Investigating Algerians' Psychological State during Covid-19 Lockdown

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Abstract:

The objective of the present study is to determine the extent to which mandatory lockdown affected Algerians' psychological state and their ways to cope with the compelling situation of COVID-19.

A quantitative anonymous online survey was posted on different social networks. The survey revealed that Algerians displayed high levels of stress and depression during lockdown. Socio-demographic factors such as gender, age, having a history of mental health disorder and occupation were predictors of high level of psychological distress. Prominent level of stress and anxiety was mainly found among women, young adults aged 18-30 years old, and persons with anterior chronic mental distress.

Keywords: *Psychological distress; Quarantine; Pandemic; Lockdown; COVID-19.*

1. INTRODUCTION

The COVID-19 pandemic has spread in all corners of the world, sweeping into the 196 countries of the world with significant confirmed cases and deaths. It has caused a worldwide panic and mental health issues mainly related to stress and anxiety. It affects people in different ways. Most infected people develop a mild to moderate form of the disease and recover without hospitalization. The most common symptoms of COVID-19 are fever, dry cough, and fatigue. Other less common symptoms may also appear in some people, such as body aches and pains, nasal congestion, headache, conjunctivitis, sore throat, diarrhea, loss of taste or smell, rash, or discoloration of the fingers on the hand or foot. These symptoms are generally mild and appear gradually (Huang et al., 2020). Only one fifth of people that contract the disease have severe symptoms, including difficulty in breathing. Older people and those with other health conditions (high

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blood pressure, heart or lung problems, diabetes or cancer) are more likely to have serious symptoms (ibid). The disease is mainly transmitted from a person to another through respiratory droplets expelled from the nose or the mouth when a sick person coughs, sneezes, or talks. These droplets are relatively heavy, they do not travel great distances and quickly fall to the ground. COVID-19 can be contracted if these droplets are inhaled.

Like all infectious disease, the primary response to limit the propagation of the virus was to implement a complete lockdown with severe social distancing measures to break the chain of transmission. The current outbreak of COVID-19 has heavily impacted both physical health and mental health. Limited social contact has very real somatic and psychological consequences: withdrawal, depression, general anxiety, ruminations, and hostile reactions. Being forced to stay at home is natural for no one. Each individual has a basic need to feel free and go out as he pleases. People also need to maintain social ties to preserve a balance of well-being. The psychological consequences of a national lockdown to prevent the spread of the novel COVID-19 as a public health measure are yet to be recognized. Nevertheless, there are known records of negative psychological effects of quarantine.

Discerning the effects of the COVID-19 pandemic and containment measures on the stress level and mental health of the population are still early. If several months of hindsight will be necessary to reach a precise picture of the consequences of this unprecedented event on our mental state, our study sought to provide preliminary responses to this inquiry.

2. Background of the Study

On 25 February 2020, Pasteur's institute in Algeria reported first case of COVID-19 and the numbers have risen gradually since then. As the present study started (On 3rd, July, 2020) Algeria inventoried 15070 cases of COVID-19, including 10832 recoveries and 937 deaths. The direct consequence of COVID-19 pandemic was the establishment of a mandatory confinement to the population in all world countries and the application of sanitary measures to avoid the spread of the virus.

In Algeria, sanitary measures started to took place on the 10th, March, 2020, starting by the prohibition of sporting, cultural, political gatherings, and fairs. Two days after, the authorities ordered the closure of all schools, universities, vocational training centers, and any educational institutions. On March 17th, 2020, the Ministry of Religious Affairs, ordered the closure of all mosques and places of worship in the Algerian territory and the suspension of all collective prayers until

further notice. The call to prayer was maintained. After that all regroupings were prohibited, and a number of commercial activities were brought to an end.

