

The role of personality traits in following quarantine orders during the COVID-19 pandemic

Mahboubeh Eslamzadeh^a, Mohammad Reza Fayyazi Bordbar^a, AmirAli Moodi Ghalibaf^b, Farzaneh Modaresi^c, Maryam Emadzadeh^d and Fateme Farhoudi^e

Patients' personalities seem to affect their response to the COVID-19 pandemic. This study examined the association of personality traits and characteristics of Iranian COVID-19 outpatients with their compliance to nonmandatory quarantine orders. This cross-sectional study was conducted in 2020-2021 on 97 COVID-19 outpatients. The temperament and character inventory-revised short version (TCI-RS) and a self-report checklist assessing compliance with quarantine orders were used to collect data. SPSS was used to analyze the data and $P < 0.05$ was considered statistically significant. Of 142 patients who were contacted, 97 participated in the study (68% response rate). The mean age of patients was 39.21 ± 10.27 years and 54 (55.7%) of them were men. Compliance with quarantine orders was correlated with cooperativeness ($r = 0.33$; $P = 0.001$), persistence ($r = 0.23$, $P = 0.020$), self-transcendence ($r = 0.27$, $P = 0.006$) and harm avoidance ($r = -0.26$, $P = 0.008$). Linear regression analysis demonstrated persistence ($P = 0.034$), cooperativeness ($P = 0.008$) and being married ($P = 0.002$) as predictors for following the quarantine orders. Lower levels of

cooperativeness, persistence, self-transcendence, and higher levels of harm avoidance are associated with noncompliance with quarantine orders. These traits should be considered while persuasive communication to the public is formulated to recognize the target population and increase compliance with nonmandatory quarantine orders. *Int Clin Psychopharmacol* 37: 173–178 Copyright © 2022 Wolters Kluwer Health, Inc. All rights reserved.

International Clinical Psychopharmacology 2022, 37:173–178

Keywords: COVID-19, patient compliance, personality assessment, quarantine

^aPsychiatry and Behavioral Sciences Research Center, ^bStudent Research Committee, Faculty of Medicine, Birjand University of Medical Sciences, Birjand, ^cDepartment of Psychiatry, Fasa University of Medical Sciences, Fasa, ^dClinical Research Development Unit, Ghaem Hospital, Mashhad University of Medical Sciences, Mashhad and ^eResearch Center for Psychiatry and Behavioral Sciences, Shiraz University of Medical Sciences, Shiraz, Iran

Correspondence to Fateme Farhoudi, MD, Psychiatry Department, Shiraz University of Medical Sciences, Chamran Ave. Hafez Hospital, Shiraz, Iran Tel: +989151041621; e-mail: Fateme.farhoudi@gmail.com

Received 15 February 2022 Accepted 16 March 2022

Introduction

Since December 2019, a novel coronavirus disease 2019 (COVID-19) outbreak has caused a lethal pandemic. Before the widespread use of vaccines, most public health strategies were focused on social distancing, isolation and public quarantine to minimize the spread of the virus. However, quarantine has not been a widely used healthcare method in the history of medicine and the public response is not clearly known (Gensini *et al.*, 2004). Quarantine can be mandatory or voluntary, and the public health authorities have implemented different quarantine methods in different affected countries. For example, officials in Canada ordered exposed people to quarantine themselves at home while public health nurses contacted them to check their compliance and provide support (Desson *et al.*, 2020). Meanwhile, developing countries such as Iran could not widely use public health authority-directed quarantine in addition to not being able to support monitoring efforts for those placed under quarantine.

Iran was among the first countries to experience the outbreak of COVID-19. Before widespread vaccination,

the country's main health policy was public education on maintaining social distancing, wearing facial masks, performing hand hygiene, nonmandatory self-quarantine of patients with mild to moderate symptoms and hospitalization of patients with severe cases of COVID-19 (Arab-Zozani and Ghoddoosi-Nejad, 2021). The government widely and frequently educated the public through the media to voluntarily isolate themselves for 14 days in cases of mild to moderate disease, while adhering to within-the-household guidelines to protect healthy family members. However, there was no specific plan in place to monitor, provide assistance or penalize violations during the quarantine. Therefore, compliance with quarantine orders was widely dependent on individuals' psychological characteristics as well as their social and financial circumstances.

