

The psychological impacts of the a home quarantine of the Covid 19 pandemic

الأثار النفسية للحجر الصحي المنزلي لوباء كوفيد 19

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Abstract: This study aimed to assess the psychological effects of home quarantine measures taken during the pandemic in Algeria, and which is considered one of the most affected countries in Africa. The study population was represented by people who underwent home quarantine provided that the participant is at least 18 years old. The scales used in this study were sent via e-mail and various social media to 1987 people, and 1,681 participants answered it, with a response rate of 84.59%, where it was used a snowball sampling technique was used. Psychological effects were evaluated using the Arabic version of the Kessler's psychological distress scale and Arabic version of symptom-revised checklist 90 (SCL 90-R).

Our findings indicate that home quarantine during the COVID-19 pandemic significantly affects the psychological health of the Algerian population.

Keywords: The psychological impacts, Home quarantine, Covid 19.

الملخص : هدفت هذه الدراسة إلى تقييم الأثار النفسية لإجراءات الحجر المنزلي المتخذة أثناء الجائحة في الجزائر والتي تعتبر من أكثر الدول تضرراً في إفريقيا، وقد تمثل مجتمع الدراسة في الأشخاص الذين خضعوا للحجر الصحي المنزلي شرط ألا يقل عمر المشارك عن 18 عامًا. تم إرسال المقاييس المستخدمة في هذه الدراسة عن طريق البريد الإلكتروني ومختلف وسائل التواصل الاجتماعي إلى 1987 شخصًا، وأجاب عليه 1681 مشاركًا، بمعدل استجابة 84.59٪، حيث تم استخدام تقنية أخذ عينات من كرة الثلج، وتم تقييم الأثار النفسية باستخدام النسخة العربية من مقياس كيسلر للضيق النفسي والنسخة العربية من قائمة مراجعة الأعراض 90. تشير النتائج التي توصلنا إليها إلى أن الحجر الصحي المنزلي خلال جائحة COVID-19 يؤثر بشكل كبير على الصحة النفسية للسكان الجزائريين. الكلمات المفتاحية: الأثار النفسية، الحجر المنزلي، كوفيد 19.

- Theoretical chapter :

* Introduction and problematic of the study:

In December 2019, a progression of pneumonia cases without clear reason previously showed up in (Hubei, China), and was quickly determined to be caused by a novel coronavirus (Dong et al, 2020); (Liu et al, 2020), half a month later, in January 2020, profound sequencing investigation from lower respiratory tract tests distinguished a novel infection extreme intense respiratory condition coronavirus 2 (SARS-CoV-2) as causative agent for that observed pneumonia cluster (Di Gennaro et al, 2020); (Crisci et al, 2020) (Gralinski and Menachery, 2020), and the disease was named coronavirus disease 2019 (COVID-19) by the WHO (Harapan et al, 2020), SARS-CoV-2 belongs to a family of single-stranded RNA viruses known as coronaviridae, that may cause various symptoms such as pneumonia, fever, breathing difficulty, and lung infection (Adhikari et al, 2020); (Stewart et al, 2020).

The worldwide experience of overseeing SARS has uncovered that decreasing contact between individuals by implementing quarantine measures is as significant as finding viable cures (Hsu et al, 2006), where Current evidences shows that the new coronavirus has a high infectivity, with the basic reproduction number $R_0 = 2.2$ (95% CI: 1.4 to 3.9) (Wang et al, 2020), for this reason, severe acute respiratory disorder (SARS-CoV-2) has been effectively contained globally through the development of extensive quarantine measures (Hawryluck et al, 2004), These rules and measures have dramatically changed lifestyles and social relationships, which may generate high levels of anxiety, psychological distress and fear of infection (Casagrande et al, 2020), and despite the important number of studies devoted in this topic, which reported a negative impact on Psychological health, during home quarantine, people may experience loneliness, boredom and anger. Furthermore, symptoms of infection such as

