

Iranian psychosocial status during and after COVID-19 outbreak mandatory quarantine: A cross-sectional study

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Abstract

Quarantine, one of the most effective protection measures, plays an essential role in preventing the spread of infectious diseases. The coronavirus 2019 (COVID-19) pandemic, along with quarantine, can have devastating consequences for individuals' mental and social health. This study examined the psychosocial status of individuals during and after quarantine in the COVID-19 pandemic. This cross-sectional study was conducted on 714 individuals in the general population during (365) and 3 months after quarantine (349) in southeastern Iran. Data were collected using General Health Questionnaire (GHQ-28) and Generalized Anxiety Disorder 7-item (GAD-7) based on an online questionnaire. Data were collected from April 13 to April 20, 2020 (in quarantine) and 3 months later from August 20 to September 20, 2020. Psychological disorders in the quarantined population were significantly higher than that after quarantine. The risk of a mental disorder in the quarantined population was 1.54 times higher than that after quarantine. The results showed that quarantine is associated with a significant level of psychosocial disorders; therefore, interventions should be considered to reduce the effects of quarantine on the mental health of general population as a public health priority at the community level.

KEYWORDS

anxiety, COVID-19, health, population, quarantine

1 | INTRODUCTION

Coronavirus 2019 (COVID-19) was first identified in Wuhan, China in December 2019 and quickly became a global pandemic. COVID-19 is often associated with symptoms such as fever, dry cough, fatigue, and gastrointestinal symptoms (Wu et al., 2020), and in severe cases with acute respiratory syndrome, multiple organ dysfunction, and high mortality (Chen et al., 2020). According to the latest statistics of the Ministry of Health in Iran, 2,479,804 people were infected with COVID-19 until April 29, 2021 (Ministry of Health, 2020). The disease has had many negative effects on the general population around the world (Zakeri & Dehghan, 2020).

COVID-19 disease is highly contagious and transmitted primarily through respiratory droplets and close contact, and all individuals are susceptible to the disease (Zhou et al., 2020). To reduce the prevalence of the disease, the World Health Organization (WHO) has recommended measures such as hygiene and disinfection, initial diagnosis and reporting, use of personal protective equipment, travel restrictions, social distancing, and quarantine (WHO, 2020a). Quarantine has been known as one of the oldest and most effective methods of controlling the spread of infectious diseases such as severe acute respiratory syndrome 2003 and swine influenza A (H1N1) (Rossi et al., 2020). Those closely associated with confirmed or suspected COVID-19 cases must be quarantined for 14 days at homes or designated facilities. Quarantine is a public health measure that restricts activities or separate people exposed to an infectious agent or disease from others to monitor the signs of infection and ensure the rapid identification of suspected cases (WHO, 2020a). Since the transmission of the virus from infected individuals takes place regardless of the severity of the signs and symptoms, and apparently healthy carriers can transmit the disease; therefore, quarantine is recommended to reduce the rate of disease transmission (Wilder-Smith & Freedman, 2020).

Although quarantine is essential to control the prevalence of COVID-19, the WHO has emphasized the importance of protecting the psychosocial status of quarantined individuals due to limited activities and social isolation (WHO, 2020b). Quarantine is often an unpleasant experience and separation from loved ones, loss of freedom, uncertainty about illness, and impatience can sometimes have dramatic effects (Brooks et al., 2020). Depending on the environmental conditions as well as the type of infectious disease spread, the mental health of individuals may be damaged and some psychological disorders may occur in quarantined individuals (Wang et al., 2011). Limited social relationships during quarantine, fear of illness, increased sense of loneliness, boredom, frustration, lack of information, and stigma increase the risk of negative consequences and cause problems in the psychosocial health of individuals (Loades et al., 2020). Evidence suggests a number of psychosocial effects such as posttraumatic stress, depression (Zakeri, Hossini Rafsanjanipoor, Zakeri, et al., 2021), anxiety, anger, mental health problems (Hossini Rafsanjanipoor et al., 2021; Zakeri, Dehghan, et al., 2021), anxiety and social problems (Zakeri, Hossini Rafsanjanipoor, Kahnooji, et al., 2021) as well as numerous emotional reactions such as fear, isolation, loneliness, insomnia and boredom in quarantined individuals during the prevalence of COVID-19 (Brooks et al., 2020). In addition, based on previous experiences with the spread of infectious diseases, long-term quarantine outcomes, including loss of income during quarantine, loss of job after quarantine, and disruption of family relationships may also indirectly affect individuals' psychosocial health (Francisco et al., 2020).

