

Research Article

Impact on Frontline Nurses in the Fight Against Coronavirus Disease

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Abstract

Objective: The importance of nursing care is unquestionable; therefore, it is important to explore the impact of Coronavirus disease pandemic on nurses and the associated challenges.

Methodology: A descriptive survey of frontline nurses was carried out from April to June 2020. Participants included nurses from different specialties in public and private hospitals of Pakistan. Sample size was not predetermined. Data were simultaneously collected and analyzed until saturation was achieved. Qualitative data were thematically analyzed and refined through memo writing and team discussions.

Results: Nurses (n=210) working at different stages in their careers from both public and private hospitals of Pakistan responded. The nurses felt anxious, distressed and depressed. They faced exceptional workload in resource constraint health facilities. Most of the nurses experienced an improved self-esteem and self-image in the society, while some others were discouraged. Some family, academia, clinical services and public related challenges were also identified.

Conclusion: For frontline nurses the COVID-19 crisis is overwhelming. They are providing patient care at a huge personal cost, while watching their own getting infected and die. They are distressed, depressed and overworked. We need to recognize the role of nurses at the forefront and give them their long-awaited social capital as healthcare professionals in their own right. Future studies should explore the lived experiences and coping methods of nurses.

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Introduction

Coronavirus disease (COVID-19) is an infection which is caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).¹ Since its outbreak in December 2019, over eight million confirmed cases and 440,290 deaths in 216 countries have been reported.² While scientists are experimenting for potential therapies and vaccines,³ the hospitals worldwide are improving their capacities to cater for the unexpected increase in infected patients. Healthcare professionals have experienced an unpre-

cedented increase in their roles and responsibilities.^{1,4} Even those inexperienced with infectious diseases and retired have been asked to provide their services and help during the COVID-19 pandemic.^{5,6}

Nurses are at the front line in any pandemic, providing assistance with monitoring vitals, administering medications, ensuring hygiene and constant nursing care, while risking their lives.^{5,7} When others are afraid to be near an infected patient, nurses are often the only ones by their side, leaving behind the warmth, comfort and safety of their homes. The high

risk of infection, separation from families, inadequate personal protective equipment (PPE), burdensome workloads and patient mortality leads to insomnia, depression, anxiety and fear even after the crisis is over.^{4,5,7,8} Despite these numerous physical and mental challenges, nurses show resilience and continue to provide necessary emotional support to the patients and their families.⁹

In a previous study, we investigated the impact of coronavirus disease on doctors.¹ We found that doctors were worried, overworked and financially distressed while caring for their patients, their families and themselves. Even though doctors are also actively fighting against COVID-19, but the experiences of nurses may differ from them.⁸ Nurses do not enjoy the same recognition as healthcare professionals in their own right and are only considered as ancillary to doctors. As nurses have the closest contact with patients and spend more time providing care to patients, therefore, the nurses deserve much more attention.^{5,7} During the outbreaks of severe acute respiratory syndrome (SARS) and the Middle East respiratory syndrome (MERS), nurses reported high levels of stress and post-traumatic stress disorder (PTSD).⁴ The importance of nurses and nursing care during any pandemic is unquestionable, therefore this study aims to explore the impact of COVID-19 pandemic on nurses, the 'Florence Nightingales' of our time, personally and professionally. We will also identify the challenges they are facing during the COVID-19 pandemic.

Methods

A national descriptive cross-sectional survey of front-line nurses in the fight against Coronavirus disease was carried out from April-June 2020. The study was reviewed and approved by Northwest General Hospital and Research Centre, Peshawar.

Questionnaire: A questionnaire asking open-ended questions on the impact of Coronavirus disease on their personal and professional life, and challenges was developed. It was piloted with ten nurses to ensure understanding and assess technical issues. The survey was anonymous and answering all the questions was made compulsory.

Data Collection: Nurses from different specialties in public and private hospitals of Pakistan were

invited to participate. The questionnaire was initially shared through email and then snowball sampling via different social networks such as Facebook, Twitter and WhatsApp. Sample size was not predetermined. Data were simultaneously collected and analyzed until both data as well as time saturation were reached.¹

Data Analysis: For demographic data, frequencies and percentages were calculated. For qualitative data, all the authors developed in-vivo analytic codes independently. For analytical triangulation, these codes were then discussed and categorized to develop themes. The themes were continuously refined through discussions among team members and memo writing.