It was Blida, the epicenter of the COVID-19 epidemic, who was the first to be placed in total containment from April 18th 2020. This confinement was eased for Ramadan and turned into a curfew. Authorities extended the confinement, which was to be lifted on April 29, was eventually extended until May 14th. The Algerian government has since extended its strict containment measures until June 13 in 44 of the 48 wilayas (counties) in the country. Containment is completely lifted in the four other counties, including three in the extreme Saharan regions. Containment measures resulted in a curfew from 5 p.m. to 7 a.m. in the nine most affected wilayas, including Algiers and Oran, and from 2 p.m. to 7 a.m. in the others. By June, the wearing of a sanitary mask has been compulsory and offenders are sentenced to heavy fines. In the time of our research, confinement measures are progressively being lifted in neighboring countries. At that time Algeria witnessed a raise in cases and confinement measures have been stricter for instance transiting between wilayas has been prohibited. By July, the government gave heads of wilayas command to set a curfew and confinement measures to their counties. Each wilaya imposed its own actions to limit the spread of the virus.

3. Literature Review

Isolation and quarantine process have been documented in the most ancient texts. One of the earliest adoptions of isolation-type measures to control the faction of ill persons is said to have taken place in 532 C.E., when the Emperor Justinian of the Eastern Roman Empire ordered that persons entering the capital city of Constantinople (current day Istanbul, Turkey) from "contaminated localities" be housed in special accommodations to be purified. (Rothstein et al., 2003).

Quarantine is "used to denote restrictions upon the activities of well persons… who have been exposed to a case of communicable disease, during its period of communicability. This is to prevent disease transmission" (Cliff & Smallman-Raynor, 2013, p. 65), whereas isolation is the separation of people diagnosed with infection from people who are not ill. Quarantine is associated with symptoms of severe anxiety and stress disorder, exhaustion, confusion, anger, fear, and insomnia among others.

Numerous studies have proven that a period of quarantine has deleterious effects on our psychology and mental health. In time of an epidemic, the number of people whose mental health is affected is likely to be superior to the number of people affected by the infection (Reardon, 2015). Moreover, the limitation of

social contact resulting from imposed physical distancing; cancellation of large gatherings, closing schools and religious venues is a factor of risk for high morbidity rate (Holt-Lunstad et al., 2010).

An early study conducted by Jia et al. (2020) during the first six weeks of distancing measures, reported findings from a group of consenting participants established in the UK. An online survey measuring depression, anxiety and stress and other variables assumed to be related to these mental health outcomes was established. The findings indicated that mean levels of depression, anxiety and stress significantly exceeded recent population norms during COVID-19 pandemic.

A survey conducted by Gambin et al. (2020), including 1115 Polish participants, highlighted the negative mental health consequences of exposure to the novel COVID-19 pandemic. It highlighted the following : (a) higher levels of depressive and anxiety symptoms were experienced by the younger adults aged from 18 -44 years old; (b) difficulties in relationships and domestic duties were one of the important predictors of depressive symptoms in all the age categories during the COVID-19 outbreak ;(c) fear and insecurity related to the spread of the virus was one of the most important predictors of depressive and generalized anxiety symptoms during the lockdown; (d) youngest adults experienced emotional distress due to external restrictions (Gambin et al.,2020).

Mazza et al. (2020) administered an online survey from 18–22 March 2020 to 2766 participants to uncover psychological distress among Italian people during the COVID-19 pandemic. The results reported that persons with mental issues tend to be more at risk to higher levels of depression, anxiety, and stress; and that female gender was associated with increased anxiety, depression, and stress. Their findings match evidence in the international literature that women are more likely vulnerable to experiencing stress and anxiety.

Wang et al. (2020) developed a survey using previous surveys on the psychological impacts of SARS and influenza outbreaks. Authors included additional questions related to the COVID-19 outbreak to uncover psychological responses and associated factors during the initial stage of the 2019 corona virus epidemic among the general population in China. Results showed that 16.5% of respondents reported moderate to severe depressive symptoms; 28.8% of respondents reported moderate to severe anxiety symptoms; and 8.1% reported moderate to severe stress levels (Wang et al., 2020).