coughing, fever, and hypoxia as well as harmful effects of treatment for insomnia caused by corticosteroids may aggravate anxiety and mental disorder studies have also indicated a high prevalence of mental disorder, the greater the duration of quarantine associated with an increased prevalence of (PTSD), which in turn are linked to symptoms of depression (Ho et al, 2020). Over (85.7%) of parents also noticed changes in their children's emotional and behavioral state during quarantine, as the most common symptoms were difficulty concentrating (76.6%), boredom (52%), irritability (39%), insomnia(38.8%), nervousness (38.8%), loneliness (31.3%), discomfort (30.4%), and fear (30.1%) (Orgilés, 2020), and recent evidence suggests that individuals isolated in quarantine at home experience difficulty sleeping, psychological distress and extreme suffering, symptoms of fear of injury or death, and increased levels of self-blame and depression (Roy et al, 2020); (Giallonardo et al, 2020). In the face of this proposition, it becomes necessary to talk about "confrontation" or "more correctly" dealing with pressures, especially in light of the possibility of reducing them to threatening internal and external requirements that exceed the ability of individuals to bear them (Abdelhalim, 2021). However, many psychological issues and problems remain vague and poorly understood.

Accordingly, this paper aims to assess the psychological effects of the home quarantine on the Algerian population specifically: psychological distress and symptoms of psychopathology (somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, psychoticism) in view of many independent variables. This prompts us to ask the following question: What are the psychological effects of home quarantine on the Algerian population?.

- The practical chapter:

1- Followed Methodologies:

The descriptive approach was relied upon, which is considered a diagnosis or detection of a phenomenon and the identification of its aspects. (Khader Ali, 2021) Using a web-based cross-sectional survey, it is sent by e-mail and various social media, furthermore, electronic approval, was requested from each participant before starting the answer. And the participants were encouraged to roll out the closed questionnaire that requires the examinees to choose the appropriate answer (Amel, 2021). Thus, where it was used a snowball sampling technique was used. Data collection started on May 23, 2020 at 10:00 am until June 15, 2020 at 07:00 pm Algerian time. The survey took about 30 minutes per participant, provided that the participant is at least 18 years old. The survey was sent to 1,987 people, and 1,681 participants answered it, with a response rate of 84.59%, Thus, forming the total community of the elements that the researcher seeks to generalize related to the studied problem, on which the results (Atallah, 2021), and their characteristics are shown in Table 1. Questions explored included the socio demographic variables. And the psychological impact of home quarantine was evaluated with validated scales, including using the Arabic version of the Kessler's psychological distress scale (Easton et al, 2017) is short rating scale designed to screen psychiatric morbidity in the population (Lt et al, 2011) The scale evaluates how often and how intensely respondents experienced distress symptoms (for example nervousness, sadness, restlessness, hopelessness, worthlessness) throughout the past month (Thelin et al, 2017); (Tesfaye et al, 2010) ; (Blanc et al, 2014). Each of the 10 items pertains to an emotional state, and each has a response categories are on a Likert scale with five categories: 'none of the time' (1), 'a little of the time' (2), 'some of the time' (3), 'most of the time' (4) and 'all of the time' (5). The total score is the sum

of all responses. The scores thus range between 10 and 50 (Fassaert, 2009), a high overall score indicates a high level of psychological distress (Thelin et al, 2017). Thelin et al, 2017). An Arabic version of symptom-revised checklist 90 (SCL 90-R) was also used (Abdallah, 1998) used to assess psychological status. It includes three global indices with nine psychological dimensions relevant to general psychiatric distress (Alzoubi et al, 2015); (Bergink et al, 2011), is scored and interpreted in terms of nine primary symptom dimensions Somatization; Obsessive-compulsive; Interpersonal sensitivity; Depression ; Anxiety; Hostility; Phobic anxiety; Paranoid Ideation; and Psychoticism (Al Gelban, 2017), each subscale with 10 items. Each item was rated on a 5-point Likert scale of intensity anchored by 0 being 'not at all' and 4 being 'extremely'. The total score of each subscale could range from 0 to 40 (Holi et al, 2003). Higher scores indicate greater severity (Aricak, 2009). These scales have a high degree of validity and reliability (see Tables No. 1&2).

