

# Women Nurses' Lived Experiences with Covid-19 Patients. A Challenging Situation

Muhammad Bilal<sup>1</sup>, Aiman<sup>2</sup>, Zubair Hussain<sup>3</sup>

<sup>1</sup>Lecturer, Department of Sociology, Abdul Wali Khan University, Mardan, Pakistan.

<sup>2</sup>BS Student, Department of Sociology, Abdul Wali Khan University, Mardan, Pakistan.

<sup>3</sup>Research Scholar, Riphah International University, Faisalabad, Pakistan.

Correspondence: [bilal@awkum.edu.pk](mailto:bilal@awkum.edu.pk)<sup>1</sup>

## ABSTRACT

**Aim of the Study:** Corona virus (covid-19) has seriously affected health care systems across the countries. In some countries, including Pakistan, the consequences of the pandemic reached to the collapse of the health care systems. Women staff nurses as an essential part of the health care system also faced challenges while caring covid-19 patients. This study, is thus, explored women nurses' lived experiences while dealing with the covid-19 patients in the government hospitals of Mardan, Khyber Pakhtunkhwa (KP).

**Methodology:** Data for the study come from 19 interviews conducted with women nurses working in government hospitals in district Mardan, KP. Feminist epistemology guided the methodological procedure of the study. Smith's theory of women's standpoint is used to explore women nurses' lived experiences with the covid-19 patients. Qualitative thematic analysis technique helped in the analysis of data.

**Findings and Conclusion:** The study found that dealing with the covid-19 patients was a challenging job for women staff nurses. Women staff nurses faced the situation of lack of knowledge about covid-19, non-availability of covid-19 personal protective equipment (PPE) KIT, and stress and fear was common among women nurses while dealing with the covid-19 patients. The study recommends proper training of women nurses along with ensuring health safety measurements for health emergency services, including covid-19.

**Key Words:** Women Staff Nurses, Lived Experiences, Covid-19, Lack of Knowledge, Personal Protective Equipment (PPE) KIT, Stress and Fear.

## Introduction

The covid-19 pandemic has influenced population across the countries along with health systems and health professionals (Alwesmi, Dator, & Karavasileiadou, 2022). Nursing is one of the main pillars of health system in which women staff nurses have a significant contribution. WHO covid-19 dashboard, 2022 has reported a dramatic change in in health system due to covid-19. This change has created so many challenges for women nurses working in the hospitals. For instance, women nurses feel fear and are distressed while dealing with covid patients (Heydarikhayat *et. al.*, 2022). Since the beginning of corona

## Article History

Received:  
April 01, 2023

Revised:  
June 23, 2023

Accepted:  
June 27, 2023

Published:  
June 30, 2023

virus as reported by WHO in Wuhan province, China on 31<sup>st</sup> December 2019 (WHO, 2020), it was a challenge for women nurses to cure covid-19 patients. Khanjarian and Sadat-Hoseini (2021) reported an overburden psychological and emotional labor of women nurses curing corona virus affected patients.

In many of the third world countries, such as Bangladesh, Nepal, Bhutan, Nigeria etc. it is reported that health professionals including women nurses were not medically equipped during providing care to the covid-patients (Ness *et. al.*, 2021). Due to this situation, women nurses were unable to effectively cure patients (Chau *et. al.*, 2021). Due to non-availability of precautionary measures, the emotional burden for women nurses became double whenever they dealt corona virus affected patients (Rathnayake *et. al.*, 2021). The non-availability of preventive measures increased the risk of infection and fear of death among women nurses caring the covid patients. George *et. al.*, (2020) argued that the job of women nurses was difficult during covid-19 because of lack of preventive measures and lack of knowledge about the corona virus disease. In Bangladesh, Tune *et. al.*, (2020) indicated that stress and fear was common among women nurses dealing covid patients. They (women nurses) faced this situation due to lack of knowledge and equipment to cure the covid patients. An almost similar situation has been faced by medical professionals and women nurses in Nepal. Basnet *et. al.*, (2022) argued that a wide range of challenges were faced by the nursing staff in the medical institutions caring covid-19 patients. Similarly, in Bhutan, women staff nurses faced many challenges while caring covid patients. Tsheten *et., al.* (2023) reported that frontline health workers along with women staff nurses faced many mental health issues, such as stress, frustration, and anxiety during covid-19 outbreak.