Results

Two hundred and ten nurses working on the front line in public and private hospitals of Pakistan responded. They were at different stages in their careers. Most of the respondents were from Khyber Pakhtunkhwa province (Table-I).

Personal Impact: The nurses felt anxious, distressed and depressed. They reported disturbed routines, lack of exercise and a change in sleeping patterns. Most of the nurses are staying in hostels, away from their

Table 1: Participant Characteristics

Characteristics		N (%)
Gender	Male	94 (44.76)
	Female	116 (55.24)
Age	21-30 Yrs.	107 (50.95)
	31-40 Yrs.	66 (31.43)
	41-50 Yrs.	37 (17.62)
Workplace	Punjab	46 (21.90)
	Khyber Pakhtunkhwa	141 (67.14)
	Sindh	23 (10.95)

families. They found that difficult especially as even after their duties, they quarantined in the hostels to keep their friends and families safe. They had less time for themselves and their family due to busy work routine (Table-II).

Professional Impact: With the closure of academic institutions, those in academia experienced an initial layoff. However, they become engaged with planning and providing online teaching afterwards. Some also

experienced losing additional jobs and outstanding wages. Nurses in clinical practice reported facing exceptional workload in resource constraint health facilities. They reported doing more duty hours per shift due to COVID-19 crises, infected nurses and overall shortage of nurses. Even after duty, they spent time in quarantine, which affected them both perso-

nally and professionally. Some had an impact on their postgraduate research and continuous professional development. Nurses also reported experiencing an improved self-esteem and self-image in the society. However, some also reported being demotivated and discouraged by their families due to the risks involved (Table-II).

Table 2: *Impact of COVID-19 on Nurses*

	Health	Mental	I am feeling depressed ... [there is] a sense of anxiety and apprehension in my mind.
Personal		Physical	No outdoor exercise...my circadian rhythm is changed. I am having difficulty in managing my activities. The sleeping and eating routine are entirely changed.
		Social	I feel secluded at the hostel and workplace. I miss going out freely for walking in the park. It was very nice to relieve stress and also get some exercise. But corona have changed the routine entirely. Sometimes, I feel depressed. I miss the gathering with friends.
	Academicians	Temporary layoff	Due to COVID -19 educational institutes are closed. Students went home. No induction of students took place...No progress, this year. Seems helpless, wanted to do a lot for new induction of BSN program but have to stay home due to COVID-19.
		Online teaching	COVID forced us (educators) to think out of the box to facilitate the learning of students...I am learning and also facilitating my students to help them learn by using Google Classroom, WhatsApp, Facebook, and YouTube.
		Financial instability	I'm not going to school to teach my subjects to the students...Institute is not paying me for two months.
	Unprecedented workload	Additional working hours	Have too much workload as compared to normal days. My wife is also a nurse, sometimes we do not get time to talk due to different duty hours.
		Increased patient flow	We are facing overcrowding instead of social distancing. Regular patients flow is very high
		Infected Colleagues	Mostly staff are affected from COVID-19 due which work burden has increased
		Shortage of nurses	Since the corona outbreak, government is hiring nurses. Lots of nurses in private sector left the private hospitals and joined the Govt. hospital. It caused short of nurses at private sector hospital...We have no choice but to do the long hours and working in highly risk area is frightening.
	Learning activities	Postgraduate courses	As I was enrolled in MS Nursing program, my studies and semester were rescheduled due to emergency closure of the university.
		Professional Development	Professional grooming has stopped, no special course certification is offered anywhere etc.
		Research	I am not able to attend my classes, conduct my research study
Professional	Professional identity formation	Improved self-esteem	This year 2020 was announced the year of nurses by world health organization before the corona pandemic. This pandemic is a test for me as a nurse to prove worthy of this slogan. So, whenever I see people and professionals around me frightened of this situation, I encourage them that being healthcare professionals we are always encounter with different medical problems and medical emergencies. We need to react to the situation accordingly. I feel, this situation had a positive impact on me to find my true identity with the profession.
		Improved self-image	I feel to stand by my nursing code during this COVID situation. Due to which I tested positive for COVID. I recovered and working again in the hospital...I observed, colleagues have a high regard for me, and management also appreciated me. Actually, few colleagues said we feel strong talking about my attitude towards nursing care.
		Decreased job motivation	Sometime, my family think I am mad by continue this high -risk job. Whenever they hear about deaths from corona, my family say me to quit this job and do something else.