The level of adherence to voluntary quarantine orders when facing novel potential hazards is determined by several factors, for example, socioeconomic factors, patients' risk perception (Hawkes and Rowe, 2008), patients' eagerness to protect the health of the community, educational means and family needs (Manuell and

Cukor, 2011). Older individuals, females, and highly educated people are usually more compliant with recommendations during pandemics (Bish and Michie, 2010).

Few studies have evaluated the personality correlates of compliance with quarantine orders. However, a connection has been recognized between ‘agreeableness’ and ‘consciousness’, and better compliance with quarantine orders, and more successful adaptation to stressful situations during the COVID-19 pandemic (Aschwanden *et al.*, 2021; Pilch *et al.*, 2021), whereas high levels of ‘Machiavellianism’, ‘psychopathy’, and ‘narcissism’ have been shown to have contradictory effects (Zajenkowski *et al.*, 2020; Triberti *et al.*, 2021). Moreover, it has been suggested that the effects of personality may vary across time, especially when social perceptions change during a pandemic (Kohút *et al.*, 2021).

This study was conducted before widespread vaccination in Iran to identify the personality traits associated with adherence to voluntary quarantine orders among outpatients with mild to moderate COVID-19.

Methods

Study settings and approval

This cross-sectional study was performed in three public hospitals in Mashhad, Iran, from June 2020 to November 2020. The study was approved by the Ethics Committee of Mashhad University of Medical Sciences (Approval code: IR.MUMS.REC.1394.120). Online written informed consent was obtained from all participants. Patients were assured of anonymity and permission to leave at any stage of the study.

Participants

Using the nonrandom convenience sampling method, we contacted 142 COVID-19 patients who were referred to the outpatient services at the three public hospitals during the study period. All these patients were examined at outpatient clinics by specialist physicians and were diagnosed with mild to moderate COVID-19. Following diagnosis, the patients were advised to quarantine at home for 14 days.

Using the data from outpatient services, the patients were contacted by phone at the end of their quarantine time. Inclusion criteria were being 18–70 years old, being able to fill internet-based questionnaires, and consenting for participation in the study. Patients with a psychiatric diagnosis were excluded.

Data collection

To collect demographic data, we used a short online form, in which all participants provided information regarding their age, sex, education status, occupation status, marital status and the number of children (if applicable). Moreover, we used two other tools to collect information regarding personality traits and adherence to quarantine orders.

Temperament and character inventory-revised short

The temperament and character inventory-revised short (TCI-RS) was developed based on Cloninger’s theory of personality (Cloninger *et al.*, 1993). This self-report questionnaire consists of 125 true/false questions. It evaluates four temperament traits (harm avoidance, novelty seeking, reward dependency and persistence) and three character traits (cooperativeness, self-dependence and self-transcendence) (Cloninger *et al.*, 1993). We used the Persian version of the questionnaire, which has been reported valid and reliable in the Iranian population. The questionnaire’s quid identifies 20 questions for calculating the score of novelty seeking, 20 questions for harm avoidance, 15 questions for reward dependency, 5 questions for perseverance, 25 questions for self-directedness, 25 questions for cooperativeness and 15 questions for self-transcendence (Kaviani and Pournaseh, 2005).

Quarantine compliance checklist

An attitudinal checklist was developed by the authors to evaluate compliance with self-quarantine orders. The checklist had 13 items, in accordance with the guidelines provided by Iran’s Ministry of Health and Medical Education on how patients with mild to moderate symptoms should quarantine themselves at home (Zamanzadeh, 2020). The checklist is provided in Supplementary Appendix 1, Supplemental digital content <http://www.w3.org/1999/xlink>. Each criterion was scored 0 (never), 1 (sometimes) or 2 (always). The maximum and minimum possible scores on the quarantine compliance checklist were 26 and 0, respectively.