### ***Why this Problem?***

The pandemic of corona virus has badly affected health care professionals, including women nursing staff across the countries (Amin, 2020). Women staff nurses in Pakistan were also one of the vulnerable segments among health professionals who worked on frontline during the covid-19 outbreak (Munawar & Choudhry, 2021). Women staff nurses in Pakistan were highly affected of covid-19 outbreak (Waris *et. al.*, 2020). Significantly, women staff nurses faced many challenges, such as mental health issues, fear and emotional disturbance (Shahbaz *et. al.*, 2021). It is believed that women are the neglected portion of population in Pakistan who have always been facing social and cultural discrimination that put them on risk in in different domains of life, including health (Bilal, Ahmad, & Zed, 2017). Similarly, women staff nurses faced the worst situation during covid because they were not provided the basic precautionary measures while caring the covid-19 patients. Jawed, Manazir, and Riaz (2020) concluded that health professionals, including women staff nurses were not supported well caring the patients. This non-supportive approach from the government created a challengeable environment for women staff nurses because they were supposed to spend more time with the covid-19 patients during their treatment (Jan *et. al.*, 2023). This study, is thus confirms that women staff nurses faced challenges, such as lack of knowledge about covid-19, non-availability of covid-19 personal protective equipment (PPE) kit, and stress and fear among women staff nurses while dealing with the covid-19 patients.

### ***Objectives of the Study***

- To explore women staff nurses' lived experiences while caring covid-19 patients.
- To investigate challenges faced by women staff nurses while treating covid-19 patients.

### ***Methodology***

The study employed a feminist epistemology guided qualitative research design to explore the challenges women nurses faced while caring covid-19 patients. In order to capture women nurses' lived experiences, a female research associate was recruited and guided her about the interview protocol. Using purposive sampling technique, women nurses working in the government hospitals of Mardan, KP were chosen as they were the potential participants for this project because they were caring the patients diagnosed with corona virus disease. The interviews were started with some preliminary questions, such as do you have

enough knowledge about corona virus? Are you properly guided about the precautionary measures dealing with the covid-19 patients? And do you feel stress and fear when dealing with the covid patients? The interviews then followed by supplementary questions and reached the saturation after thirteen interviews. Saturation point in qualitative data collection is when the researcher receives similar instances and repetition from the respondents. In this study, the saturation was reached after thirteen interviews; hence, the sample size was thirteen. The data was collected in *Pashtu* language, the language spoken by the researchers. The voice recorded interviews then documented and translated into English language. The researchers visited the data time and again to get familiarity with and have done coding. The similar responses clubbed together under the relevant themes. The principal author along with the co-authors were involved in the interpretation of the verbalization and emerging themes to ensure the process was correct. Pseudonyms were used to ensure confidentiality of the participants. With the help of feminist theories such as Dorothy Smith's concept of women standpoint and Patricia Hill Collins intersectionality, the data were analyzed.

## **Discussion and Analysis**

### ***Socio-demographic Profiles***

Thirteen women nurses were interviewed. Their ages fall in the age group 23 to 41. seven of them were married, five were unmarried, and one female nurse was widowed. Six of the women nurses had less than ten years work experience and the rest of them had over fifteen years work experience. Two participants were Christians and the remaining all were Muslims. All of the women nurses worked 08 hours a day with 6 working days in a week.

### ***Lack of Knowledge about Covid-19***

The theme lack of knowledge about Covid-19 emerged out of the participants' responses. This was one of the major challenges faced by women nurses caring covid patients. Noreen, a female nurse working in the government hospital explained that *I had have insufficient information/knowledge about covid-19 while caring my patients*. Similarly, Hiba Ali, a senior staff nurse exemplified the situation very difficult by revealing that *I was totally blanked about the covid-19 and that was a big challenge for me to keep care of the covid patients in a professional way*. Treating patients with insufficient knowledge about the disease is really challengeable for medical professionals. One of the common views emerged from the nurses' responses was;

There was insufficient information available about the corona virus and its patients. Most of the medical professionals were facing problems how to effectively cure the covid-19 patients. Women nurses faced the same situation of lack of knowledge dealing with the covid patients.

