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Corresponding author:
Cedric Georges Chaiban,
Email: cedricgeorges.chaiban@net.usj.edu.lb.

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The Experience of ER Nurses in Lebanese Hospitals, During the COVID-19 Outbreak: A Qualitative Study

Cedric Georges Chaiban RN, MPH[1,2], Olivia Maamari PhD[1], Sahar T. Issa PhD[3] and Michèle Kosremelli Asmar MHA, PhD[1]

[1]Institut Supérieur de Santé Publique, Faculté de Médecine, Université Saint Joseph de Beyrouth, Beirut, Lebanon; [2]Hôtel-Dieu de France, Emergency Department, Beirut, Lebanon and [3]Department of Environmental Health Sciences, Faculty of Communications, Arts and Sciences, Canadian University of Dubai, Dubai, United Arab Emirates

Abstract

Objective: The increasing number of COVID-19 cases, as well as the overwhelming workload, constitutes a serious occupational health threat to Emergency Room (ER) nurses working on the frontlines. In Lebanon, where unstable socio-economic conditions reign, the Covid-19 outbreak was added to the plethora of daily challenges faced by healthcare workers. The study's objective is to explore how Lebanese ER nurses perceived their duty on the frontlines amid the Covid-19 pandemic.
Methods: This study employed a descriptive exploratory qualitative design. 15 Lebanese ER nurses working directly with Covid-19 patients were recruited from 3 university hospitals in Beirut. Interviews were held for data collection until data saturation. Subsequent analysis was done via coding of the transcribed verbatim.
Results: The findings showed significant gaps related to preparedness, support, and governmental action. Similarly, the frontliners faced serious challenges that increased their stress levels both physically and mentally. Furthermore, some participants were subject to stigma and had to face irresponsible behaviors during triage. Participants emphasized the need to guarantee a safe environment at work, to provide Covid-19 patients with the needed care.
Conclusions: ER nurses struggled during this pandemic while working on the frontlines. They described their experience as not satisfying, with high levels of stress, danger, and challenges.

Introduction

On January 30, 2020, the World Health Organization (WHO) characterized the outbreak of the coronavirus disease-2019 (Covid-19) as a public health emergency of international concern, followed by its declaration as a pandemic in March 2020.[1] Until September 17, 2021, the WHO officially declared 226 844 344 confirmed Covid-19 cases worldwide, including 4 666 334 deaths.[2] Several countries struggled to implement strategies to manage the spread of the virus and apply best practices in surveillance and case reporting. Worldwide, a great number of healthcare workers have been infected with Covid-19, with many dying from this disease. In fact, by March 2021, globally, 17 000 health workers had died from Covid-19. This number is likely an underestimation due to under-reporting of incidences in many countries.[3]

During any pandemic, emergency room (ER) nurses are confronted with many difficulties while caring for patients with unknown infectious status.[4] The rapidly increasing number of confirmed and suspected cases, overwhelming workload, depletion of personal protection equipment (PPE), and feeling of being inadequately supported, may all contribute to traumatizing experiences among ER nurses caring for patients with Covid-19.[5] However, individual preparedness, qualifications, and knowledge, as well as organizational preparedness, moral and technical support, and challenges, can affect a nurse's experience.[6,7]

According to the literature, the perception of a nurse's experience during a pandemic consists of several factors: teamwork, leadership and management, health concerns, as well as preparedness, and knowledge, as well as principles and behavior.[8] Therefore, identifying and providing adequate interventions at an early stage of an epidemic is important to prevent traumatizing experiences among health care staff.[9] In Lebanon, by September 17, 2021, 615 532 confirmed cases had been reported, with 8218 deaths declared by the Ministry of Public Health (MoPH).[10] Furthermore, around 3000 members of the Lebanese healthcare system got infected with Covid-19 up until that date. A year following the Lebanese Covid-19 outbreak, hospitals' capacity for Covid-19 cases increased from 800 to 2220 beds, 1200 intensive care unit beds, and over 1000 ventilators dedicated to Covid-19 patients across 29 governmental hospitals and 136 private hospitals.[10–12] By 2020, over 65% of WHO member states reported to have less than the standard

