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COVID-19 and the mental health of physical education students before and during lockdown

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Abstract

Objective: to analyze the mental health of physical education students before and during lockdown. **Method**: a descriptive study was cconducted. The Mental Health Scale was employed to assess mental health of physical education students. An online survey was fulfilled by 103 students of the Institute of Physical Education and Sport, University of Ouargla, in Algeria. **Results**: the results showed that there were statistically significant differences in mental health among physical education students before and during lockdown. There were no statistically significant differences in mental health among students before and during the lockdown period, depending on the academic level variable, and there were statistically significant differences in mental health among students before and during the lockdown period, depending on the city variable. **Conclusion**: establishing online mental health platforms and programs is necessary.

keywords: COVID-19, lockdown, mental health, physical education students.

Introduction

At the end of December 2019, the Chinese city of Wuhan woke up to a new, mysterious virus was called Corona Virus COVID-19 (Sahu, 2020). But in a short period, the virus spread in many countries of the world. In January 2020, the World Health Organization (WHO) announced that the COVID-19 is spreading terribly, this poses a major threat to global health and the safety of people worldwide without exception (WHO, 2020). In March 2020, the organization confirmed that the COVID-19 is a pandemic (WHO, 2020). As a precautionary step to limit the spread of the COVID-19, many cities and provinces in the world have accelerated the application of lockdown to citizens such as Wuhan and some Indian cities (Hiremath et al., 2020; Kazmi et al., 2020). With the extension of the lockdown period to an unknown time, and the number of injuries and deaths increasing, the citizens (doctors, professors, employees, workers, students...) face mental health disorders such as stress, anxiety, fear, depression, sleep disturbance, causing another problems (Kang et al., 2020).

During this critical period, few studies touched on mental health problems among university and institute students (Grubic et al., 2020), in a study of Cao et al. (2020) that revolved around the effect of COVID-19 on student education and wellbeing, the results showed that 25% of study participants suffer from symptoms of anxiety and increased fear due to delayed academic education and the date of return is not limited, as are the effects on lifestyle, another study examined students' mental health, which determined that 83% of respondents decreased their mental health level during the lockdown period, due to school closures, home routines, and restricted social connections (YoungMinds, 2020). The current study aims to know the level of mental health among the physical education students before and during the lockdown, and to compare arithmetic means, and to detect differences among students according to the variable of the academic level and the city. Therefore, we will try to answer the following questions: What is the level of mental health among physical education students before and during the lockdown? Are there differences between the arithmetic means? During lockdown period, are there any differences according to the variable of the academic level and the city?

Method

Participants: the physical education students from Physical Education Institute University of Ouargla were invited to participate in the current study. They used various social media to answer the electronic questionnaire. The number of participants reached 103 students; 63.1% were master students and 36.9% were bachelor students, distributed in three states: 45% were from Ouargla, 29% from Ghardaia, and 27% from Touggourt.

Measurement: in order to achieve the goals of the current study, an appropriate measuring instrument is necessary, characterized by validity and reliability for the purpose of identifying the mental health of physical education students. Therefore, the mental health scale for Nagham-Hady (2018) was chosen. The scale consists of 22 items, the participants' response to the items was on the Likert quintet scale (always=5, often=4, sometimes=3, rarely=2, never=1). The scale validity and reliability were high, after extracting the indicators of apparent and constructive validity and the Alpha Cronbach coefficient, which was valued (0.80).

Procedure: considering the circumstances in which the entire world lives, the electronic answer was the best solution, as students took advantage of various social media in order to respond in the period between 30/04/2020 – 07/05/2020 in a Google form, and the electronic questionnaire was published on the website of the Institute of Physical Education.

Data analyses: data analyses were carried out by means of Statistical Packet for Social Sciences (SPSS) 25.00 software program. The Mean, Std. Deviation, T-test and One-Way ANOVA were used in the main study. In addition, alpha-Cronbach was used in the exploratory study.

Results

In this section, the findings obtained from the data analyses related to the mental health among physical education student before and during lockdown are given in detail. Findings related to the level of mental health are shown in Table 1. The level of mental health among physical education student before and during lockdown for each item are given. The arithmetic means of mental health level before lockdown in total were M=4.42 (S.D= .635) and M=3.55 (S.D=1.143), respectively.

Table 1. Means and Standard Deviations before and during lockdown.

Before lockdown				During lockdown			
Item	N	Mean	SD	Item	N	Mean	SD
1	103	2.72	.794	1	103	3.33	.922
2	103	3.74	.925	2	103	3.50	1.074
3	103	4.32	.730	3	103	3.93	.910
4	103	3.63	.907	4	103	3.69	.958
5	103	3.49	1.110	5	103	3.49	1.110
6	103	4.73	.484	6	103	4.47	.861
7	103	4.58	.679	7	103	4.41	.869
8	103	4.17	.933	8	103	4.05	.937
9	103	3.97	.772	9	103	3.80	.780
10	103	3.84	.710	10	103	3.49	.752
11	103	4.26	.699	11	103	3.83	.919
12	103	4.75	.494	12	103	4.49	.814
13	103	4.40	.746	13	103	4.13	.897
14	103	4.45	.668	14	103	2.77	1.195
15	103	4.33	.691	15	103	3.84	.926
16	103	4.30	.802	16	103	3.76	.972
17	103	4.18	.837	17	103	3.69	1.074
18	103	4.42	.787	18	103	4.09	1.098
19	103	4.04	.809	19	103	3.70	.914
20	103	4.42	.635	20	103	3.55	1.143
21	103	4.51	.698	21	103	4.22	.895
22	103	4.46	.683	22	103	4.05	.998
Total	**103**	**4.18**	**.319**	Total	**103**	**3.83**	**.420**

N=total number in sample, SD=standard deviation.