A meta-analysis by psychologists from King's College in London (2020) informs and warns of these negative effects of confinement and of the vital importance of a clear and transparent message from the health authorities both on

the objectives of the measure and on the behavior to be adopted. In total, these London psychologists identified more than 3,100 studies on the subject and selected 24 for their analysis. Most of the studies reviewed report of negative effects of confinement, including symptoms of post-traumatic stress, confusion and anger. Different characteristics or consequences of confinement appear as major stressors: the duration in particular, but also the fear of the risk of infection inherent in confinement, frustration, boredom, the deficiency of certain everyday consumer products, inadequate information or truncated, loss of income and, when containment is not widespread, stigma (Brooks et al., 2020). Several of the studies selected have compared the psychological outcomes of people in quarantine to those of people who carry on with their daily activities. Among their conclusions: hospital staff report symptoms of acute stress immediately after the end of a nine-day quarantine period. In the same study, quarantined staff were much more likely to report exhaustion, detachment from others, anxiety, irritability, insomnia, difficulty concentrating and indecision, decreased efficiency and motivation at work still among health staff, quarantine remains a predictor of symptoms of post-traumatic stress, three (3) years after confinement; mean scores of post-traumatic stress are four (4) times higher in confined children versus those not quarantined. In the same study, 28% of parents quarantined have symptoms sufficient to justify a diagnosis of mental health disorder versus 6% of parents not quarantined (ibid).

From emotional distress to mental health disorders, most studies showed a high prevalence of symptoms of psychological distress and mental disorders among confined people, including: emotional distress, emotional exhaustion, depression, stress, mood disorders, irritability and anger, insomnia, and post-traumatic stress disorder.

4. Research Methodology

Through a descriptive research we sought to investigate the effect of lockdown on Algerians' psychological distress by means of an online survey. Online surveys offer many advantages over traditional surveys. Advantages of online surveys include quick distribution, low administration cost, and wider reach of participants (Couper, 2000; Ilieva et al., 2002; Yun & Trumbo, 2000).

4.1. Research Questions
- How does lockdown affect Algerians' psychological state?
- Is there any correlation between socio-demographic factors and the level of psychological distress?

4.2. Procedures

The present study explores Algerians' psychological state in lockdown during corona virus pandemic. A quantitative anonymous online survey (https://forms.gle/nRhLBVK7HweCTtYDA) was designed by the researcher inspired by the literature. It reports how the lockdown affected Algerians' mental state and how they coped with the lockdown situation. Data were collected over a period of four days. The link to the questionnaire was shared online from 3 July to 6 July on social media platforms. The link was disabled after that period and no more answers were received.

4.3. Survey Design

The quantitative survey was designed in Arabic to reach all socioeconomic groups. It comprised three (3) sections:

General Information

This section collected demographic data about participants: age, gender, marital status, occupation, medical history, and psychological background.

Coping with Current Situation

Respondents had to rate from1-10 the degree of fear of infection, of transmitting the virus to peers, and their concern towards the number of COVID-19 cases. They also had to rate their adhesion to lockdown, curfew, and sanitary measures. Lastly, they had to rate their trust in the information given by the authorities and the medical system in Algeria.

Psychological State during Lockdown

In the last section participants were asked to rate the degree of their psychological state during lockdown. Those psychological states included: stress, sleeplessness, anxiety, loss of concentration, stigma, loss of appetite, laziness, lack of moral support, and lack of economic support.

Quantitative data obtained from the survey were analyzed with Statistical Package for Social Sciences (SPSS 26). The reliability analysis of the survey showed that Cronbach's Alpha coefficient was 0.809. Values above 0.6 are judged acceptable; but, values above 0.8 are preferable (Pallant, 2011).

4.4. Participants

A total of 504 respondents participated in the survey. Criteria for inclusion were: over 18 years old, and having a permanent residency in Algeria. Participation in the survey was on a voluntary basis. The purpose and procedures of the research were clearly stated at the beginning of the online survey.