Results of a study in Italy (2020) showed that 32.1% of the quarantined individuals experienced high levels of anxiety, 57.1% experienced sleep disorders, 41.8% experienced severe distress and 7.6% experienced posttraumatic stress disorder (Casagrande et al., 2020). Another study in Italy (2020) reported that the prevalence of depressive and anxiety symptoms was 24.7% and 23.2%, respectively during the 14-day

quarantine, and 42.2% of the people suffered from sleep disorders, 17.4% of whom had moderate to severe insomnia (Gualano et al., 2020). Quarantine is one of the effective ways to reduce the spread of the disease, and the results of studies showed the impact of quarantine on the psychosocial status of individuals. A review of the literature showed that although studies conducted in Iran have focused on assessing anxiety and mental health during the COVID-19 pandemic (Hossini Rafsanjanipoor et al., 2021; Zakeri, Hossini Rafsanjanipoor, Kahnooji, et al., 2021; Zakeri, Hossini Rafsanjanipoor, Sedri, et al., 2021), no specific attention has been paid to the effect of quarantine and lockdown on general population mental health. Therefore, the aim of this study was to investigate the psychosocial status of the individuals during and after mandatory quarantine in Iran in 2020.

2 | METHODS

2.1 | Study design and setting

This study had a cross-sectional design which conducted to investigate the mental health status and anxiety level of general population during and after quarantine in Rafsanjani citizens during the COVID-19 disease outbreak.

2.2 | Sampling and sample size

The present study population was all citizens living in Rafsanjani city who entered the study by convenience sampling. Sampling was performed by an online questionnaire that was distributed on social networks (WhatsApp, Telegram, ETA, Soroush, and I-Gap). The inclusion criteria were all participants living in Rafsanjan city and aged more than 18 years old. Participants with history of mental disorders (self-reported) and incomplete questionnaires were excluded from the study. Sampling was conducted two times. First, in the last week of quarantine, 378 questionnaires were completed, 13 of which had high missing values, so they were excluded from the study (the effective response rate = 96.56%). Second, 3 months after quarantine, out of 366 completed questionnaires, 17 questionnaires were excluded due to high missing values (the effective response rate = 95.35%).

2.3 | Instruments

2.3.1 | Sociodemographic characteristics form

This form included gender, age, marital status, educational level, income, relatives/friends infected with the COVID-19 disease, exposure to the COVID-19 disease and concerns about the COVID-19 disease.

2.3.2 | Generalized Anxiety Disorder 7-item (GAD-7)

The GAD-7 was developed by Spitzer et al. to measure worry and anxiety symptoms in seven items from 0 to 3. The total scores of GAD range from 0 to 21 with scores ≥ 10 reflecting positive generalized anxiety disorder. The Persian version of GAD-7 had good validity and acceptable reliability (Naeinian et al., 2011). In the present study, the Cronbach's α for GHQ-28 was 0.89.

2.3.3 | General Health Questionnaire (GHQ -28)

The GHQ-28 has 28 items with four subscales to assess the general health of individuals in the last month. The scale assesses (1) somatic symptoms (items 1–7), (2) anxiety symptoms and sleep disorders (items 8–14), (3) social functioning (items 15–21), and (4) symptoms of depression (items 22–28). The total scores of GHQ range from 0 to 84 with scores ≥ 23 indicating people with psychological disorders (cut-off point is 22). The Persian version of GHQ-28 has good validity and acceptable reliability (Rahmani et al., 2010). In the present study, the Cronbach's α for GHQ-28 was 0.91.

2.4 | Data collection

After acquisition of the code of ethics, sampling was done from the general population of Rafsanjan by an online questionnaire, which was distributed through social networks (Whats App, Telegram, Eita, Soroush, and I-Gap) in the last week of quarantine and 3 months after quarantine, respectively. In Iran, lockdown began from March 6, 2020, and then by increasing the number of infected patients the quarantine began from March 20 for 1 month. The questionnaires first were distributed in the last week of quarantine and data were collected from April 13 to April 20, 2020. For the next time, questionnaires were distributed 3 months later from August 20 to September 20, 2020, and data were collected.