Descriptive analyses were conducted to describe the Socio-demographic characteristics of the study sample, as well as to determine the scores for each of the (K10) and (SCL 90-R). The Mann-Whitney U test was performed to examine differences in (K10) and the nine dimensions of (SCL 90-R) according to the following variables: (gender, smoking habit, suffering from a chronic disease). This statistic was selected because the data are nominal and does not follow a normal distribution. The Kruskal Wallis H test was performed to examine differences in (K10) and the nine dimensions of (SCL 90-R) according to the following variables: (age, educational level, marital Status, monthly household income, practice sports activities at home, Use social media daily). This statistic was selected because the data are ordinal and does not follow a normal distribution.

All data were analyzed using Statistical Package for Social Sciences (SPSS) version 23.0. P-values of less than 0.05 were considered statistically significant.

Table 1: Validity of K10 & SCL 90-R in manner of Comparison of Extreme Groups.

Scales	Comparison groups	N	Mean	Std Deviation	T-value	Df	Sig.
K10	Lower group	40	21.614	5.350	-6.009	39	.000
	Upper group	40	22.543	4.828			
SCL 90-R	Lower group	40	33.343	6.980	3.502	39	.001
	Upper group	40	36.957	6.104			

Table 2: Reliability of K10 & SCL 90-R in Alpha-Cronbach manner.

Scales	Cronbach's Alpha	N of items
K10	.707	10
SCL 90-R	.672	90

Fig 1. The distribution of study participants.

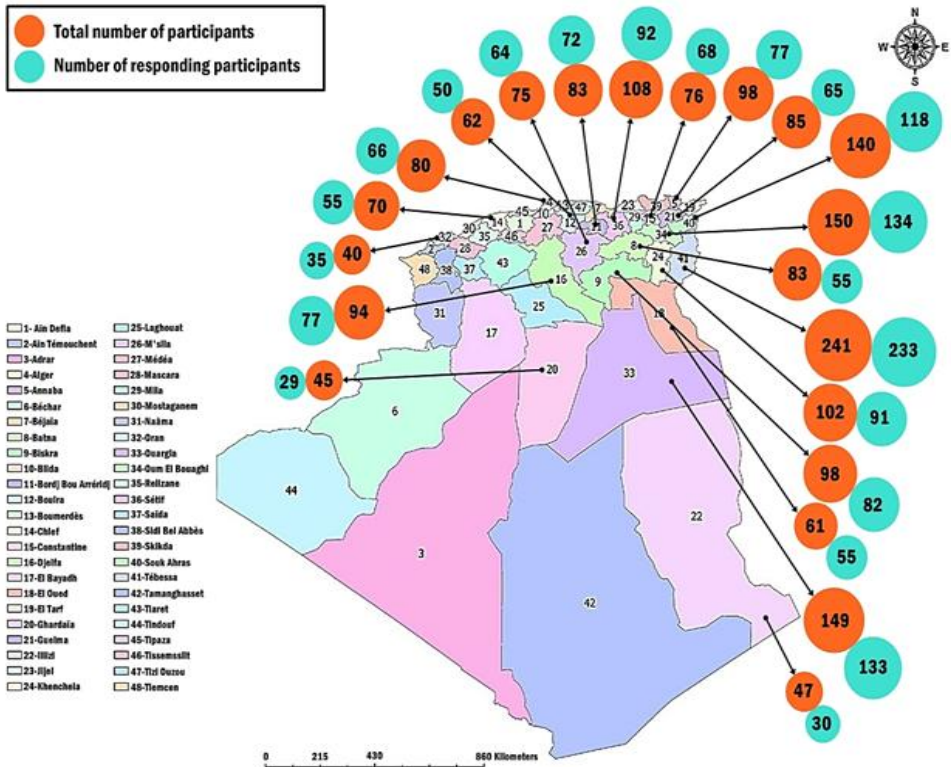


Table 3: Descriptive Statistics of Sample (N= 1681)

