Original Article

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TANAFFOS

Evaluation of Positive Effects of COVID-19 Pandemic on Emergency Physicians: A Qualitative Study

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Background: Emergency physicians (EPs) in a disaster situation should adopt coping strategies that consider the positive aspects. We aimed to evaluate the positive aspects of our EPs' thoughts and personal and professional lives during the COVID pandemic.

Materials and Methods: This qualitative study was conducted at Tehran University of Medical Sciences-affiliated hospitals from November 2022 to July 2023. The attending EPs were interviewed using a semi-structured Interpretative Phenomenological Analysis method. Three pilot interviews were conducted by the interviewer. Two authors assessed the saturation and derived codes, and any conflicts were resolved by a third author through thematic analysis of the transcripts.

Results: Nineteen EPs, mostly male (69%) and assistant professors (52%), were incorporated into our study. The themes and subthemes were thoughts (to live in the present, determinism versus libertarianism, and faded values became more evident), personal life (the opportunity for social distancing and wellness and work-life balance), and professional life (decreased non-COVID patient volume, interpersonal relationships, sense of community, disaster management, improved adherence to hygiene, online usage, research, and opportunity for international education).

Conclusion: We found positive effects on the thought process and personal and professional lives of EPs, which could lead to the use of coping strategies.

Keywords: Qualitative study; Coronavirus; Emergency medicine; Work-Life balance

INTRODUCTION

The COVID-19 pandemic (CP) is an infectious crisis that has affected health systems worldwide. Its history and epidemiology are well-understood so far; future preparedness is imperative (1). According to Lazarus, the process of a three-stage stress response involves primary appraisal, perceiving the threat, considering responses via secondary appraisal, and the utilization of coping strategies (2).

The Brief COPE scale of assessment of coping strategies has been broken down into problem-focused, emotion-focused, and less useful measures (3, 4). Problem-focused coping entails active coping, planning, suppression of competing activities, restraint coping, and instrumental social support. Emotion-focused coping includes emotional social support, positive reframing, acceptance, denial, and

turning to religion. Less useful measures include venting, behavioral disengagement, and mental disengagement (2).

Emergency physicians (EPs) face peculiar demands, and their coping methods also vary from the general population. (5-7). Before CP, several studies have demonstrated different strategies, with either problem-focused or emotion-focused predominating (8-10). A 2019 systematic review reported two risk factors for developing psychiatric issues among healthcare workers: lack of social support and maladaptive coping (11).

In CP, a sample of 260 EPs reported that planning, restraint coping, acceptance, and social support were commonly used strategies, whereas avoidant strategies were associated with depression, anxiety, insomnia, and post-traumatic stress. Interestingly, applicants of the planning method developed more depression and anxiety because of the inefficacy of planning in situations that were not predictable. In addition, humor significantly reduced mental health problems (12). A survey conducted on EM residents, fellows, and faculties over six separate months showed that there were overall more active coping strategies than avoidant ones. After six months, participants at different academic levels showed no differences. These changes over time may suggest the promotion of coping strategies (5).

EPs are essential in disaster responses (13). EPs report some of the highest levels of burnout associated with workload, loneliness, and moral dilemmas (14, 15). This negative impact needs to be addressed with recognition of the positive aspects of their work. (16). New ecological awareness, learning in medical education, and new strategies for building resilience have emerged from the COVID-19 pandemic (5, 6, 17-19).

In this respect, the present qualitative investigation explored how positive features of the disaster experience (beliefs, thoughts, and insights) could enhance the quality of both personal and professional life and satisfaction with one's profession among EPs.

MATERIALS AND METHODS

Study design

We used the semi-structured Interpretative Phenomenological Analysis (IPA) method, which was appropriate to explore the experiences of the participants (20). Qualitative description allowed participants to describe the meaning of a particular phenomenon—positive experiences and thoughts of EPs during the COVID-19 pandemic—after which the analytic work produced a deeper understanding and then an interpretation of those realities. Ethical approval was obtained from the hospital research ethics committees (IR.TUMS.IKHC.1401.024).

