is illegal to post this copyrighted PDF on any website. Perceived Stress and Stigma Among Doctors Working in COVID-19–Designated Hospitals in India

N. A. Uvais, MBBS, DPM^{a*}; P. Shihabudheen, MD^b; and N. A. Bishurul Hafi, MD^c

The first case of novel coronavirus disease 2019 (COVID-19) was discovered in India on January 30, 2020 in Kerala state, after which the virus gradually spread across most of the states of India. Published literature during the COVID-19 pandemic has shown that health care workers, including doctors on the frontline, can suffer from significant psychological stress.¹ Moreover, it has been reported that health care workers perceive themselves as stigmatized and rejected from others (eg, family or friends) because they work in hospitals and treat patients with COVID-19.² Some studies^{3,4} have also shown a link between perceived stress and stigma among nurses as well as patients with infectious disease. There are no studies, to our knowledge, exploring stigma and perceived stress among doctors working in COVID-19–designated hospitals in India to date.

Methods

This was a cross-sectional, observational survey study. A snowball sampling technique was used to recruit participants. An online self-report questionnaire was designed using Google forms. In addition to demographic data, we also added a list of COVID-19 pandemic-related questions. A stigma scale, which measures the perceived stigma of doctors regarding COVID-19, was prepared based on the questionnaire used to study stigma among nursing staff during the Middle East respiratory syndrome coronavirus (MERS-CoV) outbreak.⁵ The stigma scale comprises 13 items, each of which is scored on a 5-point Likert scale. The total score ranges between 0 and 52, with a higher score indicating that the doctors perceived greater stigma. Stress among the doctors was assessed by the Perceived Stress Scale-10 (PSS-10),⁶ which comprises 10 items, each of which is scored on a 5-point Likert scale. The total score ranges between 0 and 40, with a higher score indicating higher perceived stress.

^aDepartment of Psychiatry, Iqraa International Hospital and Research Centre, Calicut, Kerala, India

^bDepartment of Critical Care, Iqraa International Hospital and Research Centre, Calicut, Kerala, India

^cDepartment of Dermatology, Iqraa International Hospital and Research Centre, Calicut, Kerala, India

*Corresponding author: N. A. Uvais, MBBS, DPM, Iqraa

International Hospital and Research Centre, Calicut, Kerala, India (druvaisna@gmail.com).

Prim Care Companion CNS Disord 2020;22(4):20br02724

To cite: Uvais NA, Shihabudheen P, Bishurul Hafi NA. Perceived stress and stigma among doctors working in COVID-19–designated hospitals in India. *Prim Care Companion CNS Disord*. 2020;22(4):20br02724.

To share: https://doi.org/10.4088/PCC.20br02724

© Copyright 2020 Physicians Postgraduate Press, Inc.

