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Original Research Article

Knowledge, Practices and Anxiety related to Corona Virus Disease-19 (COVID -19) among Nursing Students in Nepal

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ABSTRACT

Introduction: COVID-19 is a pandemic that emerged and rapidly spread throughout the world in no time. Nursing students are the foundation of nursing profession and they have enormous role to control the spread of the disease in society. The present study was conducted to assess knowledge, practice and anxiety related to COVID-19 among nursing students of Nepal and to find out the correlation between anxiety and knowledge and practice. **Methods:** A descriptive cross-sectional survey was conducted among 214 Proficiency Certificate Level and Bachelor of Sciences in Nursing students of Nursing Programme, Manipal College of Medical Sciences. Data were collected from 25th May to 2nd June 2020 through self-developed structured questionnaire to measure knowledge and practice whereas, a validated "Self -rating Anxiety scale (SAS)" was used to measure anxiety level via Google form. Data were analyzed using descriptive and inferential (spearman rho correlation) statistics. **Results:** Majority (73.80%) were from age group 16-20 years of age with mean age of 19.33±1.96 years. Majorities (83.60%) were Hindus. More than half (57.50%) of the respondents had adequate knowledge regarding corona virus infection, 58.90% had good practice and only 6.10% had mild to moderate anxiety level. There was no significant correlation of anxiety with knowledge (p=0.857) and practice (p=0.375). **Conclusion:** The study showed that more than half of the nursing students had inadequate knowledge, poor practices regarding corona virus infection and very few had mild to moderate anxiety level. Anxiety was not related to knowledge and practice regarding corona virus infection.

Keywords: Anxiety; COVID-19; Knowledge; Nursing students; Practices

INTRODUCTION:

Corona virus disease 2019 (COVID-19) is a respiratory illness which spreads from person to person. The virus that causes COVID-19 is a novel corona virus that was first identified during an investigation into an outbreak in Wuhan, China. [1] The recent outbreak of respiratory illness "COVID-19" has gained attention globally and has been recognized as a major public health threat by US Centers for Disease Control and Prevention (CDC).[2] The nurses are the backbone of the health care delivery system around the world, and the student nurses are the future professionals who have the vital role in nursing profession. And, to the best of our knowledge, limited studies have been done before; hence, the present study was conducted to assess knowledge, practices and anxiety related to novel corona virus among nursing students and find

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out the correlation between anxiety with knowledge and practice.

METHODS:

A cross-sectional descriptive study was conducted from 25th May to 2nd June 2020 among students of Proficiency Certificate Level (PCL), and Bachelor of Sciences in nursing currently studying in Manipal College of Medical Sciences, Pokhara, Nepal. Using census method, sample size was 217. With only response rate of 98.61%, the final sample size was 214. Data collection was done via Google form after obtaining consent from the respondents. Data entry and analysis was done using Statistical Package for Social Sciences version 16. Both descriptive (frequency, percentage, mean, range and standard deviation) and inferential (Spearman rho correlation) statistics were used for data analysis. Institutional Review Committee of the Manipal Teaching Hospital had provided ethical approval (MEMG/IRC/324/GA). The self-administered structured tool consisted of four parts-

Part 1 -Demographic variables – (age, religion, marital status, family type, level of study, residence, information about COVID-19, source of information)

Part 2-Self-developed structured knowledge related questionnaire on COVID-19 consisted of 30 items. Each item was responded as "true "and "false" which was scored as "1" and "0"" respectively and ranged from 0 to 30. Mean obtained score was calculated and the respondents scoring equal and above the mean was classified as "adequate knowledge" and the respondents scoring below the mean was classified as "inadequate knowledge".[3,4,5]

Part 3-Self-developed practice related questionnaire on prevention of corona virus infection (15 items) measured on 5-point Likert scale as Never-1, Rare -2, Sometimes-3, Usually -4 and Always- 5. Total scores range was 5 to 75. Based on mean, practice was categorized as "good (score equal and above the mean)" and "Poor (score below the mean)". [6,7]

Part 4-A valid and reliable tool- 'Self-rating Anxiety scale (SAS)' with 20 items was used to measure the anxiety of the respondents due to COVID-19. It was measured as "A little of the sometime-1", "Some of the time -2", "Good part of the time -3" and "Most of the time - 4".[8]

After designing initial draft, validation of the tool was done through the experts from Community and Psychiatric nursing. Pretest was done among 10% (21) of samples size to assess any constraints and to identify approximate time taken for completing the self-administered questionnaire. Calculated Cronbach's alpha value was 0.70 for knowledge questionnaire, 0.72 for practice questionnaire and 0.70 for anxiety scale. The p value was set at <0.05.

