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A Descriptive Study to Evaluate the Knowledge Regarding Safety Measures and Prevention of Covid-19 among Nursing Students of V3 College of Nursing at Rudrapur, Uttarakhand

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Abstract

A study was carried out to find out the existing knowledge of students and to develop, implement and evaluate for nursing students about knowledge about safety measure and prevention of covid-19 among nursing students. In the present study non-experimental design was used. The study was conducted at V3 College of nursing at Rudrapur. 100 Nursing students were selected as sample by non-probability convenient sampling technique. Data were collected in 2 parts; part A includes the questions regarding their demographic characteristics and part B the knowledge questionnaire regarding safety measures and prevention of covid-19.1 Section A: description of sample in term of demographic variables. Section B: - it includes 34 questionnaires which are divided into 3 parts Introduction, Safety measures and Prevention.

The study shows that out of 100 samples most of the nursing students (63%) was having moderate knowledge, (36%) students were having inadequate knowledge and (1%) has adequate knowledge. It was revealed that majority of the students (54%) were belonged to the age group of 18-20 Years followed by (42%) age group of 21-23 years and (4%) students were from age group above 24 years. Maximum numbers of students (85%) were females and (15%) students were male. Maximum numbers of students (54%) were belonged to non- medical family background and (46%) students were belonged to medical family background. Majority that is (95%) had previous information about safety measures and prevention of covid-19 while only (5%) do not have previous information about safety measures and prevention of covid-19. Source of information like majority of information was found from television that is (37%), social media that is (35%), other source of information that is (20%) and newspaper that is (8%).

In demographic variables we found that the mean value of Age is 20.5 with SD=1.72, in Gender mean value of male was found 0.15 with SD=1.48 and mean value of female was found 0.85 with

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SD=8.41, in educational status for B.Sc. nursing mean value is 0.64 with SD=6.33 and mean value for GNM was found 0.36 with SD=3.56, In family income the mean value was 33.33 with SD=18.19, in medical family background the mean value was found 0.46 with SD=4.55 and in non-medical family background the mean value was found 0.54 with SD=5.34, in previous knowledge about covid-19 if yes the mean value was found 0.95 with SD=9.40 and if No the mean value was found 0.05 with SD=0.48 and source of information the mean value was found for newspaper 0.08 with SD=0.78, for television the mean value was found 0.37 with SD=3.66, for social media the mean value was found 0.35 with SD=3.46 and any other the mean value was found 0.2 with SD=1.97.

The chi square analysis was carried out to determine the association between knowledge level and demographic variables. It was evident from result that nursing students were influenced by their Gender, Family income, Family background, previous information about safety measures and prevention of covid-19, and source of information. Here the H1 was accepted for association of knowledge level with variables Gender, Family income, Family background, previous information about safety measures previous and prevention of covid-19 and source of information. By using inferential statistics knowledge level of students were associated with their selected demographical characteristics. In gender the chi square value was found(p=0.271) which is less than the table value at(p=5.99), in family income the chi square value was found(p=4.93) which is less than the table value at(p=9.49), in family background the chi square value was found (p=2.989) which is less than the table value (p=5.99) and previous knowledge about the safety measures and prevention of covid-19 the chi square value was found (p= 0.101) which is less than the table value at (p=5.99), If yes, source of information the chi value was found (p=7.685) which is less than the table value (p=12.59) at the 0.05 level of significant which clearly indicated that there is association between the these above demographical variables and knowledge of students.

However, demographical variables such as age, and educational status were found to be non-significant. According to age chi square value was found (p=30.59) which is more than the table value (p=9.49), which is clearly indicate that there is no association between the age and knowledge of student. In education status the chi square value was found (p=9.5835) which is more than the table value (p=5.99) which is clearly indicated that there is no association between these demographic variables and knowledge of students.

On the basis of present study, the researcher concluded that most of the nursing students had moderate knowledge about safety measures and prevention of covid-19. Researcher assessed the knowledge about safety measures and prevention of covid-19 to prevent suffering from covid-19. Researcher also open-up new pathway for future studies on the topic for more generalization. This concluded that the how many students are aware about safety measures and prevention of covid-19.

Introduction

The novel human corona virus disease 2019 (covid-19) was first reported in Wuhan, China, in 2019, and subsequently spread globally to become the fifth documented pandemic since 1918 flu pandemic. By September 2021, almost two years after covid-19 was first identified, there had been more than 200 million confirmed cases and over 4.6 million lives lost to the disease.