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of 50 nursing personnel per 10 000 population.[2] In 2018, Lebanon had an estimate of 16.74 nurses per 10 000 population, compared to 114.7 and 194.6 nurses per 10 000 population in France and Belgium, respectively.[13] Thus, Lebanon presents a huge gap in nursing staff compared to its population estimated at around 6.788 million people.[14,15] Those challenges were added to an ongoing socio-economic crisis and the outfall of the Beirut blast of August 4, 2020.[16,17]

This study aims to explore the perception of Lebanese ER nurses of their working experience during the Covid-19 national health response emergency, in order to implement efficient preparedness strategies in Lebanon's hospitals. The findings of this study provide evidence-based recommendations that contribute to improving both individual and organizational preparedness for future disease outbreaks.

Methods

Study design

A descriptive exploratory qualitative design was employed, to capture the personal perspective of participating ER nurses.

Population and sampling

The population of this study consists of ER nurses working on the frontlines with Covid-19 patients since the start of the outbreak. Participants were selected by purposive sampling and presented different sociodemographic characteristics such as age, sex, marital status, and working experience. For qualitative research, no absolute rules determine the estimated number of respondents. When data redundancy is occurred and nothing new is being added during data analysis, sampling will end.[18] In this study, recruitment continued until data saturation. This study included 3 private university hospitals located in Beirut, with 600, 300, and 250 beds respectively. The final number of participants was N = 15.

Data collection and management

The data was collected through semi-structured individual interviews, all conducted by the main author, and took place inside the three pre-selected ERs. In fact, the use of open-ended interviews allows an in-depth exploration of participants' perspectives.[4] An interview guide with 10 open-end questions was designed in Arabic and English. The guide was pilot tested prior to data collection determining the average length of each interview at around 20 minutes. No changes were done following pilot testing. After obtaining the individual authorization of the respondents, the interviews were audio-recorded and were later transcribed. Emerging themes and patterns were identified based on the transcripts, using a narrative inductive analysis approach to highlight important aspects of the participants' stories. Moreover, we sought to further discuss all verbatim collected and extract recommendations stirred from the ER nurses' own perspectives.

Study rigour

Trustworthiness of the study was ensured following criteria by Lincoln and Guba.[19] The credibility of the research findings was established with co-authors checking and peer debriefing. Transferability was ensured via thick descriptions of research process. Dependability was achieved by checking the consistency of the findings. As for confirmability, partakers were invited to freely verbalize their duty experiences and perceptions, as the interviewer did not have any relation with the interviewees.

Table 1. Socio-demographic data

N = 15		Percentage (%)	Number
Age (years old)	21 – 30	46.7	7
	31 – 40	33.3	5
	41 – 50	20.0	3
Gender	Female	66.7	10
	Male	33.3	5
Work experience (years)	1 – 10	53.3	8
	11 – 20	40.0	6
	21 – 30	6.7	1
Work abroad	Yes	93.3	14
	No	6.7	1
Past epidemic work experience	Yes	86.6	13
	No	13.4	2
Marital status	Married	40.0	6
	Single	60.0	9
Number of children	0	73.3	11
	2	26.7	4
Live alone?	Yes	86.6	13
	No	13.4	2
Any vulnerable people at home with you?	Yes	60	9
	No	40	6
Work shift	Day	80	12
	Night	20	3

Results

Socio-demographic characteristics

Data saturation was achieved with a sample of 15 partakers (Table 1). Among all ER nurses, 10 (66.6%) were women and 5 (33.4%) were men. The participants' ages varied between 23 and 51 years-old with a mean value of 33.1 ± 8.3 years old. The nurses included in this study had a range of working experience between 3 and 25 years with a mean value of 10.3 ± 6.1 years old. The majority of the participants (86.6%) had 0 experience working in pandemics. As for marital status, only 6 (40%) interviewees were married and 4 had children. 13 participants did not live alone, with 6 of them living with vulnerable people at home. Finally, 3 ER nurses worked the night shifts, whereas the rest worked day shifts

Theme 1: personal experience

This first theme focused on the perception of ER nurses regarding their working experience during the Covid-19 pandemic. 4 subthemes were identified (Figure 1).