Socio-demographic characteristics	(n)/ %
Age (years)	
18-25	288 (17.1)
26-35	709 (42.2)
36-45	364 (21.7)
46-55	182 (10.8)
56-65	92 (5.5)
≤ 66	46 (2.7)
Gender (%)	
Male	1365 (81.2)
Female	316 (18.8)
Educational level (%)	
Doctoral or Master's Degree	472 (28.1)
Undergraduates	876 (52.1)
Secondary school	251 (14.9)
Primary school	82 (4.9)
Marital Status (%)	
Single	762 (45.3)
Married	686 (40.8)
Divorced, widowed, separated	233 (13.9)
Monthly household income (%)	
Weak income	812 (48.3)
Average income	718 (42.7)
High income	151 (9)
Smoking habit (%)	
Yes	277 (16.5)
No	1404 (83.5)
Practice sports activities at home (%)	
I do not exercise at all	337 (20)
Once a week	339 (20.2)
Two times a week	142 (8.4)
More than three times	863 (51.3)
Use social media daily (%)	
>2h	542 (32.2)
Between 2h and 4h	607 (36.1)
<4h	532 (31.6)

2- Exposure , analyses and result exam:

2-1- Socio-demographic Characteristics:

In sum, descriptive statistics for study sample (N= 1681) are presented in Table 1. (41.2%) of the participants were between (26-35) years old, (81.2%) were male, (40.8%) were married, (52.1%) undergraduates, and (48.2%) reported were of a low monthly income, (83.5%) of the responders did not smoke, (20%) did not exercise at all, while (36.1%) spent between 2 and 4 hours per day of their time using various social media sites. Among all respondents.

2-2- The Psychological Effects Of Home Quarantine And The Prevalence Of Psychopathologies Symptoms.

The mean K10 score was 28.50 (SD= 4.09), which indicates high levels of psychological distress (Stallman, 2010). The mean SCL90-R score was 209.27 (SD= 11.39), indicative of high levels of severity (Aricak, 2009).Table 2 shows the overall prevalence of mental symptoms among the study sample. The most frequent mental symptoms were psychological distress (40.6%), depression (36.3%), anxiety (32.2%), hostility (31.4%), and obsessive-compulsive (25.5%).The least frequent dimensions were phobic anxiety (5%), psychoticism (5.2%), somatization (12.1%), Psychoticism (5.2%), and Phobic anxiety (5 %).

Table 4: Overall prevalence of mental symptoms among the study sample.

Mental symptom	Prevalence	
	(No)	(%)
Psychological distress(K10)	682	40.6
Depression (DEP)	610	36.3
Anxiety (ANX)	542	32.2
Hostility (HOS)	527	31.4
Obsessive-compulsive (O-C)	428	25.5
Interpersonal sensitivity (INTER)	243	14.5
Paranoid ideation (PAR)	212	12.6
Somatization (SOM)	204	12.1
Psychoticism (PSY)	88	5.2
Phobic anxiety (PHOB)	84	5

2-3- Differences in Dimensions of (Scl90-R) and (K10) By Independent Variants:

