

Psychological effects of COVID-19 pandemic on health care workers

Maryam Kia, MD

Assistant Professor of Internal Medicine

Psychological effects of COVID-19

- ▶ COVID-19, a symbol of uncertainty, revolutionized every aspect of human life globally as well as medical settings.
- ▶ Health care workers (HCWs) at the frontiers in this ambiguous combat have a crucial responsibility to challenge an enemy whose behavior is not predictable and even the diagnosis of infected patients as well as their management is in the shadow of uncertainty .
- ▶ There has yet been no vaccine to prevent .
- ▶ Many infected persons can be completely asymptomatic .

Psychological effects of COVID-19

- ▶ Considering the duty of medical personnel, they should provide different services for the COVID-19 patients while shouldering the burden of taking care of their beloved ones; their children, spouse and parents as a family member despite the likelihood of contamination or transmission of the coronavirus.
- ▶ Moreover, due to the hourly barrage of unpleasant news by the social media concerning the number of patients and death toll, new guidelines and policies make them mentally very sensitive and fragile.
- ▶ Admittedly, the first responders to any diseases are health care providers who may be infected with an insidious virus, like corona sooner than any other population despite unawareness about the reality regarding the origin, ways of transmission, protective measures, clinical features, exact number of infected persons, diagnostic protocols, special confirmatory lab tests, treatment, prognosis and the like.

Psychological effects of COVID-19

- ▶ Considering the rapid spread of the sly virus menacing overworked and under-resourced HCWs wrestling the threats of infection relying on the unreliable infrastructure of non-verified information.
- ▶ They have the Hobson's choice of managing their patients while having severe concerns about their personal protection equipment (PPE) supplies not to mention their family conditions.
- ▶ Therefore, most of them decide to isolate and quarantine themselves alleviating their worries despite their social responsibility and altruism as a member of the medical society.

Psychological effects of COVID-19

- ▶ HCWs in pandemics are always anxious about their contamination and its devastating results, especially in case of the loss of their colleagues victimized by the disease.
- ▶ HCWs' preoccupations during pandemics are different , such as: “Who would take care of my children if I become sick? What will be the prognosis of my disease? How can I make a living during my illness period?”
- ▶ In some situations medical staff may be rejected by their society or even relatives regarding their potential high-risk status of being a latent carrier and the stigma of working in the epicenter of the contamination.

Psychological effects of COVID-19

- ▶ On the whole, the summative effects of pandemics on the society impose double pressure on the medical personnel as they should manage patients, systemic shortcomings and their personal health, simultaneously.
- ▶ Different studies in pandemics estimate the prevalence of psychiatric morbidity as high as 50-75% among HCWs with persistent rate of almost 40% after 3 years .
- ▶ Health care administrators should be informed about the stress backgrounds, predisposing factors, presentations and side effects to plan special strategies relieving the stress of medical society.

COVID-19 PANDEMIC; PSYCHOLOGICAL IMPACTS

- ▶ Following the outbreak of infection in the city of Wuhan in late 2019 and the rapid rise in COVID-19 epidemic, the WHO announced global health concern internationally .
- ▶ The total number of COVID-19 cases was several times higher than SARS, and the number of deaths was much higher .
- ▶ Since the reports of personnel infection was obtained at first, such as 29% of hospitalized patients, and quarantine and social isolation or exposure to social stigma, emotional reactions and psychological stresses are expected to occur in medical staff .

PSYCHOLOGICAL IMPACTS

- ▶ Similar to SARS and H1N1 studies, in COVID-19 epidemic, nurses and medical technicians experience more stress than doctors .
- ▶ The spread of COVID-19, like SARS and influenza phenomena, causes significant stress in one-third or one-half of HCWs .
- ▶ In a study by Zhu et al. through the COVID-19 epidemic in Wuhan, China, in February 2020 on 5062 medical staff: levels of stress, depression and anxiety were reported as 29.8%, 13.5% and 24.1%, respectively.
- ▶ The factors that played a role in development of these symptoms were female gender, long working experience, underlying chronic diseases, and a history of psychiatric disorders in the individual and family levels.
- ▶ The support of hospital officials and wards and the existence of complete protective equipment were identified as protective factors against psychiatric symptoms.

