Knowledge Regarding Covid-19 Among Nursing Students in Selected Nursing college of Rupandehi District Nepal

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***Abstract*- Background:** COVID- 19 is a highly contagious respiratory disease. It was first detected in December 2019 Wuhan, China and since then it had spread across the globe and leads to many mortality and morbidity. Therefore strict lockdown and many unprecedented measures were adopted to control COVID-19 spread across the world.

Aim of the study: The aim of the current study is to assess the knowledge regarding COVID-19 among Bachelor level nursing students

Subjects and Methods: A quantitative cross-sectional design was adopted. The study sample consisted of 137 students studying at Sanjeevani college of Medical Sciences Butwal Rupandehi. Data have been collected by self-administered online questionnaire which was consisted of two parts through census method.

Results: This study finding revealed that, high knowledge (score above 80%) was obtained by 51.09% of respondents and moderate knowledge (score 60-80%) was obtained by 48.9 % of respondents. No evidence of any association between selected socio demographic variables and level of knowledge was found as p values for all association was greater than 0.05%.

Conclusion: In conclusion all respondents had moderate to high knowledge regarding covoid-19& no evidence of any association between selected socio demographic variables and level of knowledge was found, it is recommended to concerned authority to conduct training & seminars on covid-19 to enhance the knowledge among nursing students.

***Index Terms*-** Covid-19, Knowledge, Nursing students, online survey

I. INTRODUCTION

Corona virus disease 2019 (COVID-19) is an emerging respiratory disease caused by a novel corona virus now called severe acute respiratory syndrome corona virus 2 (SARS-CoV-2; formerly called 2019-nCoV) and was first detected in December 2019 in Wuhan, China. It has become an exceedingly contagious infirmity lead by a novel virus related to a corona virus family. . WHO declared it as global health emergency on January 30, 2020 It was declared global pandemic on 11th march, 2020 [3]. Nepal identified its first case on January 23, 2020 when a 31-year-oldstudent, who had returned to Kathmandu from Wuhan on 9 January, tested positive for the disease [5]. As of 20th August 2021, total of 742,228 COVID-19 cases were confirmed, and 10429 deaths in Nepal [10]**.**It is acute respiratory disease in which transmission occurs essentially through respiratory droplets and this virus said to have 2-14 days of incubation. Common signs of infection include respiratory symptoms, fever, and cough, shortness of breath and breathing difficulties. In more severe cases, infection can cause pneumonia, severe acute respiratory syndrome, kidney failure and even death [9].Diagnosis is confirmed with RTPCR of SARS COV -2 RNA preferably from the isolated patients' nasopharyngeal swab. The Centers for Disease Control and Prevention reiterated that everyone should protect themselves and others to prevent the spread of the disease; such protection includes proper hand hygiene, isolation and decontamination of surfaces[1].

To date, there is no cure currently available to treat it. Therefore, it is of paramount importance that students have extensive knowledge about the preventive measures (social distancing, hand hygiene, coughing etiquette, avoiding crowded places, and wearing a face mask when going outside of the house) as applying the aforementioned techniques constitutes the first line of defense against infection[2].

All viruses, including SARS-CoV-2, the virus that causes COVID-19, change over time. Most changes have little to no impact on the virus' properties. However, some changes may affect the virus's properties, such as how easily it spreads, the associated disease severity, or the performance of vaccines, therapeutic medicines, diagnostic tools, or other public health and social measures. WHO, in collaboration with partners, expert networks, national authorities, institutions and researchers have been monitoring and assessing the evolution of SARS-CoV-2 since January 2020? During late 2020, the emergence of variants

that posed an increased risk to global public health prompted the characterization of specific Variants of Interest (VOIs) and Variants of Concern (VOCs), in order to priorities global monitoring and research, and ultimately to inform the ongoing response to the COVID-19 pandemic [14].

II. Aim of the Study

The aim of the study is to assess the knowledge regardingCOVID-19 among nursing students in selected nursing college.

III. Subjects and Methods

3.1. Study Design, Setting, and Sample

A quantitative, descriptive, cross-sectional design was used in this study. This study was carried out at Sanjeevani College of medical Sciences butwal, Rupandehi with 137 Sample. A census method was used to select the Sample.

3.2. Ethical Considerations

Ethical approval was taken from concerned authority of Sanjeevani College of Medical Sciences. Researcher obtained the verbal consent from each individual prior to data collection to ensure right of the subject. The researcher had clearly explained the purpose of the study and advantage of the study. Anonymity and confidentiality of the given information was maintained. The collected data were used only for research purpose. The subject was allowed to refuse to participate in the study at any time. Respondent were not harmed physically, psychologically and emotionally.

