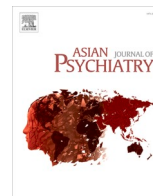




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## Letter to the Editor

## Mental health concerns in quarantined international air passengers during COVID-19 pandemic – An experiential account



Dear Editor

Coronavirus Disease 2019 (COVID-19) is characterized by mild-to-severe respiratory illness with fever and cough. First COVID-19 case was reported in India on 30th January 2020. As a preventive measure, the Government of India issued a mandatory compliance of travel advisory. In-bound Air passengers who arrived from different countries were placed under compulsory home/institutional quarantine for a minimum period of 14 days (Immigration, 2020). Quarantine regulations are one of the most effective and nonspecific public health measures for preventing and controlling the spread of pandemic. Recent reports demonstrated negative psychological impact associated with quarantine (Ozamiz-Etxebarria and Dosil-Santamaria, 2020; Brooks et al., 2020; Tandon, 2020; Lei et al., 2020; Huang and Zhao, 2020).

This naturalistic observational study conducted at Bengaluru, Karnataka, India aimed to assess and briefly address the mental health concerns in recently quarantined individuals. As directed by the Supreme court of India and Government of Karnataka, Quarantined travellers were contacted over telephone (voice call) within one week of their quarantine period. A total of 2274 recently returned international air passengers were approached to provide psychological and mental health support. 592 of them could not be reached due to logistic reasons. Out of the remaining 1682, 1602 (95.2 %) were willing to participate in the study and provided oral consent. Participants were assessed using a semi-structured questionnaire and details like socio-demographic profile, anxiety, depressive symptoms, suicidal ideas, sleep disturbances, and stress levels were collected. The telephonic assessments and brief interventions were done by a multidisciplinary team that consisted of qualified Psychiatrists, Clinical psychologists, or Psychiatric social workers. Upon assessment, wherever indicated, the participants were reassured and provided brief intervention. Quarantined individuals were informed about the available facts regarding the current pandemic, the purpose of quarantine, the need for physical distancing and personal hygiene measures. If further intervention was necessary, they were referred to the higher centers. In case of emergency, they were provided with helpline contact of the experts. The study included a total of 1602 quarantined individuals of which 1109 (69.2 %) were males. The mean age of the study sample was (Mean  $\pm$  SD)(34.1  $\pm$  12.9) years. In the study sample, 216(13.5 %) reported anxiety symptoms, 64 (4%) depressive symptoms, 30 (1.9 %) suicidal ideations, and 71(4.4 %) sleep disturbances. However, there was no significant gender difference in the distribution of symptom profile. The mean stress levels reported on a VAS scale of 0–100 was 7.7  $\pm$  15. A total of 58 (3.6 %) participants were referred for further care. This included predominantly the persons who expressed suicidal ideations or death wishes. The prevalence of elicited psychiatric symptoms is provided in Table 1.

This is the first experiential account report from India aimed at

understanding the mental health concerns of quarantined air passengers. A sizeable proportion (13.5 %) of the quarantined individuals reported symptoms of anxiety which is similar to the findings of another study conducted in North Spain (Ozamiz-Etxebarria and Dosil-Santamaria, 2020). The prevalence of anxiety symptoms in our study population was two times more when compared to a similar study (Jeong et al., 2016). One of the reasons could be that the pandemic was at the initial stage during our study period (March last week) and the uncertainty could have led to increased apprehension. The prevalence of depressive symptoms was 4% which is low when compared to other studies (Ozamiz-Etxebarria and Dosil-Santamaria, 2020; Lei et al., 2020). The prevalence of depressive symptoms reported by (Lei et al., 2020) was 22.4 %. In another study (Ozamiz-Etxebarria and Dosil-Santamaria, 2020), 8.7 % had mild depression and 4 % had moderate depression. Our assessment was conducted almost within a week of quarantine which may be too early for primary depressive symptoms or syndromal depression to manifest and that standardized scales were not administered. The low depressive symptoms may also be attributable to the fact that most participants were young, gainfully employed and working from home. This might have also reduced the likelihood of boredom and might have supported their well-being. Around 2% of the participants reported suicidal ideation or death wishes during the interview. In general, whilst the overall suicide risk in India is 0.9 %, the above suggests that a significant proportion of developed suicidal risk in a brief period (Gururaj et al., 2017). This is of particular concern as it is well established that psychosocial factors in the absence of mental illness contribute to suicide in the Indian population which required immediate attention. The prevalence of sleep disturbance was 4% which is lower when compared with another report (Huang and Zhao, 2020) that observed impairment in the quality of the sleep being 18 %. The same study also reported 35 % of the study sample had anxiety disorder and 20.1 % had depressive symptoms. Sleep disturbances appear consistent with the reduced prevalence of common mental health issues in our study population. Additionally, low levels of stress and depression in our study population might underlie the lower prevalence of sleep disturbances.