Statistical analysis

Data were collected through online forms into spreadsheets and analyzed using SPSS version 22.0. Descriptive statistics were used to report sociodemographic variables. The Kolmogorov-Smirnov test was applied for testing the normality of variables. Frequency (percentage) was used to describe categorical variables, while mean \pm SD was used to report continuous variables. $P < 0.05$ was considered statistically significant. Spearman correlation was used to evaluate the possible correlations between TCI-RS scores and compliance with quarantine orders. We used a multivariate linear regression model, in which compliance with quarantine orders was the independent variable, while demographic and personality traits were dependent variables.

Results

We contacted a total of 142 patients, of whom 97 completed all the necessary online forms (response rate 68%). The mean age of the patients was 39.21 ± 10.27 years and 54 (55.7%) of them were men. Table 1 presents all demographic characteristics of the surveyed sample.

The mean scores of TCI-RS domains were as follows: cooperativeness (17.4 ± 4.6), self-directedness

(13.2 ± 5.0), self-transcendence (10.3 ± 2.9), novelty seeking (8.7 ± 4.5), reward dependency (8.7 ± 2.3) and harm avoidance (8.4 ± 4.5).

The mean overall score of compliance with quarantine orders was 20.11 ± 6.01 and the overall level of compliance to quarantine orders was 77.3% among the study sample. Patients were most compliant with the recommendations to cover their mouth and nose whenever they coughed (M = 1.82), use the prescribed medications (M = 1.77), wash their hands regularly for 20s (M = 1.73), stop having guests (M = 1.71), stay at home for 2 weeks (M = 1.68), stay at a separate room and not wondering around (M = 1.56) and maintain adequate social distances at home (M = 1.55), whereas they were least compliant with changing facial masks daily (M = 1.23), using facial masks at home (M = 1.28), using personal or well-ventilated bathrooms (M = 1.34), using trash cans with lid (1.47) and using personal dishes (1.49). Figure one illustrates the sequence of recommendations from the lowest adherence to the highest (Fig. 1).

As the Kolmogorov–Smirnov test indicated that the distribution of quarantine compliance scores was abnormal (*P* value < 0.001), we used the Spearman correlation test to assess the correlation between TCI-RS parameters and the quarantine compliance score. This test revealed significant positive correlations between participants’ cooperativeness, persistence and self-transcendence scores and their quarantine compliance scores (*P* < 0.05). However, harm avoidance had a negative relationship with participants’ scores in compliance with quarantine orders (*P* < 0.05). Table 2 illustrates the correlations between personality character and traits and compliance with quarantine orders.

We used a multivariable linear regression model to find out the variables with a stronger effect on compliance with quarantine orders. We used the Backward method and entered temperament and character traits, sex, age, job, education and marital status as independent variables. The results demonstrate that only cooperativeness, persistence and being married were significantly

associated with higher scores in compliance with quarantine orders in the last step (Table 3).

Discussion

During the COVID-19 outbreak in the winter of 2020, several countries, including Iran, relied on voluntary quarantine of patients with mild to moderate diseases as a major means of infection control. Given that voluntarily self-quarantine, without governmental supervision and support, is highly dependent on sociodemographic and personal characteristics, we conducted this research to evaluate the relationship between personality characteristics and compliance with quarantine orders. We will discuss the results in the following paragraphs. However, this should come with a caveat that although some correlations between TCI-RS scores, demographic factors and compliance with quarantine orders are statistically significant, correlation coefficients are mostly close to zero, showing low or moderate correlations.

We found cooperativeness and persistence to be correlated with higher adherence to quarantine orders. These results are intuitive because highly cooperative people conceptualize themselves as integral parts of human society and act as helpful members of teams and social groups. On the other hand, people with higher levels of persistence maintain a behavior despite emotional and financial hardship, fatigue and frustration. Studies during the severe acute respiratory syndrome (SARS) outbreak have indicated quarantine as an emotional and financial hardship (Blendon *et al.*, 2004). According to our results, patients with higher levels of persistence and cooperativeness comply with frustrating quarantine orders to prevent the spread of the disease in society.

