

# Assessment of the Well-Being and Psychological Impact of Confinement in Morocco during the COVID-19 Pandemic

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## Abstract

## Original Research Article

The COVID-19 pandemic and compulsory isolation measures linked to it inflicted psychological, social, political, and economic effects worldwide. **Objectives:** The aim of this study was to assess the psychological impact and the mental well-being of Moroccan population during the COVID-19 pandemic. **Methods:** We conducted a survey using an online questionnaire which collected information on demographic data, living environment, evolution of consumption habits during lockdown, and additional information. Psychological impact was assessed by the Peri-traumatic Distress Inventory (PDI), and the mental well-being was assessed by The Warwick-Edinburgh Mental Well-being Scale (WEMWBS). Results obtained for healthcare professionals were compared to those obtained in the general population. **Results:** 2273 respondents were included in the study. In total, 31,45% of respondents rated a score of peri-traumatic distress greater than or equal to 15. The average of the mental well-being score was 50.121. Most respondents (79.3%) increased their digital screen time as well as the consumption of coffee, calorie-rich, fatty and sugary foods. Factors such as female gender, psychiatric history and accommodation without a terrace or balcony were significantly associated with a higher psychological impact of the outbreak and higher scores of PDI. Nevertheless, no significant difference in the mental well-being and PDI scores was found between healthcare workers and the general population in our study. **Conclusion:** During the COVID-19 pandemic in Morocco, about one-third of respondents indicated significant distress. Our findings identify factors associated with a lower or a better level of mental health status that can help us to develop appropriate interventions for managing the psychosocial consequences of pandemic.

**Keywords:** Confinement, wellbeing, mental health.

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## INTRODUCTION

The recently emerged COVID-19 disease is a highly transmittable viral infection caused by SARS-CoV-2. To limit the spread of the virus, the Moroccan government adopted general confinement during the month of March 2020, such as many other countries. This exceptional measure aims to reduce the interaction of people with each other to avoid the rapid spread of the virus. But this decision is not without consequences. Face to this situation, several factors can influence population's reaction. A quick review of the literature on the psychological impact of social isolation highlights the negative repercussions of the experience, which can even lead to post-traumatic stress disorder [1]. The length of confinement increases the risk of pathological manifestations. Other factors such as

housing conditions, loss of income, lack of information, or boredom can be in cause. To explore these different associations in the current context in Morocco, and to assess well-being during this period of confinement, we conducted this study in the general population.

## METHODS

### Targeted Population:

The inclusion criteria were:

- Men and women over the age of 18
- Speaking French
- Having access to an internet connection
- Having answered all the questions

### Procedure

Data was collected using an online questionnaire. The link was shared on various social

network platforms in order to enlarge our sample. Subjects agreeing to participate were invited to click on the link leading them to an online platform. Once the participants gave their consent, they had access to the survey.

### Tools used

⇒ *The Peritraumatic Distress Inventory (PDI)*

The PDI (2) is a self-report inventory that helps determine a subject's emotional reactions during or immediately after a traumatic event. This thirteen-item scale was constructed from the Peritraumatic Emotional Distress (Marmar, 1996).

Items are rated on a 5-point Likert scale ranging from 0 (not at all true) to 4 (extremely true). The total score is the sum of all items. A score of 15 or more indicates significant distress.

⇒ *The Warwick-Edinburgh Mental Well-Being Scale (WEMWBS)*

The WEMWBS includes 14 items on a 5-point Likert scale assessing psychological wellbeing of individuals between the ages of 13 and 74, developed by the universities of Warwick and Edinburgh [3].

The assessment is two-dimensional: hedonic (state of happiness and life satisfaction) and eudemonic (positive psychological functioning, satisfying relationships with others, self-realization, and acceptance).

There is no threshold score for this scale. But the higher the score, the greater the psychological wellbeing of the individual. The French version of the scale used in this study is the one translated by Nicolas Franck in 2013 [4].

### Statistical Analysis

All the statistical analyzes of this study were carried out by the laboratory of Medical Informatics using SPSS software.

### Wellbeing Scale:

⇒ *Healthcare professionals*

Gender	N	Mean	Standard deviation	Median	Minimum
Female	334	49.476	8.6384	49.000	17.0
Male	60	52.650	6.9131	53.500	39.0
Total	394	49.959	8.4681	51.000	17.0

⇒ *General population*

Gender	N	Mean	Standard deviation	Median	Minimum
Female	1616	49.843	8.4312	51.000	15.0
Male	263	52.065	8.4745	52.000	16.0
Total	1879	50.154	8.4701	51.000	15.0

First, descriptive statistics were performed. T-tests and Chi-squares were performed to study the different correlations. The significance threshold for the tests was set at  $p < 0.05$ .

## RESULTS

We were able to collect 2273 questionnaires.