2.5 | Data analysis

SPSS 24 was used for data analysis. Descriptive analysis was used to describe the participants' characteristics, GAD-7, GHQ scores and their subscales scores. χ^2 test was used to assess the association between qualitative variables and psychological disorder (yes/no) during and after quarantine. Independent t test was used to determine the differences between mean/standard deviation of GHQ-28 and GAD-7 variables during and after quarantine. Multivariate logistic regression with backward method was used to evaluate the association between variables and psychological disorder. The significance level was considered as 0.05.

2.6 | Ethical considerations

The study was approved by an Ethical Committee (Ethics Committee of Rafsanjan University of Medical Sciences; No.: IR.RUMS.REC.1399.017). All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. Informed consent was obtained from all individual adult participants included in the study. In the first online questionnaire, the participants were informed about the objectives of the study, the confidentiality and anonymity of the information and the optional participation in the study. Participants were asked to pay attention to the online explanations before completing the questionnaire to obtain their consent.

3 | RESULTS

3.1 | Sociodemographic

The majority of the participants were female, aged between 31 and 50 years, and married. The majority of the participants had more than diploma education (Table 1).

TABLE 1 Participants' sociodemographic characteristics and their associations with psychosocial disorder

Variables	Group During quarantine		Psychosocial disorder		χ^2 test/p value	After quarantine		χ^2 test/p value
	N (%)	No (N/%)	Yes (N/%)	N (%)		No (N/%)	Yes (N/%)	
Gender								7.61 (0.004)
Male	121 (33.2)	74 (32.2)	47 (34.8)	154 (44.1)	0.26 (0.60)	119 (49.0)	35 (33.0)	
Female	244 (66.8)	156 (67.8)	88 (65.2)	195 (55.9)		124 (51.0)	71 (67.0)	
Age (year)								
18–30	119 (32.6)	54 (23.5)	65 (48.1)	100 (28.7)	23.67 (<0.001)	60 (24.7)	40 (37.7)	8.03 (0.018)
31–50	226 (61.9)	161 (70.0)	65 (48.1)	227 (65.0)		164 (67.5)	63 (59.4)	
51–70	20 (5.5)	15 (6.5)	5 (3.7)	22 (6.3)		19 (7.8)	3 (2.8)	
Marital status								
Married	299 (81.9)	195 (84.8)	104 (77.0)	284 (81.4)	3.44 (0.06)	204 (84.0)	80 (75.5)	3.50 (0.06)
Unmarried/other	66 (18.1)	35 (15.2)	31 (22.0)	65 (18.7)		39 (16.0)	26 (24.5)	
Educational level								
Middle/high school	46 (12.6)	30 (13.0)	16 (11.9)	42 (12.0)	0.83 (0.65)	31 (12.8)	11 (10.4)	
Diploma	114 (31.2)	75 (32.6)	39 (28.9)	107 (30.7)		72 (29.6)	35 (33.0)	0.63 (0.72)
>Diploma	205 (56.2)	125 (54.3)	80 (59.3)	200 (57.3)		140 (57.6)	60 (56.6)	
Employment status								
Employed	80 (21.9)	51 (22.2)	29 (21.5)	68 (19.5)	0.02 (0.49)	48 (19.8)	20 (18.9)	0.03 (0.48)
Unemployed	285 (78.1)	179 (77.8)	106 (78.5)	281 (80.5)		195 (80.2)	86 (81.1)	
Income (million toman)								
<1	147 (40.3)	86 (37.4)	61 (45.2)	101 (28.9)	2.14 (0.34)	64 (26.3)	37 (34.9)	
1–3	142 (38.9)	93 (40.4)	49 (36.3)	111 (31.8)		79 (32.5)	32 (30.2)	2.22 (0.32)

TABLE 1 (Continued)