Through Table 2, it was found that there are statistically significant differences in mental health among physical education students before and during lockdown at the significance

level (0.05), going back to Table 1 to find out the arithmetic means, it is clear that the differences are in favour of physical education students before the lockdown period.

Table 2. Compare means before and during lockdown.

Mental health Before lockdown / During lockdown		SS	df	MS	F	Sig.
Between Groups	Combined	5,746	29	0,198	3,099	0,000
	Linearity	2,017	1	2,017	31,539	0,000
	Deviation from linearity	3,729	28	0,133	2,083	0,007
Within Groups		4,667	73	0,064		
Total		**10,413**	**102**			

SS=sum of squares, df=degrees of freedom, MS=mean square, F=ANOVA-analysis of variance, Sig.=statistical significance

In Table 3, statistical results indicated that there were no statistically significant differences in mental health among students before and during the lockdown period, depending on the academic level variable (master/bachelor).

Table 3. Differences in mental health depending on the academic level variable.

Mental health	Level	N	Mean	SD	F	Sig.	t	df	Sig. (2-tailed)
Before lockdown	Master	65	4.16	.306	.142	.70	-.659	101	.51
	Bachelor	38	4.20	.343					
During lockdown	Master	65	3.81	.415	.587	.44	-.804	101	.42
	Bachelor	**38**	**3.88**	**.432**					

N=total number in sample, SD=standard deviation, F= ANOVA-analysis of variance, t=test student, df=degrees of freedom.

Statistical results of table 4 indicated that there were statistically significant differences in mental health among students before and during the lockdown period, depending on the city variable. The cities where there are differences in mental health among physical education students, are the same cities before and during the lockdown (Table 5).

Table 4. Differences in mental health depending on the city variable.

Mental health		SS	df	MS	F	Sig.
Before lockdown	Between Groups	.760	2	.380	3.936	.023
	Within Groups	9.653	100	.097		
	Total	10.413	102			
During lockdown	Between Groups	1.727	2	.864	5.288	.007
	Within Groups	16.332	100	.163		
	Total	**18.060**	**102**			

SS=sum of squares, df=degrees of freedom, MS=mean square, F=ANOVA-analysis of variance, Sig.=statistical significance.

Table 5. Least Significant Differences in mental health depending on the city variable.

Dependent variable	City I	City J	MD (I-J)	SE	Sig.
Before lockdown	Ouargla	Ghardaia	-.03248	.07337	.659
	Ghardaia	Touggourt	-.20524*	.07503	.007
	Ghardaia	Ouargla	.03248	.07337	.659
		Touggourt	-.17276*	.08309	.040
	Touggourt	Ouargla	.20524*	.07503	.007
		Ghardaia	.17276*	.08309	.040
During lockdown	Ouargla	Ghardaia	-.09404	.09543	.327
		Touggourt	-.31650*	.09759	.002
	Ghardaia	Ouargla	.09404	.09543	.327
		Touggourt	-.22245*	.10808	.042
	Touggourt	Ouargla	.31650*	.09759	.002
		Ghardaia	.22245*	.10808	.042

MD=mean difference, SE=standard error, Sig.=statistical significance.

Discussion

As a result of the outbreak of COVID-19 in most countries of the world, population confinement and social distancing are one of the ways in which the virus can be controlled to spread, but psychological effects have appeared on the Citizen (Odriozola-González et al., 2020). The results of the current study proved that there are statistically significant differences in mental health among physical education students before and during lockdown

for the benefit of students before lockdown. University students decreased their mental health level during the lockdown and psychological symptoms appeared (Kazmi et al., 2020); various psychological problems increased such as depression, anxiety, and panic disorder (Hiremath et al., 2020). The depression symptoms increased for University students during the lockdown, among the causes are isolation, the social distancing, and stay away from colleagues and friends (Meda et al., 2020). In a study by Naser et al. (2020) that aimed at knowing the mental health of the general public, the results showed that University students had the highest rate of anxiety due to the suspension of lessons and lectures, and fear of the future. The change in lifestyle had an impact on mental health, such as staying at home, lack of exercise in the gym or stadium, and sitting in front of electronic screens the reason for insomnia, loss of appetite, and poor concentration in everything (Chatterjee et al., 2020).

Regarding to the mental health among physical education students, according to the variable of academic level and the city, the results showed that there are no statistically significant differences before and during the lockdown according to the variable of the academic level, and there are statistically significant differences before and during the lockdown according to the city variable. Wang et al. (2020) indicated in a study of some psychological responses (anxiety, depression, and stress) in Chinese cities during the beginning of the lockdown that there were no differences in psychological responses between students of Bachelor and Master. University students differed their psychological characteristics during the period of lockdown, and this is according to their place of residence (Cao et al., 2020), this difference is due to the architectural nature of each city, being rural or urban and population density.

Conclusion

The COVID-19 pandemic is still imposing new challenges in all areas, including mental health services, not only for University students or physical education students, but for all individuals in society. These challenges include identifying and controlling potential risks from psychological and mental problems by the government, specialists, academics, and anyone related to the field. The current crisis is the first global crisis in the era of very advanced communications, supported by the Internet, this provides opportunities for counselling and psychological treatments online, establishing online mental health platforms and programs, and exploiting various social media such as Video Zoom, Messenger, WhatsApp.

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