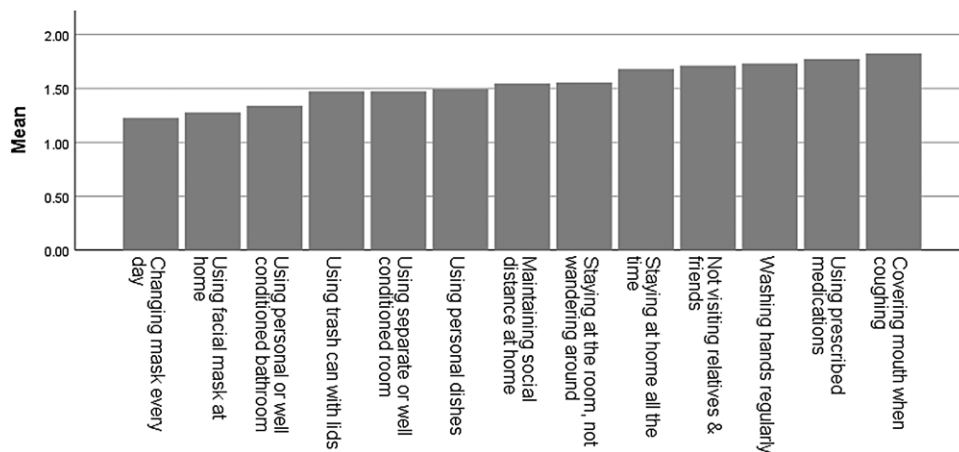
We also found a significant and positive correlation between the level of self-transcendence and compliance with quarantine orders. However, this finding was not confirmed by multivariate analysis, when we adjusted for the effect of other variables. Self-transcendence reflects the extent to which patients conceptualize themselves as an integral part of the universe as a whole. Highly self-transcendent individuals are more spiritual. This characteristic is specifically helpful when the person confronts difficult situations (Sadock *et al.*, 2017), such as COVID-19 illness. Adhering to voluntary quarantine needs an amount of self-sacrifice, which individuals with higher levels of self-transcendence are capable of making.

We found a negative correlation between harm avoidance and compliance with quarantine orders. Harm avoidance is a personality trait relevant to the level of anxiety. A higher level of harm avoidance was also related to lower medication adherence in previous research (Tominaga *et al.*, 2018). However, in our analysis, this relationship was not confirmed by multivariate analysis and therefore, it might be the result of confounding variables.

Table 1 Sociodemographic characteristics of patients (N=97)

Age; Mean ± SD	39.21 ± 10.27
Gender; N (%)	
Female	43 (44.3%)
Male	54 (55.6%)
Education; N (%)	
High school diploma or lower	22 (22.7%)
University degree or higher	75 (77.3%)
Marital status; N (%)	
Single	21 (21.6%)
Married	76 (78.4%)
Divorced or widowed	0.0 (0%)
Employment; N (%)	
Unemployed	26 (26.8%)
Employed	57 (58.7%)
Data missing	14 (14.4%)

Fig. 1



The compliance with the household quarantine orders.

Table 2 The correlation between compliance with the quarantine orders and TCI-RS temperaments and characters

Character/trait	P value	Correlation coefficient
Cooperativeness	0.001	0.339
Self-transcendence	0.006	0.279
Persistence	0.02	0.236
Harm avoidance	0.008	-0.266
Novelty Seeking	0.324	-0.101
Self-directedness	0.122	0.158
Reward dependency	0.824	-0.023

Table 3 The results of the linear regression analysis on factors associated with compliance with quarantine orders, using Backward method