Variables	Group During quarantine		χ^2 test/ <i>p</i> value	Group After quarantine		χ^2 test/ <i>p</i> value
	N (%)	Psychosocial disorder No (N/%) Yes (N/%)		N (%)	Psychosocial disorder No (N/%) Yes (N/%)	
>3	67 (18.3)	45 (19.6) 22 (16.3)		121 (34.7)	87 (35.8) 34 (32.0)	
Missing values	9 (2.5)	6 (2.6) 3 (2.2)		16 (4.6)	13 (5.3) 3 (2.8)	
Relatives/friends infected with the coronavirus						
Yes	36 (9.9)	20 (8.7) 16 (11.9)	0.95 (0.32)	63 (18.1)	31 (12.8) 32 (30.2)	15.16 (<0.001)
No	329 (90.1)	210 (91.3) 119 (88.1)		286 (81.9)	212 (87.2) 74 (69.8)	
Being at risk for the coronavirus						
Yes	159 (43.6)	91 (39.6) 68 (50.4)	4.04 (0.04)	188 (53.9)	119 (49.0) 69 (65.1)	7.72 (0.004)
No	206 (56.4)	139 (60.4) 67 (49.6)		161 (46.1)	124 (51.0) 37 (34.9)	
Concern about the coronavirus						
Getting sick	12 (3.3)	10 (4.3) 2 (1.5)	13.36 (0.01)	1 (0.3)	1 (0.4) -	5.82 (0.21)
Family getting sick	213 (58.4)	138 (60.0) 75 (55.6)		220 (63.0)	160 (65.8) 60 (56.6)	
Death	64 (17.5)	31 (13.5) 33 (24.4)		57 (16.3)	35 (14.4) 22 (20.8)	
Other	38 (10.4)	21 (9.1) 17 (12.6)		33 (9.5)	19 (7.8) 14 (13.2)	
No concern	38 (10.4)	30 (13.0) 8 (5.9)		38 (10.9)	28 (11.5) 10 (9.4)	

Note: Other: widowed/divorced.

TABLE 2 Comparison of the general health and generalized anxiety disorder between quarantine time and after quarantine

Variables	Group						Independent t test	Effect size	p value
	Quarantine			After quarantine					
	Median	Mean	SD	Median	Mean	SD			
General health	19.00	21.72	11.24	18.00	20.44	12.80	90.01	0.35	.01
Somatic symptoms	5.00	5.75	3.52	4.00	5.01	3.50	29.36	0.20	.11
Anxiety and insomnia	5.00	6.25	3.47	5.00	5.43	4.29	90.82	0.35	<.001
Social impairment	6.00	6.69	3.41	7.00	7.01	3.38	142.85	0.44	<.001
Severe depression	2.00	2.96	3.31	1.00	2.97	4.25	56.59	0.28	<.001
Generalized Anxiety Disorder	7.00	7.60	5.35	6.00	6.43	5.07	24.42	0.18	.27

3.2 | Outcome

Nearly 37% ($n = 135$) and 30.37% ($n = 106$) of the general population had psychological disorders during and after quarantine, respectively. The GHQ and its subscales excluding somatic symptoms were significantly different in the general population during and after quarantine ($p < 0.05$) (Table 2). Nearly 28% ($n = 102$) and 19.5% ($n = 68$) of the sample had generalized anxiety disorders during and after quarantine, respectively. GAD was not significantly different in the general population during and after quarantine ($p = 0.27$) (Table 2).

3.3 | Results of regression

According to GHQ score, during quarantine, a significant association was between psychosocial disorder with age, being at risk for coronavirus infection, and the concern about Coronavirus ($p < 0.05$). In addition, after quarantine, a significant association was between psychosocial disorder with gender, age, infection of relatives/friends, and being at risk for the coronavirus infection ($p < 0.05$) (Table 1).

All variables with $p < 0.2$ were included in the multivariate logistic regression. In the total samples, age, infection of relatives/friends, being at risk for the coronavirus infection, the concern about the coronavirus, and group were significantly associated with psychological disorders. The risk of the psychological disorder was 1.54 times higher in the general population during quarantine compared with after quarantine (Table 3).

