



## Coronavirus disease (COVID-19) outbreak provides a unique platform to review behavioral changes in Iran



Emerging infectious diseases are defined as diseases that are first recognized in human hosts. These infectious diseases originate in one country and severely affect related populations in other countries, often causing harmful effects (de Groot et al., 2013). With the rapid increase in international travel and overseas travel due to globalization and transport developments, there is the possibility of worldwide outbreaks of emerging infectious diseases (van der Hoek et al., 2004).

One of the most well-known infectious diseases that has recently emerged and has had a worldwide impact is the COVID 19 virus. The disease began in China, was transmitted to various countries and is still transmitting and dying worldwide (Chinazzi et al., 2020). The new Coronavirus (COVID 19) is a new type of family that did not exist before in humans. Coronaviruses are zoonotic, meaning they are also transmitted from animals to humans. Careful research shows that SARS was transmitted from cats to humans by monkeys. There are several known coronaviruses in animals that have not yet infected humans. Common symptoms of the new virus include respiratory symptoms, fever, cough, shortness of breath and respiratory problems. In more severe cases, the infection can cause pneumonia, severe acute respiratory syndrome, kidney failure, and even death (Hosseiny et al., 2020). COVID-19 was first reported on December 31, 2019, in Wuhan, China. According to the World Health Organization, to date, nearly two months after its first prototype, COVID-19 has been moved to 30 countries. The countries to which COVID-19 has been observed to date are: China, Korea, Japan, Singapore, Australia, Malaysia, Vietnam, Philippines, Cambodia, Thailand, India, Nepal, Sri Lanka, US, Canada, Italy, Germany, France, Britain, Russia, Spain, Belgium, Finland, Israeli occupation regime, Sweden, Iran, Saudi Arabia, Kuwait, Egypt, Lebanon. About 80 % of people with this condition recover without any special treatment. One in six people with Cod-19 is seriously ill and has difficulty breathing. Older people and people with underlying medical problems such as hypertension, heart problems or diabetes are more likely to develop the disease. So far, statistics show that only about 2% of people with the disease have died (Stoecklin et al., 2020).

Containment measures within the COVID-19 outbreak have focused on identifying, treating, and isolating infected people, tracing and quarantining their close contacts, and promoting precautionary behaviors among the overall public. Therefore, the psychological and behavioral responses of the overall population play a crucial role within the control of the outbreak. Previous studies have explored on this topic in various culture settings with SARS (Lau et al., 2003; Brug et al., 2004; Wu et al., 2009), pandemic influenza A(H1N1) (Rubin et al., 2009; Yeung et al., 2017; Bayham et al., 2015; Lau et al., 2020), and influenza A(H7N9) (Wang et al., 2014; Wu et al., 2015, 2014). Cultural differences are evident in public responses (Cheng, and Tang, 2004; Varti et al., 2009) Behavioral changes are also associated with government involvement level, perceptions of diseases, and the stage of the outbreak, and these factors vary by diseases and settings (Lau et al.,

2003; Brug et al., 2004; Lau et al., 2020; de Zwart et al., 2009).

It seems that, additionally to efforts at various levels to stop the spread of the disease and other worrisome conditions, special attention should be paid to the psychological state problems with the community. Presented programs for the screening of psychiatric disorders including anxiety and depression among patients and even caregivers and treatment and management of cases by employing psychiatrists, psychologists and other relevant medical groups, especially in quarantine cases, thanks to the severity of the vulnerability and therefore the availability of sufficient information for other groups of society, so as to understand the established order and make a way of trust, seem necessary (Zandifar and Badrfam, 2020).

All in all, many questions remain unanswered with regards to online psychological state services in low and middle-income countries and far more efforts are still needed to enhance psychological state service delivery in China during the COVID-19 epidemic (Yao et al., 2020).

In this context, psychiatrists can play pivotal role in supporting the well-being of these affected and their families, the at-risk healthcare staff also because the public. They're actually in an unique position to supply a balanced perspective to enhance the knowledge, attitude and practices about the illness also as addressing the generalized anxiety and apprehension. Similar roles are shown to enhance the general health-care service utilization and efficacy in similar earlier outbreaks like SARS (Banerjee, 2020).

The current COVID-19 outbreak provides a unique platform for studying behavioral changes for two reasons. First, government engagement in controlling the prevalence of the disease has been unprecedented, such as school and university closures, reduced staff hours, medical staff being sent to affected areas, and intense public messaging campaigns. Second, people are faced with relatively complex information, partly because knowledge about the emerging disease is evolving over time. Both characteristics may lead to different reactions of people to the outbreak.

### Contributors

All authors contributed equally.

### Funding source

None.

### Author disclosure

All authors have approved the final article.

## Declaration of Competing Interest

None of the authors have any conflicts of interest to disclose.

## Acknowledgement

None.

