

The Impact of the COVID-19 Lockdown Restrictions on Mental Health Disorders According Student Status

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Abstract

The objective was to compare the frequency of depressive symptoms, anxiety and suicidal thoughts in students and non-students enrolled in the same study in France according to key periods of the COVID-19 epidemic. Students were more likely than non-students to having high scores of depressive symptoms and anxiety, particularly during the 1st and 2nd lockdowns. These findings suggest that restrictive measures i.e. lockdown and curfew have an alarmingly stronger negative impact in students than in non-student and underlines the frailty of students' mental health and that greater attention should be given to this population.

Introduction

The short-term negative impact of the COVID-19 epidemic and lockdown on student's mental health problems is well documented [1–3]. During the 2014-15 Ebola outbreak in West Africa, school and university closures increased the school drop-out rates and had a substantial long-term impact on health [4]. These negative impacts may result in long lasting consequences that will not be resolved, even after the re-opening of schools, and usually begin appearing 4–8 weeks after the initiation of lockdown measures [5, 6]. It is however uncertain whether students are really at higher risk of mental health disturbances than non-students and if there is a differential impact of lockdown periods over time. Our objective was to compare the frequency of depressive symptoms, anxiety and suicidal thoughts in students and non-students enrolled in the same study in France according to key periods of the COVID-19 epidemic.

Methods

Our study sample comprised participants in the ongoing web-based Confins cohort (www.confins.org), a prospective population-based study launched in April 2020 addressing the psychological impact of covid-19. Participants were recruited via advertisement on traditional and social media. To be eligible, subjects had to be aged 18 or older and to have been confined in France. All participants provided an on-lined informed consent.

Depressive symptoms (PHQ-9 \geq 10), anxiety (GAD-7 \geq 10), and suicidal thoughts (occasional or frequent) in the past week, were measured in participants during three recruitment waves corresponding to key periods of the COVID-19 epidemic in France: 1) Period 1: first national lockdown (17th March-11th May 2020); 2) Period 2: no lockdown restrictions (12th May-27th October 2020); and 3) Period 3: second national lockdown and curfew (28th October 2020-25th January 2021).

We compared the frequency of mental health outcomes between students and non-students at each period and we used logistic regression models to adjust for age, gender, marital status, education level, and psychiatric disease history.

Results

Among the 3783 participants included, 67% (n = 2518; 59% students) were recruited during the period 1, 21% (n = 811; 64% students) during the period 2, and 12% (n = 454; 74% students) during the period 3. Students had higher rates of mental health symptoms than non-students at each period (Fig. 1.). There was however a dramatic differential pattern between students and non-students according to the period. Multivariate analyses revealed significant variations in the rates of mental health disorders over time in the student population, but not in the non-student population (Table 1.). Specifically, among students, there was a higher frequency of depressive disorders and anxiety during the 1st and 2nd lockdowns compared to the 'no lockdown period'. Among non-students, the rates of mental health disorders were relatively stable over time. Students had an about 60% increased risk of depressive symptoms and anxiety compared to non-students during the 1st lockdown. The point estimates were even higher during the 2nd lockdown. In 'no lockdown period', there was no difference between the two groups. There was no statistically significant difference between groups regarding suicidal thoughts at any period.

Table 1

Prevalence of mental health disorders and association between college student status and depression symptoms (n = 3783), anxiety (n = 3783), suicidal thoughts (n = 3043) according to key periods of the COVID-19 epidemic in France, CONFINS cohort (2020–2021).

	1st lockdown		No lockdown restrictions		2nd lockdown	
	Non-students	Students	Non-students	Students	Non-students	Students
Depression % (N)	18.7 (193)	36.3 (540)	21.4 (63)	27.1 (140)	27.1 (39)	53.6 (166)
Anxiety % (N)	15.9 (164)	26.4 (393)	21.1 (109)	20.1 (109)	18.1 (26)	42.9 (133)
Suicidal thoughts % (N)	7.3 (54)	11.9 (142)	8.3 (22)	11.8 (54)	11.1 (14)	17.6 (46)
Logistic regression results	OR	95% CI	OR	95% CI	OR	95% CI
Model 1						
Depression	1.44	[1.10–1.89]	1.24	[0.81–1.89]	2.13	[1.24–3.66]
Anxiety	1.52	[1.14–2.05]	0.82	[0.52–1.29]	2.65	[1.46–4.82]
Suicidal thoughts	1.59	[0.98–2.56]	1.35	[0.72–2.55]	1.24	[0.56–2.79]
Model 2						
Depression	1.59	[1.22–2.08]	1.17	[0.76–1.80]	1.80	[1.04–3.12]
Anxiety	1.63	[1.22–2.18]	0.94	[0.59–1.48]	2.25	[1.24–4.10]
Suicidal thoughts	1.21	[0.91–1.60]	0.82	[0.42–1.61]	0.99	[0.53–1.85]
<i>OR = Odds ratio, CI = Confidence Interval</i>						
<i>Model 1 adjusted for age and gender ; Model 2 adjusted for age, gender, psychiatric disease history, education level, familial status after multiple imputation on psychiatric disease history</i>						