Participants

To attain various knowledge and experiences, we invited clinical attending EPs from three teaching hospitals affiliated with Tehran University of Medical Sciences (Imam Khomeini Hospital Complex, Shariati Hospital, and Sina Hospital). During the COVID-19 pandemic, these EPs were responsible for visiting an average monthly visit rate of 50000 patients, including 500 potential COVID-19 patients per day (21). The interviews were conducted between November 2022 and July 2023, two years after the outbreak. Through purposeful sampling (22), potential participants were a mix of age, sex, academic degrees, hospital, and clinical experience. We invited participants by phone and discussed the importance of the study, the privacy of their data, and their preferred place and time for the interview. We informed them that their participation in the interview would be considered as their consent for the study, and written consent (before the interview) was obtained from all participants. We informed participants of the voluntary nature of the research and their right to withdraw at any time. We assured participants that all the data would be handled confidentially and anonymously.

Those willing to participate in a semi-structured interview later received the information letter and explanatory statement about the interview. We negotiated directly with each participant to determine the time and place of the interview. We stopped recruiting participants

when further interviews did not significantly deepen our understanding of participants' perspectives on the phenomenon being explored.

Data collection

We contacted and invited 19 EPs to participate in individual interviews. We developed the interview guide, which included the purpose of the interview, the participants, and the structure of the interview (introduction, questions, probes, and recording). We reviewed and discussed the interview questions with the research team. Then, the interviewer (MS) piloted with one participant from each hospital to enhance the data collection's appropriateness, clarity, and rigour. After these pilot interviews, the transcripts were reviewed by the team to refine interview questions.

The interviewer (MS) conducted each interview for about 30-45 minutes and continued interviews until data saturation. Two researchers (ME and MS) independently reviewed the transcripts to ensure data saturation. With participants' consent, all interviews were audio-recorded.

The interviewer started the session by greeting the participant and explaining why we were conducting the investigation. He asked the participant to answer the initial core question to share their experience during the COVID-19 pandemic and follow up on how it was for them. We clustered participants' experiences based on the effect of the COVID-19 pandemic on (a) thoughts, (b) personal life, and (c) professional life. The interviewer asked specific branching questions regarding aspects of the COVID-19 pandemic's impact on EPs. Then, they asked follow-up questions to obtain their knowledge and experience about the positive features of the disaster experience for personal and professional life.

Moreover, the interviewer used questions to simulate conversation flow. The interviewer took notes to capture contextual information and handled audio recordings during interviews. The interviews were conducted in Persian, the national language of Iran.

Data Analysis

We performed thematic coding and recoding of transcripts in a back-and-forth process. The interviews were transcribed verbatim, and two coders (M.S. and M.E.) independently analysed the extracted data. Coders identified and labelled topics and similarities and differences in interview data (such as quotations) and annotated notes. Then, they listed codes, their definitions, and examples (data coding) and also discussed any coding discrepancies until consensus was achieved. Afterwards, coders searched, reviewed, defined, and named the themes in the coded data. Following that, coders produced the thematic map and final report through a discussion within the research team. Data and coding were shared with the most senior researcher (M.A.) to resolve conflicts.

In more detail, we followed 6 phases of the thematic analysis: (a) Familiarising with data, (b) Generating initial codes, (c) Searching for themes, (d) Reviewing themes, (e) Defining and naming themes, and (f) Producing the report. We conducted and reported the study according to the Consolidated Criteria for Reporting Qualitative Research (COREQ) checklist.

For the triangulation of the study, two coders carried out thematic coding and data analysis, and the research team provided feedback on the coding and thematic map. We described our sampling, step-by-step research procedures, and code development, and took field notes to ensure dependability and confirmability. To ensure transferability, we provided dense descriptions of the participants' characteristics and experiences by including contextual information with representative quotes.

RESULTS

Study participants were nineteen attending EPs, of whom six were female (31%) (Table 1).