Sociodemographic Factors Respondents Age, y 20–30 28 (48.3) 31–40 25 (43.1) 41–50 4 (6.9) 61–70 1 (1.7) Sex Female 23 (39.7) Male 34 (58.6) Not ready to disclose 1 (1.7) Marital status Unmarried 17 (29.3) Married 41 (70.7) Staying with family Yes 30 (51.7) No 28 (48.3) Medical degree Graduate 24 (41.4) Postgraduate 24 (41.4) Superspecialty Superspecialty 10 (17.2) Internal medicine 6 (10.3) Anesthesia 5 (8.6) Femergency medicine 2 (3.4) Other specialitis 23 (39.7) Indian state Kerala 41 (70.7) Non-Kerala 17 (29.3) Non-Kerala 17 (29.3) Non-Kerala 5 (8.6) Emergency medicine 2 (3.4) Other specialitis 23 (39.7) Indian state Kerala 41 (70.7) Non-Kerala	Table 1. Demographic Characteristics of the Sample ^a	
Age, y $20-30$ $28 (48.3)$ $31-40$ $25 (43.1)$ $41-50$ $4 (6.9)$ $61-70$ $1 (1.7)$ Sex 7 Female $23 (39.7)$ Male $34 (58.6)$ Not ready to disclose $1 (1.7)$ Marital status $17 (29.3)$ Married $17 (29.3)$ Married $41 (70.7)$ Staying with family Yes Yes $30 (51.7)$ No $28 (48.3)$ Medical degree $Graduate$ Graduate $24 (41.4)$ Superspecialty $10 (17.2)$ Specialty $10 (17.2)$ Internal medicine $6 (10.3)$ Anesthesia $5 (8.6)$ Pediatrics $5 (8.6)$ Emergency medicine $2 (3.4)$ Other specialits $23 (39.7)$ Indian state $Kerala$ Kerala $41 (70.7)$ Non-Kerala $17 (29.3)$ No. of years of working $(-1) = 19 (32.8)$ $1-5$ $20 (34.5)$ $6-10$ $9 (15.5)$ > 10 $10 (17.2)$	Sociodemographic Factors	Respondents
20-30 $28 (48.3)$ $31-40$ $25 (43.1)$ $41-50$ $4 (6.9)$ $61-70$ $1 (1.7)$ Sex 7 Female $23 (39.7)$ Male $34 (58.6)$ Not ready to disclose $1 (1.7)$ Marital status $1 (1.7)$ Married $17 (29.3)$ Married $41 (70.7)$ Staying with family Yes Yes $30 (51.7)$ No $28 (48.3)$ Medical degree Graduate Graduate $24 (41.4)$ Postgraduate $24 (41.4)$ Superspecialty $10 (17.2)$ Internal medicine $6 (10.3)$ Anesthesia $5 (8.6)$ Pediatrics $5 (8.6)$ Emergency medicine $2 (3.4)$ Other specialties $5 (8.6)$ Nonspecialist $23 (39.7)$ Indian state $Kerala$ Kerala $41 (70.7)$ Non-Kerala $17 (29.3)$ No. of years of working $(-1 1 (9 (32.8))$ $-1-5$	Age, y	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	20–30	28 (48.3)
$\begin{array}{cccc} 41-50 & 4 (6.9) \\ 61-70 & 1 (1.7) \\ \hline \\ Sex \\ Female & 23 (39.7) \\ Male & 34 (58.6) \\ Not ready to disclose & 1 (1.7) \\ \hline \\ Marital status \\ Unmarried & 17 (29.3) \\ Married & 41 (70.7) \\ \hline \\ Staying with family \\ Yes & 30 (51.7) \\ No & 28 (48.3) \\ \hline \\ Medical degree \\ Graduate & 24 (41.4) \\ Postgraduate & 24 (41.4) \\ Superspecialty & 10 (17.2) \\ \hline \\ Specialty \\ Critical care & 10 (17.2) \\ Internal medicine & 6 (10.3) \\ Anesthesia & 5 (8.6) \\ Pediatrics & 5 (8.6) \\ Emergency medicine & 2 (3.4) \\ Gastroenterology & 2 (3.4) \\ Other specialist & 23 (39.7) \\ \hline \\ Indian state \\ Kerala & 41 (70.7) \\ No. of years of working \\ <1 & 19 (32.8) \\ 1-5 & 20 (34.5) \\ 6-10 & 9 (15.5) \\ > 10 & 10 (17.2) \\ \hline \end{array}$	31–40	25 (43.1)