4 | DISCUSSION

The results of the present study showed that more than one-third and about one-third of the general population had general health disorders during and after quarantine, respectively. In addition, the general health disorder during quarantine was 1.5 times higher than that after quarantine. Several studies also showed that quarantined individuals suffered from psychological disorders (Casagrande et al., 2020; Prati, 2020). Guo et al. (2020) in China found that 32.7% of the adults in the community had psychological disorders, which were affected by factors such as quarantine, lifestyle, COVID-19 disease, concern about risk of infection of patients and families, and decreased income. These results suggest an urgent need for psychological support for the population at risk of psychosocial disorders during quarantine (Guo et al., 2020). López Steinmetz et al. (2020) in Argentina reported psychosocial disorders in quarantined women. The researchers showed that in addition to physical health, mental health should

TABLE 3 The multivariate logistic model of associations of variables with psychosocial disorder

Variable	Multivariate logistic regression		p value
	B	95% confidence interval for B	
Age (year)			
51–70	1		<.001
31–50	1.56	0.68–3.54	.29
18–30	3.82	1.65–8.92	.002
Relatives/friends infected with the coronavirus			
No	1		
Yes	2.09	1.33–3.30	.001
Being at risk for the coronavirus infection			
No	1		
Yes	1.70	1.21–2.37	.002
Concern about the coronavirus			
No concern	1		.009
Getting sick	0.32	0.06–1.68	.18
Family getting sick	2.16	1.04–4.50	.04
Death	1.19	0.66–2.14	.57
Other	1.98	1.02–3.86	.04
Group			
After quarantine	1		
Quarantine	1.54	1.10–2.16	.01

Note: 1 = the reference.

also be a priority during quarantine and then in the COVID-19 epidemic (López Steinmetz et al., 2020). The results of a systematic review showed that stressors such as prolonged quarantine, frustration, impatience, insufficient information, financial problems were effective in psychosocial disorders, so the authorities should not isolate individuals more than the required time and must provide a clear reason for quarantine and information related to protocols and ensure availability of the sufficient resources (Brooks et al., 2020).

In the present study, all dimensions of general health (anxiety and insomnia, depression, and social disorders) except somatic disorders were higher during quarantine compared with after quarantine. No similar study was found in this regard, but Canet et al. (2020) in Argentina compared the impact of quarantine on the mental state of the general population two days and two weeks after quarantine. Their study was consistent with the present study in terms of depression, and the rate of depression increased during quarantine. Mandatory quarantine was associated with a general health disorder. Canet-Juric et al. (2020) considered it necessary to monitor the mental health of individuals and implement mental health promotion programs such as adhering to a healthy diet, doing mental and physical activity, avoiding substance use and following of news and social media. Parola et al. (2020) in Italy also assessed psychosocial health status of young adults four times a week during a month of quarantine.

The results showed an increase in all dimensions of psychosocial health such as anxiety, depression, somatic and behavioral disorders in the last week of quarantine compared with the first week of quarantine. They found that mental

health disorders were associated with a gradual decline in understanding people's strengths; therefore, the psychological resources and strengths of individuals had to be enhanced to deal with the COVID-19 pandemic complications (Parola et al., 2020). The study by Pellerin and Raufaste (2020) showed that cultivating psychological resources in normal times and difficult situations is of great importance.

The results of the present study showed that about one-third and a quarter of people experienced general anxiety disorder during and after quarantine, respectively. Tang et al. (2021) in China also showed that general anxiety disorder in quarantined individuals was significantly higher than that in nonquarantined individuals; therefore, researchers considered screening and psychological interventions as an integral part of prevention and control measures during the crisis of infectious diseases, especially in high-risk groups such as quarantined people (Tang et al., 2021). Ferreira et al. (2021) in Portugal demonstrated that quarantined people experienced high levels of social anxiety disorder and reduced level of quality of life. Researchers concluded that mental health should be considered in epidemics or other emergencies because anxiety and other factors such as socioeconomic consequences associated with the epidemic can reduce the quality of life (Ferreira et al., 2021).

The present study showed no significant difference in the level of social anxiety disorder during and after quarantine. Jeong et al. (2016) in Korea also found that anxiety decreased 4–6 months after quarantine in the Middle East respiratory syndrome epidemic compared with during quarantine, which was due to psychosocial support of individuals, accurate information as well as adequate food and necessary equipment (Jeong et al., 2016). Luo et al. (2020) revealed that the main causes of stress, anxiety, and loneliness during quarantine were related to the small quarantine space, concerns about delays in work or infection of family members. Therefore, professional psychological care and access to reliable information were necessary to minimize mental health problems during quarantine (Luo et al., 2020).