Negative expressions that were irrelevant to the study questions were not included in the data analysis, and we grouped data into three themes: Thoughts, Personal life, and Professional life (Table 2).

Table 1. Demographic data

		Number (percent)
Age (mean)		40
Sex	Male	13 (69)
	Female	6 (31)
Hospital	IKHC*	4 (21)
	Sina	9 (47)
	Shariati	6 (32)
Academic degree	Assistant professor	10 (52)
	Associate professor	9 (48)

*: Imam-Khomeini hospital complex

Thoughts

To live in the present

Some participants shared experiences wherein a few young patients with no history of illness died. These experiences heightened one's consciousness of the fragility of life. Some participants indicated a lessened fear of their own death as it was regarded as part of the processes in human life. Instead of fear, they felt gratitude for this present moment of living. They hence viewed investing in family and personal growth as more invaluable than simply striving for a profit.

Moreover, the participants reported gaining more self-esteem from witnessing their ability to change some of their daily routines during COVID-19. They used this to gain the confidence to plan their life without much constraint.

Determinism versus libertarianism

The participants' perception of freedom had changed. At times, events ran out of control and asserted a feeling of determinism to the participant. On the other hand, when they observed that despite working more than before, with more shifts and patients, they were able to treat many patients. Then, with the discovery of a vaccine, the spread of the disease decreased, and they once again experienced a sense of freedom and the ability to change their environment. Overall, they considered this relative sense between determinism and freedom as constructive.

Faded values became more evident

After CP, interviewees had experiences that led them to realize that human values, which they generally believed were forgotten, still exist. In a time when people often live on their own, they observed friends and relatives inquiring about each other through phone calls or emails from near and far. They also witnessed ordinary people and HCWs willing to make sacrifices for their fellow humans, establish charities, and generously provide financial and non-financial aid. These observations collectively evoked in them a sense of living in a global village where people are interconnected.

Personal life

The opportunity for social distancing

Although social distancing was burdensome and placed many constraints, it could be an opportunity for self-improvement by shifting the time used for useless social interactions into reading, exercising, and family gatherings. Some of the participants realized that such periods create favourable conditions for personal growth and the advancement of postponed plans.

Wellness and work-life balance

Some participants explained that they did not pay as much attention to their need for sufficient sleep, rest, and exercise before and afterwards reported feeling more energized during shifts after having practised some of the wellness behaviours. They became more aware that their chances at healing were possible only if they kept themselves physically and psychologically intact. For this reason, they always talked about how they started engaging in exercises again after a long time and went hiking with their families, which helped them have a closer relationship with their spouses and children.

Professional life

Decreased non-COVID patient volume

Several participants reported that, since there were fewer patients aside from COVID-19 patients, they felt that they needed to bear less pressure while working during their shifts. Because more available time could be devoted to diagnosing and treating sickness and teaching residents and medical students, the feeling of more efficiency gave way.