Respondents were informed of the anonymousness of the survey and their right to withdraw at any point of the research.

5. Findings and Discussion

5.1. General Demographic Information.

A number of 504 participants took part in the present study. The prevalent proportion of participants were female (63.5%) and only (35.5%) were male. The dominant category of age was 18-30 (57.9%), (34.9%) were aged 31-45, and (7.1%) were more than 45 years old. The marital status of participants was approximately proportionate (49.2%) were married and (50.8%) were single. Their occupations were distributed as follow: Health care (7.9%); Administration (39.7%); Economics (5.6%); Tourism (1.6%); Student (10.3%); Civil work (1.6%); Salesman (4.8%); Government (1.6%); Journalism (0.8%); Jobless (20.6%); Others (5.6%). Among the 504 participants, 28 were infected by COVID-19. (19%) of the participants had medical records and (11.1%) had history of psychological distress.

Table 1.

Descriptive Statistics of the Participant

Variable	Category	Frequency (n)	N (%)
Age	18-30	292	57.9%
	31-45	176	34.9%
	More than 45	36	7.1%
Gender	Female	320	63.5%
	Male	184	36.5%
Marital Status	Married	248	49.2%
	Single	256	50.8%
Occupation	Health care	40	7.9%
	Administration	200	39.7%
	Economics	28	5.6%
	Tourism	8	1.6%
	Student	52	10.3%
	Civil work	8	1.6%
	Salesman	24	4.8%
	Government	8	1.6%
	Journalism	4	0.8%
	Jobless	104	20.6%
	Others	28	5.6%
Infected by COVID-19	Yes	28	5.6%
	No	476	94.4%
Medical record	Yes	96	19%
	No	408	81%
Psychological record	Yes	56	11.1%
	No	448	88.9%

5.1. Algerians' Concern about the Current COVID-19 situation

In order to explore how Algerians, perceive the current situation in Algeria concerning the COVID-19, respondents were asked to rate from 1 to 10 their concern about different issues. Their concern and level of confidence is detailed in table2.The mean scores of items were ordered in an ascending manner. Results show that Algerians lack trust in the health care institutions (m=4.15), the governmental decisions (m=4.37) and information about the COVID-19 shared by the government (m=4.37). Furthermore, Algerians are less afraid of transmitting the virus to peers (m=5.61) than contracting it themselves (m=7.67). Algerians reported a high level of respect of the lockdown (m=7.98) and sanitary measures (m=7.59). Moreover, Algerians expressed a high level of concern towards the rising number of COVID-19 cases (m=7.83).

Table 2.

Frequency of Algerians' Concern about the Current COVID-19 Situation

	Min	Max	Mean score (m)	Standard deviation	Variance
(a)	1	10	4,15	2,862	8,193
(b)	1	10	4,37	2,841	8,074
(c)	1	10	4,37	3,074	9,452
(d)	1	10	5,61	3,041	9,248
(e)	1	10	7,59	2,772	7,684
(f)	1	10	7,67	2,931	8,592
(g)	1	10	7,83	2,456	6,033
(h)	1	10	7,98	3,079	9,479

(a)= Trust in health care; (b)= Trust in government's decisions;(c) Trust in information given by the government; (d)= Fear of transmitting virus to peers; (e)= Respect of sanitary measures; (f)= Fear of being infected; (g)= concern about rising number of cases; (h)= Respect of lockdown

5.2. Psychological State during Lockdown

Nine options related to psychological distress during lockdown and inspired by the literature were listed, and respondents had to rate in a 3-point scale (1= not at all, 2=few, 3= a lot) the degree of their sentiment. Psychological state of Algerians in lockdown during COVID-19 pandemic was reported in table 3. Stress, laziness, and depression levels were highly important.