P value	95% CI for unstandardized beta		Unstandardized beta	Standardized beta	Variable	
	upper bound	lower bound				
0.838	2.365	-2.908	-0.271	-0.027	Gender (females vs. males)	First step
0.652	0.096	-0.152	-0.028	-0.054	Age (years)	
0.022	6.789	0.554	3.671	0.272	Marital status (married vs. singles)	Last step
0.950	2.278	-2.426	-0.074	-0.007	Education (more than diploma)	
0.516	3.962	-2.007	0.977	0.090	Being employed	
0.497	0.204	-0.417	-0.106	-0.100	Harm avoidance	
0.945	0.372	-0.399	-0.013	-0.010	Novelty seeking	
0.461	0.196	-0.428	-0.116	-0.116	Self-directedness	
0.031	0.715	0.036	0.375	0.0289	Cooperativeness	
0.069	0.037	-0.974	-0.469	-0.219	Reward dependency	
0.103	1.540	-0.145	0.697	0.196	Persistence	
0.247	0.652	-0.171	0.241	0.144	Self-transcendence	
0.002	6.92	1.62	4.27	0.317	Being married	
0.008	0.65	0.10	0.38	0.293	Cooperativeness	
0.034	1.53	0.06	0.79	0.224	Persistence	

This study did not find any relationship between novelty seeking trait and adherence to quarantine orders, while a negative relationship between novelty seeking and medication adherence is reported in previous research (Liraud and Verdoux, 2001; Aukst Margetić *et al.*, 2011).

The magnitude of compliance with quarantine during infectious disease outbreaks has been reported to range from as little as 0 up to 92% in different regions (Webster

et al., 2020). Despite the high level of quarantine compliance during the SARS outbreak in Toronto in 2002, within-the-household guidelines were not strictly adhered to. For instance, 33% of the Canadian sample reported that they did not monitor their temperature and 15% stated that they did not wear facial masks in the presence of others (Manuell and Cukor, 2011). In our sample, the overall compliance with all quarantine orders was around 77.3%. Meanwhile, the most adopted preventive behavior during

quarantine was covering the mouth when coughing, which is in line with the results reported from an Italian study that evaluated adherence to quarantine guidelines (Carlucci *et al.*, 2020). In our sample, the lowest rate of compliance with quarantine recommendations was reported for wearing masks at home (63%) and changing it daily (61%) as well as using trash cans with lids (73%). In the study by Carlucci *et al.*, (2020), 35% of patients wore facial masks at home, which is even lower than the rate we found in our study sample. There are common reasons for not wearing a mask, namely, the belief that the patients are not exposing others, that it is embarrassing and stigmatizing to wear a mask and that the mask is uncomfortable (Soud *et al.*, 2009). Moreover, although patients had good compliance with using separate bedrooms (73%), they were less compliant with using separate bathrooms (67%). The lack of separate bathrooms in many Iranian houses might be the reason for the failure to comply with this recommendation. This result demonstrated the importance of educating the public on how to disinfect and use a shared bathroom safely. Public health officials should identify the reasons for failure to comply with quarantine guidelines and focus public education on within-the-household orders.

Individual characteristics are mentioned as important factors affecting quarantine compliance in several studies (Porten *et al.*, 2006; Reynolds *et al.*, 2008; Soud *et al.*, 2009). We found that married patients are more compliant than single ones, which might be related to concerns about the safety of spouses and children. According to Porten *et al.* (2006), unemployed people were more likely to adhere to a 10-day quarantine during the 2006 SARS outbreak in Germany. Our findings did not reach a similar conclusion; we found no significant relationship between employment and compliance with quarantine orders. Moreover, we hypothesized that a higher level of education might affect patients' ability to fully understand and follow warnings and guidelines. However, we did not find any significant relationship between the level of education and compliance with quarantine orders.

Non-compliance with health orders and medications by patients is everyday challenge faced by health care professionals. To evaluate the relationship between personality and medication compliance, two questionnaires of Neuroticism Extraversion Openness Five Factor Inventory – Revised (NEO-FFI-R) and TCI are widely used in the present research. NEO-FFI-R evaluates five domains of neuroticism, extraversion, conscientiousness, agreeableness and openness to experience. As an example, several studies reported that adherence to medications is negatively related to neuroticism and positively related to conscientiousness, among patients with chronic diseases (Driesenaar *et al.*, 2018). Moreover, neuroticism was also related to poorer adherence to medications among older adults (Smaje *et al.*, 2018).

