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Research paper

Psychological status and fatigue of frontline staff two months after the COVID-19 pandemic outbreak in China: A cross-sectional study

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1. Introduction

The 2019 coronavirus disease (COVID-19) epidemic, which is spreading domestically and internationally, was first reported in Wuhan, China. The virus has been named severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) by the World Health Organization (Anon, 2020g). On 30 January 2020, the WHO declared the COVID-19 outbreak a public health emergency of international concern (Anon, 2020c). According to data released by the National Health Commission of China (NHCC), as of 30 March, the number of confirmed cases in China was 82,505, with 545,324 in 200 other countries around the world. The number of deaths has increased to 3,313 in China and 31,591 in other countries. The total number of ill and dead people is much higher than in the case of SARS. Recently, the WHO reported that COVID-19 will coexist with us for a long time (Anon, 2020b). Therefore, we should be prepared for a long-term to fight with COVID-19 epidemic.

Previous studies have shown that during the outbreak of infection, there was a wide range of psychosocial effects on people at the individual, community, and international levels (Hall et al., 2008). The continuing epidemic of COVID-19 is inducing fear, and there is an urgent social need to determine people's mental health status in timely fashion (Xiang et al., 2020). Studies have shown that limited knowledge of COVID-19 and overwhelming news can lead to anxiety and fear in the public. Under quarantine measures, the general public population may also feel idle, despondent, and fidgety (Brooks et al., 2020). This fear, panic, and anxiety among the general population may increase the workload of frontline staff (Anon, 2020a). At the same time, the increasing number of confirmed and suspected cases including imported cases from abroad, exhaustion of personal protective equipment, and widespread media coverage may lead to a variety of psychological problems, such as depression, anxiety, and insomnia among frontline staff (Bao et al., 2020; Chan-Yeung, 2004; Shigemura et al., 2020). However, their mental health and fatigue are often overlooked.

Since travel to and from Wuhan was restricted on January 23th, frontline staff, which includes doctors, nurses, polices, volunteers, community workers, and journalists, have made a great contribution to effectively controlling the spread of COVID-19. The NHC reported that about 4 million urban and rural community workers are fighting on the frontlines of the COVID-19 epidemic prevention and manage 650,000 urban and rural communities. On average, six community workers man one community. Each community worker manages 350 people, with extremely heavy tasks. They were responsible for daily temperature turning to the community, visitor registration, sterilization, investigation of suspected cases, report and necessary isolation assistance. According to incomplete statistics, more than 40,000 medical personnel have come to Wuhan to fight COVID-19 (Anon, 2020d). They need to take care of infected patients, worry about becoming infected and spreading disease, and sometimes even answer public inquiries (Xiang et al., 2020). Volunteers buy essentials like vegetables for people at home. Police need to maintain social stability, prevent adverse events like violations of strict requirements. Market administrations crack down on crimes such as price gouging on protective equipment (Anon, 2020). These heavier workloads can cause fatigue, and excessive fatigue may lead to cerebrovascular emergencies.

One study showed that 17.3% of medical staff members had obvious mental symptoms during the SARS epidemic (Lu et al., 2006). An online survey found that a significant number of participants reported depression (50.4%), anxiety (44.6%), and insomnia (34.0%) during COVID-19 (Lai et al., 2020). When experiencing other emergencies, frontline staffs also showed mental health impairment. Borho et al. (2019) mentioned that 10.1% volunteers worked in refugee work had depressive symptoms. Police who have experienced the events of September the 11th reported severe psychological burden that 24.7% had depression, 5.8% had anxiety (Bowler et al., 2016). Feinstein et al. (2002) showed that 21.4% journalists confronted with extreme danger situations like in the war had major depression. However, there have been no research articles exploring the psychological and fatigue impact on COVID-19 in frontline staff besides healthcare workers in China.

Up to now, more than 300 front-line workers have died of fatigue.

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Informed consent was provided on the strategy, wherein the online survey was initially distributed to com-
techology, Shanghai, China). This study adopted a snowball sampling online survey platform (SurveyStar, Changsha Ranxing Science and 
questionnaires were distributed, completed, and collected through an epidemic in China with an anonymous online questionnaire. The 
depression, and fatigue status of frontline sta-
2.1. Participants

2. Method

2.2. Questionnaire measurement of anxiety and depression

At the same time, excessive fatigue may also lead to negative emotions and increased incidence of depression (Robinson et al., 2015). Poor mental state will affect frontline staff's decision-making, attention, and execution, which would hinder the fight against the COVID-19 epidemic and might even cause permanent physical and mental injury to frontline personnel (Liu et al., 2020). Therefore, it is extremely important to measure and monitor the fatigue and psychological status of the frontline staff.

