

# COVID-19 pandemic effects on depression, anxiety and help-seeking attitudes in college students

<b>Submission date</b> 17/11/2020	<b>Recruitment status</b> No longer recruiting	<input type="checkbox"/> Prospectively registered
<b>Registration date</b> 19/11/2020	<b>Overall study status</b> Completed	<input type="checkbox"/> Protocol
<b>Last Edited</b> 03/01/2023	<b>Condition category</b> Mental and Behavioural Disorders	<input type="checkbox"/> Statistical analysis plan
		<input checked="" type="checkbox"/> Results
		<input type="checkbox"/> Individual participant data

## Plain English summary of protocol

### Background and study aims

For young people, just as in the general population, the COVID-19 pandemic has caused many changes in their lives. Research has shown an increased risk for mental illness symptoms as a consequence of the pandemic. The aim of this study is to evaluate the impact of the COVID-19 pandemic on university students' anxiety and depression symptoms. This is a follow up to the study described at <https://www.isrctn.com/ISRCTN97093665>.

### Who can participate?

Students in their first year at the University of Porto who participated in the previous study

### What does the study involve?

The study involves three follow-up evaluations besides the ones described in the previous study, taking place in June 2020, January and May 2021. Depression symptoms, anxiety symptoms and help-seeking attitudes are assessed using questionnaires.

### What are the possible benefits and risks of participating?

Benefits include increasing knowledge about how changes brought by the COVID-19 influence depression and anxiety symptoms. Possible risks/inconvenience include the time invested in responding to the questionnaires.

### Where is the study run from?

Institute of Public Health of the University of Porto (Portugal)

### When is the study starting and how long is it expected to run for?

February 2019 to June 2021

### Who is funding the study?

Investigator initiated and funded

Who is the main contact?  
Virgínia Conceição  
up200501131@med.up.pt

## Contact information

**Type(s)**  
Scientific

**Contact name**  
Mrs Virgínia Conceição

**ORCID ID**  
<http://orcid.org/0000-0002-3281-1508>

**Contact details**  
Rua Domingos Machado  
102  
Porto  
Portugal  
4250-201  
+351 (0)222061820  
up200501131@med.up.pt

## Additional identifiers

**EudraCT/CTIS number**  
Nil known

**IRAS number**

**ClinicalTrials.gov number**  
Nil known

**Secondary identifying numbers**  
PMHDS-1

## Study information

**Scientific Title**  
COVID-19 pandemic effects on depression, anxiety and help-seeking attitudes in college students: a cohort study

**Study objectives**  
Depression and anxiety symptoms increased as a result of the COVID-19 pandemic.

**Ethics approval required**  
Old ethics approval format

**Ethics approval(s)**

Approved 01/08/2020, Institute of Public Health of the University of Porto ethics committee (Rua das Taipas 135, 4050-091 Porto; +351 (0)222061820; etica@ispup.up.pt), ref: CE18096

**Study design**

Observational cohort study

**Primary study design**

Observational

**Secondary study design**

Cohort study

**Study setting(s)**

Internet/virtual

**Study type(s)**

Screening

**Participant information sheet**

See additional files

**Health condition(s) or problem(s) studied**

Changes in depression and anxiety symptoms in college students

**Interventions**

This study is part of broader longitudinal research on university students' mental health with the Portuguese version of The Patient Health Questionnaire (PHQ-9) and the Portuguese version of the Generalised Anxiety Disorder (GAD-7) data with evaluations on January, May and October 2019 and June 2020, as well as socio-demographic information.

Using the SurveyMonkey platform, in February 2019, the researchers contacted all 4493 first-year students from all 14 schools of the University of Porto through institutional email and invited them to participate in the study. A reminder email is sent a week after the first email. Participants are then also evaluated in May and October 2019 and again in June 2020. The researchers plan to repeat the evaluation in January and May 2021.

The statistical analyses consist of two parts. The first part explores the results obtained in the last moment of evaluation, describing depression and anxiety symptomatology after the pandemic, and comparing mean scores and above cut-off proportions according to gender and by all the covariates. The researchers use Student's t-test to compare groups in continuous variables, and the Mann-Whitney test to compare proportions between two groups.

The second phase explores the differences in PHQ-9 and GAD-7 scores across time, using one-way ANOVA repeated measures to assess changes in means, and Cochran's Q test with McNemar's post-hoc Bonferroni-adjusted alpha to evaluate the changes in cut-off proportions between the different evaluation moments. The researchers will fixed-effects regression to analyse the effect of the pandemic on changes within an individual's depression and anxiety symptomatology, and mean scores for the outcome measure, as opposed to fitting a fixed-effects model for a binary outcome indicator, in order to prevent the exclusion with concordant responses over time.

The researchers will assess the effect of the pandemic within participants using fixed-effects regression and use mean scores for the outcome measure because a binary outcome in the fixed-effects model would further reduce the sample available for analysis as it would exclude concordant responses over time, thus affecting statistical power.

### **Intervention Type**

Other

### **Primary outcome measure**

1. Depression symptoms measured with the Portuguese version of The Patient Health Questionnaire (PHQ-9) in February, May and October 2019, June 2020, January and May 2021
2. Anxiety symptoms measured with the Portuguese version of the Generalised Anxiety Disorder (GAD-7) in February, May and October 2019, June 2020, January and May 2021

### **Secondary outcome measures**

Help-seeking attitudes measured with the Attitudes Toward Seeking Professional Help scale in February, May and October 2019, June 2020, January and May 2021

### **Overall study start date**

01/02/2019

### **Completion date**

01/06/2021

## **Eligibility**

### **Key inclusion criteria**

1. Participated in the RCT "Mental health stigma: a videobased randomized controlled trial to reduce depression stigma among university students" (<https://www.isrctn.com/ISRCTN97093665>)
2. Responded to all evaluation moments described in the above study

### **Participant type(s)**

Healthy volunteer

### **Age group**

Adult

### **Sex**

Both

### **Target number of participants**

500

### **Total final enrolment**

623

### **Key exclusion criteria**

Does not meet inclusion criteria

**Date of first enrolment**

01/04/2019

**Date of final enrolment**

31/05/2019

## **Locations**

**Countries of recruitment**

Portugal

**Study participating centre**

**Institute of Public Health of the University of Porto**

Rua das Taipas n°135

Porto

Porto

Portugal

4050-600

## **Sponsor information**

**Organisation**

University of Porto

**Sponsor details**

Institute of Public Health

Rua das Taipas

n° 135

Porto

Portugal

4050-600

+351 (0)912969687

secretaria@ispup.up.pt

**Sponsor type**

University/education

**Website**

<https://ispup.up.pt/>

**ROR**

<https://ror.org/043pwc612>

# Funder(s)

## Funder type

Other

## Funder Name

Investigator initiated and funded

# Results and Publications

## Publication and dissemination plan

The researchers plan to publish the study protocol in a peer-reviewed journal.

The researchers are planning to publish three results papers:

1. Depression and anxiety consequences of the COVID-19 pandemic: a longitudinal cohort study with university students - to be submitted to peer-review in November 2020
2. The effects of the COVID-19 pandemic in help-seeking attitudes in people with anxiety and depression symptoms - to be submitted to peer-review in June 2021

## Intention to publish date

01/03/2021

## Individual participant data (IPD) sharing plan

The datasets generated during and/or analysed during the current study are/will be available upon request from Virgínia Conceição (up200501131@med.up.pt).

## IPD sharing plan summary

Available on request

## Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">Participant information sheet</a>			20/11/2020	No	Yes
<a href="#">Results article</a>		14/12/2021	03/01/2023	Yes	No