Our findings indicate that lower levels of cooperativeness, persistence, self-transcendence and higher levels of harm avoidance are associated with noncompliance with quarantine orders. There are relationships between domains of these two questionnaires: cooperativeness is positively correlated with agreeableness; meanwhile, persistence is positively correlated with conscientiousness. Self-transcendence is positively correlated with openness to experiences and finally, harm avoidance is strongly positively correlated with neuroticism and negatively related to extraversion and openness to experiences (De Fruyt *et al.*, 2000).

Limitations

This study has several limitations. First, the study was an online survey; therefore, only patients with access to the internet could participate. The authors created a self-report checklist to evaluate compliance with quarantine orders but did not validate patients' responses. Moreover, they could not consider other possible sociodemographic factors that might affect compliance with quarantine. Lastly, the sample size of the study is relatively small and many relationships may show statistical significance in a larger sample.

Conclusion

During the COVID-19 pandemic, Iranian patients varied in their compliance with voluntary quarantine orders according to their personality characteristics. Our findings emphasize that the four individual characteristics of persistence, cooperativeness, self-transcendence and harm avoidance have significant relationships with compliance. Also, married patients were more compliant than single ones. Planning for future pandemics, public health officials should pay attention to personal factors affecting quarantine compliance.

Acknowledgments

The authors would like to appreciate the Clinical Research Development Unit of Ghaem Hospital for participation in data analysis.

This study was approved by the Ethics Committee of Mashhad University of Medical Sciences (IR.MUMS.REC.1394.120). All participants provided informed written consent.

This study was financially supported by the Vice Chancellor of Research, Mashhad University of Medical Sciences (grant number 990110).

The datasets used and/or analyzed during the current study are available on reasonable request from the corresponding author.

Study design: all authors; data collection: A.A.M.G. and F.M.; data analysis: M.E., F.F. and M.E.; writing the manuscript: M.E. and F.F.; revision and approval of the final manuscript: all authors. We declare that the authors mentioned in the manuscript are the only contributors.

Conflicts of interest

There are no conflicts of interest.