### 1. Descriptive analysis:

#### Sociodemographic data:

Most respondents were women (85.8%). 51.65% came from the Casablanca-Settat region, 15.40% from the Rabat-Salé-Kenitra region, 7.35% and 7% from the Marrakech-Safi and Fes-Meknes regions respectively. Half of the participants were single (52%) while 43.5% were married. 38.1% of respondents had children, their ages ranged from 0 to 44 years old. 10.3% had at least one child with a chronic illness and/or a disability. These were mainly respiratory diseases (43.5%), attention deficit/hyperactivity disorder concerned 12.2% of cases. 74.4% of participants had a bachelor's degree (3 years post graduate). 17.3% of respondents worked in the health sector.

For health professionals, 44.2% worked in the university hospital sector, 34.5% in the liberal sector and 21.3% in the public sector. 28.7% of health personnel were resident doctors, 21.8% were general practitioners, 12.7% were nurses and 10.9% were specialist doctors.

#### Medical History

64.1% of participants had no pathological history while 35.9% of them had at least one medical and/or surgical history. 15% had chronic illness and/or a disability. Additionally, psychiatric history was found in 19% of participants. Disorders mentioned were depressive disorder, anxiety disorder and sleep disorder in 33.6%, 28.8% and 18% of cases respectively.

**Peritraumatic distress inventory:**

68.54% of participants had a peritraumatic distress score <15 while 31.45% had a peritraumatic distress score >=15.

⇒ *Healthcare professionals*

Score	Frequency	Percentage
<15	272	69.0
>=15	122	31.0
<b>Total</b>	394	100.0

⇒ *General population*

Score	Frequency	Percentage
<15	1286	68.4
>=15	593	31.6
<b>Total</b>	1879	100.0

**Before isolation/confinement**

77.3% of participants had never experienced voluntary or forced confinement before. 69.7% lived

with family while 9.5% lived alone. The frequency of visits from family and friends before confinement is presented in the following table:

Rhythm	Physical visit (%)	Phone call (%)	Texting (%)	Social network (%)
Less than once a week	24.4	15.3	41.5	13.4
Many times a week	28.4	40.4	30.4	38.7
Everyday	28.7	30.3	20.5	38.0
Once a week	18.5	13.9	7.7	9.9

**During Isolation/Confinement**

Most people who answered the questionnaire (83.4%) completely agreed with the social isolation measure and only 1.1% somewhat disagreed. 81% of the participants were indeed confined. In 88% of cases, they were confined in their usual accommodation. Majority (91.3%) of people lived in an urban area. 62.4% of living spaces had a balcony or terrace, 13.29%

a private garden, while 13.99% had none of these open spaces. 92% of participants shared accommodation with at least one person during this period. In 78% of cases, the number of people sharing the same accommodation was three or more. Concerning consumption pattern and substance use of the participants, these evolved as shown in the table:

	<i>Coffee, tea, energy drinks</i>	<i>High caloric, fatty, sweet, and salty food</i>	<i>Tobacco</i>	<i>Alcohol</i>	<i>Cannabis</i>	<i>Other drugs</i>
<b>Increase</b>	15.2 %	36.4 %	3.9 %	0.9 %	0.9 %	0.1 %
<b>Decrease or stop</b>	11.5 %	12.4 %	4.5 %	4.4 %	1 %	0.5 %
<b>Same consumption</b>	55.1 %	45.3 %	4.3 %	1.2 %	0.8 %	0.4 %
<b>Non consumer</b>	18.2 %	5.9 %	87.3 %	93.5 %	97.3 %	98.8 %

	<i>Anxiolytics</i>	<i>Pain killers</i>	<i>Sleeping pills</i>	<i>Screens</i>
<b>Increase</b>	1.9 %	6.1 %	3.7 %	79.3 %
<b>Decrease or stop</b>	1.5 %	11.6 %	1.7 %	1.7 %
<b>Same consumption</b>	3.1 %	33.8 %	3.8 %	18.3 %
<b>Non consumer</b>	93.5 %	48.5 %	90.8 %	0.7 %

**2. Comparative analysis****Peritraumatic Distress**

In the general population, having faith or a religious belief was linked to lower rates of distress. This association was not established among health professionals. Female gender and the psychiatric history were correlated to higher rates of distress. While the presence of children, or the presence of an open space

in the house, was significantly linked to a lower rate of peritraumatic distress ( $p=0.02$ ). However, being isolated or not did not influence the distress scores. Health professionals had similar levels of distress to those found in the general population. In addition, the financial impact of the sanitary crisis was related to higher rates of distress among the general population.

This link was not established among health professionals.

### Wellbeing Scale

Just like levels of peritraumatic distress, female gender and psychiatric history were significantly correlated with lower well-being scores. Also, being confined or not did not influence well-being scores. The presence of a religious belief was linked to higher well-being scores in the general population. This link, once again, was not established among health professionals.

Having an open space, like a balcony, and the presence of children were significantly linked to higher scores of well-being. Also, levels of mental wellbeing were identical amongst health professionals and general population.