PSYCHOLOGICAL IMPACTS

- ▶ In contrast to depression symptoms, adjustment of logical work shifts and logistical support and comfortable hospital stay have been protective factors and history of alcohol consumption and definite or suspected diagnose of infection to COVID-19 have been a risk factor for depression.
- ▶ In regard of anxiety symptoms, living with family members and worrying about themselves and their family members to be infected with COVID-19 were known to be a risk factor, in addition to providing logistical support in the hospital and the convenient accommodation protects staff from anxiety .

PSYCHOLOGICAL IMPACTS

- ▶ A study by Lai et al. which is done after the first study, examined the mental health of 1275 health care workers in 34 hospitals between January and February 20th, 2020 :50.4% experienced depression symptoms, 44.6% anxiety symptoms, 34% insomnia and 71.5% stress symptoms .
- ▶ Nurses, women, frontline medical staff, and those working in Wuhan showed more severe symptoms

PSYCHOLOGICAL IMPACTS

- ▶ It is important to note that not only people are under stress in such a pandemic, but also it has been observed that until two years later, HCWs in the hospital have symptoms of chronic stress compared to their other colleagues .
- ▶ These symptoms include occupational burnout (19-30%), depression symptoms (20-45%), increased smoking and alcohol consumption (8-21%) .

PSYCHOLOGICAL IMPACTS

- ▶ The emotional impacts of pandemics are a spectrum of mild symptoms to the mental disorders which have negative effects on the quality of life.

The psychological presentations of stress in HCWs can be listed as:

- ▶ PTSD
- ▶ Depression
- ▶ Anxiety
- ▶ Panic disorders
- ▶ Behavioral disorders
- ▶ Burnout
- ▶ Complex emotional reactions and psychological distress
- ▶ Attention, cognitive and clinical decision-making impairment causing medical errors and incidents
- ▶ Increased smoking, drinking or problem behavior
- ▶ Missing work shift due to stress or illness
- ▶ Unwillingness to work or thinking about resignation

predisposing factors :

- ▶ Quarantine causing loneliness and being away from family and beloved ones
- ▶ Misinformation based on the social media and rumors
- ▶ Financial insecurity and severe losses due to industries and businesses shutdown
- ▶ Hourly updates on death tolls and case numbers
- ▶ Social discrimination and feeling stigmatized by the community for carrying an infection
- ▶ The matter of uncertainty: about the severity of infection and doubt in the treatment effectiveness
- ▶ Workload and a sense of being overwhelmed: increasing number of patients despite new guidelines and policies

predisposing factors :

- ▶ PPE and claustrophobia
- ▶ Inaccessibility to medications
- ▶ Women
- ▶ Work experience: more than 10 years of working
- ▶ Concomitant chronic diseases
- ▶ History of mental disorders or recent psychological trauma
- ▶ Family members or relatives confirmed or suspected of infection
- ▶ Overcrowding
- ▶ Poverty: inadequate housing, malnutrition, immune suppression, and poor health status
- ▶ Cultural background and personal daily life circumstances
- ▶ Traditions regarding health practices

predisposing factors :

- ▶ Trust in government and public health systems
- ▶ Chronic economic deprivation accounting for lowered self-efficacy and decreased sense of control over life events
- ▶ Working in the frontline
- ▶ Perceived risk of self-infection and loved ones especially children
- ▶ More experience results in less stress
- ▶ Skilled and well trained workers result in less stress
- ▶ Coping mechanism: avoidance and self-blame coping more psychological insult
- ▶ Nature of disaster and pandemic: scale and severity, transmission way (airborne or droplet), morbidity, mortality and the so forth
- ▶ Opportunity for being ready for pandemic

predisposing factors :

- ▶ Weak system support and being under-resourced
- ▶ Being much publicized in the mass media
- ▶ Altruistic acceptance of work-related risks accounts for less stress
- ▶ Age: under 50 years and higher stress levels
- ▶ Marital status: being single more stress
- ▶ Educational level: high education causing higher fear
- ▶ Greater family responsibilities increase a person's level of fear; married hospital employees reported elevated fear
- ▶ Nurses
- ▶ Hospital level: tertiary hospital workers less mental side effects
- ▶ Intermediate professional title