IV. Data Collection Procedure

A self prepared self-administrated online questionnaire was used to collect data. It consisted of two sections. The first section consisted of items related to socio demographic characteristics of the participants including age, religion ethnicity, marital status, history of exposure, clinical posting experience during pandemic. The second section consisted of 20 items related to knowledge about COVID-19. The study participants were asked to respond to the questions related to knowledge, in which one score was given for correct response, and zero was given for false answer, The participants' level of knowledge were classified as high (score above 80 percent) , moderate (score between 60-80 percent) and low (below 60 percent).

V. Statistical Analysis

Statistical Package for Social Science (SPSS) version 26 was used to analyze the data. The statistical procedure which has been used include descriptive statistics such as means, , frequencies and percentages, and inferential statistics such as chi-square test.

VI. Results

out of 137 respondents Highest percentage(67.61 %)were of age between 18 to 25 years and 31.38% were above 25 years, Most of the respondents(92.7%) were Hindu & only1.5 % were Christian. Majority (40.1%) were Brahmin and only 19.7% respondents were Dalit . Regarding types of nursing program 56.2% were bachelor of nursing students and 43.8% were bachelors of Science in nursing students among them51.1 % were of Second year and 48.9% students were studying on 3rd year. Majority (72.3%) was unmarried &27.7% were married. Majority (72.3%) respondents were belongs to nuclear family. More than half (53.3%) had a history of COVID-19 among self and family members. All (100%) of the respondents had clinical posting during pandemic and 54% of the respondents had participated in seminars or training of COVID-19(Not shown in table). Most of them (85.4%) answered COVID-19 as a respiratory infectious disease and 14.6% answered it as an immune deficiency disease. More than three fourth (84.7%) of respondents answered the meaning of 19 in COVID-19 as 1st case reported in 2019, 9.5% answered caused by covid19 virus and 5.8% answered as virus has 19 variants. Majority (85.4%) of respondents answered that they learned about corona virus before the COVID-19 pandemic and 14.6% answered after the COVID-19 pandemic. More than half (68.6%) answered SARS-CoV-2 as the causative agent of COVID-19, 24.1% answered Covid and 7.3% answered SARS. COVID-19 and nobody answered eating wild animals or mosquito bite as the causative agent.(Table 1)). Less than half (40.9%) answered caudoviralesas order of virus causing COVID-19 which is incorrect response, & only 24.8% answered Nidovirales which is correct response. Almost all of them (92.7%) answered that place reporting first case of COVID-19 as Wuhan(Table 2). More than half (54.7%) answered correctly 11th March 2020 as date of declaration of COVID-19 as pandemic by WHO. More than three- fourth (85.4%) answered incubation period of COVID-19 as 2-14 days, & Majority(88.3%) answered fever, dry cough, fatigue as most common symptoms of COVID-19 which are correct response .All (100%) answered people above 60yrs ,heart and lungs problem, diabetes and Cancer as individual susceptible of developing sever infection of COVID (Table 3). Among 137 respondents less than half(40.9%) answered runny nose, common cold, sneezing as less common symptom of COVID-19. All (100%) answered nasopharyngeal swab as most common sample used for diagnosing COVID-19 and almost all (97.4%) answered RT-PCR as diagnostic test of COVID-19 which is correct response. Majority(86.9%)answered Early symptomatic and supportive management no definite treatment as treatment protocol of COVID-19, Nearly two third (65%) answered at least 20 seconds as the duration of hand washing to kill SARS-CoV-2, Almost all 97.8%) answered person with COVID-19 without any symptom as individuals who can infect other people with COVID-19. All of the (100%) respondents answered social distancing, using surgical mask and using sanitizer as preventive measures of COVID-19 and14 days as the duration of isolation for suspected case ofCOVID-19 (Not shown in Table).