Discussion

In this study in which students and non-students were recruited using the same strategy and differed only on mean age and marital status (data not shown), we confirmed that students were more likely than non-students to having high scores of depressive symptoms and anxiety. This pattern was particularly strong

during the 1st and 2nd lockdowns, thus suggesting that students are a more fragile group under these conditions. Importantly, whereas period with no lockdown restrictions was accompanied by a clear improvement of mental health outcomes in students, the 2nd lockdown seemed to have an even higher effect on these outcomes in students. These findings suggest that restrictive measures i.e. lockdown and curfew have an alarmingly stronger negative impact in students than in non-students. This could be explained by the lack of support and social isolation due to university closures [7–8] but underlines the frailty of students' mental health and that greater attention should be given to this population [9].

Declarations

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Author Contribution:

MM et CT designed the study. MM conducted the statistical analysis. MM, SC et CT wrote the first draft of the manuscript. All authors contributed to editing and commenting the final version.

Conflicts of interest:

On behalf of all authors, the corresponding authors state that there is no conflict of interest.

Availability of data and material:

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Ethics approval:

The study follows the principles of the Declaration of Helsinki and the collection, storage and analysis of the data comply with the General Data Protection Regulation (EU GDPR). The study was approved by the French Committee for the Protection of Individuals (Comité de Protection des Personnes – CPP IDF X, nr. 46-2020) and by the National Commission on Informatics and Liberty (Commission Nationale de l'Informatique et des Libertés) CNIL, nr. MLD/MFI/AR205600).

Consent to participate:

Students were informed on the nature and purpose of the study and provided on-line consent.

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Figures

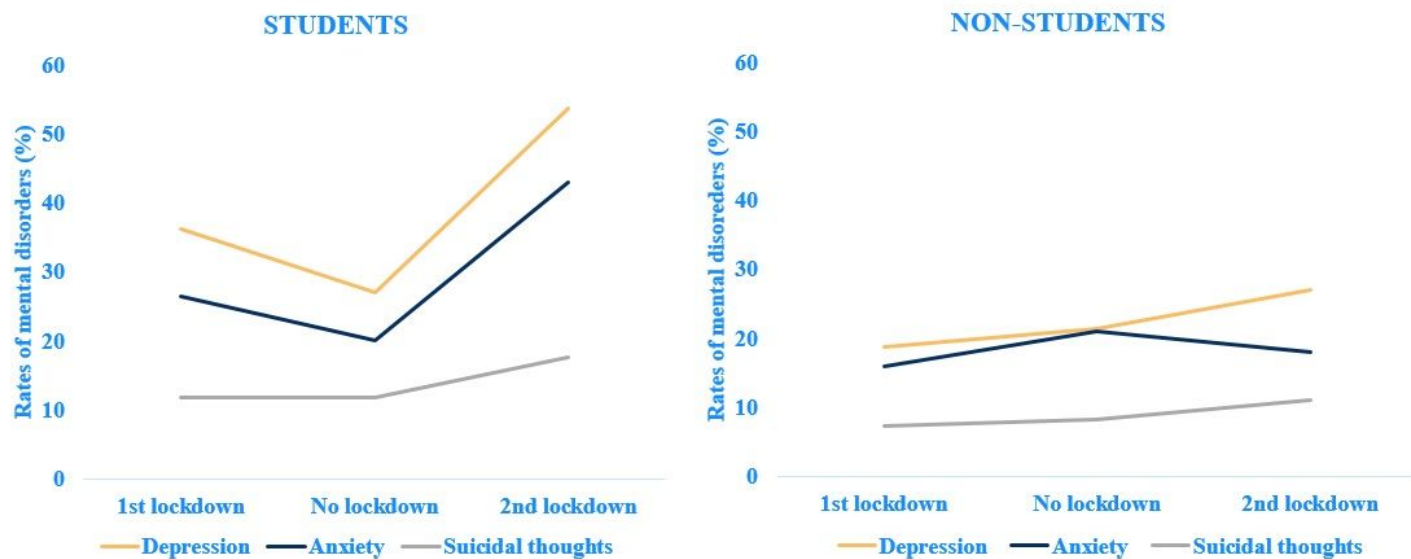


Figure 1

Rates of depressive and anxious disorders as well as suicidal thoughts (%) among students and non-students according to key periods of the COVID-19 epidemic in France, CONFINS cohort (2020-2021).