MENTAL HEALTH PROMOTION INTERVENTIONS

- ▶ *Individual interventions*
- ▶ *Organizational interventions*

Individual interventions

- ▶ HCWs who work specifically in quarantine with COVID-19 patients need adequate social support to be able to maintain their mental health and provide psychological support to patients .
- ▶ It may be necessary to use individual psychological reinforcement models, such as resilience enhancement, instead of disorder-oriented clinical models .
- ▶ Resilience is the ability to limit the impact of stressful occasions through anticipation and preparation or bounce back once a disruptive event occurs
- ▶ In order to maintain effective functioning, their mental state needs to be monitored and continuous interventions should be available timely to support them.

Individual interventions

- ▶ The Anticipate, Plan and Deter (APD) responder risk and resilience model is an effective way to understand and manage psychological effects in medical personnel, which manages well the stress associated with the perceived risk.
- ▶ In this model, medical personnel are taught about stress by focusing on stressful events, and in this training, they have the opportunity to design a specialized resilience program and then learn to use it in real situations.
- ▶ The Folkman and Greer model is mostly used to maintain psychological well-being in chronic diseases through the understanding, and process of adaptation .
- ▶ It is appropriate to develop and use electronic mental health assessments due to the restrictions of close personal contacts and the risk of spreading virus in individual communications.

Step 1 - Anticipate

Understand Your Stress Reactions

There are two main kinds of responder stressors you can expect. Planning your response to these stressors will maximize your resilience during disasters.

"Traumatic Response Stress" can include exposure and loss factors such as:

- Witnessed severe burns, dismemberment or mutilation
- Witnessed pediatric death(s) or severe injuries
- Witnessed an unusually high number of deaths
- Responsible for expectant triage decisions
- Injury, death or serious illness of coworkers
- At work, you were treated for injury or illness
- Felt as if your life was in danger

These current stressors may also be "Trauma Triggers", activating memories of other past experiences or losses. "Cumulative Response Stress" can include factors such as:

- Exposure to patients screaming in pain/fear
- Forced to abandon patient(s)
- Unable to meet patient needs (such as patient surge, crisis standards of care)
- Direct contact with grieving family members
- Asked to perform duties outside of current skills
- Hazardous working conditions (such as extreme shift length, compromised site/safety or security or lack of PPE)
- Unable to return home
- Worried about safety of family members, significant others or pets
- Unable to communicate with family members or significant others
- Health concerns for self due to agent/toxic exposure (infectious disease, chemical, radiological/nuclear, etc.)

These current stressors may also be "Trauma Triggers" that activate memories of past experiences or losses.

Step 2 - Plan

Plan for Your Response Challenges

Your Expected Stress Reactions

List your stress reactions. These may include thoughts, feelings, behaviors, and physical symptoms.

- 1.
- 2.
- 3.
- 4.
- 5.

Your Expected Response Challenges

List what you think the most stressful aspects of working on a disaster will be for you. (If you are unsure what you might find stressful, review situations typically experienced by healthcare workers shown on the *PaySTART Staff Self Triage System* in this brochure.)

- 1.
- 2.
- 3.
- 4.
- 5.

Your Social Support Plan

Who is in your social support system? List people who can support you and who you can provide support to during and after a disaster:

- 1.
- 2.
- 3.
- 4.

Your Positive Coping Plan

Everyone has different ways of coping with stress. What positive ways of managing stress works best for you every day? What positive ways of managing stress do you think will work for you following a disaster? Strategies you might consider include limiting your exposure to media reports, focusing beyond the short term, taking frequent short breaks. List your healthy coping plan here:

- 1.
- 2.
- 3.
- 4.

Your Resilience Factors

People often find that there are some positive things about working on a disaster. For example, people might feel good about being able to "make a difference" when their community needs them most. Positive resilience factors help you as a healthcare worker to cope better with the stressors associated with responding to a disaster in your facility or community. Below please list positive factors that might give you a sense of mission or purpose following a disaster:

- 1.
- 2.
- 3.
- 4.