Table 1:Knowledge RegardingMeaning, Nomenclature,First Learned about and Mode of Transmission of COVID-19
N= 137

Variables	Frequency	Percentage
Definition		
Immune deficiency disease	20	14.6
Respiratory infectious disease	117	85.4
Meaning of 19 in COVID-19		
1st case reported in 2019	116	84.7
Virus has 19 variants	8	5.8
Caused by covid19 virus	13	9.5
Causative agent		
SARS	10	7.3
SARS-COV-2	94	68.6
Covid	33	24.1
First heard of corona virus		
Before COVID-19 pandemic	117	85.4
During the pandemic	20	14.6
Mode of transmission		
Respiratory droplets	137	100

Table 2: Knowledge Regarding Order of Virus and Place Reporting First Case of COVID-19
N= 137

Variables	Frequency	Percentage
Order of virus causing COVID-19		
Caudovirales	56	40.9
Herpesvirales	17	12.4
Nidovirales	34	24.8
Picornavirales	30	21.9
Place Reporting First Case		
Wuhan	127	92.7
Shenzhen	2	1.5
Shanghai	2	1.5
Beizing	6	4.4

Table 3: Knowledge Regarding Pandemic Declaration, Incubation Period, Symptoms and High Risk Individuals for Severe COVID-19.
N= 137

Variables	Frequency	Percentage
Date of Declaration as Pandemic by WHO		
30th January 2019	41	29.9
15thDecember 2020	13	9.5
20thAugust 2019	8	5.8
11thMarch 2020	75	54.7
Incubation period		
1-7 days	18	13.1
2-3 days	2	1.5
2-14 days	117	85.4
Most common symptoms		
Fever, Dry cough, fatigue	121	88.3
Headache, Muscle pain	4	2.9
Loss of taste or appetite	12	8.8
High risk individual for getting severe COVID-19 infection	137	100

People above 60 years, heart and lungs problem, diabetes and cancer	

Table 4: Level of Knowledge regarding COVID-19
N= 137

Knowledge	frequency	Percentage
High knowledge- scoreabove80%	70	51.1
Moderate knowledge- score between 60-80%	67	48.9

Among137 respondents, high knowledge (score above80%) was obtained by 51.1% of respondents, moderate knowledge (score between 60-80%) was obtained by 48.9 % of respondents and nobody has low level of knowledge (score below 60%).

Table 5: Association between Level of Knowledge and Selected Socio-demographic Variable
N=137

Variables	Level of knowledge		Chi square	Degree of freedom	Prevalence (P)	Remarks
	Moderate	High				
Age						
18-25	45	49	0.128	1	0.721	No association
Above 25	22	21				(P > 0.05)
Level of education						
2nd year	36	34	0.365	1	0.546	No association
3rd year	31	36				(P > 0.05)
Attended seminars and trainings of COVID-19						
Yes						No
No	34	40	0.564	1	0.453	association
	33	30				(P > 0.05)

Regarding association between level of knowledge and selected socio demographic data of respondents There is no Statistically significant association between age and level of knowledge regarding COVID-19 as P values was 0.72 and chi square was 0.128 and also there is no association between level of education and level of knowledge regarding COVID-19 as P value was0.546 and chi- square was0.365. Similarly it also reveals that there was no evidence of association between level of knowledge and attendance of seminars and training programs of COVID-19 as P value was 0.453 and chi square is0.564.

VII. Discussion

This study results indicated that out of 137 respondents, high knowledge (score above 80%) was obtained by 51.09% of respondents and moderate knowledge (score between 60-80%) was obtained by 48.9 % of respondents this result supported by similar study done in Manipal college of medical Sciences found that 57.5% has adequate knowledge regarding COVID-19 [11]. Also supported by a study in Sirmaur , India among 145 nursing students where the study revealed that only 31.7% of students had good knowledge about COVID-19, and 68.3% had average knowledge[12]. However knowledge level of 47% (lower than the

acceptable cut-off of 50%) indicated a low level of COVID-19 related knowledge in 4 Universities in south Nigeria contradicts the result of this study [11]. This difference may be because of differences in study setting , timing of study and availability of resources.

Regarding association between socio demographic information and level of knowledge, as the p value for each association tends to be greater than 0.05 It revealed that no evidence of association between age, level of education , attendance of seminars and training programs of COVID-19 with level of knowledge regarding COVID-19 as P value was 0.72 and chi square was 0.128 , P value was 0.546 and chi- square was 0.365, P value was 0.453 and chi square was 0.564 respectivel.which is also supported by another similar study performed by Vikrant kulthe in Aurangabad Nashik , India where p value for all the selected socio demographic data and knowledge score was greater than 0.05 for level of education p value was 0.07 and for attendance of seminar and trainings related to COVID-19 p value was 0.317[9].

More than two- third (68.61%) of the respondents were between 18-25 years and 31.38% were of age > 25which is supported by previous study reported that 84.3% were between 18-25years and 15.7% of the respondents were of age >25 [7].