The results revealed significant differences between the sexes in favor of males with regard to obsessive-compulsive (Mann–Whitney $U=198200.500$; $Z=-2.254$; $P=.024$). Statistically significant differences were also found between the sexes in favor of males with regard to psychological distress (Mann–Whitney $U=200416.00$; $Z=-1.967$; $P=.049$). There were no significant differences in sex with regard to the rest of the other psychological dimensions (SOM; INTER; DEP; ANX; HOS; PHOB; PAR; PSY). The results also indicate that smokers have more symptoms of somatization than non-smokers (Mann–Whitney $U= 179947.000$; $Z= -1.970$; $P = .049$), smokers were also more likely to experience psychological distress than non-smokers (Mann–Whitney $U= 154375.500$; $Z= -5.443$; $P= .000$). No statistically significant differences were recorded in smoking habit with regard to (O-C; NTER; DEP; ANX; HOS; PHOB; PAR; PSY). Generally, there were

no significant differences in age or marital status. Significant differences were highlighted in the educational level with regard to psychological distress (Kruskal–Wallis; $\chi^2 = 18.510$; $P = .000$), and phobic anxiety (Kruskal–Wallis; $\chi^2 = 9.296$; $P = .026$), these differences in favor of fourth group (primary school). No statistically significant differences were recorded in the educational level variable for all dimensions (SCL90-R) during the home quarantine. During the home quarantine, interpersonal sensitivity symptoms appeared more among low-income people compared to middle and high income people (Kruskal–Wallis; $\chi^2 = 6.097$; $P = .047$). The results show that people with low incomes report more anxiety than those with middle and high incomes (Kruskal–Wallis; $\chi^2 = 6.058$; $P = .048$). People on low incomes reported significantly more psychological distress than people with middle and high incomes (Kruskal–Wallis; $\chi^2 = 13.122$; $P = .001$). There are no differences in the monthly family income with regard to the other psychological dimensions. An examination of participants' attitudes about the likelihood of becoming depressed revealed that participants who never exercised at all were more likely to report their likelihood of developing depression compared to participants who exercised at different rates of exercise per week (Kruskal–Wallis; $\chi^2 = 10.884$; $P = .012$). The symptoms of anxiety (Kruskal–Wallis; $\chi^2 = 13.847$; $P = .003$), and hostility (Kruskal–Wallis; $\chi^2 = 13.477$; $P = .004$) appeared significantly in the participants who did not exercise at all compared to the rest of the other groups. Psychological distress was reported among the participants who were not exercising throughout the home quarantine period compared to the other groups (Kruskal–Wallis; $\chi^2 = 15.446$; $P = .001$). No significant differences in practice sports activities at home for the following psychological symptoms (SOM; O-C; INTER; PHOB; PAR; PSY). Participants who used social media between 2 and 4 hours per day reported experiencing symptoms of somatization compared to the other groups

(Kruskal–Wallis; $\chi^2 = 12.654$; $P = .002$). Symptoms of depression appeared in the second group, who used social media sites for between 2 and 4 hours daily, while these symptoms did not appear in the other groups (Kruskal–Wallis; $\chi^2 = 6.902$; $P = .032$). Participants who use social media sites for more than 4 hours per day reported much greater psychological distress than participants who used social media sites for less than 4 hours per day (Kruskal–Wallis; $\chi^2 = 11.898$; $P = .0033$). Finally, no significant differences between groups for the remaining psychological dimensions.

2-4- Discussion:

Pandemics are a cyclical phenomenon that means a sudden and rapid spread of a disease in a geographical area above its usual rates. Impacts of these pandemics are often intense, which may adversely affect the mental wellbeing of a given population such as severe disruptions of routines, social isolation, the variety of social and psychological responses can include weakness and anxiety and others (Roy et al, 2020); (Rajderkar and Kendre, 2020). To the best of our knowledge, our study is the first one developed to examine the psychological impact of the COVID-19 home quarantine in Algeria. This study provides preliminary evidence of high levels of psychological distress in the Algerian people. Surprisingly, (40.6%) reported elevated distress levels. Considering dimensions of (SCL 90-R), the most frequent mental symptoms were, the most frequent mental symptoms were depression (36.3%), anxiety (32.2%), and hostility (31.4%). The least frequent dimensions were phobic anxiety(5%),psychoticism (5.2%), and somatization(12.1%).There is a need to clarify this result: staying at home for a longer time, sudden and rapid change in routine, and a lack of practicing sports activities as (20%) of the participants do not practice sports at all, in addition to sitting for long periods in front of the television and the frequent use of social networking sites at high rates that