Step 3 - Deter

Monitor your stress reactions and activate your Coping Plan (see step 2) early to maximize your resilience during a disaster response. Fill out and review the PsySTART Staff Self Triage form at the end of the disaster (for a one day disaster response) or at the end of your shift each day (for a disaster response that occurs over a number of days). If you have any of the PsySTART stress factors present:

Review your Personal Resilience Plan, including activating your positive coping plan. If you have not already done so, consider your co-workers as part of your Social Support Plan. Know who to call in your facility if you find that you are dealing with a particular stressor(s) or your reactions to the stressors are intense, disruptive, or lasts longer than a few days or weeks.

Consider visiting Bounce Back Now™ a confidential internet self-help tool as an additional resource for your post disaster coping at: <http://cent.musc.edu/>

Monitor your stress during the disaster response and activate your responder resilience plan early. Review and revise your plan to maximize your resilience.

PsySTART Staff Self Triage System

Please check if you've experienced any of the following more than usual at your workplace, due to the incident.

1. WITNESSED SEVERE BURN, DISMEMBERMENT, OR MUTILATION?	<input type="checkbox"/>
2. EXPOSURE TO PATIENTS SCREAMING IN PAIN/FEAR?	<input type="checkbox"/>
3. WITNESSED FRIGHTENING DEATH(S) OR SEVERE INJURIES?	<input type="checkbox"/>
4. WITNESSED AN UNUSUALLY HIGH NUMBER OF DEATHS?	<input type="checkbox"/>
5. FORCED TO ABANDON PATIENT(S)?	<input type="checkbox"/>
6. UNABLE TO MEET PATIENT NEEDS? <small>(such as patient needs, initial demands of care and loss of resources.)</small>	<input type="checkbox"/>
7. RESPONSIBLE FOR EXPECTANT TRAGIC DECISIONS?	<input type="checkbox"/>
8. DIRECT CONTACT WITH GRIEVING FAMILY MEMBERS?	<input type="checkbox"/>
9. ASKED TO PERFORM DUTIES OUTSIDE OF CURRENT SKILLS?	<input type="checkbox"/>
10. EXPERIENCE HAZARDOUS WORKING CONDITIONS? <small>(such as safety and health, compromised safety/security, lack of appropriate PPE or other issues)</small>	<input type="checkbox"/>
11. INJURY, DEATH, OR SERIOUS ILLNESS OF CO-WORKERS?	<input type="checkbox"/>
12. UNABLE TO RETURN HOME?	<input type="checkbox"/>
13. WORRIED ABOUT THE SAFETY OF YOUR FAMILY MEMBERS? <small>SIGNIFICANT OTHERS/PETS?</small>	<input type="checkbox"/>
14. UNABLE TO COMMUNICATE WITH FAMILY MEMBERS/SIGNIFICANT OTHERS?	<input type="checkbox"/>
15. HEALTH CONCERNS FOR SELF DUE TO AGENT/TOXIN EXPOSURE? <small>(Infectious Disease, Chemical, Radiological, Nuclear, etc.)</small>	<input type="checkbox"/>
16. AT WORK, WERE YOU INJURED OR BECAME ILL AND TREATED?	<input type="checkbox"/>
17. DIRECTLY IMPACTED BY INCIDENT AT WORK OR AT HOME? <small>(if yes, attach your employee health and well-being unit number)</small>	<input type="checkbox"/>
18. FELT AS IF YOUR LIFE WAS IN DANGER?	<input type="checkbox"/>
19. OTHER CONCERNS (SIC):	<input type="checkbox"/>

Know whom to call for additional support such as mental health, spiritual care or Employee Assistance Program resources. In the space below, write the contact information for the person or program in your facility that is responsible for providing mental health support for healthcare workers following disasters:

1.
2.
3.
4.