Table 2. Examples of themes and subthemes

Thoughts	
To live in the present	"When you see your life may be destroyed in a moment, you will find out that you should appreciate every day with its moments".
	"I found it is meaningless to be arrogant and to be proud of your money and power. I decided to invest more in my family and self-improvement".
	"I found out we are not invulnerable when an invisible creature can change our lives".
	"When I see nothing happened when I did not do some of my daily routines, which became a kind of ritual, it gave me a sense of more freedom and power".
Determinism versus libertarianism	"One virus comes out of our control and changes our lives. We, as human beings, try hard to combat it and feel losing sometimes. The invention of vaccines makes us feel winning".
Faded values became more evident	"We see that there are still good humans in the world who could sacrifice themselves for others".
	"We found that people around the world are helping each other, and we are living in a global village".
	"We have learned to pay more attention to each other, and most people ask more about others' health and mood in several ways, such as phone calls or e-mail".
	"There were continuously existing charities every day that helped hospitals with financial and non-financial issues."
Personal life	
The opportunity for social distancing	"While your surroundings get into adversity, it's time to empower yourself and do your postponed plans".
	"After several years, I could bring my family members to mountain climbing; it gave us a sense of well-being".
	"After several years, I could spend more intimate time with my wife".
Wellness and work-life balance	"COVID alarmed us that if we want to help other people, we should be healthy in the first place".
	"I forgot the necessity of exercise. I wrote its time on my schedule and began after several weeks of CP crisis".
Professional life	
Decreased non-COVID patient volume	"Fewer non-COVID patients presented to our emergency room, which decreased the overload, provided more time for us to care for them, and to teach residents".
Interpersonal relationship	"Attending's support of residents in psychological and financial aspects was one of the positive experiences".
	"We understood how much we are dependent on people's cooperation and compliance to be successful".
	"Patients appreciated our hard work and had more empathy with healthcare providers, which caused their more satisfied even with more limitations in space and equipment".
	"We were mandated to have more cooperation with our nurses and other specialties, which gave us an unexpected and inexperienced sense of more intimacy".
	"Other specialties understood how EP's guidance could help the community and their hospital, which made a better relationship between us and gave us a sense of pride".
	"Other specialties saw attending EPs did not use unapproved drugs".
	"Other specialities saw attending EPs trying hard beside their residents".
Sense of community	"Our staff worked harder when they saw their emergency room was the only refuge for infected people".
Disaster management	"Our arrangement and processes underwent fundamental changes which taught healthcare administrators how to cope and manage disasters like this".
Improved adherence to hygiene	"We previously knew personal protection strategies and did not apply them properly, but now we see how they could prevent contamination. In addition, during periods with low incidence of COVID-19, we still use the strategies which cause a lower rate of other viral infections as well".
	"My spouse washes her hands more frequently than she used to. I am more comfortable now".
Online usage	"We had no infrastructure for implementing online learning (OL), and COVID-19 mandated us to build that".
	"Several ways of using cyberspace to facilitate our education and work, like game-based learning, robotic surgery, and telemedicine, were applied".
Research	"We have learned to update ourselves regularly, to apply new protocols in our setting, and to explore our clinical and management issues by an evidence-based method".
Opportunity for international education	"There were free online courses for different topics in high-quality universities, such as mechanical ventilation at Harvard University, which we could incorporate".
	"Immigration for studying in other countries, especially the United States, became easier".

Inter-personal relationship

During CP, participants observed changes in their relationships with others, including residents, patients, and colleagues. The residents became closer to their faculty to the extent that the residents in other specialties praised them. Patients and the public's gratitude towards EPs instilled a sense of heroism in them. Besides that, other professionals and managers valued the EPs more since they realized EPs ' plans within these situations were reliable and based on scientific techniques.

Sense of community (SOC)

The common goals for ED staff at all levels were treating the patients and resolving the crisis. The collaboration on this goal, such as physicians assisting nurses with venipuncture or helping the aides in transferring the patient, elevated their sense of solidarity.

Disaster management

At the outset of the COVID-19 pandemic, the emergency faculty had planned triage and algorithms for patients, including physical space. Thus, they could manage up to hundreds of COVID-19 patients without affecting the management of other patients. The administrators described this as brilliant, intelligent management.

Improved adherence to hygiene

The participants realized that before the pandemic, they knew about personal protective strategies but did not practice them. After the pandemic, adherence to the principles increased to the extent that even with low COVID-19 prevalence, they fully continued with the hygiene practices. Some participants mentioned that after COVID-19, their families and colleagues who lacked proper hygiene had adopted appropriate hygiene practices.

Online usage

The participants shared that in addition to a lack of the necessary infrastructure, they used to hesitate to apply digital platforms for online learning, teaching, and clinical practice. But after the pandemic, the authorities, who formerly found online usage very expensive and impracticable, created opportunities, and we had to learn to use these platforms. This turned out to be a transformational change in our lives because it made our utilization of time much more productive.

