

Original Article**Factors determining the Knowledge of Nurses Towards COVID-19 at Tertiary Hospital, Sylhet.**

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Abstract

Introduction: COVID-19 virus has become a highly contagious disease as pandemic in the current situation over the world. As a communicable disease, COVID-19 can be transmitted so rapidly from nurse to nurse, patient to nurse and nurse to other group of people. Health care workers should know knowledge about this communicable disease. This is why we have done this study.

Methods: The cross sectional study was conducted in Sylhet Women's Medical College Hospital, Sylhet, Bangladesh; from January to June 2021. Face to face data was collected. Data was collected by researcher themselves. Collected data were checked, coded and transferred into the SPSS V22.0 for analyzing data. Frequency, percentages, mean and t-test statistics were calculated.

Results: Among the participants, the age mean of senior staff nurse and junior staff nurse is 24.34 year and 33.66 year. The result shows that among senior staff nurse 25.74% was male and 74.26% was female, on the other hand among junior staff nurse, there was 100% female and no male junior staff nurse in this study. Among 134 participants of SSN, 86.77% and 96.32% were answered "yes" against "COVID-19 is communicable disease" and "COVID-19 is virus" where among 64 participants of JSN, 59.38% and 89.06% were answered "yes" against same questions. In case of "Yes" result, SSN is answer better than JSN which is statistically significant (p value is 0.006366).

Conclusion: There is comparably better knowledge about COVID-19 disease to SSN than JSN. Health care workers must gain knowledge about such pandemic disease. By gaining well knowledge; everybody can stop spreading infection of COVID-19 disease.

Keywords: Senior Staff Nurse (SSN), Junior Staff Nurse (JSN), Sylhet Women's Medical College Hospital (SWMCH), Knowledge, SARS CoV-2, COVID-19.

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Introduction

The Disease of Corona virus 2019 (COVID-19) is identified as the fetal respiratory problem,

recently caused by the Novel Corona virus subtype SARS-CoV-2 (Severe Acute Respiratory Syndrome Coronavirus-2).¹ Since December 2019, from Wuhan city the novel corona virus disease (COVID-19) has spread to other cities in China and around the world.² The World Health Organization (WHO) declared the COVID-19 outbreak a pandemic, on March 11, 2020.³ The disease COVID-19 transmit from person to other person through droplets by an infected person sneezes and by direct contact. The incubation period of this virus is 4-14 days¹

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In worldwide, many countries has used different control measures like as social distancing, hand washing, shutting public

transportation and public places, and finally testing and tracing affected communities.⁴ Patients and elderly who suffered with chronic medical conditions like cardiovascular, diabetes and kidney diseases which are more likely to get severe infection and can lead to death.⁵ The first case identified in Bangladesh since 8 march 2020. The COVID-19 patients gradually increasing after one month and it was average thousands of patients, daily. Bangladesh is a highly populated country where is a chance for spread the infection rapidly. The transmission must be stop to spread the infection otherwise Bangladesh may disable to fight against COVID-19.

Nurses have an effective role to prevent and control the COVID-19 infection. All nursing staffs are needed to gain knowledge about COVID-19 to stop the transmission of infection.⁶ The knowledge, attitude and practice regarding pandemic among doctor, nurse and other healthcare providers have been reported separately in various studies.⁽⁷⁻¹¹⁾ In fact, there is limited information regarding nurses knowledge, attitudes, perceptions and knowledge about the outbreak of COVID-19. Thus, it is authentic to understand what nurses know about the virus and their knowledge of complication and prevention.¹²

The aim of this study was to compare the knowledge between senior staff nurse and junior staff nurse about COVID-19 disease.

Methods

A cross-sectional based study was carried out for this survey. This study was conducted in Sylhet Women's Medical College Hospital (SWMCH), Sylhet, Bangladesh which was a tertiary level private hospital. The period of this survey was six months, 1 January 2021 to 30 June 2021. The study population was all nurses of SWMCH who gave direct care to the patients. In this study, participation was voluntary. The aim of

the study was to evaluate the knowledge of senior staff nurse and junior staff nurse regarding COVID-19 disease. It was a questionnaire based survey of 200 participants. Among the participants 136 were senior staff nurse (SSN) and 64 were junior staff nurse (JSN). They were asked 10 questions, four of them were about the knowledge of COVID-19 and rest of six questions was about the practice related questions. Here, the inclusion criteria was 20-45 years of age, both male & female nurses, nurses on work place, tertiary hospital and exclusion criteria was nurses who were not on work place, below of 20 years & above of 45 years of age. Informed consent obtained to each respondent after explaining the purpose and procedure of this study. A permission certificate was taken from the research ethics board of SWMCH. We used SPSS v22.0 for analyzing data. After collecting all data, we made ready an SPSS sheet then the result was calculated. Percentage and mean were measured for description. Independent t-test was used to find out the differences of means of different variables.

