the first,
    b) "Missing by design" if no coronary heart disease was reported (x0mi08="No" or "Missing by design" or "Don't know"),
    c) "Unexpected missing" otherwise.

13. The variables on age at coronary heart disease diagnosis and its current treatment, x0mi08c and x0mi08d, had their observations set to:
    a) "Missing by design" if they were missing, the questionnaire version x0miver was the first and coronary heart disease was not diagnosed by a doctor (x0mi08a="No" or "Missing by design" or "Don't know")
    b) "Missing by design" if they were missing, the questionnaire version x0miver was not the first and coronary vessels disease was not reported (x0mi08="No" or "Missing by design" or "Don't know")
    c) "Unexpected missing" if still missing,
    d) "Don't know" if the provided age was 99 or the option "I do not know" was chosen.

14. The variable on myocardial infarction diagnosis was corrected when the free text in the heart failure question x0hf07d mentioned myocardial infarction as a clear diagnosis (the suspicions or higher risk of myocardial infarction were disregarded).

15. The variable on number of myocardial infarctions, x0mi10, had its missing observations transformed into:
    a) "Missing by design" if no myocardial infarction was reported (x0mi09="No" or "Missing by design" or "Don't know"),
    b) "Unexpected missing" otherwise.

16. For the first reported myocardial infarction, the variables on the year of diagnosis and on treatment, x0mi11a and x0mi11b, had their observations set to:
    a) "Missing by design" (-99) if they were missing and no myocardial infarction ever was reported (x0mi09="No", "Missing by design" or "Don't know")
    b) "Unexpected missing" if they were still missing,
    c) "Don't know" if the imputed number was 9999.

17. For the following reported myocardial infarction variables, the same was done, additionally checking that the number of reported myocardial infarctions in x0mi10 was not smaller.

18. The variables on coronary angiography, cardiac surgery, and bypass surgery, x0mi16, x0mi17, and x0mi18, had their missing observations set to "Unexpected missing", and their answer option "I do not know" turned into the missing value "Don't know" (-88).

19. For those who reported a myocardial infarction, a new variable on the occurrence of an early myocardial infarction was created and called x0mi24, with the following values:
    a) "Yes" if the age at the first myocardial infarction (x0_examy-min{x0mi11a, x0mi12a, x0mi13a, x0mi14a, x0mi15a}) was below 56 for men or below 66 for women,
    b) "No" if the age at the first myocardial infarction (x0_examy- min{x0mi11a, x0mi12a, x0mi13a, x0mi14a, x0mi15a}) was at least 56 for men or at least 66 for women,

c) "Unexpected missing" (-89) if the age of any myocardial infarction was missing.

d) "Missing by design" (-99) if no myocardial infarction was reported.

20. The year variable x0mi08a was dropped in favor of the age variable x0mi08b.

21. The variables specifying the chest pain/discomfort location, x0mi05f, was translated and categorized when possible.

22. The variables storing the notes additional information on angina pectoris, coronary heart disease, myocardial infarction, and myocardial infarction- surgery, x0min1, x0min2, x0min3, x0min4, and x0minote, were translated and categorized when possible.

23. The baseline dataset was saved.

4. Advices for the analysis

The content of the nurse's notes, referring to myocardial infarction, can include information on multiple coronary heart diagnoses, as well as multiple cardiac surgeries. Additionally, alternative explanations for angina pectoris might be reported (e.g. another disease-causing chest pain) are reported in x0min1.

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 x0dd30 describes current use of vasodilators (used for instance for angina pectoris).

The variables on hospital location for each myocardial infarction in-patient treatment cannot be shared due to privacy reasons and lack of usefulness for a scientific project.

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

Holle R, Happich M, Löwel H, Wichmann H-E. KORA-A Research Platform for Population Based Health Research. Gesundheitswesen. 2005;67(Sonderheft 1):S19–S25. DOI: 10.1055/s-2005-858235