References

- Arab-Zozani M, Ghoddoosi-Nejad D. (2021). Covid-19 in Iran: the good, the bad, and the ugly strategies for preparedness—A report from the field. *Disaster Med Public Health Prep* **15**:43–45.
- Aschwanden D, Strickhouser JE, Sesker AA, Lee JH, Luchetti M, Stephan Y, et al. (2021). Psychological and behavioural responses to coronavirus disease 2019: the role of personality. *Eur J Personal* **35**:51–66.
- Aukst Margetić B, Jakovljević M, Ivanec D, Tošić G, Margetić B. (2011). Novelty seeking and medication adherence in patients with schizophrenia. *Psychiatry Res* **186**:141–143.
- Bish A, Michie S. (2010). Demographic and attitudinal determinants of protective behaviours during a pandemic: a review. *Br J Health Psychol* **15**:797–824.
- Blendon RJ, Benson JM, DesRoches CM, Raleigh E, Taylor-Clark K. (2004). The public's response to severe acute respiratory syndrome in Toronto and the United States. *Clin Infect Dis* **38**:925–931.
- Carlucci L, D'Ambrosio I, Balsamo M. (2020). Demographic and attitudinal factors of adherence to quarantine guidelines during COVID-19: the Italian model. *Front Psychol* **11**:2702.
- Cloninger CR, Svrakic DM, Przybeck TR. (1993). A psychobiological model of temperament and character. *Arch Gen Psychiatry* **50**:975–990.
- De Fruyt F, Van de Wiele L, Van Heeringen C. (2000). Cloninger's psychobiological model of temperament and character and the five-factor model of personality. *Personal Individ Differ* **29**:441–452.
- Desson Z, Weller E, McMeekin P, Ammi M. (2020). An analysis of the policy responses to the COVID-19 pandemic in France, Belgium, and Canada. *Health Policy Technol* **9**:430–446.
- Driesenaar JA, De Smet PA, van Hulten R, van Dulmen S. (2018). The relationship between patients' Big Five personality traits and medication adherence: a systematic review. In: Driesenaar JA, editor, *Beliefs Adherence Inhaled Corticosteroids. Paying attention to patient-provider communication in community pharmacy practice* (Doctoral dissertation, [Sl: sn]). Netherlands institute for health services research. pp. 39–80.
- Gensini GF, Yacoub MH, Conti AA. (2004). The concept of quarantine in history: from plague to SARS. *J Infect* **49**:257–261.
- Hawkes G, Rowe G. (2008). A characterisation of the methodology of qualitative research on the nature of perceived risk: trends and omissions. *J Risk Res* **11**:617–643.
- Kaviani H, Pourmaseh M. (2005). Measuring of reliability and normal data of Cloninger Temperament Characters Inventory (TCI) in Iranian population. *Tehran Univ Med J* **63**: 89–98.
- Kohút M, Kohútová V, Halama P. (2021). Big Five predictors of pandemic-related behavior and emotions in the first and second COVID-19 pandemic wave in Slovakia. *Pers Individ Dif* **180**:110934.
- Liraud F, Verdoux H. (2001). Association between temperamental characteristics and medication adherence in subjects presenting with psychotic or mood disorders. *Psychiatry Res* **102**:91–95.
- Manuell ME, Cukor J. (2011). Mother nature versus human nature: public compliance with evacuation and quarantine. *Disasters* **35**:417–442.
- Pilch I, Wardawy P, Probiez E. (2021). The predictors of adaptive and maladaptive coping behavior during the COVID-19 pandemic: the Protection Motivation Theory and the Big Five personality traits. *PLoS One* **16**:e0258606.
- Porten K, Faensen D, Krause G. (2006). SARS outbreak in Germany 2003: workload of local health departments and their compliance in quarantine measures—implications for outbreak modeling and surge capacity? *J Public Health Manag Pract* **12**:242–247.
- Reynolds DL, Garay JR, Deamond SL, Moran MK, Gold W, Styra R. (2008). Understanding, compliance and psychological impact of the SARS quarantine experience. *Epidemiol Infect* **136**:997–1007.
- Sadock BJ, Sadock VA, Ruiz P. (2017). *Kaplan and Sadock's Comprehensive Textbook of Psychiatry*. 10th edition. Lippincott Williams & Wilkins.
- Smaje A, Weston-Clark M, Raj R, Orlu M, Davis D, Rawle M. (2018). Factors associated with medication adherence in older patients: a systematic review. *Aging Med (Milton)* **1**:254–266.
- Soud FA, Cortese MM, Curns AT, Edelson PJ, Bitsko RH, Jordan HT, et al. (2009). Isolation compliance among university students during a mumps outbreak, Kansas 2006. *Epidemiol Infect* **137**:30–37.
- Tominaga Y, Aomori T, Hayakawa T, Kijima N, Morisky DE, Takahashi K, Mochizuki M (2018). Possible associations of personality traits representing harm avoidance and self-directedness with medication adherence in Japanese patients with type 2 diabetes. *J Pharm Health Care Sci* **4**:16.
- Triberti S, Durosini I, Pravettoni G. (2021). Social distancing is the right thing to do: dark Triad behavioral correlates in the COVID-19 quarantine. *Personal Individ Differ* **170**:110453.
- Webster RK, Brooks SK, Smith LE, Woodland L, Wessely S, Rubin GJ. (2020). How to improve adherence with quarantine: rapid review of the evidence. *Public Health* **182**:163–169.
- Zajenkowski M, Jonason PK, Leniarska M, Kozakiewicz Z. (2020). Who complies with the restrictions to reduce the spread of COVID-19? Personality and perceptions of the COVID-19 situation. *Personal Individ Differ* **166**:110199.
- Zamanzadeh V. (2020). Iranian Guideline for self-quarantine. <https://webda.mums.ac.ir/images/99/pictiir/HomeCare.secondversion.99-04-01-283%201.pdf>. [Accessed December 30, 2021].