Challenges: Nurses reported various family, academia, clinical services and public related challenges. Many hospitals arranged hostels for those performing isolation duties, but these were also unsafe. They found it hard to ensure a work life balance and ensuring quarantine after post-COVID duties. Those in academia were not satisfied with online teaching and reported resistance. During clinical services, the participants faced lack of acknowledgement for their services. Personal Protective Equipment (PPE) was only provided to those working in isolation, while

others worked unprotected. Use of PPE itself was hard for longer hours. They expected incentives, transport and trainings to ensure their safety. Ignorance, indifferent attitude and criticism of their services from the public was also challenging (Table-III).

Discussion

This study assessed the personal and professional impact of Coronavirus disease pandemic on nurses in Pakistan. Nurses at the frontline of the epidemic were

Table 3: Challenges during COVID-19

	Managing home and Family	Have to manage overall expenses of my family because remaining are jobless due to COVID ...Have to ensure the provision of all facilities to my patients and my family members as well
Family-related	Ensuring self-quarantine	After performing duty in COVID-19 isolation counter it's impossible to spend 14 days in quarantine. As I am married, and I have a 14-month-old daughter. That's why I go to home daily after performing duty. It's very dangerous for my family.
	Online teaching	Lack of satisfaction Things changed dramatically and now as a teacher I have to take online classes and have difficulty in doing it...We cannot engage students through online teaching properly. Resistance Online sessions started...faced many challenges like net services problems, student's resistance initially etc, official work becomes slow many important tasks become pending, which is again the source of stress. No shopping, no meetings, no social gathering etc is more creating boring environment.
Academia-related	Lack of acknowledgement	Non-professional attitudes of hospital management towards nursing staff rather focusing on both professionals equally they are denying our services which hurts and also kill the desire to work for our people.
	Lack of resources	There is no safety equipment for us like mask gown...The administration provides PPEs only for those who are doing duties on COVID -19 patients. The administration should be careful about the all health professionals and should provide the PPEs to all staff members and protect our front-line forces.
	Lack of training	The pandemic attack has running from almost 3 months across the world. However, no admirable measures have been taken to train and secure their health professionals...Staff enter into wards and ICUs without awareness. They don't know how to work on corona patients.
	Lack of incentives	Being a nurse professional, we are feeling more risk as compared to other health care provider...there is no such facilities provided in term of incentive or risk allowance and safety...government has low interest in nursing community for mobilization of resources for pandemic.
Clinical services-related	Lack of transport	It's very difficult to go hospital on time due to the unavailability of public transportation... prices of petrol came down but still taxis are over charging
	Evolving guidelines	Every time on risk to get infected due to...controversial information regarding the disease. The WHO SOPs are changing time to time and there is no clear SOP for dealing the crisis. The situation is new for all health workers and having lack of information regarding the crisis.
	Increased occupational hazard	My two friends and two seniors affected [COVID Positive] and admitted. Being Frontline HCW, I am currently working in emergency and doing frequent triage of different patient received and also doing first aid of casualties received which put us on risk of COVID-19.
	Use of PPE	The main challenge to work in a PPE kit and spend a shift because after wearing the kit it's very hard to take a breath
Public-related	Ignorance	Lack of acceptance among people about the disease...who think that this is a game and don't take any protective measures.
	Unfair criticism	I feel challenged every day, when my family and friends criticize the role of nurse that nurses and other professional do not deal with the patients well.
	Indifferent attitude	Being a health worker lot of challenges ... [such as] irresponsible attitude of people towards COVID 19

tested mentally and physically in Pakistan. Literature also reported that nurses suffered from dizziness, dyspnea, headache, fatigue, chest discomfort, and palpitations¹⁰. All our findings coincide with the findings of previous research on healthcare professionals worldwide.^{1,4,7,11} In the literature, nurses showed higher levels of distress, anxiety and depression as compared to doctors,¹² female nurses more so than male nurses.^{7,10} The nurses were also concerned about their families as they feared that the pandemic will not only be limited to them, but it will spread to their loved ones. They needed support to cope up with the mental health pressures of being on the frontline of the COVID-19 pandemic. The high risk of infection, separation from their families, isolation, patient mortality, patients with negative emotions, and burnout can have a continuous effect on their physical and mental well-being during the COVID-19 pandemic and after the crisis is over.^{4,5,7,8} Institutions should ensure access to guidance, counselling services and appropriate management in severe cases.