Perceived personal working experience

11 participants described their pandemic experience as 'dangerous, stressful, and scary' and as 'something not normal' in their professional career, directly linked to the lack of previous pandemic experience (participant 11: *'At the beginning, it was a little bit difficult because everything was bizarre and weird; we didn't know how to deal with patients. We were afraid of course.').* They mentioned an increase in workload at the ER that augmented the stress at work

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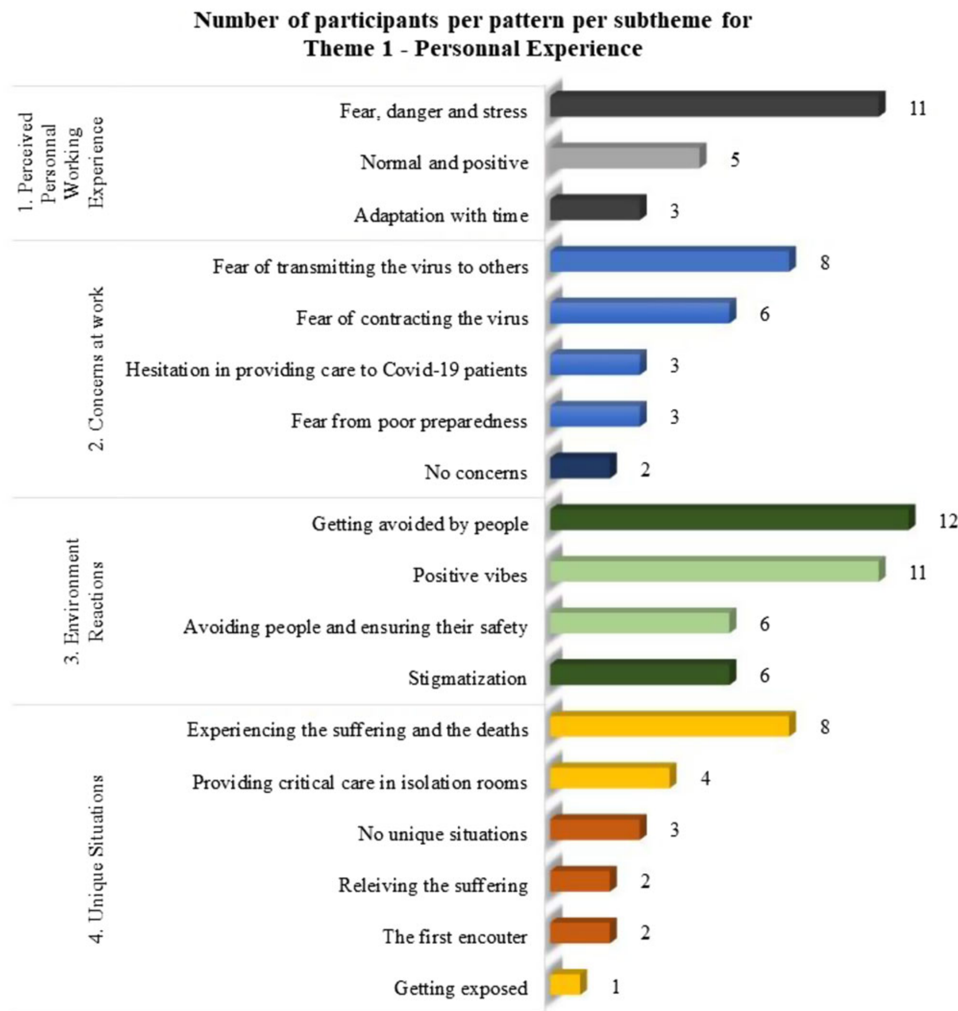

Figure 1. Number of participants per pattern per subtheme for Theme 1 - Personal experience.

physically and mentally. They also cited the danger they felt every day while practicing their duties at the ER, especially at the beginning of the outbreak. However, about a third mentioned that their working experience was perceived as 'normal,' with some considering it as an added value to their nursing career (participant 6: '*Covid-19 is not our first experience in terms of contagious infectious diseases, and so it is our duty to be as vigilant as possible and provide the best care to our patients.*'). Overall, 5 of the participants quoted that the stress and the perceived danger were at their peak at the beginning of the outbreak, when information about the novel virus was still scarce.