Standard structured assessments were not used in this study which is an important limitation. The interview was done over the telephone (audio) and that has its own limitations as well as advantages during the pandemic. Though this study provides a cross sectional snapshot of the prevalence of common mental health concerns in this special population, a follow-up component would have provided further information about the levels of distress and the effects of brief intervention. Systematic evaluation of distress with standard scales and periodic follow up assessments might shed light on the evolution of mental health concerns in this special population.

<https://doi.org/10.1016/j.ajp.2020.102364>

Received 4 July 2020

Available online 25 August 2020

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**Table 1**

Prevalence of psychiatric symptoms in quarantined individuals.

No	Psychiatric symptoms	Total [N = 1602;(100 %)]	Male [n = 1109; (69.2%)]	Female [n = 493; (30.8) %]	Chi-Square	p-value
1	Anxiety symptoms	n = 216; (13.5 %)	n = 155; (14 %)	n = 61; (12.4 %)	0.75	0.38
2	Depressive symptoms	n = 64; (4 %)	n = 40; (3.6 %)	n = 24; (4.9 %)	1.41	0.29
3	Suicidal ideation	n = 30; (1.9 %)	n = 18; (1.6%)	n = 12; (2.4 %)	1.22	0.26
4	Sleep disturbance	n=71; (4.4 %)	n = 50; (4.5 %)	n = 21; (4.3 %)	0.5	0.82

### Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors. The information was collected as part of the official duty of addressing the mental health concerns of quarantined air travelers.

### Declaration of Competing Interest

The Authors declare that there is no conflict of interest

### Acknowledgements

The authors would like to acknowledge the following organisations/persons for their contribution to this study.

The Department of Health and Family Welfare, Government of Karnataka, India for providing an opportunity to serve.

Mrs.Suma, Mr.Ishant, Mrs.Archana, Mr.Akash, Mr.Azhagannan, Ms. Nagasudha, Mrs.Nisbin, Clinical Psychologists, Department of Clinical Psychology, National Institute of Mental Health and Neurosciences, Bengaluru, Karnataka, India.

Mr.Arun, Ms.Akansha, Dr.Spoorthi, Ms.Priyanka, Mr.Harshal, Mr. Manjunatha, Mrs.Gopika, Psychiatric Social Workers, Department of Psychiatric Social Work, National Institute of Mental Health and Neurosciences, Bengaluru, Karnataka, India.

### 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. *Lancet* 395, 912–920.
- Gururaj, G., Varghese, M., Benegal, V., N, R, K, P, Singh, L., Mehta, R., D, R, Shibukumar, T., Kokane, A., Rk, L., Chavan, S., P, S, C, R, Pk, D., Pk, S., Sp, D., Giri, A., Ab, K., India, N., 2017. National Mental Health Survey of India, 2015-16 Prevalence, Pattern and Outcomes.
- Huang, Y., Zhao, N., 2020. Chinese mental health burden during the COVID-19 pandemic. *Asian J. Psychiatr.* 51, 102052.
- Immigration, B.O., 2020. Advisory: Travel and Visa Restrictions Related to COVID-19 05-05-2020 Ed. Government of India, India.
- 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. *Epidemiol. Health* 38, e2016048.

Lei, L., Huang, X., Zhang, S., Yang, J., Yang, L., Xu, M., 2020. Comparison of prevalence and associated factors of anxiety and depression among people affected by versus people unaffected by quarantine during the COVID-19 epidemic in Southwestern China. *Med. Sci. Monit.* 26, e924609.

Ozamiz-Etxebarria, N., Dosil-Santamaria, M., 2020. Stress, Anxiety, and Depression Levels in the Initial Stage of the COVID-19 Outbreak in a Population Sample in the Northern Spain, 36, e00054020.

Tandon, R., 2020. The COVID-19 pandemic, personal reflections on editorial responsibility. *Asian J. Psychiatr.* 50, 102100.

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