Majority (92.7%)were Hindu, and72.3 % unmarried as supported by a previous study performed among nursing students of Manipal college of medical Sciences reported that 83.6% were Hindu and 97.7% were unmarried. Nearly three fourth (72.3%) of respondent belongs to Nuclear family as supported by similar study of Manipal college of medical Sciences where it was 86.4[13].

More than half (53.3%) had a history of COVID-19 among self and family members. 54% of the respondents had participated in seminar s or training of COVID-19 which contradicted by a similar study in India where only 44% had attended seminars and trainings related to COVID- 19. [9]Absolute (100%) answered social distancing, using surgical mask and using sanitizer as preventive measures of COVID-19.Regarding time of first learned about Coronavirus , 85.4% answered that they learned about coronavirus before the COVID-19 pandemic where as in a similar study in 4 Universities in 4 different states in South-South Nigeria76.9% answered they learned about corona virus after COVID-19 pandemic.[11]

Majorities (85.4%) of respondents answered COVID-19 as a respiratory infections, , 54.7% answered 11th March 2020 as date of declaration of COVID-19 as pandemic by WHO, 85.4% answered incubation period of COVID-19 as 2-14 days and 92.7% answered Wuhan as place of origin of COVID-19 which is supported by a similar study in Manipal college of medical Sciences where 99.1% of respondents answered COVID-19 as a respiratory infections79% answered SARS-CoV-2 as causative,75.7% answered 11th March 2020 as date of declaration of COVID-19 as pandemic by WHO, 96.7% answered incubation period of COVID-19 as 2-14 days and 98.1% answered Wuhan as place of origin of COVID-19 [13]. More than half (84.7%) answered the meaning of 19 in COVID-19 as 1st case reported in 2019 and 66.8% answered SARS-CoV-2 as causative agent very similar finding was found in a study performed in Himalchal, India where 57.2% answered 1st case reported in 2019 and 94% answered SARS-CoV-2 as causative agent respectively. Regarding order of virus causing COVID-19 only 24.8% answered Nidovirales whereas 97.2% answered Nidovirales in the same study performed in Himalchal, India [12].

Absolute (100%) answered respiratory droplets as mode of transmission of COVID-19, 88.3% answered fever, dry cough, fatigue as most common symptoms of COVID-19, and 40.9% answered runny nose, common cold, sneezing as less common symptom of COVID-19, very similar study among nursing students of the School of Nursing and Midwifery, Patan Academy of Health Sciences, Lalitpur supports the .result 97.6% answered respiratory droplets as mode of transmission of COVID-19 , 98.7 % answered fever, as most common symptoms of COVID-19 and answered 50.5% runny nose as less common symptom of COVID-19[3].

Entire 100% of respondents answered people above 60yrs ,heart and lungs problem, diabetes and Cancer as risk factor of developing sever infection of COVID-19 and , 86.9% answered Early symptomatic and supportive management no definite treatment as treatment protocol of COVID-19which is supported by a study in Afyonkarahisar Health Sciences University where 88.6% answered heart and lungs problem, diabetes and Cancer as risk factor of getting severe COVID-19 infection and , 87% answered Early symptomatic and supportive management no definite treatment as treatment protocol of COVID-19[4] . Majority (97.8 %) answered person with COVID-19 without any symptom can infect other people with COVID-19, 100% answered 14 days as the duration of isolation for suspected case of COVID-19 .A similar study among student nurses in Dubai support the result where 94% answered person with COVID-19 without any symptom can infect other people with COVID-19, 83.9 % were sure that 83.9% were sure about 14 days as the duration of isolation for suspected case of COVID-19. [6]

VIII. Conclusion

On the basis of findings of this study it is concluded that all student nurses had moderate to high knowledge regarding COVID-19 and there is no evidence of association between level of knowledge and selected socio- demographic variable of the respondents , indicating that they are well known in the disease.

IX. Recommendation

Based on the aforementioned findings, this study recommended to Based on the study findings it is recommended to concerned authority to conduct training programs and seminars to enhance the knowledge regarding covid-19 among nursing students mentioning importance of maintaining the social distancing for 2 meters, hand washing steps , appropriate methods of wearing mask and its benefits because prevention is better than cure .

X. Limitations of the Study

The study was conducted only among bachelor level nursing students of Sanjeevani College of Medical Sciences, Butwal -10, Kalikanagar, so the findings could not be generalized in other setting. The data presented in this study are self-reported and

partly dependent on the participants' honesty and recall ability; thus, they may be subject to recall bias.

Conflict of Interest

The authors declare no conflict of interest.

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