CHRIS Study

Interview – Stroke

Version 1.1

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1. Introduction

This module stores information related to the stroke history of the participants, 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. The first version of this module is based on the KORA study (*Kooperative Gesundheitsforschung in der Region Augsburg*) follow-up F4 questionnaire, module FRAGEN ZUR GESUNDHEIT, whereas the second and third version are based on the PhenX Toolkit History of Stroke - Ischemic Infarction and Hemorrhage Protocol, an interviewer-administered questionnaire that captures the history of stroke(s) and associated symptoms. Such questionnaire is the Stroke Symptoms Form, Version A, December 7, 2000, of the Jackson Heart Study (JHS). The PhenX (consensus measures for Phenotypes and eXposures) aims at promoting standard measurement protocols and to enhance collaborative research merging multiple studies. The PhenX Toolkit offers high-quality, well-established protocols to measure phenotypes in studies with human participants.

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 November 20th, 2013. Version 3 has been in use since November 21st, 2013.

Version 1 to Version 2

variables dropped: x0st00a, x0st01a, x0st01b, x0st01c, x0st02a, x0st02b, x0st02c, x0st03a, x0st03b, x0st03c, x0st04a, x0st04b, x0st04c, x0st05a, x0st05b, x0st05c, x0st20, x0st20b, x0st20c

variables added: x0st06a, x0st06b, x0st07, x0st07a, x0st08, x0st08a, x0st09, x0st09a, x0st09b, x0st10, x0st10a, x0st10b, x0st11, x0st11a, x0st12, x0st12a, x0st21, x0st21b, x0st21c

other: TIA questions (x0st20, x0st20b, x0st20c) were moved from the Neurology module and rephrased to x0st21, x0st21b, x0st21c

Version 2 to Version 3

question filtering criteria changed: x0st09b (skip if x0st09a=2) x0st10b (skip if x0st10a=1)

3. Data cleaning

1. The main CHRIS dataset was loaded.
2. The variable on diagnosis of either transient ischemic attack (TIA) or stroke, x0st20, had it observations transformed into:
   a) "Not in use" (-98) if the questionnaire version was not the first (x0stver>1),
   b) "Unexpected missing" (-89) if they were missing,
   c) "Don't know" (-88) if the option "I do not know" was chosen.
3. The variable on the age at the diagnosis of either transient ischemic attack or stroke, x0st20b, had its observations transformed into:
   a) "Not in use" (-98) if the questionnaire version was not the first (x0stver>1),
   b) "Missing by design" (-99) if they were missing and no TIA or stroke was ever diagnosed (x0st20="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.
4. The variable on diagnosis of only transient ischemic attack (TIA), x0st21, had it observations transformed into:
   a) "Not in use" (-98) if the questionnaire version was the first (x0stver=1),
   b) "Unexpected missing" (-89) if they were missing,
   c) "Don't know" (-88) if the option "I do not know" was chosen.
5. The variable on the age at the diagnosis of TIA, x0st21b, had its observations transformed into:
   a) "Not in use" (-98) if the questionnaire version was the first (x0stver=1),
   b) "Missing by design" (-99) if they were missing and no TIA was ever diagnosed (x0st21="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.
6. The variable on diagnosis of stroke, x0st00, had it observations transformed into:
   a) "Unexpected missing" (-89) if they were missing,
   b) "Don't know" (-88) if the option "I do not know" was chosen.
7. The variable on the total number of strokes, x0st00a, had its missing observations transformed into:
   a) "Not in use" (-98) if the questionnaire version was not the first (x0stver>1),
   b) "Missing by design" (-99) if no stroke was ever diagnosed (x0st00="No", "Don't know" or "Missing by design"),
   c) "Unexpected missing" (-89) otherwise.
8. The variables on the year of each stroke, x0st01a, x0st02a, x0st03a, x0st04a, x0st05a, had their observations transformed into:
   a) "Not in use" (-98) if the questionnaire version was not the first (x0stver>1),
   b) "Missing by design" (-99) if they were missing and no stroke was ever diagnosed (x0st00="No", "Don't know" or "Missing by design") or the number of reported strokes was less than its position (e.g., for x0st03a, x0st00a≤2),
   c) "Unexpected missing" (-89) if they were still missing,
   d) "Don't know" (-88) if the reported year of diagnosis was 9999.