Concerns at work. The most common concerns ER nurses expressed were the 'fear of transmitting the virus to others' (8 participants; 53.3%), and the 'fear of getting infected themselves' (6 participants; 40%). They expressed their worries for their own health, as well as the guilt they would feel in case they infected a family member (participant 10: *'My first concern was me testing positive for Covid-19.*'). Hence, the extra effort to stay protected and the hesitation in providing care to Covid-19 patients. Some nurses avoided critical care practice because of fear of high exposure to infected patients. 3 participants spoke about being 'afraid to care for Covid-19 patients.' In addition, 3 participants detailed their 'fear of poor preparedness,' such as lack of PPE, deficient ER premises, and bad staff management (participant 4: '*My biggest concerns are: lack of PPE especially during the ongoing economic crisis in Lebanon; the old structure of the ER department not being qualified to receive a big load of Covid-19 patients.*'*).* Only 2 participants declared that they had 'absolutely no concerns' regarding their frontline duties.

Environment reactions. The major patterns within this subtheme were 'getting avoided by people' and 'people trying to get away from them,' as mentioned by 12 participants (80%). They stated that people 'got scared,' or demanded 'proof of a negative Covid-19 test' before any meeting (participant 15: 'Some neighbors started avoiding me, my home, and my family after they knew that I provide care to Covid-19 patients.'). 6 nurses (40%) began to notice a change of behavior among their neighbors and started experiencing stigmatization (participant 13: 'I did experience some stigma, people calling me 'infected' and being scared to be around me and always avoiding me like I was some kind of a virus vector.'). They even avoided social media, feeling traumatized due to labeling. Some reported that they began 'avoiding people willingly to ensure the safety of their entourage.' Others tried to protect their loved ones by continuing to wear a mask at home. Nevertheless,

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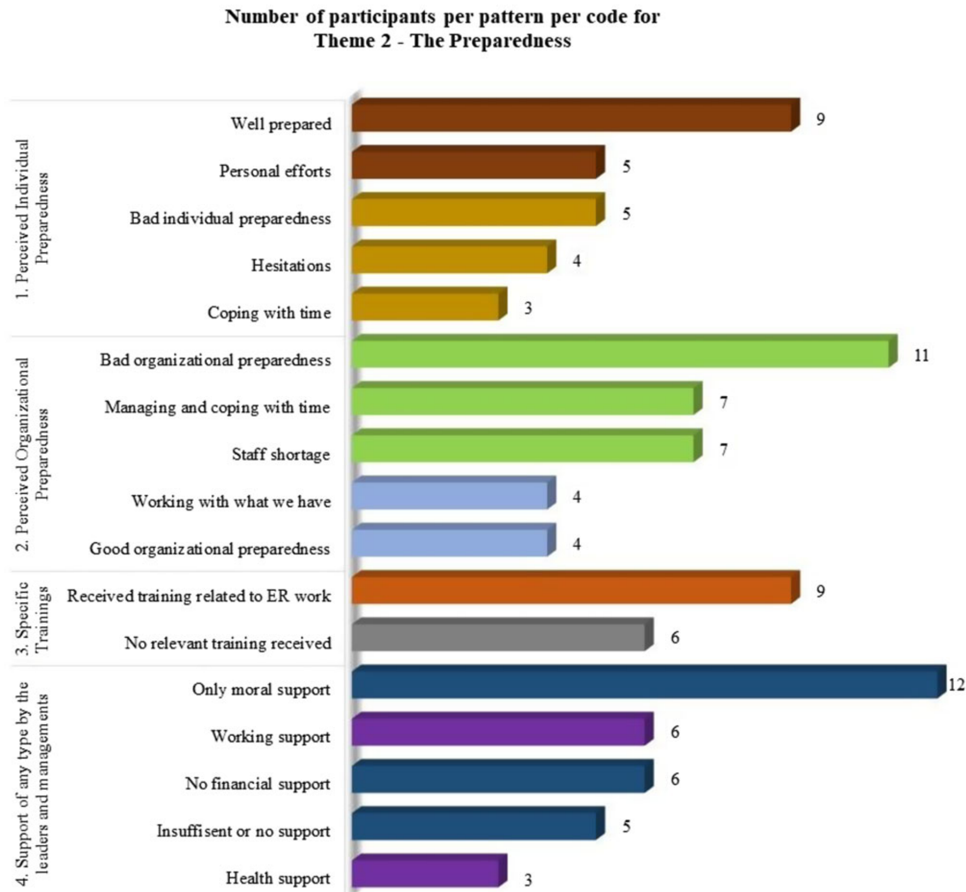