2.3. Assessment of fatigue

The Fatigue Self-Assessment Scale (FSAS) (Medicine, 2019) was used to evaluate the fatigue of frontline workers. The FSAS was developed in China and shows good differentiability, reliability, and constitutional validity in assessing the type, degree, and characteristics of fatigue in various populations. The scale is divided into two parts and includes 23 items to assess the type and severity of fatigue (including three subscales of physical fatigue, mental fatigue, and the experiences of fatigue) and the characteristics of fatigue (including three subscales of responsiveness of fatigue to sleep/rest, situationality of fatigue, and time pattern of fatigue). The first 22 items are scored on five-point scales, and the last is a self-assessment score used to evaluate self-fatigue. The specific scoring standard used in this study is the fatigue evaluation standard proposed by the Chinese Society of Traditional Chinese Medicine.

2.4. Statistical analyses

The data were analyzed via Statistical Package for the Social Sciences (SPSS, version 23.0, Chicago, IL) software. The significance level was set at \( p = 0.05 \), and all tests were two-tailed. The chi-square test was used for qualitative variables, while the rank-sum test was used for quantitative variables. Multivariate analyses for anxiety, depression, and fatigue were performed with ordinal logistic regression, and Spearman correlations were used for correlation analysis.

### Table 1
Baseline characteristics of the 2614 study participants.

| Variables                                      | Total  | Community workers | Health care workers | Volunteers | Market administrations | Others* |
|------------------------------------------------|--------|-------------------|--------------------|------------|------------------------|---------|
| Total                                          | 2614   | 720               | 398                | 560        | 292                    | 644     |
| Gender                                         |        |                   |                    |            |                        |         |
| Male                                           | 1161(44.4) | 255(35.4)         | 96(24.1)           | 351(62.7)  | 122(41.8)              | 337(52.3) |
| Female                                         | 1453(55.6) | 465(64.6)         | 302(75.9)          | 209(37.3)  | 170(58.2)              | 307(47.7) |
| Age (years)                                    |        |                   |                    |            |                        |         |
| 18–24                                          | 139(5.3)  | 42(5.8)           | 17(4.3)            | 346(6.0)   | 3(1.0)                 | 43(6.7) |
| 25–34                                          | 960(36.7) | 297(41.3)         | 142(35.7)          | 224(40.0)  | 54(18.5)               | 244(37.9) |
| 35–54                                          | 1433(54.8) | 372(51.6)         | 222(55.8)          | 280(50.0)  | 219(75.0)              | 340(52.8) |
| 55–64                                          | 82(3.1)    | 9(1.3)            | 17(4.3)            | 23(4.1)    | 16(5.5)                | 17(2.7) |
| ≥ 65                                           | 0       |                   |                    |            |                        |         |
| Residence                                      |        |                   |                    |            |                        |         |
| Rural                                          | 214(8.2)   | 113(15.7)         | 36(9.0)            | 29(5.2)    | 9(3.1)                 | 27(4.2) |
| Urban                                          | 2400(91.8) | 607(84.3)         | 362(90.9)          | 531(94.8)  | 283(97.0)              | 617(95.8) |
| Education                                      |        |                   |                    |            |                        |         |
| Below university                               | 312(12.0)  | 61(8.5)           | 48(12.1)           | 74(13.2)   | 72(24.7)               | 57(8.9) |
| College                                        | 2215(84.7) | 643(89.3)         | 342(85.9)          | 474(84.6)  | 213(72.9)              | 543(84.3) |
| Master's or doctorate                          | 87(3.3)    | 16(2.2)           | 8(2.0)             | 12(2.1)    | 7(2.4)                 | 44(6.8) |
| Physical or mental disease                    |        |                   |                    |            |                        |         |
| Yes                                            | 418(16)    | 115(16.0)         | 43(10.8)           | 86(15.4)   | 50(17.1)               | 124(19.2) |
| No                                             | 2196(84)   | 605(84.0)         | 355(89.2)          | 474(84.6)  | 242(82.9)              | 520(80.7) |
| Family income (RMB)                            |        |                   |                    |            |                        |         |
| < 10,000                                       | 1587(60.7) | 539(74.9)         | 229(22.5)          | 340(60.7)  | 166(56.8)              | 313(48.6) |
| ≥ 10,000                                       | 1027(39.3) | 181(25.1)         | 169(42.5)          | 220(39.3)  | 126(43.4)              | 331(51.4) |
| Marital status                                 |        |                   |                    |            |                        |         |
| Single                                         | 458(17.5)  | 125(17.4)         | 50(12.6)           | 127(22.7)  | 22(7.5)                | 134(20.8) |
| Married                                        | 2008(76.8) | 548(76.1)         | 327(84.1)          | 403(72.0)  | 251(86.0)              | 479(74.4) |
| Others*                                        | 148(5.6)   | 47(6.5)           | 21(5.3)            | 30(5.4)    | 19(6.5)                | 31(4.8) |