The world health organization (WHO) declared the outbreak a public health emergency of international emergency of international concern on 30 January 2020, and a pandemic on 11 March 2020. As of 27 December 2022, the pandemic had caused more than 657 million cases and 6.67 million confirmed deaths, making it one of the dead listed in history. SARS-CoV-2 can be transmitted human to human by respiratory droplets, close contact with diseased patients, and possibly by fecal-oral and aerosol contact. Majority of SARS-CoV- 2 infected individuals (80 %) are asymptomatic or present mild symptoms most likely due to a good immune response able to control the advance of the disease. The best way to prevent transmission and illness is to avoid being exposedto the virus. Therefore,

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some recommendations include wash hands often, avoid close contact, cover mouth and nose with a mask, cover coughs and sneezes, and clean and disinfect frequently touched surfaces daily. Symptoms and signs associated with viral pneumonia such as fever, cough, sore throat, headache, fatigue, myalgia and dyspnea are frequently shown by patients during the onset of COVID-19. Additionally, loss of taste or smell and gastrointestinal symptoms like nausea, vomiting or diarrhea has also been reported by infected patients. According to the Centers for Disease Control and Prevention (CDC) Trusted Source, there are seven different corona viruses that have been known to cause illness in human.

Need for the study

Covid-19 pandemic is a global emergency that requires the implementation of drastic measures to have the diseases fast spread. Students commitment to preventive measures is impacted by their knowledge attitude towards the disease. It is important the nursing students who will be at the for front ofproviding health services and be key personnel in the development of health practices have sufficient knowledge of covid-19 and related appropriate practices surrounding the outbreak. Thus, it is necessary to update the nursing curriculum for the changing needs in nursing student education in urgent public health problem. As health care professionals, nurses are responsible for directing patients, families and communities to advice from health care authorities and to inform them about the current information regarding safety measures and prevention ofcovid-19. Nursing students who will provide health services to the patients in the future should also have knowledge that will provide necessary training and counselling to protect and support public health during covid-19 period. Therefore, nursing curriculum should be designed to foster a nursing work force that follow the health recommendations. It is important to assess the knowledge of nursing students so that they can make other aware about safety measures and preventions of covid-19. As the population, the number of people living with covid-19 disease is expected to grow consequently nursing students are expected to care for more people with covid-19 in future careers. Exploring nursing student's level of knowledge and attitude is essential here to fill any knowledge gap and enhance attitudes. For this reason, the current study aimed to assess the knowledge regarding safety measures and prevention of covid-19.

In a study conducted to assess the knowledge regarding safety measures and prevention of covid-19 among nursing students in Rudrapur, results showed that the best predicators for good response were nursing students who had previous knowledge about safety measures and prevention of covid-19. Data was collected through questionnaire consisting of safety measures and prevention of covid-19. Hence, the investigator felt the need and desire to carry out a study to evaluate the knowledge regarding safety measures and prevention of covid-19 among nursing students of V3 college of nursing Rudrapur, Uttarakhand.

Statement of the Problem

"A descriptive study to evaluate the knowledge regarding safety measures and prevention of covid-19 among Nursing students of V3 college of Nursing at Rudrapur, Uttarakhand''.

Objectives of the study

- To assess the knowledge level score regarding safety measures and prevention of covid-19 among nursing student of selected college of Nursing at Rudrapur.
- To find out the association between the knowledge level score regarding safety measures and prevention of covid-19 and selected demographic variables.

Materials and Methods

Hypothesis

Hypothesis will be tested at 0.05 level of significance.

$H0$: there will be no significant association between the knowledge score and the selected demographic variables among nursing students.

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H1: there will be a significant association between the knowledge score and the selected demographic variables among nursing students.

Methodology

Research approach

Quantitative experimental approach.

Research design

Descriptive research design.

Research setting

V3 college of Nursing Rudrapur.

Sample

Nursing students.

Sample size

100 Nursing students.

Sampling technique

Probability convenience sampling.

Data collection instruments

Section A: It consists of 7 items on socio-demographic variables of nursing students.

Socio-demographic variables were Age, Gender, Course, Family income, Family background and Any previous knowledge about covid-19 If yes, from where.

Section B: It consists of 34 questionnaires regarding knowledge about safety measures and prevention of covid-19.

Methods of data collection

1. Written permission was obtained from the Principal of V3 College of Nursing, Rudrapur
2. The sample was selected based on the sampling criteria and using Probability convenience sampling.
3. 100 Nursing students were selected and assessed knowledge level regarding safety measures and prevention of covid-19 by structured knowledge questionnaire.

Data analysis

1. Descriptive: frequency, percentage, mean and standard deviation.
2. Inferential: chi square test were used for the analysis and interpretation of data.