61-70 $1(1.7)$ Sex Female $23(39.7)$ Male $34(58.6)$ Not ready to disclose $1(1.7)$ Marital status Unmarried $17(29.3)$ Married $41(70.7)$ Staying with family Yes $30(51.7)$ No $28(48.3)$ Medical degree $24(41.4)$ Graduate $24(41.4)$ Postgraduate $24(41.4)$ Superspecialty $10(17.2)$ Specialty $10(17.2)$ Internal medicine $6(10.3)$ Anesthesia $5(8.6)$ Pediatrics $5(8.6)$ Emergency medicine $2(3.4)$ Other specialitist $23(39.7)$ Indian state Kerala $41(70.7)$ Non-Kerala $17(29.3)$ No. of years of working $(<1$ $19(32.8)$ $1-5$ $20(34.5)$ $6-10$ $9(15.5)$ > 10 $10(17.2)$ $10(17.2)$	41–50	4 (6.9)
Sex 23 (39.7) Male 34 (58.6) Not ready to disclose 1 (1.7) Marital status 17 (29.3) Married 17 (29.3) Married 41 (70.7) Staying with family Yes Yes 30 (51.7) No 28 (48.3) Medical degree 24 (41.4) Graduate 24 (41.4) Postgraduate 24 (41.4) Superspecialty 10 (17.2) Specialty 10 (17.2) Specialty 2 (3.4) Gastroenterology 2 (3.4) Gastroenterology 2 (3.4) Other specialits 23 (39.7) Indian state Kerala Kerala 41 (70.7) Non-Kerala 17 (29.3) No. of years of working 1 <1	61–70	1 (1.7)
Female 23 (39.7) Male 34 (58.6) Not ready to disclose 1 (1.7) Marital status 17 (29.3) Married 17 (29.3) Married 41 (70.7) Staying with family 28 (48.3) Yes 30 (51.7) No 28 (48.3) Medical degree 6 Graduate 24 (41.4) Postgraduate 24 (41.4) Superspecialty 10 (17.2) Specialty 10 (17.2) Specialty 0 (17.2) Internal medicine 6 (10.3) Anesthesia 5 (8.6) Pediatrics 5 (8.6) Emergency medicine 2 (3.4) Other specialities 5 (8.6) Nonspecialist 23 (39.7) Indian state 17 (29.3) Kerala 41 (70.7) Non-Kerala 17 (29.3) No. of years of working 1 <1	Sex	
Male $34 (58.6)$ Not ready to disclose $1 (1.7)$ Marital status $17 (29.3)$ Married $41 (70.7)$ Staying with family $30 (51.7)$ Yes $30 (51.7)$ No $28 (48.3)$ Medical degree $4(41.4)$ Graduate $24 (41.4)$ Postgraduate $24 (41.4)$ Superspecialty $10 (17.2)$ Specialty $10 (17.2)$ Internal medicine $6 (10.3)$ Anesthesia $5 (8.6)$ Pediatrics $5 (8.6)$ Emergency medicine $2 (3.4)$ Other specialities $5 (8.6)$ Nonspecialist $23 (39.7)$ Indian state $41 (70.7)$ Kerala $41 (70.7)$ Non-Kerala $19 (32.8)$ $1-5$ $20 (34.5)$ $6-10$ $9 (15.5)$ > 10 $10 (17.2)$	Female	23 (39.7)
Not ready to disclose $1 (1.7)$ Marital status $17 (29.3)$ Married $17 (29.3)$ Married $41 (70.7)$ Staying with family $17 (29.3)$ Yes $30 (51.7)$ No $28 (48.3)$ Medical degree $24 (41.4)$ Graduate $24 (41.4)$ Postgraduate $24 (41.4)$ Superspecialty $10 (17.2)$ Specialty $10 (17.2)$ Internal medicine $6 (10.3)$ Anesthesia $5 (8.6)$ Pediatrics $5 (8.6)$ Emergency medicine $2 (3.4)$ Other speciality $23 (39.7)$ Indian state $Kerala$ Kerala $41 (70.7)$ Non-Kerala $17 (29.3)$ No. of years of working $< < 1 (32.8)$ $1-5$ $20 (34.5)$ $6-10$ $9 (15.5)$ > 10 $10 (17.2)$	Male	34 (58.6)
Marital statusUnmarried17 (29.3)Married41 (70.7)Staying with family Yes Yes30 (51.7)No28 (48.3)Medical degree $Graduate$ Graduate24 (41.4)Postgraduate24 (41.4)Superspecialty10 (17.2)Specialty $Critical care$ Critical care10 (17.2)Internal medicine6 (10.3)Anesthesia5 (8.6)Pediatrics5 (8.6)Emergency medicine2 (3.4)Other specialits23 (39.7)Indian state $Kerala$ Kerala41 (70.7)Non-Kerala17 (29.3)No. of years of working $<$ <1	Not ready to disclose	1 (1.7)