Smiths' standpoint of women theory concluded that women's knowledge/lived experiences are specifically important compared to abstract knowledge people have about women experiences (Smith, 2004). Women nurses lived experiences with the covid patients carry greatest value. However, the challenge is that these nurses didn't have sufficient knowledge about treating corona virus diseased patients. Seema, a senior nurse revealed that *I do have a rich experience of dealing patients. However, this time I faced challenges of dealing patients because of lack of knowledge about corona virus and covid-19 patients*. Significantly, one of the nurses claimed that *I would have cared the patients professionally but due to insufficient knowledge about covid, I am unable to do so*. Akkuş' (2022) study aligns with these responses by concluding that women nurses face difficulty treatment and care of covid patients because they have insufficient knowledge about covid and have not fully equipped to take of covid patients.

Knowledge carries the greatest value. Smith's standpoint theory addresses that women's knowledge being oppressed group is important compared to whatever is circulated in social sciences about women's experiences (Harding, 2004). Women nurses' experiences with the covid patients were not good because

they didn't have enough knowledge about corona virus to take care of the patients and this was a big challenge for them. Reema, one of the junior nurses shared her lived experiences with the covid patients that *I have worked hard caring my patients but nothing worked because the corona virus was different and less was known about it*. Similarly, another woman nurse indicated;

I feel I couldn't help covid patients effectively because I had had less knowledge about corona virus. I sometimes felt embarrassed because patients undergone non-bearable health condition and I was unable to take care of them because of insufficient knowledge about covid-19.

Women nurses working in government hospitals in Mardan, KP were doing well in their general duties but they were facing difficulties in caring covid patients because of inadequate knowledge about caring the corona patients. Arooba, one of the female nurses stated that *I have thirteen years work experience in the hospitals but I never faced such kind of difficulty that I am facing this time dealing covid patients without having enough knowledge about the disease*. Moradi (2021) found an almost similar situation that medical professionals especially nursing staff faced complications in dealing with the covid patients because they were not having enough knowledge about the corona virus. Similarly, in this study, one of the women nurses shared that *lack of information about the corona virus was one of the major difficulties we ever faced in treating covid patients*. To sum up the discussion, it is argued that women nurses working in the government hospitals of Mardan, KP didn't have enough knowledge about corona virus and this was a big challenge for them to properly take care and treat patients affected of corona virus.

### ***Non-Availability of Covid-19 Personal Protective Equipment KIT***

Non-availability of covid-19 personal protective equipment (PPE) KIT was one of the major challenges faced by women nurses in the government hospitals of Mardan, Khyber Pakhtunkhwa while dealing with covid-19 patients. Personal protective equipment (PPE) KIT comprises of medical bonnet, filtering facepiece (FFP), surgical face mask, eye goggles, first pair of gloves, long sleeves fluid resistant gown, a pair of boots, face shield, and second pair of gloves (Türe & Oğuz, 2020). Faiza, one of the women staff nurses reported that *we have PPF KIT while caring the covid-19 patients. Whenever, we asked for that the hospital management excused its availability*. Siddiqui (2020) considers PPE KIT is an important preventive measure for the protection of health professionals dealing covid-19 patients. However, unfortunately women nurses in the government hospitals of Mardan, KP were not provided PPE KITS to keep care of corona virus affected patients. Many women nurses shared a similar view to the comment below:

Women staff nurses were not provided basic preventive measures, such as surgical facemask, face shield, eye goggles, and filtering facepiece during caring covid patients. Women nurses were exposed to the corona virus which was a big challenge for them to properly treat the covid-19 patients.

During the discussion about the non-availability of PPE KIT to the women nurses, Rifat, a head woman nursing staff revealed that *I was worried about the health my female colleagues during caring the covid patients because they were exposed to corona virus due to not having PPE KIT*. Women nurses without having PPE KITS were unable to properly play role in treating the covid patients. Sharma *et. al.*, (2020) concluded that frontline health workers faced many challenges during covid outbreak. However, lack of preventives measures to the medical staff while treating covid patients was one the major challenges for them. Treating and caring covid patients without having appropriate facilities, such as PPE KITS and training about the corona virus was really a big challenge for women staff nurses. Shabana, has been working in the government hospital for the last 11 years revealed that *I have never felt such kind of health insecurity during my entire service because I didn't have protective measures to be used during duty while caring the covid patients*. One of the participants indicated:

I was so upset and worried about my own health and the patients as well because non-availability PPE KIT that we can use and properly take care of the patients and our own health. The doctors were always advising us about protecting our health from the corona virus, however, it was not possible because we were not equipped with the health precautionary measures.