RESULTS

Nearly three fourth (73.80%) of the respondents were from age group 16-20 years with the mean age 19.33±1.96years. Majorities (83.60% and 97.7%) were Hindus and unmarried respectively. Most (86.40%) of the respondents belonged to nuclear family. Many (55.60%) were from PCL nursing faculty. More than half (52.71 %) had received information about COVID-19 from internet source.

Most (99.1%) of the respondents answered correctly on causes of COVID-19, more than three fourth (79.0%) correctly responded that virus strain of COVID-19 is SARS-CoV-2. Almost all (99.1%) of the respondents gave correct response on items regarding symptoms. Likewise, 96.7% and 87.9% of them gave correct response on items regarding transmission and on items regarding preventive measures for COVID-19 infection respectively. A majority (85.5%) responded correctly that WHO declared COVID-19 as public health emergency on 30th January 2020. More than half (55.6%) gave correct response that antibiotics is not the first line treatment for COVID-19. Almost all (99.5%) of the respondents responded that personnel protective equipment should be worn by health care workers while caring patient suffering from COVID-19. The details are depicted in Table 1.

Table 2 depicts practices of the respondents regarding prevention of COVID-19. More than two third (68.7%) of the respondents were washing hands with soap and water for 20 seconds. A majority (84.1%) always covered their nose and mouth with a tissue or flexed elbow during sneezing or coughing and 84.6% used face mask while going to the crowd. Nearly one fourth (23.4%) of the respondents increased the frequency of cleaning and disinfecting items such as mobiles, door handles and

Table 1: Respondents' knowledge on COVID-19 (n=214).

SN	Statements	Response	
		True n (%)	False n (%)
1	COVID-19 is respiratory infectious disease. (T)	212(99.1)	2(0.9)
2	Virus is the cause of COVID-19. (T)	212(99.1)	2(0.9)
3	COVID-19 is a highly contagious disease. (T)	212(99.1)	2(0.9)
4	Virus strain of COVID-19 is (SARS-CoV-2). (T)	169(79.0)	45(21.0)
5	Origin of corona Virus is Wuhan, China. (T)	210(98.1)	4(1.9)
6	High fever, dry cough and dyspnea are hallmark symptoms of COVID-19. (T)	212(99.1)	2(0.9)
7	Incubation period is 2–14 days. (T)	207(96.7)	7(3.3)
8	Diagnostic method for COVID-19 is rRT-PcR Testing, Immunoassay and CT scan. (T)	160(74.8)	54(25.2)
9	COVID-19 virus spread via respiratory droplets. (T)	207(96.7)	7(3.3)
10	COVID-19 disease was an immunodeficiency disease. (F)	125(58.4)	89(41.6)
11	Older adults, people who have serious chronic medical conditions like heart disease, diabetes and lung disease are at highest risk for COVID-19.	208(97.2)	6(2.8)
12	People should eat healthy diet, well cooked meat and egg. (T)	188(87.9)	26(12.1)
13	WHO declared the COVID-19 outbreak as Public Health Emergency of International Concern on 30th January 2020. (T)	183(85.5)	31(14.5)
14	WHO declared COVID-19 as pandemic on 11th March,2020. (T)	162(75.7)	52 (24.3)
15	Antibiotics is the first line treatment for COVID-19. (F)	95(44.4)	119 (55.6)
16	Corona virus is treated with other antiviral drugs in the market. (F)	98(45.8)	116 (54.2)
17	Enquire at a nearby public health centers if symptoms are observed within 14 days from contacting a corona virus patient or visited to affected country. (T)	213(99.5)	1(0.5)
18	Social distance is important when going out in public. (T)	209(97.7)	5(2.3)
19	All public should wear N95 mask while going in crowd. (F)	187(87.4)	27(12.6)
20	Using personnel protective equipment by health care worker is mandatory while caring patient suffering from COVID-19. (T)	213(99.5)	1(0.5)

surfaces and 69.6% were eating healthy foods and maintaining healthy life styles. Similarly, more than three fourth (78.0%) of them were avoiding places where a large number of people gathered and about two third (68.7%) always cancelled or postponed visiting with friends and relatives.

Table 3 depicted that 57.5% had adequate knowledge, 58.9% had good practice and only 6.1% had mild to moderate anxiety level among the respondents.

There was negligible positive (r=0.012, p=0.857) correlation between anxiety and knowledge and negligible negative (r=-0.061, p=0.375) correlation between anxiety and practice respectively but were not statistically significant as shown in table 4.

DISCUSSION:

This study attempts to find the knowledge, practice and anxiety related to COVID-19 among nursing students and to find out relationship of anxiety with knowledge and practice. The present study findings showed that more than half (57.50%) respondents had adequate knowledge regarding COVID-19 which is similar to findings of other studies.[3,6,9,10] However, it contradicts with the findings from study conducted in Saudi Arabia where knowledge was poor.[11] The difference might be due to different study settings and availability of adequate source of information etc. People would gather information on COVID-19 from television, radio, internet, ring tones on all mobile phone service providers, discussion among peer groups etc. The present study revealed that more than half (52.71%) of the respondents got information of COVID-19

Table 2. Respondents' practice on prevention of COVID-19 (n=214).