$\begin{tabular}{ c c c c c } Unmarried & 17 (29.3) \\ Married & 41 (70.7) \\ Staying with family & & & & & & & & & & & & & & & & & & &$	Marital status	
Married $41 (70.7)$ Staying with family Yes Yes $30 (51.7)$ No $28 (48.3)$ Medical degree $24 (41.4)$ Graduate $24 (41.4)$ Postgraduate $24 (41.4)$ Superspecialty $10 (17.2)$ Specialty $10 (17.2)$ Internal medicine $6 (10.3)$ Anesthesia $5 (8.6)$ Pediatrics $5 (8.6)$ Emergency medicine $2 (3.4)$ Gastroenterology $2 (3.4)$ Other specialitis $23 (39.7)$ Indian state $Kerala$ Kerala $41 (70.7)$ Non-Kerala $17 (29.3)$ No. of years of working $=$ <1	Unmarried	17 (29.3)
Staying with family Yes30 (51.7) NoNo28 (48.3)Medical degree28 (48.3)Graduate24 (41.4)Postgraduate24 (41.4)Superspecialty10 (17.2)Specialty $(10, 17.2)$ Critical care10 (17.2)Internal medicine6 (10.3)Anesthesia5 (8.6)Pediatrics5 (8.6)Emergency medicine2 (3.4)Gastroenterology2 (3.4)Other specialits23 (39.7)Indian stateKeralaKerala41 (70.7)Non-Kerala17 (29.3)No. of years of working $(19, (32.8))$ (-1) 19 (32.8) (-1) 9 (15.5) > 10 10 (17.2)	Married	41 (70.7)
Yes $30 (51.7)$ No $28 (48.3)$ Medical degree $28 (48.3)$ Graduate $24 (41.4)$ Postgraduate $24 (41.4)$ Superspecialty $10 (17.2)$ Specialty $0 (17.2)$ Specialty $0 (17.2)$ Internal medicine $6 (10.3)$ Anesthesia $5 (8.6)$ Pediatrics $5 (8.6)$ Emergency medicine $2 (3.4)$ Other specialities $5 (8.6)$ Nonspecialist $23 (39.7)$ Indian state Kerala Kerala $41 (70.7)$ Non-Kerala $17 (29.3)$ No. of years of working (-1) < 1 $19 (32.8)$ $1-5$ $20 (34.5)$ $6-10$ $9 (15.5)$ > 10 $10 (17.2)$	Staying with family	
No 28 (48.3) Medical degree $Graduate$ 24 (41.4) Postgraduate 24 (41.4) Superspecialty 10 (17.2) Specialty $10 (17.2)$ Internal medicine 6 (10.3) Anesthesia 5 (8.6) Pediatrics 5 (8.6) Emergency medicine 2 (3.4) Gastroenterology 2 (3.4) Other specialities 5 (8.6) Nonspecialist 23 (39.7) Indian state 41 (70.7) Non-Kerala 41 (70.7) Non-Kerala 19 (32.8) 1-5 20 (34.5) 6-10 9 (15.5) >10 10 (17.2)	Yes	30 (51.7)
Medical degreeGraduate24 (41.4)Postgraduate24 (41.4)Superspecialty10 (17.2)Specialty $10 (17.2)$ Internal medicine6 (10.3)Anesthesia5 (8.6)Pediatrics5 (8.6)Emergency medicine2 (3.4)Gastroenterology2 (3.4)Other specialities5 (8.6)Nonspecialist23 (39.7)Indian state $41 (70.7)$ Kerala41 (70.7)Non-Kerala19 (32.8)1-520 (34.5)6-109 (15.5)> 1010 (17.2)	No	28 (48.3)
$\begin{array}{cccc} Graduate & 24 (41.4) \\ Postgraduate & 24 (41.4) \\ Superspecialty & 10 (17.2) \\ Specialty & & & \\ Critical care & 10 (17.2) \\ Internal medicine & 6 (10.3) \\ Anesthesia & 5 (8.6) \\ Pediatrics & 5 (8.6) \\ Emergency medicine & 2 (3.4) \\ Gastroenterology & 2 (3.4) \\ Other specialties & 5 (8.6) \\ Nonspecialist & 23 (39.7) \\ Indian state & & \\ Kerala & 41 (70.7) \\ Non-Kerala & 17 (29.3) \\ No. of years of working & & \\ <1 & 19 (32.8) \\ 1-5 & 20 (34.5) \\ 6-10 & 9 (15.5) \\ > 10 & 10 (17.2) \\ \end{array}$	Medical degree	
Postgraduate 24 (41.4) Superspecialty 10 (17.2) Specialty 10 (17.2) Internal medicine 6 (10.3) Anesthesia 5 (8.6) Pediatrics 5 (8.6) Emergency medicine 2 (3.4) Gastroenterology 2 (3.4) Other specialities 5 (8.6) Nonspecialist 23 (39.7) Indian state 41 (70.7) Kerala 41 (70.7) Non-Kerala 17 (29.3) No. of years of working <1	Graduate	24 (41.4)