Listen, Protect, and Connect

Below are the three steps of "Psychological First Aid" that you can use to provide emotional support to those around you following a disaster. For more information on how to provide Psychological First Aid: download the LPC PFA guide at

<http://www.emergencymed.ucj.edu/PDF/PFA.pdf>

1. Listen

- Let those you care about know you are willing to listen and talk about what happened.
- Make the first move.
- Take time to talk.
- Understand silence is OK.
- Share reactions.
- Check back often.

2. Protect

- Help people locate the basics such as shelter, food, community resources.
- Answer questions about what happened.
- Support their actions towards recovery.
- Limit exposure to upsetting sights and noises wherever possible.
- Encourage healthy behaviors.
- Develop a safety plan.

3. Connect

- Providing a sense of support and connection to others is perhaps the most important thing anyone can do after a disaster.
- Reaching out to family, friends, co-workers and neighbors can help you and those around you "bounce back" from a disaster.
- Offer to lend a hand to people around you who seem to need help the most.

Building Your Responder Personal Resilience Plan™



Maximizing Resilience For Healthcare Workers



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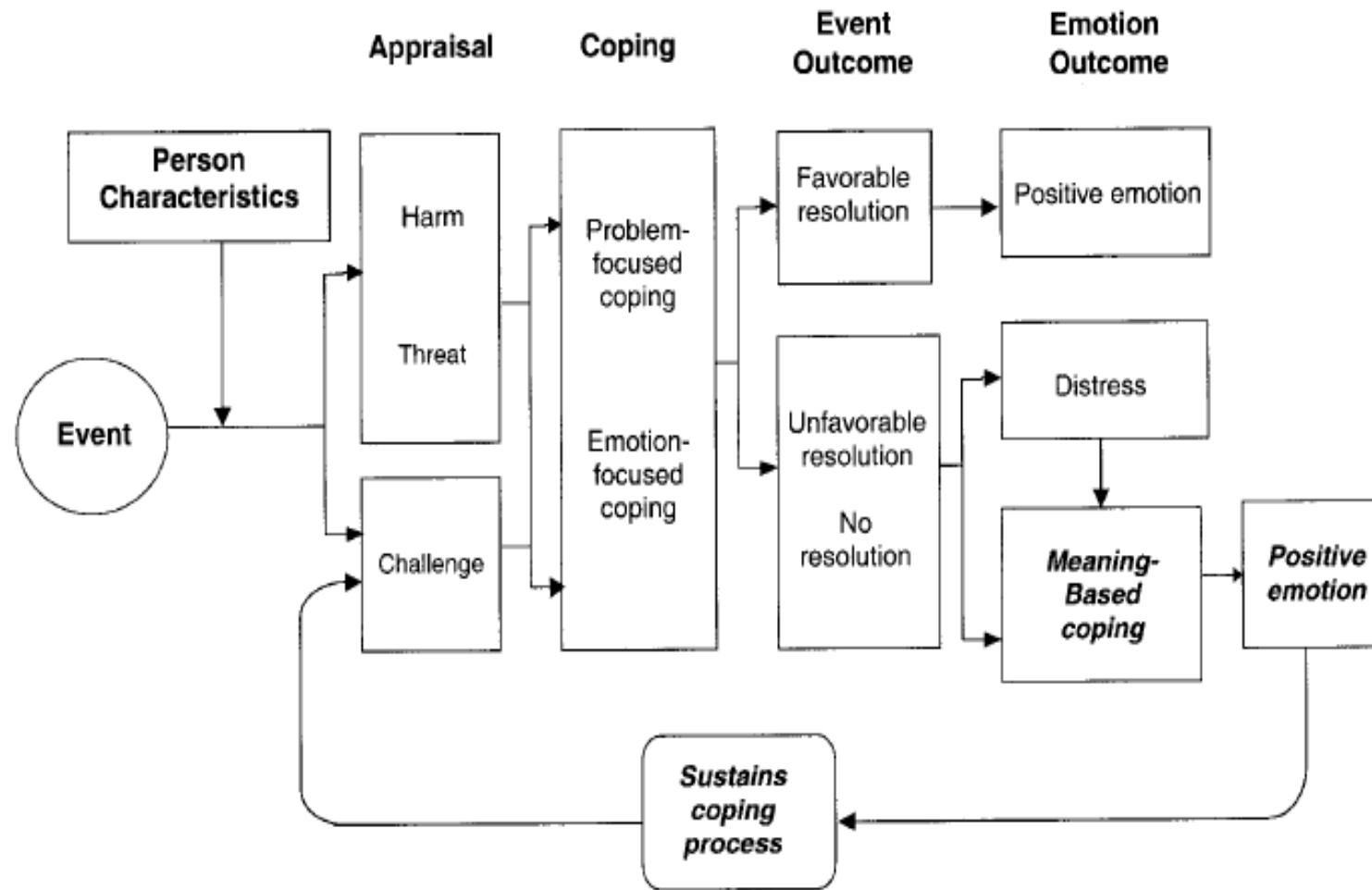