Table 3.
Psychological Factors Affecting Algerians during Lockdown

	Min	Max	Mean score (m)	Variance
Stigma	1	3	1,29	,366
Loss of Appetite	1	3	1,46	,426
Lack of emotional support	1	3	1,63	,652
Sleeplessness	1	3	1,66	,467
Lack of concentration	1	3	1,75	,523
Lack of Financial support	1	3	1,76	,711
Depression	1	3	2,11	,660
Laziness	1	3	2,26	,659
Stress	1	3	2,26	,467

5.3. Association of Gender Variable and Psychological State

Inferences were made between gender variable and the various items of psychological distress. Table 4 displays the results. It shows that women psychological disorder rate is higher at every section, especially stress (m=2.40), laziness (m=2.40), and depression (2.27). A range of previous studies indicated that women are at a higher risk for psychological disorders such as depression and stress than man not only during the pandemic (Mazza et al., 2020; Othman, 2020); but also, in general (Kirschbaum et al., 1992; Coie et al, 1974). This finding is consistent with the results of previous studies that consistently established an association between female gender and higher levels of psychological distress.

Table 4.
Association of gender variable and psychological state

	Mean score									Total
	A	B	C	D	E	F	G	H	I	
Female (m)	2,40	1,68	1,81	2,27	1,52	1,76	1,24	1,76	2,40	1,87
Male (m)	2,02	1,63	1,65	1,83	1,35	1,39	1,37	1,76	2,02	1,66

A= stress B=sleeplessness; C= lack of concentration; D= depression; E=loss of appetite;
F=lack of emotional support; G= stigma; H=lack of financial support; I=laziness

5.4. Association of Age and Psychological State during Lockdown

Inferences were made between age groups and different psychological distress in order to investigate difficulties associated with depressive and stress symptoms in different age groups during the COVID-19 outbreak. Results are

displayed in table 5. It demonstrates that oldest group age (more than 45) experienced higher stress symptoms (m=2.33) than the other age groups; the younger group (18-30) experienced higher level of sleeplessness (m=1.70), lack of concentration (m=1.77), depression (m=2.18), loss of appetite (m=1.52), and stigma (m=1.34) ; and the group age of 31-45 experienced higher level of lack of financial support (m=1.83)and laziness(m=2.28).Literature, just like our results, reports mixed results for the association of the age variable and psychological distress.

Our findings correlate with some previous studies (Qiu et al., 2020; Tian, et al. 2020) which indicated that the oldest group is characterized by high levels of stress symptoms during COVID-19 pandemic, and other general studies (World Health Organization, 2017) that reports that people aged 55-74 manifest the highest risk of depressive symptoms. However, our findings are not completely analogous to those studies (Qiu et al., 2020; Tian, et al. 2020); since our study shows that the oldest adults experience the lowest levels of depressive symptoms.

Our results also correspond with other studies (Ahmed et al., 2020; Gambin et al., 2020; Gonzalez-Sanguino et al., 2020; Huang & Zhao, 2020; Jia et al., 2020) that report that young age is a risk factor for anxiety and depression. Similar to our study, the different studies conducted in various parts of the world reveal that the youngest adults experience the highest levels of various forms of emotional distress during the COVID-19 pandemic.

Table 5

Association of Age and Psychological State during Lockdown

Age	Mean score									Total
	A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	
18-30	2,23	1,70	1,77	2,18	1,52	1,64	1,34	1,73	2,25	1,81
31-45	2,24	1,64	1,75	2,10	1,46	1,64	1,25	1,83	2,28	1,79
More than 45	2,33	1,67	1,56	1,78	1,11	1,33	1,33	1,22	2,11	1,60

A= stress B=sleeplessness; C= lack of concentration; D= depression; E=loss of appetite; F=lack of emotional support; G= stigma; H=lack of financial support; I=laziness

5.5. Association of History of Psychological Distress and Psychological State during Lockdown

The association between the history of psychological distress and the level of stress and depression during CVID-19 pandemic is illustrated in table 6 .It details that people with a record of psychological distress are evidently more at

risk of psychological distress .Our finding echoes previous studies (Mazza et al. ,2020; Wang et al. ,2020) highlighting that persons that suffer from a history of distress endure a reoccurrence of trauma during situations of crisis such as that of the current COVID-19 pandemic.