## References

- Banerjee, D., 2020. The COVID-19 outbreak: crucial role the psychiatrists can play. *Asian J. Psychiatr.*, 102014.
- Bayham, J., Kuminoff, N.V., Gunn, Q., Fenichel, E.P., 2015. Measured voluntary avoidance behaviour during the 2009 A/H1N1 epidemic. *Proc. Royal Soc. B Biol. Sci.* 282 (1818), 20150814.
- Brug, J., Ar, A.R., Oenema, A., de Zwart, O., Richardus, J.H., Bishop, G.D., 2004. SARS risk perception, knowledge, precautions, and information sources, the Netherlands. *Emerg. Infect. Dis.* 10 (8), 1486–1489.
- Cheng, C., Tang, C.S., 2004. The psychology behind the masks: psychological responses to the severe acute respiratory syndrome outbreak in different regions. *Asian J. Soc. Psychol.* 7, 3–7.
- Chinazzi, M., Davis, J.T., Ajelli, M., Gioannini, C., Litvinova, M., Merler, S., et al., 2020. The effect of travel restrictions on the spread of the 2019 novel coronavirus (COVID-19) outbreak. *Science*.
- de Groot, R.J., Baker, S.C., Baric, R.S., Brown, C.S., Drosten, C., Enjuanes, L., et al., 2013. Commentary: middle East respiratory syndrome coronavirus (MERS-CoV): announcement of the Coronavirus Study Group. *J. Virol.* 87 (14), 7790–7792.
- de Zwart, O., Veldhuijzen, I.K., Elam, G., Aro, A.R., Abraham, T., Bishop, G.D., et al., 2009. Perceived threats, risk perception, and efficacy beliefs related to SARS and other (emerging) infectious diseases: results of an international survey. *Int. J. Behav. Med.* 16, 30–40.
- Hosseiny, M., Kooraki, S., Gholamrezanezhad, A., Reddy, S., Myers, L., 2020. Radiology perspective of coronavirus disease 2019 (COVID-19): lessons from severe acute respiratory syndrome and middle east respiratory syndrome. *Am. J. Roentgenol.* 1–5.
- Lau, J.T., Yang, X., Tsui, H., Kim, J.H., et al., 2003. Monitoring community responses to the SARS epidemic in Hong Kong: from day 10 to day 62. *J. Epidemiol. Commun. Health* 57 (11), 864–870.
- Lau, J.T., Griffiths, S., Choi, K.C., Tsui, H.Y., 2020. Avoidance behaviors and negative psychological responses in the general population in the initial stage of the H1N1 pandemic in Hong Kong. *BMC Infect. Dis.* 10, 139.
- Rubin, G.J., Amlôt, R., Page, L., Wessley, S., 2009. Public perceptions, anxiety, and behaviour change in relation to the swine flu outbreak: cross sectional telephone survey. *BMJ* 339 b2651.
- Stoecklin, S.B., Rolland, P., Silue, Y., Mailles, A., Campese, C., Simondon, A., et al., 2020. First cases of coronavirus disease 2019 (COVID-19) in France: surveillance, investigations and control measures, January 2020. *Eurosurveillance* 25 (6).
- van der Hoek, L., Pyrc, K., Jebbink, M.F., Vermeulen-Oost, W., Berkhout, R.J., Wolthers, K.C., et al., 2004. Identification of a new human coronavirus. *Nat. Med.* 10 (4), 368–373.
- Vartti, A.-M., Oenema, A., Schreck, M., Uutela, A., de Zwart, O., Brug, J., et al., 2009. SARS knowledge, perceptions, and behaviors: a comparison between Finns and the Dutch during the SARS outbreak in 2003. *Int. J. Behav. Med.* 16 41-18.
- Wang, L., Cowling, B., Wu, P., Yu, J., Li, F., Zeng, L., et al., 2014. Human exposure to live poultry and psychological and behavioral responses to influenza A(H7N9), China. *Emerg. Infect. Dis.* 20 (8), 1296–1305.
- Wu, P., Fang, Y., Guan, Z., Fan, B., Kong, J., Yao, Z., et al., 2009. The psychological impact of the SARS epidemic on hospital employees in China: exposure, risk perception, and altruistic acceptance of risk. *Can. J. Psychiatr.* 54 (5), 302–311.
- Wu, P., Fang, V., Liao, Q., Ng, D.M.W., Wu, J., Leung, G.M., et al., 2014. Responses to threat of influenza A(H7N9) and support for live poultry markets, Hong Kong, 2003. *Emerg. Infect. Dis.* 20 (5), 882–886.
- Wu, P., Wang, L., Cowling, B.J., Yu, J., Fang, V.J., Li, F., et al., 2015. Live poultry exposure and public response to influenza A(H7N9) in urban and rural China during two epidemic waves in 2013-2014. *PLoS One* 10 (9), e0137831.
- Yao, H., Chen, J.H., Xu, Y.F., 2020. Rethinking online mental health services in China during the COVID-19 epidemic. *Asian J. Psychiatr.* 102015.
- Yeung, N.C.Y., Lau, J.T.F., Choi, K.C., Griffiths, S., 2017. Population responses during the pandemic phase of the influenza A(H1N1)pdm09 Epidemic, Hong Kong, China. *Emerging Infect. Dis.* 23 (5), 813–815.
- Zandifar, A., Badrfam, R., 2020. Iranian mental health during the COVID-19 epidemic. *Asian J. Psychiatr.* 51, 101990.

Mahdi Naeim

*Social Determinants of Health Research Center, Ardabil University of*

*Medical Sciences, Ardabil, Iran*

*E-mail address: mnaeim64@gmail.com.*