a: Includes commanders, police, and journalists.

b: Includes divorced and widowed.

Depression in first-line staff was assessed by the Patient Health Questionnaire-9 (PHQ-9) (Kroenke et al., 2001). It includes 9 items grading from 0 to 3 points, corresponding to DSM-IV diagnostic criteria for depression. Overall, the total score of PHQ-9 is operationally categorized as follows: no depression (score 0–4), mild depression (5–9), moderate depression (10–14), and severe depression (≥ 15).

The Self-Rating Anxiety Scale (SAS) (Zung, 1965) was used to assess anxiety in the front-line staff. It was compiled by Zung in 1971 and has been widely used for anxiety assessment in a variety of groups. The SAS consists of 20 items scored on a 4-point scale, of which 5 items are reverse-scored. The sum of the scores of all items is the initial score, which is multiplied by 1.25 to yield the standard score. The evaluation criteria were no anxiety (score 0–49), mild anxiety (50–59), moderate anxiety (60–69), and severe anxiety (≥ 70).

The Fatigue Self-Assessment Scale (FSAS) (Medicine, 2019) was used to evaluate the fatigue of frontline workers. The FSAS was developed in China and shows good differentiability, reliability, and constitutional validity in assessing the type, degree, and characteristics of fatigue in various populations. The scale is divided into two parts and includes 23 items to assess the type and severity of fatigue (including three subscales of physical fatigue, mental fatigue, and the experiences of fatigue) and the characteristics of fatigue (including three subscales of responsiveness of fatigue to sleep/rest, situationality of fatigue, and time pattern of fatigue). The first 22 items are scored on five-point scales, and the last is a self-assessment score used to evaluate self-fatigue. The specific scoring standard used in this study is the fatigue evaluation standard proposed by the Chinese Society of Traditional Chinese Medicine.
3. Results

3.1. Demographic characteristics

We received responses from 2,614 participants, including community workers (27.5%), health care workers (14.8%), volunteers (21.4%), market administrators (11.2%), and others (24.6%), the last including commanders, police, and journalists. More than half of the participants (55.6%) were women, and more than half were aged 35 to 54 years. Most were urban residents (91.8%), were married (76.8%), and had an educational level of a college degree or above (88%). The details of the demographic characteristics are presented in Table 1.

3.2. Severity and scores

As shown in Fig. 1 and Table 2, 50% (1307/2614) people scored above the PHQ-9 cut-off point, indicating widespread depression among the participants, with a sample mean score of 5.8 (SD = 5.1). Of these, 9.0% (234/2614) scored 15 or higher, suggesting severe depression. The SAS, used to assess anxiety levels, showed that 23.4% (612/2614) had a standardized score of \( \geq 50 \) (42.1 ± 11.4), deemed as having anxiety, and 7.5% (196/2614) reported moderate or severe anxiety. A considerable proportion of the participants had symptoms of fatigue, 75.7% (1980/2614) and 18.7% (488/2614) were deemed to suffer from moderate or severe fatigue. The mean and standard deviation (M ± SD) of the scores on Physical fatigue, Mental fatigue, Consequences of fatigue, General fatigue, Fatigue response to sleep/rest, and Situationality of fatigue for all respondents were 20.1 ± 24.1, 23.6 ± 23.9, 21.3 ± 23.5, 21.9 ± 22.8, 18.6 ± 25.8, 40.1 ± 31.1, respectively (Table 2). Night was scored the highest for the time of fatigue.