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SECTION A

S.No.	Demographic data	Details	No. of persons	
			Frequency	Percentage
1.	Age	a) 18-20	54	54%
		b) 21-23	42	42%
		c) More than 24	4	4%
2.	Gender	a) Male	15	15%
		b) Female	85	85%
3.	Educationalstatus	a) B.sc nursing	64	64%
		b) GNM	36	36%
4.	Familyincome	a) 10,000-20,000/month	59	59%
		b) 20,000-30,000/month	19	19%
		c) More than 30,000/month	22	22%
5.	Family background	a) Medical	46	46%
		b) Non-medical	54	54%
6.	Previous knowledge about covid-19	a) Yes	95	95%
		b) No	5	5%
7.	If, yes sourceof information	a) Newspaper	8	8%
		b) Television	37	37%
		c) Social media	35	35%
		d) Any other	20	20%

Table 1: Frequency and Percentage distribution of demographic variablesof sample.

The above table no.1 shows that the percentage distribution of student nurses according to age, 54% belonged to the age group of 18-20years, while 42% of them belonged to the age group of 21-23years, and only 4% of them were above 24years and the data shows the percentage distribution of family background, This data shows that 54% students belong to non-medical family background and only 46% students belong to medical family background and The data shows that majority of students 95% have previous knowledge about covid-19 and only 5% do not have any previous knowledge about covid-19 and shows the majority that is 37% have previous information about covid-19 from television and only 8% have previous knowledge from newspaper.

SECTION B

Introduction		Safety measures		Prevention	
Less than 50%inadequate knowledge(0-16)		Moderate knowledge (17-25) (50-70%)		Above 70% adequate-knowledge (26-34)	
Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
36	36%	63	63%	1	1%

Table 2: Frequency and percentage distribution of knowledge about covid-19.

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Table 2 Shows knowledge on covid-19 among nursing student in that 36% of nursing student have inadequate knowledge, 63% have moderate knowledge & only 1% have adequate knowledge.

S.No.	Question number	Introduction	Frequency	Knowledge in percentage
1.	12.	Patient who is at lowest risk of developing complications due to COVID-19	28	9.52%
2.	9.	Which symptom is considered to be a severe case of COVID-19?	31	10.54%
3.	7.	Incubation period of COVID-19.	84	28.56%
4.	5.	Major complication of COVID-19 patient.	86	29.24%

Table 3: Frequency and percentage of question related to introduction of covid-19 among nursing student.

Table 3 shows frequency and percentage of question related to introduction of covid-19 among nursing student in that majority of student that 29.24% of nursing student give right answer of major complication of a covid- 19 patient and only 9.52% of nursing student give right answer of patient who is at lowest risk of developing complications due to covid-19.

S.No.	Question number	Safety Measures	Frequency	Knowledge in Percentage
1.	20.	Washing hands help to prevent the spread of COVID-19.	14	4.76%
2.	21.	Why should avoid touching face.	59	20.06%
3.	16.	A health worker come into contact with positive covid-19 patient without PPE should be quarantined for	67	22.78%
4.	22.	Who in the general public- needs to wear face mask when out in public places?	83	28.22%

Table 4: Frequency and percentage of question related to safety measures of covid-19 among nursing student.

Table 4 shows frequency and percentage of questions relate to safety measures of covid-19 among nursing student in that majority of nursing student that 28.22% of nursing student give right answer of who is the general public needs to wear face mask when out in public places and only 4.76% of nursing student give right answer of washing hands helps to prevent the spread of covid-19.

S.No.	Question number	Prevention	Frequency	Knowledge in percentage
1.	28.	Right sequence of donning PPE while caring for covid-19	25	8.5%
2.	29.	Right sequences for doffing PPE after caring covid-19 patient.	29	9.86%
3.	30.	Benefits of infection, prevention and control (IPC)	78	26.52%
4.	23.	Best ways to prevent getting infected with covid-19	82	27.88%

Table 5: Frequency and percentage of question related to prevention of covid-19 among nursing student.

Table 5: shows frequency and percentage of question related to prevention on covid-19 among nursing student in that majority of students that 27.88% of nursing student give right answer best way to prevent getting infected with covid-19 and only 8.5% of nursing students give right answer of right sequence of donning PPE while caring for covid-19.

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S.No.	Demographic variables	Category	Frequency	Mean	SD	Chi-square/df	P Value
1.	AGE	18-19 years	54	20.5	1.72	30.59/4 (NS)	9.49
		20-21 years	42				
		22-23 years	04				
2.	GENDER	Male	15	0.15	1.48	0.271/2 (S)	5.99
		Female	85	0.85	8.41		
3.	EDUCATIONAL STATUS	B.Sc. Nursing	64	0.64	6.33	9.5835/2 (NS)	5.99
		GNM	36	0.36	3.56		
4.	FAMILY INCOME	10,000-20,000/month	59	33.33	18.19	4.931/4 (S)	9.49
		20,000-30,000/month	19				
		More than 30,000/month	22				
5.	FAMILY BACKGROUND	Medical	46	0.46	4.55	2.989/2 (S)	5.99
		Non-medical	54	0.54	5.34		
6.	PREVIOUS KNOWLEDGE ABOUT COVID-19	Yes	95	0.95	9.40	0.101/2 (S)	5.99
		No	05	0.05	0.48		
7.	IF YES, SOURCE OF INFORMATION	Newspaper	08	0.08	0.78	7.685/6 (S)	12.59
		Television	37	0.37	3.66		
		Social media	35	0.35	3.46		
		Any other	20	0.2	1.97		

Table 6: Overview of Knowledge About Covid-19 With Selected demographic Variables.