9. The variables on inpatient treatment of each stroke, x0st01b, x0st02b, x0st03b, x0st04b, x0st05b, had their observations transformed into:
    a) "Not in use" (-98) if the questionnaire version was not the first (x0stver>1),
    b) "Missing by design" (-99) if they were missing and no stroke was ever diagnosed (x0st00="No", "Don't know" or "Missing by design") or the number of reported strokes was less than its position (e.g., for x0st03b, x0st00a≤2),
    c) "Unexpected missing" (-89) if they were still missing,
10. The variables on the month and year of the first stroke, x0st06a and x0st06b, had their observations transformed into:
    a) "Not in use" (-98) if the questionnaire version was the first (x0stver=1),
    b) "Missing by design" (-99) if they were missing and no stroke was ever diagnosed (x0st00="No", "Don't know" or "Missing by design"),
    c) "Unexpected missing" (-89) if they were still missing,
    d) "Don't know" (-88) if the provided month was 99 or the provided year was 9999.
11. All the variables on occurrence of stroke-specific symptoms, x0st07, x0st08, x0st09, x0st10, x0st11, x0st12, had their observations transformed into:
    a) "Not in use" (-98) if the questionnaire version was the first (x0stver=1),
    b) "Unexpected missing" (-89) if they were still missing,
    c) "Don't know" (-88) if the participant chosen the option "I do not know".
12. For each stroke-specific symptom, the variables on whether a symptom occurred suddenly or on a specific body position had their observations transformed into:
    a) "Not in use" (-98) if the questionnaire version was the first (x0stver=1),
    b) "Missing by design" (-99) if they were missing and that symptom did not occur (e.g., for x0st07a, x0st07="No", "Don't know" or "Missing by design"),
    c) "Unexpected missing" (-89) if they were still missing,
    d) "Don't know" (-88) if the participant chosen the option "I do not know".

    The only exceptions were x0st09b, that in the third module version was asked only to those who answered "Yes" or "I do not know" to x0st09a, and x0st10b, that in the third module version was asked to those who answered "No" or "I do not know" to x0st10a.

13. The year variables x0st20a and x0st21a were dropped in favor of the age variables x0st20b and x0st21b.
14. The variables specifying the circumstances of the stroke or TIA diagnosis, x0st20c, and those of the stroke diagnosis, x0st21c, were translated and categorized according to the symptoms when possible.
15. The variables storing the notes additional information on TIA, stroke, and its symptoms, x0stn1, x0stn2, x0stn3, x0stn4, and x0stnote, were translated and categorized when possible.
16. The baseline dataset was saved.

4. Advices for the analysis

The content of the nurse's notes, referring to transient ischemic attack and stroke, can include information on the symptoms of transient ischemic attack, on the symptoms of the stroke, as well as the

duration of the reported symptoms. Additionally, in x0nen3 and x0nen4 might be reported that other conditions caused those symptoms.

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 x0dd36 describes current use of antithrombotics, and more specifically the variable x0dd44 describes current use of warfarin, typically used to prevent strokes and TIA.

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

Hamilton CM, Strader LC, Pratt JG, Maiese D, Hendershot T, Kwok RK, Hammond JA, Huggins W, Jackman D, Pan H, Nettles DS, Beaty TH, Farrer LA, Kraft P, Marazita ML, Ordovas JM, Pato CN, Spitz MR, Wagener D, Williams M, Junkins HA, Harlan WR, Ramos EM, Haines J. The PhenX Toolkit: get the most from your measures. Am J Epidemiol. 2011;174(3):253-60. DOI: 10.1093/aje/kwr193

PhenX Toolkit History of Stroke - Ischemic Infarction and Hemorrhage Protocol: https://www.phenxtoolkit.org/protocols/view/130301