Figure 1. Theoretical model of appraisal and coping process.

MENTAL HEALTH PROMOTION INTERVENTIONS

- ▶ In addition to application of individual and social psychological interventions, various methods of controlling and reducing infection and protecting staff can be effective in decreasing the anxiety of health care workers and improving their mental health.

Organizational interventions

- ▶ The main purpose of research studies in this field is to alarm health administrators to have proactive plans in three different stages of each disaster since any stress-related disorder can cause suffering for HCWs attention, cognition not to mention clinical decision-making, which would have devastating results.
- ▶ The three stages are namely: pre-pandemic phase, throughout the pandemic, and finally after the event.

Organizational interventions

- ▶ The main recommended systematic interventions regarding the psychological health of medical staff in different pandemics, such as COVID-19 can be summarized as below :
- ▶ Having an action plan for recovery
- ▶ Designing specific support models addressing coronavirus dilemmas and misinformation
- ▶ Using telemedicine and distant counseling; helping patients and personnel
- ▶ Facilitating the use of the Media and video chats considering loneliness during social and physical distancing period
- ▶ Conducting researches to assess psychological impacts of disasters on HCWs to determine the risks and predisposing factors to have a clear roadmap mitigating its negative effects
- ▶ Considering measures for full coverage of frontier departments and hospitals regarding protection against nosocomial infection, reasonable shift schedule, establishing backup, reserves and logistic supports like PPEs, acceptable places for staff to rest, mental support by deployment of psychologists and so forth

Organizational interventions

- ▶ Arranging 1) psychosocial response teams: including administrators and public relations officer to bridge the gap between hospital and the general public, 2) Psychological intervention technical support team: to plan rules, guidelines, protocols and executive governance from a psychological perspective, 3) Psychological intervention medical team: psychologists participating in clinical psychology and emotional support for health workers and patients, 4) Psychological hotline teams working as volunteer assistants on the phone to address psychological emergencies.
- ▶ Having protocols to steer social supports and charity activities during pandemic period.
- ▶ Planning to monitor medical staff's mental condition in a timely manner to assess their risks, resilience and wellbeing.
- ▶ Being honest with the staff about the real situation and shortcomings as well as discussing with HCWs bilaterally, clearly and openly to address their preoccupations

Organizational interventions

- ▶ Promoting Health campaigns among frontiers to share their emotions, experiences, ideas and the like .
- ▶ Leadership strategies such as backup plans, flexibility, personnel adaptation skill training, founding relational reserves by setting interdisciplinary and collaborative meetings, sharing the workload and responsibilities fairly, giving trustees the opportunity of decentralization (magnet hospital) in decision-making regarding different tasks like work scheduling, effort-reward equality and the so forth.
- ▶ Institutionalizing a mixture of care models like virtual and electronic emotional/mental support clinics .

CONCLUSIONS

- ▶ As anxiety, depression and stress symptoms increase during and after a pandemic .
- ▶ Maintaining the well-being of health care providers and their effective performance, requires monitoring and providing services in terms of mental health before, during and after the pandemic.
- ▶ Preparing for a COVID pandemic requires attention to individual and organizational processes.
- ▶ Apart from social and organizational support, enhancing individual abilities and resilience can make tolerance of conditions easier and reduce its side effects.
- ▶ Interventions to improve mental health appear to be essential for health care workers facing COVID-19, especially for women, nurses, and frontline personnel.

Thank You for your Attention