Table No.6 present the results of association between knowledge score and demographic variable of nursing student like Gender, Family income, Family Background, Previous Knowledge, If Yes, Source of information regarding safety measures and prevention of covid-19 and No association found with Age and Educational status.

Results

Data from 100 Nursing students is tabulated, analyzed and interpreted considering objectives and hypothesis of the study, using descriptive and inferential statistics. 36% of nursing student have inadequate knowledge, 63% have moderate knowledge & only 1% have adequate knowledge regarding safety measures and prevention of covid-19. Highest percentage of nursing students (29.24%) given the right answer of question: Major complication of a covid-19 patient from introductory part. Highest percentage of nursing students (28.22%) given the right answer of question: Who in the general public-needs to wear face mask when out in public places from safety measures part. Highest percentage of nursing students (27.88%) given the right answer of question: Best ways to prevent getting infected with covid- 19 from prevention part. There was significant association with Gender, Family income, Family Background, Previous knowledge about covid-19 and if yes, source of information.

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Discussion

Among 100 participants 36% of nursing student have inadequate knowledge, 63% have moderate knowledge & only 1% have adequate knowledge regarding safety measures and prevention of covid-19. It was observed that the moderate knowledge were higher among Nursing students regarding covid-19.

Nursing Implications
Nursing education

This study finding can be utilized for health education to improve the level of knowledge and practice regarding COVID-19 for utilizes this knowledge and practice in clinical areas to save the life of patients. The findings of the present study could be used as guidelines for COVID-19 and proper use of these techniques to save the life of victims. The applications of these results will create awareness related to COVID-19 for save of the life. The nursing education can also use this study as a useful tool for training nursing students are best place to yield new knowledge, workshop, in service education, community based programs on COVID-19 can be conducted as a training for all nursing students. The nurses must be trained to keep their knowledge update about COVID-19.the nurses must be trained for proving COVID-19 in critical situation.

Nursing administration

- Nurse Administrators can conduct in-service education programme to make nurses more aware of knowledge regarding Covid -19
- They can also adopt the structured teaching programme for making effective teaching for nursing students.

Nursing research

Nurse researchers can conduct more studies based on improving their knowledge regarding safety measures and prevention of Covid -19.

Limitations of the Study

The study is limited to small group of Nursing students of V3 college of nursing.

Suggestions

1. Similar study can be conducted with large sample size.
2. A Structured teaching plan study can be done to determine the knowledge regarding safety measures and prevention of Covid -19 among Nursing students
3. A Structured teaching plan study can be done to determine the knowledge regarding safety measures and prevention of Covid -19 among Antenatal mothers.
4. A descriptive study can be done among breastfeeding mother with covid -19 regarding knowledge and prevention of covid-19 with a view to develop information booklet.

Recommendations

- A similar study can be conducted in a different settings and large samples for broader generalization.
- A similar study can be replied in true experimental design with control and experimental.
- A survey study could be initiated to check the knowledge of community people regarding COVID-19.
- A Comparative study could be carried out to assess the knowledge between nurses and other health personnel.
- Nurses are the direct care provider to the patients, family and community so this study can be replicated among clinical nurses, health nurses, community health nurse and nursing students who can further impart the gained knowledge and practice to the

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others.

• Regular training programme can be conducted for the nurses to update their knowledge about COVID-19.

Conclusion

The covid-19 is one of the most common causes of death. covid-19 can occur anywhere either in hospital or outside of the hospital. On the basis of finding the present study below said conclusion was drawn.it also brings out the limitation of the study in picture. It is therefore recommended that measures should be taken to promote awareness about importance of knowledge and practice regarding covid-19.

The current covid-19 pandemics are clearly an international public health problem. There have been rapid advances in what we know about the pathogen, how it infects cells and causes disease, and clinical characteristics of disease. Due to rapid transmission, countries around the world should increase attention into disease surveillance systems and scale up country readiness and response operations including establishing rapid response teams and improving the capacity of the national laboratory systems.

Nurses have a pivotal role in caring for patients with COVID-19 providing comprehensive nursing care of the highest quality, supported by experience and research, can successfully reduce patient's length of hospital stay, reduce morbidity and mortality rates of the disease, and promote patient's recovery rate .As the COVID-19 crisis rages on ,nurse managers should also develop quality, safe, and cost effective care to patients while ensuring that nursing staff is protected while caring for patients.

Acknowledgement

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