Research

Due to the fact that the diagnostic and therapeutic methodologies of COVID-19 were constantly changing, it was necessary for participants to continually study and update themselves. Consequently, they attempted to improve their search skills to find appropriate answers to their questions. Moreover, active writing of medical articles was stimulated to be able to share experiences with physicians from all over the world.

Opportunity for international education

Participation in courses from international universities like Harvard used to be a dream for the interviewees, which became possible during the pandemic. The experience of talking and sharing experiences with specialists in emergency and other disciplines at an international level was really constructive and opened up perspectives for discussions on various topics, even those beyond COVID-19 issues.

DISCUSSION

We have discovered that EPs experienced positive effects across different aspects of their lives. These included improvement in their thoughts, such as the ability to live in the present moment, a better understanding of determinism versus libertarianism, and increased awareness of fading values. In their personal lives, they had been able to practice social distancing and focus on their wellness and work-life balance. Additionally, in their professional lives, EPs reported decreased non-COVID patient volume, improved interpersonal relationships, a stronger sense of community, enhanced disaster management skills, better adherence to hygiene protocols, increased online usage, greater potential for research, and more opportunity for international education.

The positive effects could probably augment intrinsic and extrinsic motivations and coping strategy use, and

prevent burnout. Moreover, grounded-theory qualitative and quantitative observational or interventional studies could be used for further investigation of the topic. We tried to compare and declare every section by explaining the relevant literature as concisely as possible. Although it is unclear to what extent the positive effects we described in this paper will be truly maintained in the minds (23), we hope they will be used to improve EM development, boost motivation, and prevent burnout.

Limitations

1. The participants might have hesitated to share with their residents highly personal details regarding their relationships, substance abuse, or sexual life. However, it is less likely that a person censors a positive experience. In addition, the same or more issues could have existed even if another physician conducted the interviews.

2. This study lacked data about marital status, number of children, any deceased relatives, previous COVID-19 infection, as well as data about burnout, depression, and personality. Other studies in which a psychologist cooperates with participants who do not restrict the data gathering would help.

3. An IPA method cannot answer "why" questions, such as why participants changed their minds and philosophy. For this reason, a grounded theory method would be useful in the future.

Thoughts

The impact of the philosophy on our thoughts on our ethics, motivation, and performance is beyond the scope of this discussion. In relation to our article, CP was introduced as a trigger to bring about nihilistic or religious ideologies into perspective (24). Philosophy determines the spectrum and details of descriptive (moral beliefs) and normative (how individuals should act) ethics (25). So, working hard on a patient would give a HCW positive feelings about helping if he believed his duty was to relieve suffering. This experience is called compassion satisfaction, which is the opposite of compassion fatigue, which causes depression and anxiety (16). This different response to adversity was described in previous studies (26).

Seeing the positive side of mandatory changes during CP in lifestyle got our participants to notice their power of change, which gave them motivation for active coping.

These experiences led to positive reframing and acceptance of confronting life with death, which initiated planning by our participants. Studies reported gradually decreasing fear of infection and death as time passed among EPs (12, 27). The difficulty of reframing and dealing with death could be understood by describing work as "wartime" (28). This acceptance adheres us to the present and reduces the probability of burnout (7). Besides, maybe we could name their response a kind of faith (coping by religious usage) (29).

It seemed that our participants balanced out their insight into the spectrum of freedom. They knew that something was going on that was out of their control, which gave them a sense of acceptance. Some authors described CP as a consequence of and punishment for the damaging activities of humans on the economy (30). Behaviors under this condition are motivated extrinsically, and if radical determinism occurs, avoidant coping and disengagement are the responses (31). However, the participants believed that they should combat CP, which represented their sense of autonomy. The experience of freedom leads to thinking of responsibility, and behaviors under this condition are motivated intrinsically, which could be an escape from the vicious cycle of burnout (31).

The participants were reminded of cosmopolitanism when they saw scarifying volunteer people such as medical and nursing students without any expectation of an advantage (30, 32, 33).

