14.5%, respectively; and their proportions with mild, moderate, moderately severe, and severe depression were 24.2%, 16.1%, 9.7%, and 1.6%, respectively. According to the total GAD-7 and PHQ-9 scores, women had higher scores than men for anxiety, $t(60) = 2.83, P < 0.01$, and for depression, $t(60) = 3.63, P < 0.01$. Nurses reported higher scores for depression symptoms than doctors but not other professionals, $F (3, 58) = 7.87, P < 0.01$. Participants with prior history of chronic somatic pathology, such as diabetes or high blood pressure, had significantly higher GAD-7 and PHQ-9 scores than those without history of somatic disease: $t(60) = 2.51, P < 0.05$ and $t(60) = 2.19, P < 0.01$, respectively. Among all participants, PSM-9 score was high and was significantly correlated with anxiety and depression symptoms: $r = 0.44$, $P < 0.01$ and $r = 0.67$, $P < 0.01$, respectively.

Togolese medical professionals have been experiencing extraordinarily high levels of psychological distress, anxiety, and depression during the COVID-19 pandemic. In our study, the anxiety rate was 62.9%, which is higher than the frequency reported by Liu and collaborators in China. Previous research has found increased anxiety among medical workers during the Ebola pandemic in Liberia. The depression frequency in our research was 51.6%, which is slightly higher than the findings of Liu and collaborators (50.7%). Nurses reported a higher depression rate than doctors and this result is in line with previous research. Despite the relatively low infection rate of COVID-19 in Togo, medical professionals have reported high symptoms of anxiety, depression, and psychological distress. This could be explained by the poor-quality health-care system in Togo and a lack of adequate equipment to deal with the COVID-19 pandemic. For instance, many health professionals during the current study recommend the use of masks by the entire population as observed in some countries (China and South Korea) to deal with COVID-19.

In response to our study’s findings, mental health care for Togolese medical professionals is recommended. This suggestion is essential, according to the findings of Kang and collaborators, which suggest that mental health protection for medical workers is important for control of the COVID-19 pandemic and their own long-term health. Togolese medical staff would benefit from mental health care to cope effectively with their stress and mental status during and after the COVID-19 pandemic according to suggestions from Chen et al., and lessons learnt during the Ebola outbreak in West Africa. Considering lessons from China, using various kinds of mental health interventions for medical professionals, such as relaxation, cognitive therapies, and dance-based exercises, is warranted.

**Disclosure statement**

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**Attitude to telemedicine in the times of COVID-19 pandemic: Opinion of medical practitioners from India**

The COVID-19 pandemic has brought forth a renewed focus on the role and relevance of telemedicine services. With lockdown putting constraints on travel, and emphasis on social distancing to prevent the spread of the virus, telemedicine seems to be an appealing option for patients and care providers for medical consultations. While telemedicine has already made headway among the more developed nations, it is probably yet to find a firm footing in resource-constrained countries. Yet, the pandemic has provided an opportunity and a need to rapidly expand telemedicine services in developing countries. We conducted an online survey of medical professionals from India (with a sizeable proportion of psychiatrists) to understand their perspectives about telemedicine and its future in the country.

An online survey was created on Google Forms and circulated via snowball sampling through social media. The questionnaire comprised of agreement to consent, information about limited demographic information, work profile, whether participants had used telemedicine in the past, and their opinions about various facets related to telemedicine. A total of 221 responses were logged in between 12 and 21 April 2020, out of which five participants did not consent. Eight more participants were excluded as they were not practicing doctors, leading to a total figure of 208 analyzed responses. Analysis was done using spss Version 21 (IBM, Armonk, NY, USA).

The responses are presented in Table 1. The sample comprised largely of resident doctors, and almost half were postgraduates. The results reveal that most of the participants had used telemedicine in some form, but had not confirmed the patient’s identity or documented the consultation. Such respondents also tended towards considering it easy to understand the patient’s problems, having had a good experience with digital consultation, and were likely to recommend it to colleagues. Respondents largely agreed that telemedicine would help quality health care reach remote areas of the country, and reduce budgets and waiting times for the patient; however, they also cautioned that telemedicine could: (i) be a hindrance to direct clinical decision-making and treatment; (ii) be a hindrance to patient–doctor relationships and trust; and (iii) result in vulnerability of digitally recorded personal information. Respondents were largely skeptical about the possibility of telemedicine significantly replacing the current patient-care system over the next 5 years.

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Exploratory analyses revealed that male participants and psychiatry specialists tended to believe that telemedicine would help to provide better care in remote areas (P = 0.015 and P = 0.003, respectively). Psychiatry specialists also more commonly endorsed that telemedicine would reduce budgetary needs (P = 0.006). None of the questions had moderate or high degrees of correlation with age. Among those who had used telemedicine, psychiatrists were more likely to find it easy to understand the patient’s problems (P = 0.005) and to suggest telemedicine to a colleague (P = 0.001).

The present findings suggest that telemedicine in some form is becoming a reality, though there is a cautious enthusiasm about telemedicine in general from the medical fraternity. The most significant concern highlighted by the doctors was the potential hindrance to clinical decision-making and treatment. The advantages offered by telemedicine are many, but it is unlikely to become a well-accepted and robust replacement for in-person medical care. In fact, most respondents, irrespective of age, did not feel that telemedicine would replace usual care over the span of the next 5 years.