Results

This survey was carried out among 200 nurses (136=SSN and 64= JSN) whose were directly related with patient care in Sylhet Women's Medical College Hospital, Sylhet.

Table-01: Distribution according to age, gender, marital status, family member and professional experience.

Designation	Age Mean	Gender n=200		Marital Status n=200		Family Member n=200		Professional Experience n=200		Total
		Male (%)	Female (%)	Married (%)	Unmarried (%)	≥ 4 Member (%)	<4 Member (%)	≥5 Years (%)	<5 Years (%)	
Senior Staff Nurse	24.34	35 25.74	101 74.26	39 28.68	97 71.32	106 77.94	30 22.06	10 7.35	126 92.65	136
Junior Staff Nurse	33.66	00 00	64 100	52 81.25	12 18.75	50 78.13	14 21.87	59 92.19	5 07.81	64

Table-01 describes that the mean age of senior staff nurse was 24.34 year and junior staff nurse was 33.66 year. According to gender distribution respectively 25.74% and 74.26% were male and female of senior staff nurse and 100% was female junior staff nurse, there was no male junior staff nurse in this study. In marital status, 28.68% was married and 71.32% was unmarried of senior staff nurse, other hand 81.25% was married and 18.75% was unmarried of junior staff nurse. In case of family member distribution,

77.94% was more than or equal four (≥ 4) category and 22.06% was less than four (<4) category of senior staff nurse, on the other hand 78.13% was more than or equal four (≥ 4) member category and 21.87% was less than four (<4) member category of junior staff nurse. Finally, 7.35% senior staff nurse had more than or equal five (≥ 5) years and 92.65% had less than five (<5) years professional experience, where 92.19% junior staff nurse had more than or equal five (<5) years and 07.81% had less than five (<5) years professional experience.

Table-02: Distribution of all participants according to “Yes”, “No” and “Don't Know” results

Variable	Yes (%)	No (%)	DK (%)	n
Training Facility	34 (17%)	164 (82%)	02 (1%)	200
Communicable Disease	156 (78%)	22 (11%)	22 (11%)	200
Information from TV/Social Media	113 (56.5%)	76 (38%)	11 (5.5%)	200
COVID-19 is Virus	188 (94%)	04 (2%)	08 (4%)	200
Available of Mask	48 (24%)	151 (75.5%)	01 (0.5%)	200
Guideline about Infection	66 (33%)	130 (65%)	04 (2%)	200
Discomfort of Wearing Mask	67 (33.5%)	130 (65%)	03 (1.5%)	200
Shortage of Disinfectants	60 (30%)	138 (69%)	02 (01%)	200
Available COVID-19 Test	101 (50.5%)	68 (34%)	31 (15.5%)	200
Collecting COVID-19 Sample From Blood	29 (14.5%)	156 (78%)	15 (7.5%)	200

Table-02 was distributed according to all participants of “yes”, “no” and “don’t know” results. Here, the percentage of “COVID-19 is virus” was answered as yes, no and don’t know was respectively 94%, 2% and 4%. Percentage of “COVID-19 is communicable disease” answered as yes, no and don’t know was respectively 78%, 11% and 11%. Percentage of getting COVID-19 related information from TV/social media answered as yes, no and don’t know was respectively 56.5%, 38% and 5.5%.

Other distribution of percentage for yes, no and don’t know answer was for training facility

respectively 17%, 82% and 1%; available of COVID-19 test in Sylhet respectively 50.5%, 34% and 15.5%; discomfort of wearing mask respectively 33.5%, 65% and 1.5%; guideline about infection respectively 33%, 65% and 2%; shortage of disinfectants respectively 30%, 69% and 01%; available of mask respectively 24%, 75.5% and 0.5% and collecting COVID-19 sample from blood respectively 14.5%, 78% and 7.5%.