In this regard, the participants received more attention from their friends and relatives, which improved their sense of social support.

Personal life

Whether social isolation can be destructive or constructive depends on the individual's insight into it. In other words, if it were considered a type of misanthropy, it could be a risk factor for Alzheimer's disease (7). But when social isolation was used to decrease distractions to focus on self-improvement, we could name it "unsociable

sociability" (30). Many of our participants referred to their experience of social distancing as an opportunity for studying, exercising, and well-being practices. It seems that they positively reframed the situation to use active coping strategies and planning.

Some of the interviews focused on the positive effects of social distancing on their more intimate relationship with their spouse and children. This is similar to a study on spousal interpersonal relationships in India in 2021, which indicated more love, trust, and emotional support. However, the domestic violence rate was higher, which was influenced by financial problems during CP and alcohol and drug abuse. Of course, the victims would not benefit from isolation from their abusers (30, 34).

There are several other positive effects we could notice in the literature, such as a lower rate of crime, traffic accidents, a reduction in air pollution, and some other infectious diseases (19).

A survey in 2021 among Canadian EPs reported that about 60% of them were not concerned about their mental health (35). Similar studies showed negative changes during CP, such as decreased exercise, increased alcohol and substance abuse, excessive eating, and the use of mobile phones (5, 12, 36). Although these results contradict the increased attention of our participants to health and wellness, they are similar to the Ford et al. study that indicated many EM residents allocated more time to doing things they enjoy (37). EPs in the Demir et al. study used leisure activities as the most important strategy to cope with stress (4).

Professional life

Our participants actively planned for the situation of decreased non-COVID patients to care for them and to teach residents better. A significant reduction in the low-acuity ED pediatric and adult patients related to different specialties over the first weeks of CP (such as trauma, respiratory illnesses, and infectious disease cases). Many EM residents had mentioned that more time in shifts and exposure to more critical care procedures provided more opportunities for training (19, 37-39).

Lower in-person meetings in a more stressful condition might affect the relationship between a teacher and a student. Our participants felt a more intimate relationship during which they supported their residents by helping them in shifts, calling them when they got a COVID-19 infection, offering assistance for their needs, and lending them plenty of money. Although some learning opportunities were definitely decreased for residents during CP, the most profound lesson was taught by observing how senior EPs responded to the disaster and built resilient teamwork (40).

The quality of the doctor-patient relationship is influenced by many factors such as age and sex, noisy environment and crowding, and institutional factors like staff sufficiency. Similar to our participants, many HCWs are celebrated by society for their hard work (41). However, physical distancing and PPE had negatively impacted communication with patients and trust in doctors (12, 42). Another study signified the importance of trust and compliance of the community with the preventive instructions to combat CP (6).

Like descriptions in our interviews, some studies expressed the brotherhood of pain, which brought team members closer together and created a positive view of the EM specialty (28, 37, 43). Society's appreciation of hard work gave our EPs a nice feeling. Although public applause and heroic narratives might increase the willingness of EPs to continue working in their profession (employability) (44), it has brought forth much criticism. Arguments were against defining duties as heroism and believed this narrative legitimized sending soldiers (HCWs) to battles without helmets (insufficient PPE) (25, 45, 46). It is more practical to believe in the notion that "referring to HCWs as heroes is neither necessary nor sufficient for managing their role-related conflicts during epidemics, and the notion of reciprocal social duty does not, on its own, fill the gap" (47).

EPs frequently referred to SOC in our interviews to justify why the same staff behaved and reacted differently during the harder situation of CP. Interestingly, the

positive changes in the group give individuals positive psychological effects such as subjective well-being and life satisfaction that result in a constructive cycle. Groups with more SOC and interpersonal trust act more efficiently during critical incidents (1, 16).

Exhibition of the strength of EM in managing CP was stated by our participants recurrently. We should emphasize a lesson from CP that teamwork, leadership, and clear communication strategies are the fundamental parts of management (processual leadership) (21, 35). The latter defines saving lives in a crisis and effective communication as a milestone, which made it possible to employ a general surgeon for the examination of a COVID patient (33, 48).