An interesting observation was that among users of telemedicine, psychiatrists were more likely to find telemedicine easy to work with in terms of acknowledging the presenting complaints of the patient and to recommend telemedicine to colleagues. This suggests that uptake of telemedicine may be better with psychiatrists as compared to other professionals, who may value the need for the manual physical examination and closer observation that are vital for their practice. Results from a large insurance database also suggest that telemental health services accounted for about half of the telemedicine visits, with such telemental health visits increasing most rapidly for those areas that did not have a psychiatrist. Also, though a considerable proportion of the participants had used telemedicine in the past, many seemed unlikely to recommend teleconsultation to a colleague. This is a worrisome consideration as it may lead to limited general uptake of telemedicine in India’s medical community.

The present findings should be interpreted in regards to the following caveats: (i) sampling constraints with possibility of referral and selection biases; (ii) one-third of the respondents had never had an actual teleconsultation experience; (iii) opinion being sought on selected aspects (there could be many more issues pertaining to telemedicine, including ‘willingness to practice’); and (iv) data deriving from a single country. Despite the limitations, the findings carry forward the discussion of use of telemedicine, possibly differentially by different specialties based upon their clinical needs, and possible justifiable resistance to radically changing ways of practicing medicine with the use of telemedicine. However, psychiatry as a specialty may be able to embrace telemedicine faster than other fields of medical practice.

Institutional ethical clearance was not required as this was an online survey. Informed consent was obtained from each participant. This study fulfills the ethical provisions of the Declaration of Helsinki.

**Disclosure statement**

The authors do not have any conflicts of interest.
COVID-19 has been reducing people’s well-being, as shown by a rapid increase in people’s burnout or distress across different countries. Many mental health services aim to help people at the epicenter, following the principle of the ‘ripple effect’ as in the epidemics of severe acute respiratory syndrome and Ebola. Yet, drawing from psychological typhoon eye theory, the unprecedented scale of the COVID-19 pandemic prompts us to suspect that individuals’ well-being might deteriorate over their distance from the epicenter (i.e., the center of an epidemic area). Identifying the vulnerable regions where individuals are more likely to suffer from well-being issues helps direct attention towards the more vulnerable groups during an ongoing pandemic.

To help better screen for such vulnerable groups of people during the COVID-19 crisis, we examine typhoon eye theory and at which conditions it is useful. Specifically, we submit that the typhoon effect was useful among younger adults and those with a certain family status.

We sent a survey to 410 working adults staying in various cities in China during 20–21 February 2020. The survey assessed their sex, age, education, family status, job status, location, and the Satisfaction With Life Scale. Among the 308 of those who responded, we used their locations to calculate their distance to Wuhan, the COVID-19 epicenter in China, ranging from 0 to 2126 km. We used multiple linear regression to predict life satisfaction (Table 1).

Women experienced higher life satisfaction than did men (β = 0.30, 95% confidence interval [CI], 0.15 to 0.45; P < 0.001). Adults who worked from home (β = −0.23, 95% CI, −0.42 to 0.15; P = 0.018) or had their work suspended during COVID-19 (β = −0.36, 95% CI, −0.56 to −0.16; P < 0.001) were less satisfied than those who continued working in their workplace.

The association between the distance to the epicenter and life satisfaction depended on age and family status. As illustrated in Figure S1a, this association was less negative among the older adults (β = 0.02, 95% CI, 0.001 to 0.04; P = 0.033). Margin analysis shows that the coefficients were significantly negative for those aged 20 years (β = −0.60, 95% CI, −1.05 to −0.14; P = 0.011), 30 years (β = −0.41, 95% CI, −0.73 to −0.09; P = 0.011), and 40 years (β = −0.22, 95% CI, −0.45 to <0.00; P = 0.048). The association was not significant for those aged 50 years or above.

The negative association between the distance to the epicenter and life satisfaction also depended on family status, as illustrated in Figure S1b. The negative association (i.e., the typhoon eye effect) was significant among singles (β = −0.47, 95% CI, −0.92 to −0.17; P = 0.042) and those married with one child (β = −0.42, 95% CI, −0.72 to −0.12; P = 0.006). The association between the distance to the epicenter and life satisfaction was positive for those who were divorced or widowed (β = 1.02, 95% CI, 0.51 to 1.54; P < 0.001). The association was insignificant for the remaining groups.

Practically, our findings combine geographical and demographic information of participants to help identify vulnerable individuals. We revealed that the typhoon eye effect (i.e., the further people are away from the epicenter, the lower their life satisfaction) was significant only for adults who were younger or had smaller families. Our results suggest that mental health services cannot use the typhoon eye effect as the only geographical information to identify those with low life satisfaction.

This study focuses on a single epicenter, which is often but not always the case for an epidemic. Wuhan was the clear epicenter of COVID-19 in China. Yet, South Korea simultaneously had several epicenters. Future research may explore epidemics with multiple epicenters, exploring the effect of the minimum, median, maximum, or average (weighted by cases) distance from multiple epicenters.

In sum, this study provides insights on using typhoon eye theory and its boundary conditions to identify people more vulnerable to well-being impairment during the COVID-19 pandemic. Our research calls for a more nuanced understanding of how to use geographical and demographic information to identify vulnerable individuals during the COVID-19 pandemic.

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Disclosure statement

All authors have completed the ICMJE uniform disclosure form at www.icmje.org/coi_disclosure.pdf and declare: no support from any organization that might have an interest in the submitted work in the previous 3 years; and no other relationships or activities that could appear to have influenced the submitted work. The authors declare that they have no competing interests.

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