Scholars argued that non-availability of health-related precautionary measures, such as awareness about the pandemic and the PPE KITS affected the health care system during covid-19 pandemic (Sharma *et. al.*, 2021). Similarly, one of the women staff nurses reported from a government hospital in Mardan, KP that we were dealing the patients without having PPE KITS and other pandemic related trainings from the government side. It can be concluded from the discussion that women staff nurses in the government hospitals were exposed to pandemic because of the non-availability of PPE KITS. It is important to mention that dealing patients without PPE KITS, was one of the major challenges to frontline health care staff.

### ***Stress and Fear Among Women Staff Nurses***

One of the things that made the treatment process of covid patients more challengeable was the stress and fear among women nurses. Lack of knowledge about corona virus and the non-availability of PPE KITS caused stress and fear among women nurses. Women staff nurses were feeling health risk that put their lives in danger. Many participants across the government hospitals at Mardan, KP reported stress and fear during treating the covid patients. Naeema, a female staff nurse revealed that *I was stressed because of the fear of caring covid patients*. Lack of knowledge about covid pandemic raised fear among women nurses. They were worried about their lives because the situation was life threatening. These lived experiences of women nurses are of great importance because these revealed the actual position the have been through. Smith (2004) believe that women's knowledge/lived experiences carry greatest value as these express actual situation women are going through. Women nurses lived experiences that reveal the situation of stress and fear while caring covid patients are significant. On of the participants shared that *I was stressed due to the fear of corona virus as I was worried about my own health which was at risk due to the non-availability of precautionary measures while helping covid patients*. Similarly, many junior nurses reported:

The situation was stressful and women nursing staff was feeling continues fear because they (women nurses) had no sufficient knowledge about the corona virus and precautionary measures. Due to stressful and fearful situation women nurses were unable to professionally deal the covid patients.

Sana, a senior nurse working in one of the government hospitals at Mardan shared that *due to the fear of corona virus I was stressed and unable to care the covid patients. I literally left the hospital for one and half week*. Similarly, Sampaio, Sequeira, and Teixeira (2021) indicated sleeplessness, depression, anxiety, and stress among the nursing staff dealing with the covid patients. Due to the fear of corona virus, stress and depression was common among the women nurses because they were working as frontline health workers. Nida, a senior staff nurse shared that *I was too much stressed that day when I saw the death of seven covid-19 patients*. Fear and stress among women nurses also affected the treatment of covid patients. Haleema, a head of women nursing staff revealed that *many of our colleagues were unable to properly perform their duties because of fear of corona virus*. Likewise, Alnazly *et. al.*, (2021) found fear, depression, anxiety, and stress among Jordanian health workers, especially nursing staff. One of the interviewees reported that:

A few of my women colleagues working in our hospital left the job because of fear and stress they got from the death of covid patients. The medical superintendent requested them time and again not to leave their job but they regrated.

Women nursing staff was in danger. Beenish, a woman staff nurse shared her experience that *once I have been crying for hours in the hospital when I saw three covid patients died. The situation of stress and fear was non-bearable for me.* Similarly, Aslan and Pekince (2021) reported a moderate level of stress among the nursing staff dealing the patients of covid-19. It can be concluded from the discussion that fear and stress was common among the nursing staff dealing with the corona virus patients.

## Conclusion

The analysis presented in this article revealed lived experiences of women nurses dealing with the covid-19 patients in the government hospitals of Mardan. There (women nurses) lived experiences with the covid patients were found with lack of knowledge about covid-19, non-availability of covid-19 personal protective equipment KIT, and stress and fear among women nurses. It is concluded that women nurses had have lack of knowledge about corona virus, its effect on health, and how to keep protected one's health as a frontline health worker. The lack of knowledge about corona virus was one of the significant challenges women nurses faced caring the covid patients. They (women nurses) were reluctant in dealing with covid patients as they were not fully aware about the health protocols.

The article has also concluded that there remains the non-availability of covid-19 personal protective equipment KIT for women staff nurses dealing the covid patients. They (women nurses) were not provided medical bonnet, surgical masks, eye googles, a pair of boots, face shield, and filtering facepiece. Women nurses were dealing covid patients without having PPE KIT which put their lives in danger. The unavailability of PPE KIT affected the treatment process of covid patients as women nurses were unable to professionally treat them. The analysis further found that stress and fear among women nurses spread out due to lack of knowledge about covid-19 and non-availability of covid-19 personal protective equipment KIT. Women staff nurses have been through a stressful and fearful situation while caring covid patients. The fear of corona virus affected women nurses and get them into stress. They (women nurses) sometimes left the hospital whenever they have seen deaths of covid patients. The analysis found that due to stress and fear of corona virus many women nurses have left their jobs. How women nurses should be trained for future health related emergencies, such as covid-19, is the area of future research. In this case, it will not only improve our theoretical and practical knowledge of how women nurses deal with such kind of challenges, but it will also be significant in understanding women nurses lived experiences during health emergencies services.