Regarding the general health status during quarantine, the present study showed a significant correlation between age, thinking of being at risk for the coronavirus infection and concern about coronavirus during quarantine. Dillon et al., (2020) supported the present study in terms of age, so that general health disorder was more in the age group of 31–50 years. Therefore, researchers concluded that this particular age group should gain more awareness to reduce general health disorders (Dillon et al., 2020). Prati in Italy supported the present study in terms of concerns about the COVID-19 epidemic and infection with the COVID-19. Providing effective messages on how people perceive their ability to cope with threats and trust institutional responses to the disease were effective in reducing anxiety (Prati, 2020).

Although quarantine has a negative impact on the psychological health of people in the community, it is essential to prevent the spread of the disease. The results of the present study provide new knowledge about the psychological problems of individuals in the community during quarantine that can be used in planning to manage critical situations that require quarantine and special attention.

One of the limitations of the present study was the acquisition of information through social media; therefore, people, who did not have access to these technological resources, were unable to respond. Another limitation was that the study was conducted on a small sample in Rafsanjan, so the generalizability of the data should be done with caution.

5 | CONCLUSION

According to the results, quarantine has a negative impact on the psychological health of people in the community. Quarantine is necessary in many cases to prevent the spread of the disease. To control the adverse effects of this disease and quarantine on the health of individuals, the authorities are suggested to apply strategies such as providing accurate and necessary information about the disease and the reason for quarantine, as well as activities to promote general health such as encouraging a healthy lifestyle, strengthening positive relationships between families and stress management.

ACKNOWLEDGMENTS

Thanks to the cooperation and support of the Vice Chancellery for Research and Technology (VCRT) of the Rafsanjan University of Medical Sciences (this study is part of the research project No.: IR.RUMS.99011). We would thank the authorities of the Social Determinants of Health Research Centre, Rafsanjan University of Medical Sciences, Rafsanjan, Iran.

CONFLICT OF INTERESTS

The authors declare that there are no conflict of interests.

PEER REVIEW

The peer review history for this article is available at <https://publons.com/publon/10.1002/jcop.22647>

DATA AVAILABILITY STATEMENT

Data are available by contacting with the corresponding author by email.