Figure 2. Number of participants per pattern per subtheme for Theme 2 – Preparedness.

11 participants (73.3%) reported receiving positive vibes from their environment, including words of encouragement, support, and praise (participant 9: 'And there are those who praise me and my work and are proud of what I do in my profession; they consider me a hero, capable of doing things no one can do, and that's saving the lives and caring for the ones in need.').

Unique situations. The hardest situations encountered by the frontliners were having to 'experience the suffering and deaths of Covid-19 patients,' calling it a 'bad experience' leading to them 'feeling down, speechless, and lifeless.' 8 participants (53%) noticed that Covid-19 patients were fearful for their health and depressed because of their loneliness at the hospital, but were appreciative of the nurses' courage and care. There was 'no room for empathy' and emotions had to be controlled in order to provide needed quality care. Nurses described the situation as 'unforgettable, heart-breaking, and very emotional' (participant 8: 'It was my first time ever that I wore full PPE. I will never forget that night when I provided care for the first time to a confirmed Covid-19 patient').

Theme 2: the preparedness

The following theme concentrated on the perception of the ER nurses regarding all aspects of preparedness related to their work at the ER during the pandemic. 4 subthemes were identified (Figure 2).

Perceived individual preparedness. 9 of the participants felt that they were, individually, 'well prepared,' 'ready,' and 'motivated' to cope with the emerging challenges of the outbreak. The perception of good individual preparedness included 'having the necessary knowledge, understanding protocols and procedures, being ready to make initiatives, and having a clear state of mind, as well as having the needed physical force and energy' (participant 1: *'I feel like I am well prepared for this Job.'*).

Conversely, 'low individual preparedness' was perceived by 5 participants in this study. They reported that nothing was planned ahead of time and everything escalated so quickly, with many questions related to the virus left unanswered (participant 6: *'We were put in danger and later came to understand the reality of the situation in Lebanon.')*.

Perceived organizational preparedness. 11 participants said that their institutions were not prepared to operate in an acute outbreak, due to the old architecture of their ERs and the lack of isolation rooms with negative pressure, hindering the implementation of best practices. They said that the environment at work was uncertain and risky (participant 11: '*the organizational preparedness at the hospital level was a mess. Everyday there was a new recommendation and change in plans for work.*').

Furthermore, participants spoke about either 'lack' or 'absence' of decision making among managers in their institutions. Organizational decisions were slow and did not incite change urgently in the departments. 'It was chaos,' as participant 10 mentioned, with ERs becoming fully saturated with Covid-19 patients and hospitals exceeding their full capacities.

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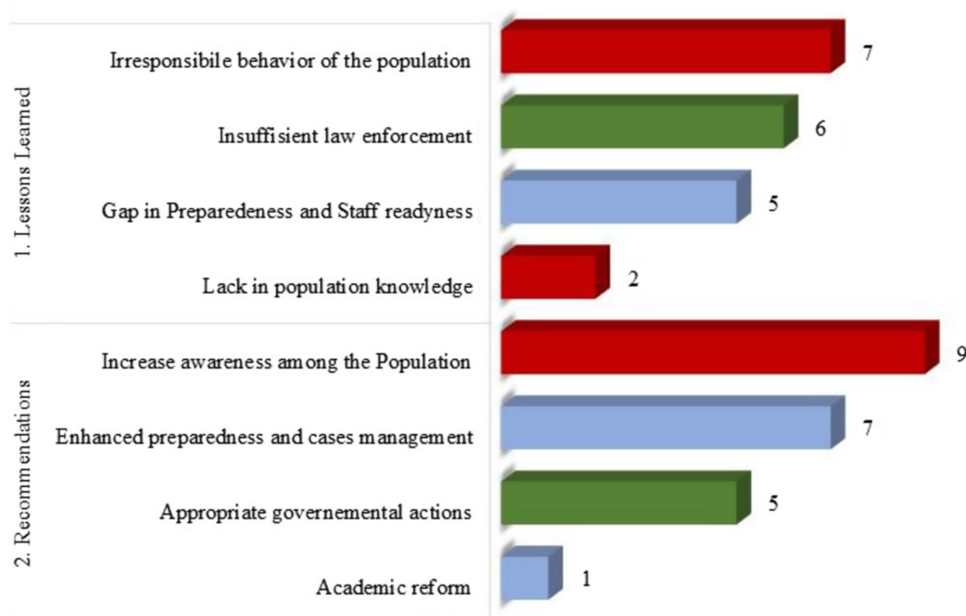