## Acknowledgments

The authors are thankful to the women staff nurses who participated in this study as potential informant. The authors are also thankful for their time and commitment in revealing their lived experiences while caring the covid patients.


## Conflict of Interest


Authors declared no conflict of interest.


## Funding Source

The authors received no funding to conduct this study.

## ORCID iDs

Muhammad Bilal <sup>1</sup>  <https://orcid.org/0000-0002-3753-4466>

Aiman <sup>2</sup>  <https://orcid.org/0009-0002-3308-5488>

Zubair Hussain <sup>3</sup>  <https://orcid.org/0000-0002-3562-8848>

## References

- Akkuş, Y., Karacan, Y., Güney, R., & Kurt, B. (2022). Experiences of nurses working with COVID-19 patients: A qualitative study. *Journal of clinical nursing*, 31(9-10), 1243-1257.
- Alnazly, E., Khraisat, O. M., Al-Bashaireh, A. M., & Bryant, C. L. (2021). Anxiety, depression, stress, fear and social support during COVID-19 pandemic among Jordanian healthcare workers. *Plos one*, 16(3), e0247679.
- Alwesmi, M. B., Dator, W. L., & Karavasileiadou, S. (2022). Lived Experiences of Female Nurses with COVID-19 Deaths on Their Watch. *Behavioral Sciences*, 12(12), 470.
- Amin, S. (2020). The psychology of coronavirus fear: Are healthcare professionals suffering from corona-phobia? *International Journal of Healthcare Management*, 13(3), 249-256.
- Aslan, H., & Pekince, H. (2021). Nursing students' views on the COVID-19 pandemic and their perceived stress levels. *Perspectives in psychiatric care*, 57(2), 695-701.
- Basnet, B., Chapagain, P., Subedi, S., Dahal, T., Neupane, S., Khanal, R., ... & Sundar Budhathoki, S. (2022). Experiences of nurses providing maternity care in a public hospital during the COVID-19 pandemic in Nepal: A qualitative study. *PLOS Global Public Health*, 2(5), e0000322.
- Bilal, M., Ahmad, S., & Zed, R. (2017). Socio-Cultural Causes Underlying Women's Social Discrimination in A Traditional Pakhtun's Societyat District Mardan, Khyber Pakhtunkhwa, Pakistan. *The Discourse*, 3(1), 67-75.
- Campbell, M. (2003). Dorothy Smith and knowing the world we live in. *J. Soc. & Soc. Welfare*, 30, 3.
- Chau, J. P. C., Lo, S. H. S., Saran, R., Leung, C. H. Y., Lam, S. K. Y., & Thompson, D. R. (2021). Nurses' experiences of caring for people with COVID-19 in Hong Kong: A qualitative enquiry. *BMJ open*, 11(8), e052683.
- George, C. E., Inbaraj, L. R., Rajukutty, S., & De Witte, L. P. (2020). Challenges, experience and coping of health professionals in delivering healthcare in an urban slum in India during the first 40 days of COVID-19 crisis: a mixed method study. *BMJ open*, 10(11), e042171.
- Harding, S. G. (Ed.). (2004). *The feminist standpoint theory reader: Intellectual and political controversies*. Psychology Press.
- Heydarikhatay, N., Ghanbarzehi, N., Shahkaramzehi, Z., Sabagh, K., & Rohani, C. (2022). Nurses' lived experiences of caring for patients with COVID-19: A phenomenological study. *Journal of Research in Nursing*, 27(4), 313-327.
- Jan, R., Lakhani, A., Musaddique, A., & Parpio, Y. N. (2023). Why Pakistan Needs Advanced Nurse and Advanced Midwife Practitioners. In *Nurse Practitioners and Nurse Anesthetists: The Evolution of the Global Roles* (pp. 293-302). Cham: Springer International Publishing.
- Jawed, F., Manazir, S., Zehra, A., & Riaz, R. (2020). The novel Coronavirus disease (COVID-19) pandemic: Knowledge, attitude, practice, and perceived stress among health care workers in Karachi, Pakistan. *Medical journal of the Islamic Republic of Iran*, 34, 132.
- Khanjarian, F., & Sadat-Hoseini, A. S. (2021). Lived experiences of nurses providing altruistic care to patients with COVID-19. *Nursing Outlook*, 69(5), 767-779.
- Moradi, Y., Baghaei, R., Hosseingholipour, K., & Mollazadeh, F. (2021). Challenges experienced by ICU nurses throughout the provision of care for COVID-19 patients: A qualitative study. *Journal of nursing management*, 29(5), 1159-1168.