Table-03: Distribution of two groups according to “YES” results

Variable	Yes	Yes	t- value	P value
	SSN(136) (%)	JSN(64) (%)		
COVID-19 is Communicable Disease	118 (86.77%)	38 (59.38%)	2.78114	0.015974
COVID-19 is Virus	131 (96.32%)	57 (89.06%)		
Shortage of Disinfectants	47 (34.56%)	13 (20.31%)		
Available COVID-19 Test	76 (55.88%)	25 (39.06%)		

Table-03 shows that all questions of above knowledge regarding “COVID-19 is communicable disease (86.77% for SSN and 59.38% for JSN)”, “COVID-19 is virus (96.32% for SSN and 89.06% for JSN)”, “shortage of disinfectants (34.56% for SSN and 20.31% for JSN)”, “available of COVID-19 test (55.88% for

SSN and 39.06% for JSN)” where the mean percentage of “Yes” results between Senior Staff Nurse and Junior Staff Nurse were compared by independent t-test and the result was significant ($p=0.015974$).

Table-04 Distribution of two groups according to “NO” results

Variable	No	No	t- value	P value
	SSN(136) (%)	JSN(64) (%)		
COVID-19 is Communicable Disease	10 (7.35%)	12 (18.75%)	0.60793	0.282759
COVID-19 is Virus	01 (0.74%)	03 (4.69%)		
Shortage of Disinfectants	88 (64.70%)	50 (78.13%)		
Available COVID-19 Test	44 (32.35%)	24 (37.50%)		

Table-04 shows that all questions of above knowledge regarding “COVID-19 is communicable disease (07.35% for SSN and 18.75% for JSN)”, “COVID-19 is virus (0.74% for SSN and 4.69% for JSN)”, “shortage of disinfectants (64.70% for SSN and 78.13% for

JSN)”, “available of COVID-19 test (32.55% for SSN and 37.50% for JSN)” where the mean percentage of “No” results between Senior Staff Nurse and Junior Staff Nurse were compared by independent t-test and the result was not significant ($p=0.282759$).

Table-05 Distribution of two groups according to “DON’T KNOW” results

Variable	DK	DK	t- value	P value
	SSN(136) (%)	JSN(64) (%)		
COVID-19 is Communicable Disease	08 (5.88%)	14 (21.87%)	-0.26076	0.401498
COVID-19 is Virus	04 (2.94%)	04 (6.25%)		
Shortage of Disinfectants	01 (0.74%)	01 (1.56%)		
Available COVID-19 Test	16 (11.77%)	15 (23.44%)		

Table-05 shows that all questions of above knowledge regarding “COVID-19 is communicable disease (05.88% for SSN and 21.87% for JSN)”, “COVID-19 is virus (2.94% for SSN and 6.25% for JSN)”, “shortage of disinfectants (0.74% for SSN and 1.56% for JSN)”, “available of COVID-19 test (11.77% for SSN and 23.44% for JSN)” where the mean percentage of “Don’t Know” results between Senior Staff Nurse and Junior Staff Nurse were compared by independent t-test and the result was not significant ($p=0.401498$).

Discussion

Infection of COVID-19 is now a common problem all over the world. So, up to date knowledge of nurses can play vital roles to control in COVID-19 infection. The findings of our study suggest that there is relatively good knowledge of SSN than JSN. COVID-19 is virus and communicable disease is answered “Yes” by SSN as 96.32% and 86.77% where JSN answered “Yes” as 88.06% and 59.38% which is quite different from other study done in Vietnam.¹³

Result revealed that 33.5% of SSN & JSN were feeling discomfort while using mask where 65% of SSN & JSN were feeling comfort while using

mask but 1.5% SSN & JSN didn’t response about using mask which is nearer to the study done in South Asia.¹⁴

Thirty percent (30%) of SSN & JSN were feeling shortage of disinfectants during their duty where 69% of SSN & JSN were not feeling shortage of disinfectants during their duty, on the other hand 1% SSN & JSN didn’t response about any shortage of disinfectants. It was comparable with study findings from Nigeria, where the use of disinfectants among health workers was 83.9%.¹⁵

We hope that this study’s result will encourage both SSN & JSN to gain knowledge about COVID-19 as communicable related diseases and will minimize the rapid spread of infection.

Conclusion

It can be concluded that SSN has more understanding and knowledge than JSN. For controlling the spread of COVID-19 disease, JSN needs to arrange more awareness program to elevate the knowledge and practices during patient care.

Author’s Contributions:

Debnath J did the literature review and conceptualized the study; Debnath J, Das SR

and Saju FR collected data; Debnath J and Deby JR performed statistical analysis; Debnath J prepared the draft of manuscript; Debnath J, Das SR, Deby JR, Saju FR and Begum R did the critical review of the manuscript. All the authors read and approved the final manuscript.

Conflict of Interest:

Authors of the article declare that regarding the article there is no conflict of interest.

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