Similar to a study among frontline physicians (36), our EPs felt that their adherence and their families' adherence to personal protection strategies increased after CP, even during periods with lower prevalence. However, several studies showed that evaluation of adherence could not be done simply by asking, and also, its rate was not consistent over time(49). Regarding the general population, adults and children, compliance with personal hygiene has been improved with respect to both COVID-19 and non-COVID transmissible infections such as HIV and STDs (19).

Our participants appreciated CP's facilitating online use. Remote work could provide a freer and more comfortable schedule that is related to life and job satisfaction (50). Patients in EDs were accepting the use of telemedicine, which enabled them to see at least the face of one physician (51). A scoping review presented studies on medical education in cyberspace platforms, mostly on OL and simulation topics. Some pros were comfort, flexibility, easier access, and less time consumption for attendance, and cons were less sociability, distraction, and network disconnections(43, 52). One systematic review on EM teaching showed that online and in-person learning may be comparable, and based on the overall low quality of evidence, OL could be used only as an adjunct (53).

Our participants felt that they forced themselves to be more evidence-based. The adaptation of the research community to working extensively on a new disease to solve arising issues was admirable. Other positive aspects in the literature included more utilization of cyberspace in research education, more evaluation of domestic violence, patient and physician well-being, and other ways of communication, and telemedicine employment after CP. In addition, we should not re-experience publications with no or low-quality peer-reviewed submissions, even at the expense of finding solutions at a lower pace (54-56).

Lesser boundaries for studying abroad, through immigration or online courses, were accounted for as a positive aspect by our EPs. Although those promotions in education opportunities were stated by other studies(37, 52), some governments faced problems with more immigrants in their countries (57).

Implications

In 2009, Cicognani et al. suggested increasing the psychosocial competencies of ED workers (irrespective of their profession) in their training courses to enhance their quality of life. Such competencies included "communication and decision-making skills, teamwork, leadership competencies, and crowd management" (16).

Another probably advisable preparation is to screen, interview, and select students, residents, and staff before employing them, with attention to their mental health and personality. No item addresses these issues when selecting emergency residents (58). It may seem impractical to avoid a resident's entrance nowadays, while many positions remain unemployed (59). Nevertheless, we must remember Dr. Lorna Breen, a talented EP who attempted suicide and died while recovering from COVID-19 (60). Suicide risk assessment remains challenging, as about 20% of attempted suicides were performed by those who had no prior psychiatric disorder (61). However, the remaining 80% may be found and could be treated, prevented, and evaluated regarding the ability to tolerate ED stress.

On the other hand, some solutions, such as reducing the number and duration of shifts and increasing the fees provided in the literature, cannot be chosen by a leader in a local ED. Thus, an ED leader is expected to go beyond

general measures such as personal equipment preparation and teaching coping strategies, mindfulness, and stress management techniques. That means he/she should know their colleagues and workers well and coordinate with a psychologist regularly to find the most effective solution for staying productive with creative teamwork. In other words, we should examine our staff's insights and motivations before we experience a disaster. During a crisis, there is not enough time to rely on a person whose motivations would not go beyond his basic needs under the best circumstances, without any considerable stress (a constant low performer). However, this recommendation is beyond the scope of our study and needs a different investigation.

In summary, a disaster is not entirely negative; instead, it opens up opportunities in two ways: intellectual and practical learning. Such an opportunity enables us to reassess our thoughts, appreciate and enhance our prevailing assets, and discover and correct our personal and professional weaknesses. Moreover, by applying what we have learned, we can better prepare in terms of human resources and equipment for future crises and respond more effectively to personal and professional stressors during non-crisis times.

CONCLUSION

We observed that positive effects on the thought process and personal and professional lives of EPs could augment intrinsic and extrinsic motivations, leading to the use of coping strategies and burnout prevention.

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