Superspecialty 10 (17.2) Specialty Critical care 10 (17.2) Internal medicine 6 (10.3) Anesthesia 5 (8.6) Pediatrics 5 (8.6) Emergency medicine 2 (3.4) Gastroenterology 2 (3.4) Other specialties 5 (8.6) Nonspecialist 23 (39.7) Indian state 41 (70.7) Kerala 41 (70.7) Non-Kerala 17 (29.3) No. of years of working <1	Postgraduate	24 (41.4)
Specialty 10 (17.2) Internal medicine 6 (10.3) Anesthesia 5 (8.6) Pediatrics 5 (8.6) Emergency medicine 2 (3.4) Gastroenterology 2 (3.4) Other specialties 5 (8.6) Nonspecialist 23 (39.7) Indian state Kerala Kerala 41 (70.7) Non-Kerala 17 (29.3) No. of years of working <1	Superspecialty	10 (17.2)
Critical care 10 (17.2) Internal medicine 6 (10.3) Anesthesia 5 (8.6) Pediatrics 5 (8.6) Emergency medicine 2 (3.4) Gastroenterology 2 (3.4) Other specialties 5 (8.6) Nonspecialist 23 (39.7) Indian state Kerala Kerala 41 (70.7) Non-Kerala 17 (29.3) No. of years of working 20 (34.5) 6-10 9 (15.5) >10 10 (17.2)	Specialty	
Internal medicine 6 (10.3) Anesthesia 5 (8.6) Pediatrics 5 (8.6) Emergency medicine 2 (3.4) Gastroenterology 2 (3.4) Other specialties 5 (8.6) Nonspecialist 23 (39.7) Indian state 23 (39.7) Kerala 41 (70.7) Non-Kerala 17 (29.3) No. of years of working 20 (34.5) 6–10 9 (15.5) >10 10 (17.2)	Critical care	10 (17.2)
Anesthesia 5 (8.6) Pediatrics 5 (8.6) Emergency medicine 2 (3.4) Gastroenterology 2 (3.4) Other specialties 5 (8.6) Nonspecialist 23 (39.7) Indian state	Internal medicine	6 (10.3)
Pediatrics 5 (8.6) Emergency medicine 2 (3.4) Gastroenterology 2 (3.4) Other specialties 5 (8.6) Nonspecialist 23 (39.7) Indian state 23 (39.7) Kerala 41 (70.7) Non-Kerala 17 (29.3) No. of years of working - <1	Anesthesia	5 (8.6)
Emergency medicine 2 (3.4) Gastroenterology 2 (3.4) Other specialties 5 (8.6) Nonspecialist 23 (39.7) Indian state	Pediatrics	5 (8.6)
Gastroenterology 2 (3.4) Other specialties 5 (8.6) Nonspecialist 23 (39.7) Indian state 41 (70.7) Kerala 41 (70.7) Non-Kerala 17 (29.3) No. of years of working 20 (34.5) 6–10 9 (15.5) >10 10 (17.2)	Emergency medicine	2 (3.4)
Other specialities 5 (8.6) Nonspecialist 23 (39.7) Indian state 41 (70.7) Kerala 41 (70.7) Non-Kerala 17 (29.3) No. of years of working 20 (34.5) 6–10 9 (15.5) >10 10 (17.2)	Gastroenterology	2 (3.4)
Nonspecialist 23 (39.7) Indian state 41 (70.7) Kerala 41 (70.7) Non-Kerala 17 (29.3) No. of years of working 1 <1	Other specialties	5 (8.6)
Indian state Kerala 41 (70.7) Non-Kerala 17 (29.3) No. of years of working 19 (32.8) <1	Nonspecialist	23 (39.7)
Kerala 41 (70.7) Non-Kerala 17 (29.3) No. of years of working	Indian state	
Non-Kerala 17 (29.3) No. of years of working - <1	Kerala	41 (70.7)
No. of years of working <1 19 (32.8) 1–5 20 (34.5) 6–10 9 (15.5) >10 10 (17.2)	Non-Kerala	17 (29.3)
<1 19 (32.8) 1–5 20 (34.5) 6–10 9 (15.5) >10 10 (17.2)	No. of years of working	
1-5 20 (34.5) 6-10 9 (15.5) >10 10 (17.2)	<1	19 (32.8)
6-10 9 (15.5) >10 10 (17.2)	1–5	20 (34.5)
>10 10 (17.2)	6–10	9 (15.5)
	>10	10 (17.2)