reached more than (62%) of those who use social media sites for more than two hours a day. Moreover, the monthly income has weakened, as more than (48%) people suffer from limited income due to the economic situation of the country, and the disruption of factories, projects, establishments, which led to an increase in anxiety responses, high psychological pressure and other related problems. Had conducted a similar study included 52,730 people in China during the COVID-19 pandemic and found that about 35% of the participants had psychological distress. This corresponds with the results of a recent Kaiser Family Foundation survey pointing that 45% of adults in the U.S. report that their mental health has been negatively (Sher, 2020). Another study was conducted to assess the psychological effects of quarantining patients during an outbreak of (MERS) showed higher impact events score on sleep, numbness, anxiety and depression (Mukhtar, 2020). Additional quarantine-related mental health problems include increase in PTSS during and after the pandemic, And the emergence of symptoms of irritability, insomnia, anger, low mood, and emotional exhaustion, beside decreased freedom and privacy, and consequently higher stress, and domestic violence (Fegert et al, 2020). Furthermore, the symptoms of OCD are quite prominent, and among the most common symptoms are pollution obsession and compulsive hand washing. It has also been observed that although these symptoms respond well to pharmacological and psychological therapy, they tend to relapse in stress induced by external and environmental cues. These observations are consistent with findings from studies on the previous SARS, H1N1 and Ebola pandemics that found a elevated levels of fear, anxiety, and panic in the society, Because sense of isolation and loss contact with others during the quarantine period (Kılınçel et al, 2020)& (Smith and Lim, 2020),The results of this study regarding less common symptoms are very similar to the results of the study (Forte et al, 2020), Which

concluded that somatization and paranoid thinking were among the least prevalent during the Corona pandemic compared to the general population data. This study has several weaknesses. First, the number of participants is relatively small compared to the population of the study. Second, limiting the study to using only two scales (SCL90-R, K10), where it was better to use more psychological scales in order for the study to be more comprehensive. Third, it was desirable to conduct a comparative study also between regions (North, East, South, West), and to delve more deeply into the study problem. However, this study has some strengths, including the diversity of the study sample in terms of demographic and social characteristics, which enabled us to In-depth exploration the quality of life of participants from different backgrounds, Participation the study sample from different regions, which gives a clearer picture of the study problem and more accurate results that can be generalized. Despite the need to conduct more longitudinal studies on this topic, the present findings make us concerned about the worsening of the psychological state of the Algerian population as a result of the continuation of quarantine procedures in the majority of cities, and the intensification of the restrictive measures to contain the contagion by the Algerian government, the emergence of a second wave of the Corona virus, which caused great burdens on the public health system and the suspension of transport of all kinds, the postponement of study, and many other measures that have led to more suffering from psychological problems, where studies confirm that prolonged exposure to critical events leads to suffering from many psychological problems (Forte et al, 2020)& (Alexander and Klein, 2001).

3- Finding and propositions results:

The COVID-19 pandemic has generated unprecedented fear and anxiety in the world, because it is an unknown disease, because no specific treatment is available yet, and because it is a grave danger that exceeds the capabilities of health systems (Crisci et al, 2020). Therefore, government initiatives have been taken to limit the spread of infection, such as home quarantine, social distancing, wearing masks and medical gloves, and despite these preventive measures, studies have shown the effect of the spread of the Corona pandemic on mental health, not only for fear of the spread of infection, but due to home quarantine. And restrictive measures imposed on the freedoms of citizens.

Many questions remain to be addressed concerning on treatments and possible solutions to mental health problems, how to deal with and prevent them in the event of the continuing outbreak of the Corona pandemic, and the factors that affect the success of home quarantine measures. It is clear that more work is needed to highlight all of these solutions, methods, factors that would greatly assist in combating the spread of Coronavirus infection.

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