### Evolution of Consumption Habits

The consumption of high-calorie, fatty, sweet and salty foods, coffee, alcohol, cannabis or other drugs as well as the use of analgesics or sleeping pills were not influenced by confinement. Nonetheless, the evolution of tobacco consumption and the use of screens were linked to containment measures in the general population but not among health personnel. Use of anxiolytics was influenced by confinement among healthcare professionals but not among the general population.

## DISCUSSION

This study assessed the levels of mental wellbeing and psychological distress experienced by the general Moroccan population as well as healthcare professionals during the COVID-19 pandemic.

Our results revealed that healthcare workers would have the same risk as the general population of developing psychological distress. Our results are in line with those of a systematic review and meta-analysis which showed a similar prevalence of anxiety and depression among healthcare workers and the general population [5].

Nevertheless, as the assessment of psychological distress in the present study took place during the spread of COVID-19 in Morocco, we cannot exclude the possibility of a higher rate of psychological distress in the long term, as has been shown was previously seen in this category after the SARS outbreak in Canada [6]. The most common indicators of psychological impact reported in the studies were anxiety and depression, and the respective prevalence was 33% (28% to 38%) and 28% (23% to 32%).

In addition to anxiety and depression, other less frequently reported indicators included stress and insomnia. Their overall prevalence was 35% (23%-47%), 40% (20%-60%) and 32% (25%-39%)

respectively, and the prevalence was similar among caregivers and the general public [7].

Regarding peritraumatic distress, our results showed a prevalence of 31.45%, which is in the less than what is found in the literature [8-11] where percentages of peritraumatic distress varied between 33.1% and 45.5%. A study conducted in Algeria during the same period involving a sample of 1374 adults found a distress rate of 32.7% [12]. In Iran and Brazil, higher rates of distress found: 59% [13] and 87% [14] respectively. This disparity can be explained by the significantly high mortality rates in these two countries compared to the others.

Similar to our findings, common risk factors for greater psychological burden included female gender, job as a nurse [15, 16], high risk of contracting COVID-19, low socio-economic level [17], social isolation [18] and spending more time watching news related to the pandemic [19].

Also, overcrowded accommodation, inadequate facilities and poor housing conditions can aggravate feelings of distress [20]. As for the factors associated with high psychological distress, the results of our study were: female gender, psychiatric history, the absence of faith and the non-availability of an open space at home.

Protective factors against psychological distress, according to several studies, include: sufficient medical resources, access to up-to-date and accurate health information and taking precautionary measures, family support [21], sufficient medical resources, efficient health systems and effective epidemic prevention and control measures [22], and taking precautionary measures (e.g. hand hygiene, wearing masks, etc.) [23].

Regarding screen use, literature suggests rising trends in screen time and its health effects during the COVID-19 pandemic. A study of 254 Canadian families with young children reported increases in screen time among mothers, fathers, and children during COVID-19 at 74%, 61%, and 87%, respectively [24].

Additionally, a study conducted in China found that about 70% of 1033 participants increased their screen time after the COVID-19 outbreak [25]. Another US study used a longitudinal design to assess health behavior changes during COVID-19 and found a perceived increase in screen time among participants [26]. In Poland, a survey reported that 49% of participants experienced high screen time during the COVID-19 pandemic [27]. A Turkish study conducted during the lockdown found that almost 72% of the children studied had longer screen time than in previous years [28]. Similar findings in a study of 4108

participants from 9 European countries was found in the literature [29].

All these studies provide evidence of increasing trends in screen time in various populations, with other studies confirming the adverse effects of this increase on both physical and mental health. Factors correlated with increased screen time such as dietary practices and physical activity have been highlighted. For example, Pišot and col. reported an increase in body mass that could be explained by meal size, consumption of unhealthy foods, time spent exercising, and screen time [30]. Likewise, Górnicka found that 43% of respondents experienced a diminution in physical activity and 34% increased their food intake in a sample where 49% of people reported an increase in screen time [31]. These studies suggest that a synergistic effect may exist between these behaviors, which may be prevalent during this pandemic.

- The results of our study should be interpreted in light of its limitations.

In fact, its cross-sectional design, excludes causal inferences. Moreover, the study is subject to selection bias because participants were approached using social media, the most appropriate method given the pandemic context.

Finally, participants were asked to self-report their mental and physical health, which could lead to reporting bias. Additional studies are needed to report the impact of this crisis on the mental health of Moroccan population.

Despite these limitations, the results of the present study improve our understanding of the traumatic effect of the COVID-19 pandemic on the population, which is undeniable and widely cited [32-34]. The risk factors identified were consistent with those from previous studies in other countries.

## CONCLUSION

Currently, COVID-19 is still spreading in many countries, including Morocco. The resurgence of the virus could come as a psychological shock to many people who have been anticipating a return to their normal daily lives. Therefore, it is essential to develop targeted and evidence-based public mental health interventions to preserve the psychological health of the Moroccan population. Furthermore, individuals, groups, or categories with multiple risk factors for peritraumatic distress identified in the present study should be identified and targeted for possible psychological counselling.

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