Since the pandemic, nurses experienced increased workload and hospital duties,⁴ reportedly due to increasing number of infected healthcare workers¹³ and general shortage of nursing staff in the country. Many nurses were diverted to screening facilities, quarantined centers and isolation wards like other healthcare professional.^{1,14} Nurses also felt internal satisfaction in the provision of emotional support to patients because the families can't be there. Their self-esteem and self-image improved in the society, thus suggesting an impact on their professional identity.¹⁵ However, some also reported being demotivated and discouraged by their families due to the risks involved. This may be associated with the infectious nature of COVID-19, their families reaction reflects their fear of getting infected themselves and their loved ones. They even advised them to quit their jobs. We need to recognize the role of nurses at the forefront during war, epidemics and other times of disaster and give them their long-awaited social capital as healthcare professionals in their own right. Government needs to fundamentally change the thinking and increase investment in nursing, if we are to overcome the COVID-19 crises and achieve health for all.¹⁶

The current study identified various family, academia, clinical services and public related challenges

during the COVID-19 pandemic crises. The lockdown resulted in unemployment of their family members and many nurses had to support their families. As self-quarantine after isolation duty was not feasible, they feared risking their children and other family members. Those in academia started delivering synchronous/asynchronous lectures and uploading resource materials online.¹⁷ However, they reported dissatisfaction and resistance from the faculty as well as the students.¹⁸ We recommend trainings for nurses on using online teaching, learning and assessment tools to ensure smooth execution and effectiveness of education during COVID-19.^{1,18,19}

Nurses explained that the crisis had been overwhelming. They made huge personal sacrifices while helping patients during Coronavirus disease pandemic. They found themselves working in triage, isolation rooms and other areas, which they never practiced in before. Every day, they learnt new routines and protocols. In many cases, they reported working without personal protective equipment (PPE) they needed to ensure their own safety. They stayed in isolation and also watched their own getting infected and die.¹³ It is important to make them feel safe in the hospital. For infection control, we recommend that healthcare settings should be equipped with disposable gowns, gloves, face shields, shoe covers and N95 masks.^{10,20} Before and after work, they should be provided with essential facilities to fully decontaminate themselves to prevent the spread of infection.¹ The nurses should also be trained for public health emergencies, as it is necessary to improve their preparation for epidemiology and infection control.^{9,20} Hospital managers and governments should ensure reasonable work schedules, effective communication, appropriate SOPs, and psychological support for health professionals over.^{4,8,12,20} Nurses also reported challenges such as ignorance, indifferent attitude and criticism of their services from the public. It is important to recognize that nurses are our most valued asset to fight COVID-19.⁹ To help them and stop the spread of virus, we should stay-at-home, ensure social distancing, use of masks in public places and wash hand frequently for 20 seconds. We should also acknowledge their services, recognize them as heroes and give due respect.

More than half of the participants in this study

belonged to Khyber Pakhtunkhwa province. However, the findings provide valuable insights into the impact of Coronavirus disease pandemic on nurses and the associated challenges. While analyzing the data we felt that the nurses were weak in English written communication skills. Therefore, we recommend exploring their in-depth experiences through qualitative interviews.

Conclusion

For frontline nurses the COVID-19 crisis is overwhelming. They are providing patient care at a huge personal cost, while watching their own getting infected and die. They are distressed, depressed and overworked. Their heroism, devotion and selflessness offer reassurance in these difficult times. We need to recognize the role of nurses at the forefront and give them their long-awaited social capital as healthcare professionals in their own right. Future studies should explore the lived experiences and coping methods of nurses.

Authors' Contribution: AS and HSA conceived the idea and designed the study. All the authors (AS, HSA, BAS, NG and SS) were involved in data collection. All contributed towards data analysis, manuscript writing and approved the final version.