Sleep was affected in 52.8% of the respondents, with the most common symptom being irregular sleep. The proportions of severe depression (12.9%), severe anxiety (5.3%), and severe fatigue (4.7%) were highest in community workers.

3.3. Risk factors and psychological impact

The multivariable logistic regression analysis shown in Table 3 found that, after controlling for confounders, being a woman was associated with more severe symptoms of anxiety (OR: 1.3; 95% CI, 1.0–1.6; \( P < 0.05 \)) and mental fatigue (OR: 1.3; 95% CI, 1.0–1.5; \( P < 0.05 \)). Compared to the 55–64-year-old group, the 18–24-year-old group was associated with more severe symptoms of depression (OR: 3.1; 95% CI, 1.5–5.9; \( P < 0.05 \)), anxiety (OR: 2.4; 95% CI, 1.0–5.8; \( P < 0.05 \)), and physical fatigue (OR: 2.3; 95% CI, 1.1–5.0; \( P < 0.05 \)); the 25–34-year-old group had more severe symptoms of depression (OR: 3.3; 95% CI, 1.9–5.6; \( P < 0.05 \)) and physical fatigue (OR: 2.3; 95% CI, 1.1–5.0; \( P < 0.05 \)); and the 35–54-year-old group showed more severe symptoms of physical fatigue (OR: 1.9; 95% CI, 1.1–3.2; \( P < 0.05 \)).

Compared with those having a family income of more than 100,000RMB (14,141.5 USD), family income less than 100,000RMB was associated with more severe symptoms of depression (OR: 1.2; 95% CI, 1.0–1.6; \( P < 0.05 \)) and anxiety (OR: 1.6; 95% CI, 1.3–2.0; \( P < 0.05 \)). Participation in epidemic prevention without family support was significantly associated with more severe symptoms of depression (OR: 6.1; 95% CI, 1.4–27.8; \( P < 0.05 \)) and anxiety (OR: 3.9; 95% CI, 1.3–11.6; \( P < 0.05 \)). The longer the participants worked or the less satisfied patients were with their services, the higher their scores for anxiety and depression (e.g., severe depression among more than 6 h vs less than 1 h, OR: 1.6; 95% CI, 1.3–2.1; \( P < 0.05 \)); severe depression by satisfaction vs dissatisfaction, OR: 9.4; 95% CI, 2.1–41.1; \( P < 0.05 \).

Worried about being infected and having a history of disease or sleep disorder are risk factors for anxiety, depression, and fatigue.
Table 2
Depression, anxiety, and fatigue in study participants.

| Variables                        | Total  | Community workers | Health care workers | Volunteers | Market administrators | Others | χ²   | P      |
|----------------------------------|--------|-------------------|---------------------|------------|-----------------------|--------|------|--------|
| Depression                       | 5.8 ± 5.1 | 7.6 ± 6.0         | 4.1 ± 4.6           | 5.6 ± 5.6  | 3.9 ± 5.1             | 5.8 ± 5.7 | 159.5 | < 0.001|
| Anxiety                          | 4.2 ± 11.4 | 45.8 ± 12.1       | 39.1 ± 9.7          | 41.5 ± 10.8| 39.3 ± 10.8           | 41.9 ± 11.5 | 127.6 | < 0.001|
| Sleep (multiple choice)          |        |                   |                     |            |                       |        |      |        |
| Unchanged                        | 1240(47.4)| 231               | 202                 | 280        | 186                   | 341    | 110.1 | < 0.001|
| Difficulty falling asleep        | 617(23.6)| 238               | 79                  | 118        | 46                    | 136    | 52.9  | < 0.001|
| Easily awakened at night         | 538(20.6)| 180               | 90                  | 97         | 45                    | 126    | 18.4  | 0.001  |
| Early awakening                  | 522(20) | 159               | 89                  | 107        | 53                    | 114    | 6.3   | 0.17   |
| Dizziness                        | 210(8) | 68                | 16                  | 57         | 11                    | 58     | 22.1  | < 0.001|
| Irregular sleep                  | 863(33) | 305               | 128                 | 187        | 61                    | 184    | 52.0  | < 0.001|
| Night                                                                                   |        | 56                 | 26               | 65         | 25                  | 1       |        |
| Fatigue                          |        |                   |                     |            |                       |        |      |        |
| Physical fatigue                 |        |                   |                     |            |                       |        |      |        |
| Mental fatigue                   |        |                   |                     |            |                       |        |      |        |
| Total fatigue                    |        |                   |                     |            |                       |        |      |        |
| Fatigue responds to sleep/rest   |        |                   |                     |            |                       |        |      |        |
| Situationality of fatigue        |        |                   |                     |            |                       |        |      |        |
| Time pattern of fatigue          |        |                   |                     |            |                       |        |      |        |

