

Original Research

The psychological impact of COVID-19 restrictions on undergraduate students in Jordan

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Abstract

Introduction: COVID-19 has spread all over the world since December 2019 causing millions of deaths. The pandemic has not only caused a risk of death from the infection but also caused psychological unbearable stress on people due to restrictions. **Methodology:** A sample of students from Jordanian different universities using a questionnaire has been conducted. The questionnaire has been prepared with different personal questions to correlate the answers with anger episodes/week. **Results:** 750 students participated and indicated that 13.6% and 20.9% of students have been facing severe anger episodes (>2) or moderate anger episodes (1-2) every week. Moreover, stable family income ((OR=0.901, 95%CI = 0.799-0.998), studying at private universities (OR=0.0.724, 95%CI = 0.627-.833) and living in the city centre (OR=0.0.698, 95%CI = 0.492-0.897) have a protective effect on anger episodes. However, student gender and study level have no significant effect on anger severity. **Conclusion:** Undergraduate and master's students have faced severe conditions during the Covid-19 lockdown which had a direct psychological effect on them. Students' situations and students' study levels should be taken into consideration to provide a mental health program for whom under huge stress.

Keywords: COVID-19; anger; Jordan; universities

INTRODUCTION

The novel coronavirus (COVID-19) has spread rapidly worldwide, causing disturbance and problems through all sectors.^{1,2} Millions of people from all over the world have been infected and affected by COVID-19 infection including students. This huge infectious rate for the people has placed enormous pressure on the government in Jordan to maintain public health, education, and economic sectors.^{3,4} This pressure has pushed the government to lockdown the country before the possible spreading of COVID-19 between people. This lockdown has continued for months due to the continuous spreading of COVID-19 which led to a delay in the opening of schools, universities, and colleges across the country.³ In many countries, huge reports have been published about the psychological impact of COVID-19 restrictions and infection on students and other people.⁵ Unfortunately, the psychological effect of COVID-19 on university students has not been studied very well in Jordan. Distance e-learning is defined as the use of computer technology to provide training, including technology-supported learning online, offline, or both. Before this, the University of Jordan had not considered distance learning as a form of education.⁶ The purpose of this study was to explore the situation of distance e-learning for medical students during the clinical period and to identify the possible challenges, limitations, satisfaction, and prospects of this learning method.⁷ In this research, a questionnaire has been sent to 750 students from different study level and universities to evaluate their situation during the lockdown regarding their communication with people, studying hours per day, and the number of anger episodes during the day.

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MATERIAL AND METHODS

Study population and data collection

A survey has been constructed and conducted based on a Facebook interview with 750 students from a different university. The students have been asked about their communication with people during the day, studying hours and their anger episodes. The questionnaire was containing 17 questions 13 single choices and 4 multiple choices. The questions were addressing, gender, age, university, study level, family income stability and amount, living area, number of people communicated with, number of hours staying in their rooms, number of study hours, and some questions about anger episodes.

Data analysis

The data were analyzed using SPSS version 20.0. The analysis was conducted to illustrate the effect of family income, discipline, gender, and university on the number of anger episodes for the students. A screening and multivariate logistic regression analysis were done statically to the significant variable. The strengthen of association was demonstrated using odd ration (OR) with a 95% confidence interval (CI). Daily life factors like economics, daily life, studying hours, university, living area, and the number of anger episodes. A two-tailed $P < 0.5$ was considered statistically significant.

RESULTS

Anger episodes' level among university students

According to table 1, 65.5% of the students were not affected by the restriction produced by COVID-19 spreading. While more than 33% of the students had at least 1-2 anger episodes/ week.



Factors affecting anger episodes' severity during restrictions

Univariate analysis: According to table 2, many demographical and personal factors have a direct effect on the number (severity) of anger episodes of students. Place of living, family income, type of university had the most significant effect on

students' anger level with a *P*-value of less than 0.05. The people living in the city centre, who have regular income and/or studying in private universities have the lowest severity (fewer anger episodes) among the significant factors with a severe episode's percentage of 1.3, 0.67 and 4.4 respectively.

Ordinal regression analysis: According to the ordinal multivariate analysis presented in table 3 of the significant factors obtained from univariate analysis, living in the city centre and having a stable (regular) family income are protective factors against severe anger episodes (*OR*=0.901, 95%CI = 0.799-0.998) and (*OR*=0.698, 95%CI = 0.492-0.897) respectively. In addition, the presence of the students in private universities also has a protective effect against the severe anger episodes with (*OR*=0.724, 95%CI = 0.627-.833).