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REFERENCES

- Brooks, S. K., Webster, R. K., Smith, L. E., Woodland, L., Wessely, S., Greenberg, N., & Rubin, G. J. (2020). The psychological impact of quarantine and how to reduce it: Rapid review of the evidence. *The Lancet*, 395(10227), 912–920.
- Canet-Juric, L., Andrés, M. L., Del Valle, M., López-Morales, H., Poó, F., Galli, J. I., Yerro, M., & Urquijo, S. (2020). A longitudinal study on the emotional impact cause by the COVID-19 pandemic quarantine on general population. *Frontiers in Psychology*, 11, 2431.
- Casagrande, M., Favieri, F., Tambelli, R., & Forte, G. (2020). The enemy who sealed the world: Effects quarantine due to the COVID-19 on sleep quality, anxiety, and psychological distress in the Italian population. *Sleep Medicine*, 75, 12–20. <https://doi.org/10.1016/j.sleep.2020.1005.1011>
- Chen, N., Zhou, M., Dong, X., Qu, J., Gong, F., Han, Y., Qiu, Y., Wang, J., Liu, Y., & Wei, Y. (2020). Epidemiological and clinical characteristics of 99 cases of 2019 novel coronavirus pneumonia in Wuhan, China: A descriptive study. *The Lancet*, 395(10223), 507–513.
- Dillon, C., Leguizamon, P. P., Castro, D., Guelar, V., Garcia, V., Feldman, M., Leis, A., Romano, M., Peralta, C., & Rojas, J. I. (2020). Mental and physical health and hygienic, nutritional and daily habits during quarantine in COVID-19 pandemic. *Open Access Library Journal*, 7(11), 1–15. <https://doi.org/10.4236/oalib.1106934>
- Ferreira, L. N., Pereira, L. N., da Fé Brás, M., & Ilchuk, K. (2021). Quality of life under the COVID-19 quarantine. *Quality of Life Research*, 30, 1–17. <https://doi.org/10.1007/s11136-11020-02724-x>
- Francisco, R., Pedro, M., Delvecchio, E., Espada, J. P., Morales, A., Mazzeschi, C., & Orgilés, M. (2020). Psychological symptoms and behavioral changes in children and adolescents during the early phase of COVID-19 quarantine in three European countries. *Frontiers in Psychiatry*, 11, 1329.
- Gualano, M. R., Lo Moro, G., Vogliino, G., Bert, F., & Siliquini, R. (2020). Effects of Covid-19 lockdown on mental health and sleep disturbances in Italy. *International Journal of Environmental Research and Public Health*, 17(13), 4779.
- Guo, Y., Cheng, C., Zeng, Y., Li, Y., Zhu, M., Yang, W., Xu, H., Li, X., Leng, J., & Monroe-Wise, A. (2020). Mental health disorders and associated risk factors in Quarantined adults during the COVID-19 outbreak in China: Cross-sectional study. *Journal of Medical Internet Research*, 22(8), e20328.
- Hossini Rafsanjanipoor, S. M., Zakeri, M. A., Dehghan, M., Kahnooji, M., Sanji Rafsanjani, M., Ahmadinia, H., & Zakeri, M. (2021). Iranian psychosocial status and its determinant factors during the prevalence of COVID-19 disease. *Psychology, Health & Medicine*, 1–12. <https://doi.org/10.1080/13548506.13542021.11874438>
- Jeong, H., Yim, H. W., Song, Y.-J., Ki, M., Min, J.-A., Cho, J., & Chae, J.-H. (2016). Mental health status of people isolated due to Middle East respiratory syndrome. *Epidemiology and Health*, 38, 2016048. <https://doi.org/10.4178/epih.e2016048>
- Loades, M. E., Chatburn, E., Higson-Sweeney, N., Reynolds, S., Shafran, R., Brigden, A., Linney, C., McManus, M. N., Borwick, C., & Crawley, E. (2020). Rapid systematic review: The impact of social isolation and loneliness on the mental health of children and adolescents in the context of COVID-19. *Journal of the American Academy of Child & Adolescent Psychiatry*, 59, 1218–1239. <https://doi.org/10.1016/j.jaac.2020.1005.1009>