Table 3
Associations between personal variables and depression, fatigue, and anxiety during the COVID-19 outbreak.

| Index                                                       | Depression | Anxiety | Mental fatigue | Physical fatigue |
|-------------------------------------------------------------|------------|---------|----------------|------------------|
| Gender                                                      | OR (95% CI)| OR (95% CI)| OR (95% CI)| OR (95% CI) |
| Male                                                        | Reference  | Reference| Reference| Reference |
| Female                                                      | 1.1(0.9, 1.3) | 1.3(1.0, 1.6) | 1.3(1.0, 1.5) | 1.1(0.9, 1.3) |
| Age (years)                                                | 3.1(1.5, 5.9) | 2.4(1.0, 5.8) | 1.5(0.7, 3.3) | 2.3(1.1, 5.0) |
| 25-34                                                      | 3.3(1.9, 5.6) | 1.7(0.8, 3.5) | 1.5(0.8, 2.7) | 2.1(1.3, 4.1) |
| 35-54                                                      | 1.6(0.9, 2.7) | 1.1(0.5, 2.2) | 0.6(0.6, 2.0) | 1.9(1.1, 3.2) |
| Residence                                                  | Reference  | Reference| Reference| Reference |
| Rural                                                      | Reference  | Reference| Reference| Reference |
| Urban                                                      | 0.8(0.6, 1.1) | 0.7(0.5, 1.0) | 0.9(0.6, 1.3) | 1.1(0.8, 1.2) |
| Education                                                  | Reference  | Reference| Reference| Reference |
| Below university                                            | Reference  | Reference| Reference| Reference |
| College                                                    | 0.5(0.3, 0.9) | 0.7(0.3, 1.0) | 0.8(0.4, 1.5) | 0.7(0.4, 1.4) |
| Master's or doctorate                                      | 0.8(0.5, 1.4) | 0.9(0.4, 1.5) | 1.1(0.6, 1.9) | 1.0(0.6, 1.8) |
| Physical or mental disease                                 | 4.2(3.3, 5.5) | 3.0(2.3, 3.9) | 4.2(2.8, 6.2) | 3.2(2.3, 4.5) |
| Yes                                                        | Reference  | Reference| Reference| Reference |
| No                                                          | Reference  | Reference| Reference| Reference |
| How long does it take each day to focus on epidemic related situations | Reference  | Reference| Reference| Reference |
| < 1 hour                                                   | 1.2(1.0, 1.5) | 1.6(1.3, 2.0) | 1.0(0.8, 1.3) | 1.0(0.8, 1.2) |
| ≥ 10,000                                                  | Reference  | Reference| Reference| Reference |
| Married                                                    | 1.1(0.7, 1.7) | 0.7(0.4, 1.3) | 1.1(0.7, 1.9) | 1.4(0.9, 2.3) |
| Others                                                      | 0.7(0.5, 1.0) | 0.6(0.3, 0.9) | 1.0(0.7, 1.6) | 1.0(0.7, 1.5) |
| How long does it take each day to focus on epidemic related situations | Reference  | Reference| Reference| Reference |
| < 1 hour                                                   | Reference  | Reference| Reference| Reference |
| 1-3 hours                                                  | 0.9(0.7, 1.1) | 0.8(0.7, 1.2) | 0.7(0.6, 1.0) | 0.8(0.7, 1.1) |
| 3-6 hours                                                  | 1.1(0.8, 1.6) | 1.3(0.9, 2.0) | 0.7(0.4, 0.9) | 0.5(0.4, 0.8) |
| > 6 hours                                                  | 1.6(1.3, 2.1) | 1.4(1.0, 1.9) | 0.8(0.6, 1.1) | 1.2(0.4, 0.8) |
| Worried about being infected                               | Reference  | Reference| Reference| Reference |
| Yes                                                        | 2.7(2.2, 3.4) | 1.7(1.3, 2.4) | 2.1(1.7, 2.7) | 2.3(1.9, 2.9) |
| Family supports your participation in epidemic prevention  | Reference  | Reference| Reference| Reference |
| Yes                                                        | 6(1.4, 27.8) | 3(1.3, 11.6) | 1.0(0.8, 1.3) | 1.4(0.3, 6.6) |
| The people you serve are satisfied with your work           | Reference  | Reference| Reference| Reference |
| Yes                                                        | 9(4.2, 1.41) | 5.6(2.1, 15.1) | > 1000     | > 1000 |
| Sleep difficulty                                           | Reference  | Reference| Reference| Reference |
| Yes                                                        | 8(0.6, 9.7) | 9.4(7.1, 12.5) | 5.3(4.2, 6.6) | 5.6(4.6, 6.9) |
| No                                                         | Reference  | Reference| Reference| Reference |
Subscales in the FSAS were significantly correlated with anxiety and depression (Table 4).