Table 6

Association of History of Psychological Distress and Psychological state during Lockdown

	Mean score									
	A	B	C	D	E	F	G	H	I	Total
(1)	2,25	1,62	1,71	2,04	1,43	1,53	1,23	1,71	2,20	1,74
(2)	2,36	2,00	2,14	2,71	1,71	2,43	1,71	2,21	2,79	2,22

A= stress B=sleeplessness; C= lack of concentration; D= depression; E=loss of appetite; F=lack of emotional support; G= stigma; H=lack of financial support; I=laziness
(1) No history of psychological distress (2) record of psychological distress

5.6. Association of Occupation with Stress and Depression Level

Table 7 represents the association of Algerian's occupations with the stress and depression level during COVID-19 pandemic. It shows that health care workers (m=2.76) are the most subject to stressful situations and depression (m=2.56), followed by administration workers with a mean score 2, 43 of stress and depression level. It can be explained by the fact that those are the two sectors that are open to public in Algeria, and that workers in those sectors are in direct contact with the population and are more at risk of being infected. Our finding is consistent with studies (Zhang et al., 2020; Zhu et al., 2020) reporting that medical health workers had high prevalence rates of severe anxiety and depression symptoms during the COVID-19 epidemic. The explanation for such psychological distress among health care workers might be related to the several difficulties encountered in work such as the insufficient information on the virus, the high risk of exposure to COVID-19's patients, and the poor hospital infrastructure that lacks medical protective equipment. This last cause is one of the concerns reported by the participants in section 2.b. of the current study.

Table 7.

Association of Occupation with Stress and Depression Level

Occupation	Stress		Depression	
	Mean score	**Standard Deviation**	**Mean score**	**Standard Deviation**
Administration	2,43	,297	2,43	,297
Education	2,22	,092	2,06	,116
Government	1,50	,500	1,50	,500
Health care	2,67	,167	2,56	,294
Jobeless	2,38	,102	2,21	,116

5. CONCLUSION

The fractious spread of the COVID-19 has called for unprecedented measures, in such manner that the Algerian government has instituted a mandatory quarantine on the entire country. Quarantine can cause considerable psychological strain. The damaging effects on the mental health of the population in the event of a pandemic are numerous and can persist in time and intensity. Certain damage will be attributed to certain individual characteristics and the others to the way in which the public authorities react to the situation. It is important to consider that some persons who already have mental health disorders are more vulnerable towards a pandemic situation. They risk recidivism if no measures are undertaken to respond to their needs.

In spite of all the resources deployed to countervail the spreading of the virus, additional universal strategies are needed to handle the related mental health issues. Measures must be instated by government health facilities of the population against the harmful effects of the widespread circumstance on mental health.

Government health facilities must offer specific support systems specially to front line workers. The existence of specific stressors for hospital staff, including confined staff, involves planning a specific support device, accessible remotely and open to all staff. Moreover, they should protect caregivers on the front line, by encouraging them to take breaks, by organizing team turnover and keeping in mind the protective measures without forgetting that the impact on these caregivers can appear post-crisis.

As confinement affects the entire population, the recommendations encourage everyone to take care of their own psychic balance, with a few lifestyle tips: maintaining a rhythm of meals, sleep, favoring pleasant and stimulating activities or strategies of active soothing, avoid abuse, promote social contact via phone or video. The durability of the effects of containment encourages us to plan for maintenance psychological support devices beyond the confinement period.

Finally, some limitations have to be acknowledged. Such as sampling issue and generating samples from virtual groups and organizations (Andrews et al., 2003) because little may be known from the respondents apart from some demographic information. The results cannot be generalized as the results are clearly restricted to those who are using social media platforms. Nevertheless, we are among the first to provide evidence from a large cohort on the mental health impact of the COVID-19 pandemic on people in Algeria.

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