Research Article

Protective measures against COVID-19 for nurses and midwives in Bangladesh

Abstract

COVID-19 is a devastating disease with worldwide effects. To control and prevent COVID-19 and save lives, preventive and protective measures have been encouraged globally. Nurses and midwives have been among the most vulnerable groups to COVID-19 infection because their jobs involve heightened exposure to COVID-19-infected patients. This survey study aimed to investigate protective measures against COVID-19 for nurses and midwives. This was a descriptive quantitative survey study. The sample was 1706 nurses and midwives. A self-reported survey questionnaire was used to collect the data on protective measures against COVID-19 for nurses and midwives. Data were analysed through descriptive statistics. The study found that the majority of nurses and midwives did not receive COVID-19 training. Despite this, they were willing to care for COVID-19 patients and aware of methods for preventing COVID-19 infection. In addition, most participants had taken COVID-19 preventive precautions. Almost two-thirds of participants were vaccinated against COVID-19, and a vast majority had used appropriate PPE as a protective device against it.

Keywords: nurses, midwives, COVID-19, protective measures

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Introduction

Coronavirus disease (COVID-19) is an infectious disease.[1] The disease spread across the world, and the outbreak and continued high-transmission rates were designated as a pandemic. To minimize the transmission of the disease, billions of people across the world stayed at home for sustained periods. Several countries adopted preventive measures, such as working-from-home, restrictions on international travel, lockdowns, social distancing, and the replacement of face-to-face interactions with online services. Health care systems were disrupted and there was an increase in the prevalence of social, political, and economic crises.[2] Bangladesh was severely affected by COVID-19. From 3 January, 2020 to 15 July, 2022, 1,993,382 COVID-19 cases were identified, including 29, 223 deaths.[3]

Factors which heighten the risk of COVID-19 infection include unprotected or unsafe healthcare settings, long duty hours, poor hand-washing facilities, inadequate personal protective equipment (PPE), and lack of infection-prevention training.[4] As front-line healthcare providers, nurses and midwives are at high risk of infection due to direct and frequent contact with COVID-19-infected patients. To decrease the spread of COVID-19 and keep nurses and midwives safe, protective actions need to be practiced in hospitals.[5] Appropriate protective measures include using PPE, regular hand washing, cleaning and disinfecting of used materials and equipment, effective bio-medical waste management, social distancing, personal hygiene, and frequent screening for COVID-19 symptoms. These actions play a significant role in the prevention and control of a pandemic.

In Bangladesh, the first COVID-19 case was detected on 7 March 2020. At that time, the country was not adequately prepared to manage COVID-19 in terms of diagnosis, treatment, prevention, and control. In addition, the country had a severe shortage of PPE, masks, and infrared thermometers.[6] As a result, nurses and midwives were afraid and vulnerable to COVID-19 infection. However, they continued to perform their roles and care for COVID-19-infected patients. This study was conducted to identify protective measures against COVID-19 for nurses and midwives.

Methods

This was a descriptive quantitative online survey study. The participants were 1706 nurses and midwives working at different levels of Bangladesh government hospitals. The questionnaire was developed by the researcher and validated by three experts from different nursing disciplines. The questionnaire consisted of two (02) parts: 1) Participants' demographic information, including age, gender, marital status, professional qualification, and place of work; and 2) Participants' experience of protective measures against COVID-19, including whether they had contracted COVID-19, whether they had received COVID-19 training, willingness to care for COVID-19 patients, awareness of COVID-19 prevention methods, use of COVID-19 preventive precautions, vaccination against COVID-19, and use of PPE. Each question was a 2-point Likert scale: Yes (1) or No (0). The questionnaire was placed on the Directorate General of Nursing and Midwifery (DGNM) website. This is the official website for nurses and midwives working in Bangladesh government hospitals. A formal invitation letter was provided with the questionnaire asking nurses and midwives to participate in the survey. The duration of the survey was 20/04/2021 to 29/04/2021 (total = 10 days). Nurses and midwives working as direct caregivers to the patients were encouraged to participate in the survey. Administrators, teachers, managers, and wards-in-charge were discouraged from participating. After the allotted time, the survey data were downloaded. Incomplete data were deleted and complete data (1706) were analyzed using SPSS software. Descriptive statistics were used to analyze the participants' demographic characteristics and their experiences of protective measures against COVID-19.

Results

(Table 1) The majority of participants were between 20–35 years (74.7%), female (83.3%), and married (85.9%). Most (93.1%) were nurses and the professional educational qualification most frequently held was a diploma in nursing science and midwifery (60.4%). The highest percentages (31.9%) of participants were working in a district and general hospital.

Table 1 Nurse and midwife demographic characteristics (n=1706)

Items	Frequency	Percentage
Age		
20 - 35 years	1274	74.70%
36 - 45 years	268	15.70%
46 - 55 years	164	9.60%
Gender		
Male	216	12.70%
Female	1490	87.30%
Marital status		
Married	1466	85.90%
Unmarried	235	13.80%
Widow	5	3%
Designation		
Nurse	1588	93.10%
Midwife	118	6.90%
Nursing professional qualification		
Diploma in Nursing Science and Midwifery	1030	60.40%
Diploma in Midwifery	113	6.60%
BSc in Nursing	382	22.40%
Masters in Nursing	176	10.30%
Masters in Sexual and Reproductive Health	5	3%
Workplace		
Union sub-center	12	7%
Upazila health complex	444	26.00%
District and general hospital	545	31.90%
Medical college hospital	442	25.90%
Specialized hospital	244	14.30%
Other hospital	19	1.20%

(Table 2) Most (79.7%) nurses and midwives had not been infected with COVID-19. 80.8% had not received COVID-19 training. The majority (98.0%) were willing to care for COVID-19 patients. All (100%) were aware of methods for preventing exposure to COVID-19 and had followed preventive precautions. 65.6% were vaccinated against COVID-19, and 87.1% had used appropriate PPE as a protective device.