Figure 3. Number of participants per pattern per subtheme for Theme 3 – Recommendations and lessons learned.

4 ER nurses (participants 8, 9, 11, and 14) said that medical equipment, including PPE, were adequately provided to ensure quality work at the ER (participant 8: *'Materials and isolation rooms were prepared, provided, and operational. They were being used perfectly. Even important protocols of best practices were being developed, updated, and implemented.'*). Even when these nurses expressed that their hospitals had begun preparing well for the predicted surge of Covid-19 positive patients, they still focused on 'every day being so unpredictable with care-related protocols constantly changing.'

During the pandemic, participants 4, 6, 7, and 9 mentioned experiencing serious 'staff shortages' in ERs due to some nurses quarantining at home post exposure, while others hesitated or refused to work on the frontline. Finally, only 4 ER nurses expressed their satisfaction with their organizational preparedness and justified it saying, 'everything needed was provided and available,' thus allowing them to deliver quality Covid-19 care services.

Specific trainings for the work. 9 participants indicated that they received trainings related to their ER work during the pandemic. According to them, each hospital provided conferences focusing on new knowledge about the novel coronavirus and related complications, ways of diagnosis, potential treatments, and best practice in nursing care (participant 2: *'Before we started work in the ER with Covid-19 patients, we participated in many conferences directed by the nursing director of the hospital.'*).

Participant 12 said that the finest trainings were obtained by practice while working on the field, unlike the 'theoretical' trainings provided by the hospital that were 'not useful.' Group efforts were made inside the department among the staff in order to exchange and gain some knowledge. Participant 15 testified that, unlike the time of the Ebola outbreak in Africa, no drills or trainings were carried in the ER.

Support by the leaders and management. Most participants confirmed receiving support from the managers of their organizations. However, 12 participants emphasized receiving 'moral support,' which was viewed as 'not enough.' Some nurses acknowledged the moral support received from their managers who recognized their efforts and provided them with 'empowering' encouragement throughout their work. However, 6 of the interviewees mentioned the 'absence of financial support.' ER staff members confirmed that they did not receive financial reimbursements in exchange for their work on the frontlines (participant 7: *'As for financial support, only those working in Covid-19 units have received it but nothing for the ER staff'*).

In terms of 'health support,' all hospitals' management provided free testing, medical care, and follow-up for their staffs, when needed. Also, occupational mental health was taken into consideration and support was provided for those who needed it, according to participants 9, 10, and 14.

Theme 3: recommendations and lessons learnt

This last theme details the lessons learned and recommendations for future epidemics as reported by the frontliners. 2 subthemes were identified (Figure 3).

Lessons learnt from current pandemic. 50% of the participants agreed that some among the Lebanese population showed 'irresponsible behavior' during the outbreak. Participants 4, 7, and 15 had to face that 'careless behavior' on the frontline with patients lying about their symptoms and medical condition, especially during triage procedure. 6 participants stated that the Lebanese law enforcement was 'insufficient' to contain the Covid-19 outbreak, with lockdowns, curfews and health measures not fully respected or well imposed on the society (participant 6: *'I believe that the government did not learn from other countries'*

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experiences with the pandemic, and did not implement the best practices in terms of lockdowns, control measures, and securing the airport and other points of entry'). Contextually, participant 7 stressed on the fact that it is 'hard to oblige people to stay at home' during lockdowns, especially considering the hard economic and financial circumstance of the country.

