

# A Study of Basic Needs and Psychological Wellbeing of Medical Workers in the Fever Clinic of a Tertiary General Hospital in Beijing during the COVID-19 Outbreak

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Dear Editor,

The 2019 coronavirus disease (COVID-19) has become a global threat. A fever clinic for triaging patients is a primary strategy against COVID-19 [1]. On January 20, 2020, the novel coronavirus was put on highest alert throughout China. On the same day, a special 24-h fever clinic was set up in the Emergency Department, Peking Union Medical College Hospital (PUMCH). Doctors and nurses for this fever clinic were handpicked by the Emergency Department based on their experience and their adaptability and tenacity under pressure shown in their past works. Psychological support for these medical workers was deemed as essential [2]. Thus, a hotline service was set up by the Department of Psychological Medicine, from 9 a.m. to 9 p.m. every day, to talk with medical workers about their feelings, provide support and understanding, and help them find emotional resources. Furthermore, we continuously monitored these medical workers with qualitative and quantitative evaluations, regularly feeding back findings to the Emergency Department to allow for adjustments.

The qualitative interview involved topics as shown below. Quantitative questionnaires (Table 1) included the Patient Health Questionnaire-9 (PHQ-9) and Maslach Burn-out Inventory (MBI). PHQ-9 and MBI were administered at the end of their duty before a 2-week rest leave. Interviews were conducted whenever the medical workers were free, initiated either by us or them, during the 9 a.m. to 9 p.m. hotline service. Each medical worker was interviewed several times during their 2- to 3-week work time rotation. Each interview lasted 40–90 min.

A total of 37 medical workers were selected as the first batch for the fever clinic. They all agreed to participate in our interviews and provided oral consent (response rate 100%). The participants comprised 16 doctors, 19 nurses, and 2 clinical technicians; 8 of the workers were male, and 17 were married. The overall mean age was  $32.8 \pm 9.6$  years. Mean working experience was 6 years (range 2–20).

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**Table 1.** PHQ-9 and MBI scores in medical workers

	Doctors	Nurses	Technicians	Total
PHQ-9	2 (1–5.5)	5 (0–10)	1.5 (0–3)	3 (0–7.5)
PHQ-9 positive	6.3 (1/16)	31.6 (6/19)	0 (0/2)	18.9 (7/37)
MBI-EE	13.1±8.0	12.1±8.8	(0, 2)	11.9±8.5
MBI-EE positive	0 (0/15)	6.7 (1/15)	0 (0/2)	3.1 (1/32)
MBI-DP	6.7±3.7	3.2±2.2	(2, 2)	4.8±3.4
MBI-DP positive	26.7 (4/15)	0 (0/15)	0 (0/2)	12.5 (4/32)
MBI-PA	35.6±5.8	36.7±5.4	(30, 34)	35.9±5.5
MBI-PA positive	26.7 (4/15)	20.0 (3/15)	50.0 (1/2)	25.0 (8/32)

Data are presented as median (IQR), % (*n/N*), or mean ± SD, as appropriate. For PHQ-9, a total score of ≥10 indicates depression (positive). In MBI, a score of Emotional Exhaustion (EE) factor ≥27, Depersonalization (DP) ≥10, or Personal Accomplishment (PA) ≤33 indicates professional burnout (positive).

They had all made contact with COVID-19 patients or specimens of COVID-19 patients in their work.