Table 2 Nurses and midwives experience of protective measures against COVID-19 (n=1706)

Items	Frequency	Percentage
Had been infected by COVID-19		
Yes	347	20.30%
No	1359	79.70%
Had received COVID-19 training		
Yes	327	19.20%
No	1379	80.80%
Willing to care for COVID -19 patients		
Yes	1672	98.00%
No	34	2.00%
Aware of methods for preventing COVID-19 infection		
Yes	1706	100%
No	0	0%
Followed COVID-19 preventive precautions		
Yes	1706	100%
No	0	0%
Vaccinated against COVID-19		
Yes	1120	65.60%
No	586	34.40%
Had used appropriate PPE		
Yes	1485	87.10%
No	221	12.90%

Discussion

The study participants were 1706 nurses and midwives from across Bangladesh. They took part via an online survey study conducted via the DGNM website. Most (74.7%) were between 20 and 35 years old, which may reflect a higher tendency towards participation, especially in online activities, among the young. In Bangladesh society, nursing and midwifery are considered female-oriented professions. Men face barriers to entering these professions and there are many more women than men performing these roles. This is reflected in this study, in which 83.3% of participants were female. Additionally, a large majority (85.9%) were married.

Different types of nursing and midwifery degrees are available in Bangladesh. The most commonly available degree is a diploma in nursing science and midwifery, and 60.4% of participants held this degree as their highest professional educational qualification. Midwifery is a relatively new formal profession in Bangladesh, compared to nursing. This is reflected in participants' job roles – 93.1 % were nurses and 6.9% were midwives.

In addition, the highest (31.9%) percentages of participants were working in a district and general hospital. This is logical as this is the largest and most commonly used type of public hospital in Bangladesh. The Bangladesh government also deploys the highest proportion of nurses and midwives in these hospitals.

The majority (79.7%) of nurses and midwives had not been infected by COVID-19. There are various possible explanations for this. Firstly, participants were located across the country and there are some regions with low COVID-19 incidence rates. Secondly, during the survey time, COVID-19 was one of the most commonly discussed topics. As such, most participants (if not all) were likely aware of COVID-19 and knew about its transmission and prevention – information they likely applied to protect themselves and others.

However, 80.8% of nurses and midwives had not received COVID-19 training. As discussed above, at the start of the outbreak (late 2019 globally / early 2020 in Bangladesh), COVID-19 was a new and rapidly-spreading disease. Bangladesh was not adequately prepared to manage its devastating effects, and this included the country's ability to provide COVID-19 training to nurses and midwives. This is supported by another study conducted in Bangladesh that found that health workers, including nurses and midwives, did not receive any official training on COVID-19.[7]

Although COVID-19 is a serious and devastating disease, the majority (98.0%) of this study's participants were willing to care for COVID-19 patients. This may be a result of specific Bangladesh government COVID-19 strategies. Following the outbreak, the government deployed a large number of nurses and midwives and announced special financial benefits for staff working in COVID-19 units or departments. The government also facilitated the provision of PPE for these workers. This finding is consistent with a study conducted in the Philippines which found that nurses were willing to care for COVID-19 patients.[8]

In the present study, all (100%) participants were aware of methods for preventing COVID-19 infection and had taken preventive precautions. In the absence of a comprehensive COVID-19 training program, this reflects recognition of the seriousness of COVID-19 on the part of nurses and midwives and a dedication to educating themselves about the disease and effective infection prevention methods. This result is consistent with a study conducted in Nepal in which nurses had a positive attitude about COVID-19 prevention and control measures.[9] In addition, a study in Nigeria found that

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healthcare workers, including nurses, used preventive measures to reduce the risk of COVID-19 infection.[10] Moreover, in Saudi Arabia, the majority of nurses employed personal protective methods.[11]

In the present study, almost two-thirds (65.6%) of participants were vaccinated against COVID-19. This was made possible by a government COVID-19 vaccine program which prioritized nurses and midwives. Finally, 87.1% of participants used appropriate PPE as a protective device. This was made possible by government initiatives to make PPE available to healthcare workers, including nurses and midwives. It also reflects workers' desire to protect themselves and their patients from COVID-19. This result is consistent with a study conducted in Nigeria that found that 91.6% of healthcare workers, including nurses, used PPE to protect against COVID-19 infection.[12]

Conclusion

This survey study aimed to investigate protective measures against COVID-19 for nurses and midwives in Bangladesh during COVID-19 period. Findings showed that the majority of nurses and midwives undertook useful protective measures against COVID-19. However, professional COVID-19 training might be useful to improve protection against this disease.

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Conflicts of interest

No conflict of interest has been declared by the authors.

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