^aData are presented as n (%).

The link to the questionnaire was sent through WhatsApp and other social media platforms to the contacts of the investigators working in COVID-19–designated hospitals in India, and the participants were encouraged to forward the survey to other doctors working in the hospitals. The data collection was initiated on April 25, 2020 at 7:30 PM IST.

Results

We received 58 responses between April 25, 2020, and April 27, 2020. The majority of the respondents (91.4%) were between the ages of 20 and 40 years, 58.6% were male, and 70.7% were working in COVID-19–designated hospitals in Kerala. The demographic details are summarized in Table 1. Of the participants, 72.4% were part of a medical team directly involved in the management of COVID-19–positive patients. Also, 29.3% of doctors had a history of exposure

For reprints or permissions, contact permissions@psychiatrist.com. ♦ © 2020 Copyright Physicians Postgraduate Press, Inc. Prim Care Companion CNS Disord 2020;22(4):20br02724 PrimaryCareCompanion.com ■ e1

Uvais et al

quarantine following exposure.

The mean stigma score was 28.26 (SD = 8.76). Thirtysix doctors (62.1%) had a score ≥ 26 on the stigma scale, indicating higher levels of perceived stigma. The mean PSS-10 score was 20.60 (SD = 6.76). Thirty-seven doctors (63.8%) had a score \geq 20 on the PSS-10, indicating higher levels of stress. Pearson correlation showed a significant association (0.604, P < .01) between stigma score and PSS-10 score. Spearman correlation showed a significant association between perceived stress score and sex (-0.281, P < .05) and history of exposure to COVID-19-positive patients (0.307, P < .05). There was a significant association between stigma and sex ($\chi^2_2 = 8.72$, P = .013).

Discussion

Recent studies have shown that frontline health care workers, including doctors, can experience significant mental health issues while caring for patients with COVID-19.¹ In a similar vein, our results show that a significant proportion of doctors working in COVID-19-designated hospitals in India perceive significant stigma associated with their jobs, and the level of perceived stigma is significantly associated with perceived stress. Previous research⁵ among health care workers, especially nurses, during the SARS and MERS-CoV outbreaks also showed a similar link between stigma and stress. We found significantly higher stigma and perceived stress among female doctors. A recent study⁷ from China during the COVID-19 outbreak also showed significantly higher mental health symptoms among female frontline health care workers compared to males.

t is illegal to post this copyrighted PDF on any websit COVID-19-positive patients, and 31% had a history of Together, our findings present concerns about psychological well-being of doctors working in COVID-19-designated hospitals in India. From these findings, it can be argued that hospital administrators and policymakers should take proactive steps to make sure that doctors do not suffer from COVID-19-related stigma and associated stress, so that they can concentrate on caring for their patients.

> Received: June 20, 2020. Published online: July 30, 2020. Potential conflicts of interest: None. Funding/support: None.

REFERENCES

- 1. Rajkumar RP. COVID-19 and mental health: a review of the existing literature [published online ahead of print April 10, 2020]. Asian J Psychiatr. 2020;52:102066.
- Koh D, Lim MK, Chia SE, et al. Risk perception and impact of Severe Acute Respiratory Syndrome (SARS) on work and personal lives of healthcare workers in Singapore: what can we learn? Med Care. 2005;43(7):676-682.
- Charles B, Jeyaseelan L, Pandian AK, et al. Association between stigma, depression and quality of life of people living with HIV/AIDS (PLHA) in South India: a community based cross sectional study. BMC Public Health. 2012:12(1):463
- 4. Hernandez SHA, Morgan BJ, Parshall MB. Resilience, stress, stigma, and barriers to mental healthcare in US Air Force nursing personnel. Nurs Res. 2016:65(6):481-486.
- Park JS, Lee EH, Park NR, et al. Mental health of nurses working at a 5. government-designated hospital during a MERS-CoV outbreak: a crosssectional study. Arch Psychiatr Nurs. 2018;32(1):2-6.
- Cohen S, Williamson G. Perceived stress in a probability sample of the United States. In: Spacapan S, Oskamp S, eds. The social psychology of health: Claremont symposium on applied social psychology. Newbury Park, CA: Sage; 1988:31-67.
- 7. Lai J, Ma S, Wang Y, et al. Factors associated with mental health outcomes among health care workers exposed to coronavirus disease 2019. JAMA Netw Open. 2020;3(3):e203976.