- López Steinmetz, L. C., Fong, S. B., Leyes, C. A., Dutto Florio, M. A., & Godoy, J. C. (2020). *General mental health state indicators in Argentinean women during quarantine of up to 80-day duration for COVID-19 pandemic*. <https://doi.org/10.3389/fgwh.2020.580652>
- Luo, X., Estill, J., Wang, Q., Lv, M., Liu, Y., Liu, E., & Chen, Y. (2020). The psychological impact of quarantine on coronavirus disease 2019 (COVID-19). *Psychiatry Research*, 291, 113193.
- Ministry of Health. (2020). *Identification of 2,294 new patients with covid 19 in the country/corona victims in the country exceeded 7,000*. <https://behdasht.gov.ir/>
- Naefian, M., Shaeiri, M., Sharif, M., & Hadian, M. (2011). To study reliability and validity for a brief measure for assessing Generalized Anxiety Disorder (GAD-7). *Scientific Journal of Clinical Psychology & Personality*, 2(4), 41–50.
- Parola, A., Rossi, A., Tessitore, F., Troisi, G., & Mannarini, S. (2020). Mental health through the COVID-19 quarantine: A growth curve analysis on Italian young adults. *Frontiers in Psychology*, 11, 567484. <https://doi.org/10.3389/fpsyg.2020.567484>
- Pellerin, N., & Raufaste, E. (2020). Psychological resources protect well-being during the COVID-19 pandemic: A longitudinal study during the French lockdown. *Frontiers in Psychology*, 11, 3200.
- Prati, G. (2020). Mental health and its psychosocial predictors during national quarantine in Italy against the coronavirus disease 2019 (COVID-19). *Anxiety, Stress, & Coping*, 34, 1–12. <https://doi.org/10.31234/osf.io/31234ar31238z>
- Rahmani, F., Behshid, M., Zamanzadeh, V., & Rahmani, F. (2010). Relationship between general health, occupational stress and burnout in critical care nurses of Tabriz teaching hospitals. *Iran Journal of Nursing*, 23(66), 54–63.
- Rossi, R., Socci, V., Pacitti, F., Di Lorenzo, G., Di Marco, A., Siracusano, A., & Rossi, A. (2020). Mental health outcomes among front and second line health workers associated with the COVID-19 pandemic in Italy. *JAMA Netw Open*, 3(5), e2010185. <http://doi.org/10.1001/jamanetworkopen.2020.10185>
- Tang, F., Liang, J., Zhang, H., Kelifa, M. M., He, Q., & Wang, P. (2021). COVID-19 related depression and anxiety among quarantined respondents. *Psychology & Health*, 36(2), 164–178.
- Wang, Y., Xu, B., Zhao, G., Cao, R., He, X., & Fu, S. (2011). Is quarantine related to immediate negative psychological consequences during the 2009 H1N1 epidemic? *General Hospital Psychiatry*, 33(1), 75–77. <https://doi.org/10.1016/j.genhosppsych.2010.1011.1001>
- Wilder-Smith, A., & Freedman, D. O. (2020). Isolation, quarantine, social distancing and community containment: pivotal role for old-style public health measures in the novel coronavirus (2019-nCoV) outbreak. *Journal of Travel Medicine*, 27(2), 1–4. <https://doi.org/10.1093/jtm/taaa020>
- World Health Organization. (2020a). *Considerations for quarantine of individuals in the context of containment for coronavirus disease (COVID-19): Interim guidance, 19 March 2020*.
- World Health Organization. (2020b). *Mental health and psychosocial considerations during the COVID-19 outbreak, 18 March 2020*.
- Wu, Y.-C., Chen, C.-S., & Chan, Y.-J. (2020). The outbreak of COVID-19: An overview. *Journal of the Chinese medical association*, 83(3), 217–220.
- Zakeri, M. A., & Dehghan, M. (2020). The impact of the COVID-19 disease on the referral and admission of the non-COVID-19 patients. *The International Journal of Health Planning and Management*, 36(1), 209–211.
- Zakeri, M. A., Dehghan, M., Ghaedi Heidari, F., Pakdaman, H., Mehdizadeh, M., Ganjah, H., Sanji Rafsanjani, M., & Hossini Rafsanjanipoor, S. M. (2021). Mental Health Outcomes among Health Care Workers during the COVID-19 outbreak in Iran. *Mental Health Review Journal*, 26, 152–160. <https://doi.org/10.1108/MHRJ-1110-2020-0075>
- Zakeri, M. A., Hossini Rafsanjanipoor, S., Zakeri, M., & Dehghan, M. (2021). The relationship between frontline nurses' psychosocial status, satisfaction with life and resilience during the prevalence of COVID-19 disease. *Nursing Open*, 121, 800. <https://doi.org/10.1002/nop1002.1832>
- Zakeri, M. A., Hossini Rafsanjanipoor, S. M., Kahnooji, M., & Dehghan, M. (2021). Generalized anxiety disorder during the COVID-19 outbreak in Iran: The role of social dysfunction. *The Journal of Nervous and Mental Disease*. <https://doi.org/10.1097/nmd.0000000000001320>
- Zakeri, M. A., Hossini Rafsanjanipoor, S. M., Sedri, N., Kahnooji, M., Rafsanjani, M. S., Zakeri, M., Bazmandeh, A. Z., Talebi, A., & Dehghan, M. (2021). Psychosocial status during the prevalence of COVID-19 disease: The comparison between healthcare workers and general population. *Current Psychology*, 1–9. <https://doi.org/10.1007/s12144-12021-01582-12141>
- Zhou, Q., Gao, Y., Wang, X., Liu, R., Du, P., Wang, X., Zhang, X., Lu, S., Wang, Z., & Shi, Q. (2020). Nosocomial infections among patients with COVID-19, SARS and MERS: A rapid review and meta-analysis. *Annals of Translational Medicine*, 8(10), 629. <https://doi.org/10.1101/2020.1104.1114.20065730>

How to cite this article: Zakeri, M. A., Maazallahi, M., Ehsani, V., & Dehghan, M. (2021). Iranian psychosocial status during and after COVID-19 outbreak mandatory quarantine: A cross-sectional study. *J Community Psychol*, 49, 2506–2516. <https://doi.org/10.1002/jcop.22647>