SN	Statements	Always	Usually	Sometime	Rare	Never
		n (%)	n (%)	n(%)	n (%)	n (%)
1	Wash hands more often than usual with soap and water for 20 sec.	147(68.7)	62(29.0)	5(2.3)	-	-
2	Use hand disinfectant containing more than 60% alcohol.	93(43.5)	87(40.7)	21(9.8)	9(4.2)	4(1.9)
3	Avoid coughing around people as much as possible.	180(84.1)	29(13.6)	2(0.9)	-	3(1.4)
4	Cover nose and mouth with a tissue or flexed elbow during sneezing or coughing.	189(88.3)	22(10.3)	1(0.5)	-	2(0.9)
5	Use disposable tissue and throw it in the trash bin and cover after using it	154(72.0)	46(21.5)	7(3.3)	3(1.4)	4(1.9)
6	Use face mask when going to crowd.	181 (84.6)	29(13.6)	3(1.4)	-	1(0.5)
7	Avoid touching eyes, nose and mouth as far as I can.	91 (42.5)	97 (45.3)	19(8.9)	7 (3.3)	-
8	Increase the frequency of cleaning and disinfecting items (i.e. Mobiles, door handles and surfaces).	50 (23.4)	113 (52.8)	41(19.2)	8(3.7)	2(0.9)
9	Reduce going to closed space due to COVID-19.	120(56.1)	68 (31.8)	18(8.4)	7(3.3)	1(0.5)
10	Keep eating healthy foods and maintain healthy life styles.	149(69.6)	55 (25.7)	10(4.7)	-	-
11	Discuss with family, friends what to do if infected with COVID-19.	98(45.8)	87(40.7)	28(13.1)	-	1(0.5)
12	Reduce the use of public transportation due to COVID-19.	160(74.8)	31(14.5)	3(1.4)	16 (7.5)	4(1.9)
13	Avoid places where a large number of people have gathered.	167(78.0)	40(18.7)	5(2.3)	1 (0.5)	1(0.5)
14	Shopping less frequently	120(56.1)	53(24.8)	13(6.1)	20(9.3)	8(3.7)
15	Cancel or postpone visiting with friends and relatives.	147(68.7)	50(23.4)	13(6.1)	3(1.4)	1(0.5)

from internet followed by multimedia which is in line with a study conducted by Tork HM and Kim JS.[12,13]

Table 3. Level of knowledge, practice and anxiety regarding COVID-19 of respondents (n=214).

Characteristics		N (%)
Knowledge	Adequate	123 (57.5)
	Inadequate	91 (42.5)
Practice	Good	126 (58.9)
	Poor	88 (41.1)
Anxiety	Normal	201 (93.9)
	Mild to moderate	13 (6.10)

Most (96.2%) responded correctly that older adults with serious chronic medical conditions like heart disease, diabetes and lung disease are at highest risk for COVID-19 infection which is similar to other studies conducted in Saudi Arab and China.[14,15] More than half (58.9%) of the respondents in the present study were having good practices against COVID-19 infection which is similar to the studies conducted in other settings.[16,17,18] The present study showed that majority (68.7%) of respondents always washed hands more often than usual which is consistent to previous studies as well.[19,20,21,22,23,24] Majority (84.5%) of the respondents always used face masks when going to the crowd which is in line with other studies.[6,25]

T*able 4. Correlation between anxiety level with knowledge and practice of respondents (n =214).*

Variables	r value	p-value
Anxiety		
Knowledge	.012	.857
Practice	-.061	.375

The present study revealed that only few (6.1%) of respondents were having mild to moderate anxiety level which contradicts the study conducted in Israel where high level of anxiety was prevalent among nursing students.[26] These may be due to of lock down of the country, universities had started online classes while students were staying in their own home with family rather than in hostel and also they were not exposed as frontliners for caring patients.

The limitation of this study was that as it was conducted in only one college, the results cannot be generalized. And also, there are chances of recall bias on information.

CONCLUSION:

The study revealed that half of the respondents had adequate knowledge and good preventive practices related to COVID-19. And very few were having mild to moderate anxiety level. There was negligible relation of anxiety with knowledge and practice related to COVID-19. This result suggested that half of the nursing students needed specific education on emerging infectious diseases and preventive behaviors to fortify their knowledge and practices during the outbreak. Hence, the nurse educators should take initiation in this matter to enhance their knowledge and practice level as they are also a part of health care delivery system.

Conflict of Interest: The authors declare that no competing interests exist.

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