Table 1. Students numbers and percentages with normal, moderate, and severe anger episodes

Anger level/week	Number	Ratio (%)
Normal (0)	491	65.5
Moderate (1-2)	157	20.9
Sever (>2)	102	13.6

Table 2. Univariate analysis of student's anger episodes during COVID-19 restrictions

Variables	Total	Number of anger episodes			Statistics	P-value
		0	1-2	2<		
Gender						
Female	427	277	92	58	-0.803 ^a	0.5178
Male	323	214	65	44		
Place of living						
Countryside	271	163	59	92	-8.0123 ^a	<0.001
City centre	479	328	98	10		
Regular family income						
Yes	416	271	68	5	-2.421 ^a	0.014
No	334	220	89	97		
University						
Privet	512	234	29	33	-9.157 ^a	<0.001
Governmental	238	267	128	69		
Study level						
Undergraduate	287	298	7	4	0.301 ^b	0.863
Pharmaceutical Master level	133	87	27	16		
Clinical Master level	330	106	123	82		
^a Mann-Whitney test. ^b Kruskal-Wallis test.						

Table 3. Ordinal logistic regression analysis of significant factors affecting anger episodes for students

Factor	Number	SE	OR	P	OR (95%CI)
Place of living					
Countryside ^a	271	-	-	-	-
City centre	479	0.0721	0.901	0.003	(0.799-0.998)
University					
Privet	512	0.101	0.724	0.014	(0.627-.833)
Governmental ^a	238	-	-	-	-
Regular family income					
NO ^a	334	-	-	-	-
YES	416	0.0592	0.698	<0.001	(0.492-0.897)
SE: standard error mean, OR: odd ratio, CI: confidence interval. ^a reference group					



DISCUSSION

Many studies have mentioned that COVID-19 and its related rules and restrictions can have a different psychological effect on students which can be expressed in many ways like anger episodes.^{4,8} The goal of this study is to evaluate the major factors affecting Pharmacy students anger episodes. This research has indicated that more than 34% of the student population has at least one anger episode towered surrounding environment, 13.6% with sever episodes (>2/week) and 20.9% with mild episodes (1-2/week). While the normal students without any anger episodes were less than 66%. Students, psychological events may be related to their study as the system at the private universities is different from governmental.⁹ Moreover, students and families have been worried about employment and future employment for both income providers and students which had an extra pressure on students.¹⁰ The number of anger episodes of students most probably have been increased gradually due to distance increasing between people resulting from COVID-19 restrictions which had a major contribution to interpersonal communication.¹¹ In this study, place of living, income stability and type of university has a significant effect on anger episodes of students. However, gender has no significant effect on anger episodes which is different from previous findings.¹² Student level of study was not studied before and, in this study, the study level has shown no significant effect on student's anger episodes. Multivariate logistic regression analysis indicates that the students living in the city centre are protected from having sever anger episodes. This could be related to the efforts and the cultural, economic and educational differences between the countryside and the city centre.¹³ Similarly, city centres have a more advanced and better health sector that can mimic and reduce the rate of COVID-19 infection which will have a direct effect on student psychology.¹⁴ Family income stability was also a significant factor in anger episodes for student, which could be result from the economic stress on families.¹⁵

Type of university was another significant factor to affect students anger episodes. No previous study about the effect of university type on psychologically on the students. It's obvious that the system provided by the private universities have a better effect on students' psychological factors. Consistently to our study findings, students' stressors like income, living place and university type have a direct effect on Jordanian student anger severity during COVID-19 restrictions. This was in the line with many findings of the effect of COVID-19 on the economy of the country which will affect the income stability alongside with the medical situation of the families.^{16,17}

CONCLUSION

About 34% of students have been under a stress-causing at least 1 anger episode every week. The stable family income, city-centre living place and privet universities are all positive factors in reducing anger severity on students. COVID-19 related stressors like family income, university type and place of living has a daily effect on students' life which have a direct psychological effect causing anger episodes for Jordanian student. It's suggested that governmental and private universities should have a collaboration to reflect the experience of private universities on dealing with students during COVID-19. In addition, it's important to provide a well-prepared plan from the governments to overcome the instability of family income to reduce the stress on both students and families. While for the countryside, a plan to increase the quality of health and service sectors should be conducted to reduce the huge difference with the city centre.

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