CHRIS Study

Neurological tests – Algometer test

Version 1.1

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1. Introduction

This module stores results of the algometer test, part of the neurological tests set that were performed at the CHRIS study center.

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. 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 neurological tests set occurs always right after the interview and it is executed from the same operator conducting the interview.

The algometer test was developed to assess pain sensitivity. The specific instrument used was Wagner Force Dial™ FDK 20 Force Gage, with capacity of 10 Kg and accuracy of 1 graduation.

The participant places the left-hand side forearm through the elbow laying on a table/desk, with the palm of their hand turned upward. The fingers should be slightly spread apart and rest on the table. The dull mechanical stimulator of the algometer is then laid on the palmar side of the distal phalanx of the index finger. Then, a pressure of increasing force at 0.5 kg/s is applied until the subject reports a first feeling of pain. The pressure applied at this moment can be hold and read off at the stimulator gauge, just by stopping at exerting pressure by the operator. Before starting the actual measurement, a training test should be performed on another finger (e.g., middle finger). The measurement should not be carried out if the index finger is inflamed or injured. In this case, the measurement should be performed on the index finger of the right hand. This was documented in the test-recording sheet. If both the index fingers are inflamed or injured, the measurement should not be carried out on the participant.

The algometer standard operating procedure, as well as the instructions for participants are available at CHRIS Baseline/Neurological tests/Algometer and online (see References section).

2. History version changes

The algometer test was in use since August 24st, 2011 and no version change occurred.

3. Data cleaning

1. The main CHRIS dataset was loaded.
2. The algometer measurement variable x0am01 had its missing observations set to “Unexpected missing” (-89).
3. The variable on the hand on which the algometer test was performed, x0am02, had its missing observations set to “Unexpected missing” (-89).
4. The variable storing the notes additional information on the olfaction test, x0amnote, was translated and categorized when possible.
5. The baseline dataset was saved.

4. Advices for the analysis

The content of the nurse's notes includes information on recent or permanent injuries on the left index finger, paralysis and arthrosis affecting the hands.

Other information on pain have been collected on the interview module on chronic pain x0pn and in the self-administered questionnaire modules of Pain Sensitivity Questionnaire x0ps. Furthermore, in the Neuropsychiatry Questionnaire, psychogenic pain was assessed with the questions x0mp15, x0mp15a, x0mp15b, and x0mp15c.

Finally, the analyst should always take into account that the operator in charge of carrying out the neurological tests might have influenced how the participant reported their answers. The analyst should therefore adjust for the operator variable, x0am03, when possible.

5. References

Force Dial FDK 20 algometer manual: https://www.wagnerinstruments.com/products/force-gages/mechanical-force-gages/force-dial-fdk-fdn