Another lesson learned was related to 'gaps in preparedness and staff readiness.' According to participants 7 to 11, health preparedness should always be on its highest levels even in the absence of any threats. In addition, hospitals need to implement special procedures for early identification and response to an epidemic and allocate resources to ensure proper layout of the hospital premises to mitigate contamination risks.

Recommendations for future epidemics. The findings of this study provided insights on the perceptions of ER nurses of their working experience during the Covid-19 pandemic. While participants valued efforts made in term of public awareness, 66% of them strongly recommended improvements and reinforced 'awareness among the population' for future epidemics (participant 8: '*Each person should be responsible and self-aware, and should respect social norms and healthy precautions in public places*').

Another priority recommendation is 'good preparedness and cases management' including specialized structured units for emergencies. The relationship between staff members and managers was also considered vital in terms of support, guidance, and strong teamwork. However in return, ER nurses should receive every type of compensation obtainable by their institutions (participant 13: '*Teamwork is essential in situations like this. Managers should prove to be good leaders. I believe that financial aid is essential because it is a serious form of support to the ER nurse that can help him/her to continue in their duty; preparedness should be implemented before any crisis takes place*').

Additionally, 5 ER nurses recommended sustainable 'governmental actions' for future epidemics. Those actions should be made faster and better enforced. National scale preparedness must be implemented by fortifying and qualifying local medical facilities, training healthcare professional, financing specialized health services, providing the needed equipment and treatments (participant 4: '*the ministry of public health and the government should guarantee safe environments and all supplies needed to all caregivers, because a shortage of healthcare workers would be a big problem in the near future that is already starting to take place.*'). Also, the participants perceive that the government should be accountable for monitoring and proper mitigation plans to control the spread of the disease. Another recommendation concerns 'academic reforms' and the need to integrate, within the academic nursing curriculum, specific courses on relational skills, listening capacities, and humanitarian aid (particiapant 7: '*An infected patient is a human being with dignity and we should never attend to him as a disease*').

Limitations

The strength of this study resides in its ability to help develop better strategies to be used in practice for future epidemics in Lebanon. However, the guarantee of the sincerity of the participants' answers during the interviews could be considered as a limitation, because the author had no control over the honesty of their answers and did not interfere or guide the authenticity of their responses. In fact, qualitative studies tend to have a small sample size due to the in-depth nature of engagement with each participant. Furthermore, only 3 hospitals in Beirut from the private sector were recruited via purposive sampling and conditioned by data saturation. In addition, there was an exclusivity for ER nurses' perceptions without taking into consideration other relevant healthcare providers. Therefore, the findings cannot be generalized to the entirety of the health sector inside or outside the governorate of Beirut. Hence, extended studies with new designs can be recommended to build up on the comprehensiveness and amplitude of findings.

Discussion

The Covid-19 pandemic affected all aspects of life worldwide, particularly those of healthcare providers. In this study, we highlighted the perception of Lebanese ER nurses of their working experience during the Covid-19 national health response emergency, in order to implement efficient preparedness strategies in Lebanon's hospitals.

Nurses, particularly ER nurses, face unparalleled challenges in the line of their duty. Throughout the Covid-19 pandemic, several studies aimed to highlight the experience of healthcare professionals, be it nurses, and physicians, including others, to learn and improve the response in future pandemics. Although the challenges faced by health care providers differed based on the socio-, economic and political situation of the country they are in, shared concerns and challenges were highlighted. This includes physical and mental fatigue from the heavy workload, fear of infection, stigmatization, and others.[20,21]

In our study, 15 ER nurses from 3 university hospitals in Beirut relayed the perception of their work experience since the beginning of the outbreak in Lebanon. 3 themes and numerous subthemes emerged based on our findings.