- Munawar, K., & Choudhry, F. R. (2021). Exploring stress coping strategies of frontline emergency health workers dealing Covid-19 in Pakistan: A qualitative inquiry. *American journal of infection control*, 49(3), 286-292.
- Ness, M. M., Saylor, J., Di Fusco, L. A., & Evans, K. (2021). Healthcare providers' challenges during the coronavirus disease (COVID-19) pandemic: A qualitative approach. *Nursing & Health Sciences*, 23(2), 389-397.
- Rathnayake, S., Dasanayake, D., Maithreepala, S. D., Ekanayake, R., & Basnayake, P. L. (2021). Nurses' perspectives of taking care of patients with Coronavirus disease 2019: A phenomenological study. *Plos one*, 16(9), e0257064.
- Safdar, G. (2020). Government Media Statistics and Causes of Rise and Downfall of Covid-19 Infection in Pakistan - A Review. *Print, Radio, TV & Film Studies*, 1, 37-45.
- Safdar, G. (2022). Media Coverage and Perception of Frontline Soldiers about Fear, Courage and Hope against Novel Coronavirus (Covid-19) Pandemic. *Print, Radio, TV and Film Studies*, 3, 25-34.
- Sampaio, F., Sequeira, C., & Teixeira, L. (2021). Impact of COVID-19 outbreak on nurses' mental health: A prospective cohort study. *Environmental research*, 194, 110620.
- Shahbaz, S., Ashraf, M. Z., Zakar, R., & Fischer, F. (2021). Psychosocial, emotional and professional challenges faced by female healthcare professionals during the COVID-19 outbreak in Lahore, Pakistan: a qualitative study. *BMC Women's Health*, 21(1), 197.
- Sharma, M., Singh, S. K., Sharma, L., Dwiwedi, M. K., Agarwal, D., Gupta, G. K., & Dhiman, R. (2021). Magnitude and causes of routine immunization disruptions during COVID-19 pandemic in developing countries. *Journal of Family Medicine and Primary Care*, 10(11), 3991.
- Sharma, N., Hasan, Z., Velayudhan, A., MA, E., Mangal, D. K., & Gupta, S. D. (2020). Personal protective equipment: challenges and strategies to combat COVID-19 in India: a narrative review. *Journal of Health Management*, 22(2), 157-168.
- Siddiqui, A. A. (2020). The Role of Personal Protective Equipment (PPE) in Prevention of COVID-19 Novel Corona Virus and Fatalities occur due to Non-availability of the PPE. *American Journal of Biomedical Science & Research*, 9(6), 490-500.
- Smith, D. E. (2004). Women's perspective as a radical critique of sociology. *The feminist standpoint theory reader: Intellectual and political controversies*, 1.
- Tsheten, T., Chateau, D., Dorji, N., Pokhrel, H. P., Clements, A. C., Gray, D. J., & Wangdi, K. (2023). Impact of COVID-19 on mental health in Bhutan: A way forward for action. *The Lancet Regional Health-Southeast Asia*, 11.
- Tune, S. N. B. K., Islam, B. Z., Islam, M. R., Tasnim, Z., & Ahmed, S. M. (2022). Exploring the knowledge, attitudes, practices and lived experiences of frontline health workers in the times of COVID-19: a qualitative study from Bangladesh. *BMJ open*, 12(1), e051893.
- Türe, H., & Oğuz, A. (2020). All in one: COVID-19 personal protective equipment kit. *Turkish Journal of Anaesthesiology and Reanimation*, 48(4), 340.
- Waris, A., Atta, U. K., Ali, M., Asmat, A., & Baset, A. J. N. M. (2020). COVID-19 outbreak: current scenario of Pakistan. *New microbes and new infections*, 35, 100681.
- WHO (2020) Novel Coronavirus (2019-nCoV) SITUATION REPORT – 4, 24 January 2020. Data as reported by: 24th January 2020. [Online]. Available: <https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200124-sitrep-4-2019-ncov.pdf> (Accessed 25 September 2021).