4. Discussion

This is the first study to investigate the mental health and fatigue of frontline staff fighting COVID-19. We investigated 2614 participants and found anxiety (23.4%), depression (50.0%), and fatigue (73.7%) to be common in frontline workers. Participants were divided into five groups (community workers, health care workers, volunteers, market administrators, and others) to compare the differences across professions, showing that the levels of depression, anxiety, and fatigue of community workers were much higher than in the other professions (P < 0.01). Binary logistic regression indicated that being a woman, young age, sleeping difficulty, and having lower income and family support were associated with severe mental state and proneness to fatigue. At the same time, our study further confirmed that fatigue is highly correlated with depression and anxiety.

In this study, most participants experienced depression and anxiety, and indeed more than 55.6% of frontline staff felt tired. These proportions of depression and anxiety of participants far exceed those found in surveys of general public mental health (Wang et al., 2020). This suggests that we should pay greater attention to the mental health of frontline staff. The psychological response of frontline staff to the epidemic of infectious diseases is complex. We found the level of depression, anxiety, and fatigue of community workers was much higher than in the other professions (P < 0.01). Binary logistic regression indicated that being a woman, young age, sleeping difficulty, and having lower income and family support were associated with severe mental state and proneness to fatigue. At the same time, our study further confirmed that fatigue is highly correlated with depression and anxiety.

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In order to reduce the risk of negative psychological consequences of the COVID-19 epidemic and promote social stability, the National Health Commission of China has incorporated psychological crisis intervention into the overall deployment of disease prevention and issued more than 10 documents related to mental health (Li et al., 2020). Local governments have also taken corresponding measures, but most of them are for medical staff, patients, and patients’ families; less attention has been paid to the mental health of community staff, volunteers, and market administrators. Thus, we suggest the implementation of measures regarding the following. First, there is a need for mental health support; second, we used the SAS anxiety questionnaire, while the former survey used the 7-item Generalized Anxiety Disorder scale (Lai et al., 2020).
education. With the continuous development of network technology, frontline staff can access mental health videos, audio, or online lectures on WeChat. Second, psychological scale assessment is needed. Frontline staff members showing high scores for depression, anxiety, or fatigue should be given time to rest. Third, patients with severe depression and anxiety can avail themselves of online interventions or go to a local mental and psychological center for treatment. Fourth, some staff suggested that they lacked time and energy to take care of their children. Therefore, we could recruit college students at home to provide volunteer services to help their children with their homework or play games with them.

Our research can timely reflect the mental health and fatigue of current frontline workers. So, we can adjust their work arrangements in time, ensure rest and work efficiency, and reduce psychological problems. But the study has several limitations. First, it applied a snowball sampling strategy, which is not based on the random selection of samples, and thus the study population is not necessarily representative of the overall population. Second, as this is only a cross-sectional study, it cannot reveal trends of emotional change in frontline staff. Future research should be done longitudinally include tracking of the risk factors and mental health and fatigue after behavior and therapeutic intervention.

5. Conclusion

In this study of frontline staff fighting COVID-19 in China, a high incidence of depression, anxiety, insomnia, and fatigue was reported. Protecting the physical and mental health of frontline staff is an important part of public health measures to fight the COVID-19 epidemic. Effective strategies need to be implemented immediately to improve the mental health and fatigue of frontline staff, with community workers, women, the young, and those with physical and mental disease requiring particular attention.

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