Within the first theme, findings highlighted the negative emotions, frustration, and anxiety, as well as stress expressed by the participants because of the pandemic. Emotions of 'fear' and 'concern' for themselves and their loved ones accompanied the nurses' pandemic experience, alongside avoidance and stigmatization by their community and the depletion of their social relationships. Unsuspected loss of life at the ER and the challenges of providing 'critical care to Covid-19 patients in isolation rooms' added to these stresses. Some medical interventions such as intubation can be delicate in terms of transmission risk, and some ER nurses tended to avoid engaging in such procedures, driven by fear. Alternatively, ER nurses practicing Covid-19 care, were lauded as heroes for their work, surrounded by positivity and encouragement, which motivated them to keep going and relieved their physical and mental health stresses at work.

For individual preparedness, many efforts were made by the ER nurses (especially those without past pandemic working experience) to overcome the barriers and give them the sense of responsibility, autonomy, and drive to provide quality care to patients. For organizational preparedness, factors such as the sizes and resources of hospitals are critical, since smaller hospitals would have lesser means in upgrading suitable infrastructure in a short time, which in turn influences the good management of the pandemic.

Additional challenges during this pandemic were the results of 'patients and/ or their family members lying to ER nurses driven by 'denial, fear, receiving incorrect information,' and mostly

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'recklessness.' In fact, with a highly privatized health care system in Lebanon, private hospitals had the possibility of rejecting suspected Covid-19 cases. This was compelled by either the dread of losing other clients that would avoid the hospital for fear of being contaminated, or the potential financial loses if a patient was not able to cover their medical bill, since most of the health coverage systems did not cover Covid-19 admissions. Therefore, patients would do anything to get access to quality care services at the hospital of their choice, including hiding their potential infection with Covid-19, regardless of the safety and security of the frontliners.

This was also driven by a lack of awareness among the general population, as well as a disregard for preventive measures put in place by the government. This was not necessarily driven by malice, but by a need for survival. In some cases, people had to choose between 'dying of hunger or dying from Covid-19.' Hence, the frontliners had to deal with an ever-increasing number of patients, which added to their stress.

The findings of this study provided evidence that ER nurses faced the crisis without any preparations for what was coming, particularly the overwhelming workload. Stress levels peaked and were worsened by the ambiguity and slowness in managerial organizational decisions, that lengthened the patient's stay in the ER and increased the exposure levels of the staff. In the face of these stressors, managerial support was lacking. As per participants' input, their nursing salaries should be coupled by financial incentives and further care to their mental and physical health.

Based on their experience and learned lessons, the interviewees proposed recommendations that should be taken into consideration for future health threats. The participants insisted on taking sustainable actions to ensure the stability of workload on the frontlines. Most of the ER nurses experienced the consequences of poor preparedness on all levels. Hence, once a suitable occupational environment is guaranteed, the healthcare workers would operate safely and provide the quality and specialized care in response to the health emergency.

The literature recognizes nurses as 'the most important healthcare workforces' in their pandemic engagement. Like our results, previous studies concluded that nurses' working experiences worldwide were perceived as unsatisfactory.[22] The importance of addressing the mental health of the frontliners, also referred to as 'soldiers fighting an invisible enemy daily,' was also highlighted.[22,23] Moreover, previous findings in France, Iran, and China proved that healthcare providers were drained by the work intensity both physically and emotionally. Nevertheless, they showed remarkable resilience and professionalism to overcome barriers. However, self-management is not enough and should imperatively be combined with high levels of support and intensive training to promote preparedness and efficacy while on duty.[22–24]

Conclusion

In conclusion, this study, a first of its kind and design in Lebanon, showed that ER nurses struggled during this pandemic while on duty. Indeed, the results proved that the working experience of the frontliners was not satisfying. Even so, while some participants perceived their experience in a positive way in terms of humanitarian action and saving lives, none of them denied that the challenges they faced were immense. Subsequently, a clear evidence-based foundation revolving around ER nurses, the main actors on the frontlines, should be formulated for future epidemics.

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Conflicts of interest. None declared.

Ethical approval. This study obtained the approval of the ethics committee of Université Saint Joseph de Beyrouth (Reference number: CEHDF 1729).

Abbreviations. COVID-19, Corona Virus Disease 2019; ER, Emergency Room; MoPH, Ministry of Public Health; PPE, Personal Protective Equipment; WHO, World Health Organization

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