### Findings

1. Living conditions. In order to minimize the transmission risk to others, the medical staff had to stay and work in the hospital continuously for 2–3 weeks, then took a rest for 2 weeks in an isolated vocational resort before going home for further rest. There was a separate apartment building with an individual dormitory for each of them. They were satisfied with the living conditions.
2. Work time. The work time schedule was continuously adjusted. For doctors, the schedule changed from one consecutive 12-h shift/day to one consecutive 8-h shift/day then to two 4-h shifts/day with a 4-h break in-between. For nurses, the schedule changed from one consecutive 12-h shift/day to two 4-h shifts/day with a 4-h break in-between. For technicians, it was one 5-h shift plus one 7-h shift/day, with one 5-h and one 7-h break after each shift. After 2–3 weeks of continuous work, these medical staff were replaced by a new group. Doctors and nurses gave the same feedback on ideal work time: 4–6 h/shift, 1 or 2 shifts/day, for 2 or 3 weeks. Their concentration would decrease after working long hours. Some participants said they “felt tired and can’t have a full sleep” later in the 2- or 3-week period. Many physical and mental challenges of working continuously should be noted, such as the intensity of focus for long periods of time and wearing bulky layers of clothing. The National Health Commission has acknowledged this and issued a notice that all medical workers should work suitable shifts and get sufficient rest [3].
3. Workload. (1) Doctors had a heavy workload, up to 10 patients/h. They hoped there could be additional doctors in extreme situations. (2) Nurses had various duties and sometimes, at maximum, had to deal with 200 patients/day. They hoped there could be a more specified task division, as well as more nurses. (3) Technicians thought their workload was moderate and the schedule was balanced.
4. Medical security. The staff generally felt safe as there were designated personnel supervising the virus protection procedures for each medical staff member. But sometimes there was a shortage of protective clothing. On a larger scale, the Chinese government has mobilized all the production and logistic powers to ensure medical material supplies [3].
5. Diet and sleep. The participants were satisfied with the food and the sleeping environment. Dietary habits and needs were individually considered. Overall, 21.6% (8/37) of participants had low appetite, and 29.7% (11/37) had sleeping problems and occasionally needed sleeping pills.
6. Emotions. (1) Doctors: 6.3% (1/16) felt nervous after hearing news on television that some doctors were infected. (2) Nurses: 52.6% (10/19) reported negative emotions including worrying about and missing family members, worrying about infection, and feeling stressed about heavy workload. (3) Technicians felt emotionally stable. In response, the logistics departments took on the responsibility of taking care of the participants’ family members.
7. Coping strategies. Video-chat or telephone with family members was the most frequently reported coping strategy. Talking with colleagues was also useful for most participants. Two participants reported that they

would rather cope with stress on their own, but they welcomed talks with psychologists through hotline. Other coping strategies included sport, singing, writing diaries, watching videos, etc.

8. Bodily discomfort. Of the 37 participants, 6 doctors and 11 nurses reported mild bodily discomfort including tiredness, throat pain, cough, neck and shoulder pain, back pain, headache and nausea, frequent urination, and skin rash. No medical worker was infected with COVID-19. The above-described bodily discomforts may likely have psychosomatic origins.
9. PHQ-9 and MBI (see Table 1). The higher rate of “Personal Accomplishment” burnout may be related to the fact there is still no definitely effective medication against COVID-19.

Consistent with other similar situations, medical workers in our study were under high stress [4–9]. However, overall, the emotional distress and burnout levels were not highly elevated. Our psychological support and adjustments may help buffer the negative impact of stress. In addition, we have to acknowledge that in such an emergency situation with a shortage of medical staff and resources, many doctors and nurses are overworking extensively. It is a new situation for medical workers [10]. We suggest monitoring the physical and psychological needs and wellbeing of medical workers in similar situations, and then adjusting their working schedules and formulating psychosocial interventions accordingly.

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## Statement of Ethics

The trial protocol was approved by the Ethics Committee for Peking Union Medical College Hospital, Chinese Academy of Medical Sciences (S-K1045). All participants gave their oral consent.

## Disclosure Statement

The authors have no conflicts of interest to declare.

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## Author Contributions

J.W. and H.Z. contributed equally to the conception of the study design and coordination. Data collection was carried out by Y.D., X.Z., W.G., and J.J. Data analysis and interpretation was done by J.C., W.G., Y.D., and H.X. J.C. and Y.D. wrote the first draft of the paper. J.W., H.Z., and B.Z. provided a critical revision of this draft. All authors gave their final approval of the version to be published.