

Validation of the Collaborative Outcomes study on Health and Functioning during Infection Times (COH-FIT) questionnaire for adults

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Abstract

Background: The Collaborative Outcome study on Health and Functioning during Infection Times (COH-FIT; www.coh-fit.com) is an anonymous and global online survey measuring health and functioning during the COVID-19 pandemic. The aim of this study was to test concurrently the validity of COH-FIT items and the internal validity of the co-primary outcome, a composite psychopathology “P-score”. **Methods:** The COH-FIT survey has been translated into 30 languages (two blind forward-translations, consensus, one independent English back-translation, final harmonization). To measure mental health, 1–4 items (“COH-FIT items”) were extracted from validated questionnaires (e.g. Patient Health Questionnaire 9). COH-FIT items measured anxiety, depressive, post-traumatic, obsessive-compulsive, bipolar and psychotic symptoms, as well as stress, sleep and concentration. COH-FIT Items which correlated $r \geq 0.5$ with validated companion questionnaires, were initially retained. A P-score factor structure was then identified from these items using exploratory factor analysis (EFA) and confirmatory factor analyses (CFA) on data split into training and validation sets. Consistency of results across languages, gender and age was assessed. **Results:** From >150,000 adult responses by May 6th, 2022, a subset of 22,456 completed both COH-FIT items and validated questionnaires. Concurrent validity was consistently demonstrated across different languages for COH-FIT items. CFA confirmed EFA results of five first-order factors (anxiety, depression, post-traumatic, psychotic, psychophysiologic symptoms) and revealed a single second-order factor P-score, with high internal reliability ($\omega = 0.95$). Factor structure was consistent across age and sex. **Conclusions:** COH-FIT is a valid instrument to globally measure mental health during

infection times. The P-score is a valid measure of multidimensional mental health. © 2022 Elsevier B.V.

Author keywords

COH-FIT; Covid-19; Pandemic; Survey; P-factor; well-being; mental health; psychiatry; psychometric