References

1. Sethi BA, Sethi A, Ali S, Aamir HS. Impact of Coronavirus disease (COVID-19) pandemic on health professionals. *Pakistan Journal of Medical Sciences*. 2020; 36(COVID19-S4):COVID19-S6-S1.
2. World Health Organisation. Coronavirus disease (COVID-19) outbreak situation 2020. Available from: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019>. Accessed June 17 2020
3. Shen K, Yang Y, Wang T, Zhao D, Jiang Y, Jin R, et al. Diagnosis, treatment, and prevention of 2019 novel coronavirus infection in children: experts' consensus statement. *World Journal of Pediatrics*. 2020;1-9.
4. Cai H, Tu B, Ma J, Chen L, Fu L, Jiang Y, et al. Psychological Impact and Coping Strategies of Frontline Medical Staff in Hunan Between January and March 2020 During the Outbreak of Coronavirus Disease 2019 (COVID-19) in Hubei, China. *Med Sci Monit*. 2020;26:e924171.
5. Liu Q, Luo D, Haase JE, Guo Q, Wang XQ, Liu S, et al. The experiences of health-care providers during the COVID-19 crisis in China: a qualitative study. *The Lancet Global Health*. 2020;8:e790-98.
6. Buerhaus PI, Auerbach DI, Staiger DO. Older clinicians and the surge in novel coronavirus disease 2019 (COVID-19). *Jama*. 2020;323(18):1777-8.
7. Huang L, Xu F, Liu H. Emotional responses and coping strategies of nurses and nursing college students during COVID-19 outbreak 2020.
8. Xiong Y, Peng L. Focusing on health-care providers' experiences in the COVID-19 crisis. *The Lancet Global Health*. 2020;8(6):e740-e1.
9. Zhang Y. Strengthening the Power of Nurses in Combating COVID-19. *Journal of Nursing Management*. 2020(In Press).
10. Yifan T, Ying L, Chunhong G, Jing S, Rong W, Zhenyu L, et al. Symptom Cluster of ICU Nurses Treating COVID-19 Pneumonia Patients in Wuhan, China. *Journal of Pain and Symptom Management*. 2020;S0885-3924(20):30192-5.
11. Huang J, Han M, Luo T, Ren A, Zhou X. Mental health survey of 230 medical staff in a tertiary infectious disease hospital for COVID-19. *Zhonghua Lao Dong Wei Sheng Zhi Ye Bing Za Zhi*. 2020;38:E001-E.
12. Pappa S, Ntella V, Giannakas T, Giannakoulis VG, Papoutsis E, Katsaounou P. Prevalence of depression, anxiety, and insomnia among healthcare workers during the COVID-19 pandemic: A systematic review and meta-analysis. *Brain, Behavior and Immunity*. 2020;S0889-1591(20):30845-X.
13. Remuzzi A, Remuzzi G. COVID-19 and Italy: What next? *The Lancet*. 2020;395:1225-8.
14. Waris A, Atta UK, Ali M, Asmat A, Baset A. COVID-19 outbreak: current scenario of Pakistan. *New Microbes New Infect*. 2020;35:100681.
15. Sethi A, Schofield S, McAleer S, Ajjawi R. The influence of postgraduate qualifications on educational identity formation of healthcare professionals. *Advances in Health Sciences Education*. 2018;23(3):567-85.
16. Al-Mandhari A. Achieving "Health for All by All" in the Eastern Mediterranean Region. *Eastern Mediterranean Health Journal*. 2019;25(9):595-6.
17. Sethi A, Wajid A, Khan A. eLearning: Are we there yet? *Professional Medical Journal*. 2019;26(4):632-8.
18. Mukhtar K, Javed K, Arooj M, Sethi A. Advantages, Limitations and Recommendations for online learning during COVID-19 pandemic era. *Pakistan Journal of Medical Sciences*. 2020;36(COVID19-S4):COVID19-S27-S31.
19. Watkins R, Corry M. *E-learning Companion: Student's Guide to Online Success*; Cengage Learning; 2013.
20. Huang L, Lin G, Tang L, Yu L, Zhou Z. Special attention to nurses' protection during the COVID-19 epidemic. *Critical Care Medicine*. 2020;24(120):1-3.