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Effectiveness of planned teaching program on knowledge and practices regarding COVID-19: Pre-experimental one group pre-test post-test research study

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Abstract

Background of the study: Coronavirus disease 2019 (COVID-19) is defined as an illness caused by a novel coronavirus, now called Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2; formerly called 2019-nCoV). COVID-19 is an emerging respiratory infection that was first discovered in December 2019, in Wuhan city, Hubei Province, China.

Aim: The study aimed to assess the effectiveness of the planned teaching program on knowledge and practices regarding COVID-19 among 1st year nursing students.

Materials and Method: The study adopted a Quantitative Pre-experimental group pre-test post-test design, 90 1st year nursing students studying at Rahman Institute of Nursing and Paramedical Sciences. Demographic performa, structured knowledge questionnaire regarding covid-19, and observational checklist for practices regarding covid-19. Descriptive and inferential statistics.

Results: The finding of the study revealed that the majority of them (86.7%) are under the age group of 19 years and above. Most of them (81.1%) are female. Considering the religion, the majority of them (62.2%) are Muslim. Regarding the educational standard, more than half of them (54.4%) are B.Sc. nursing students. Considering residence, the majority of them are (96.7%) hostellers. Regarding the father's occupation, the majority of them are (45.6%) govt. employee. Considering the mother's occupation, the majority of them (74.4%) are housewives. Considering the family income, the majority of them are (51.1%) which is above 25,000. Regarding previous knowledge of covid-19, the majority of them are (68.9%) yes. Concerning the source of information regarding covid-19, the majority of them are (50.0%) mass media. Considering any history of covid-19 in family members, the majority of them are (74.4%) no.

Conclusion: Based on the study findings, it is concluded that the planned teaching program regarding covid-19 improved the knowledge and practices regarding COVID-19.

Keywords: Effectiveness, planned teaching program, knowledge, practices, COVID-19, 1st year nursing students

Introduction

A novel coronavirus (CoV) named "2019-nCoV" or "2019 novel coronavirus" or „COVID-19" by the World Health Organization (WHO) is in charge of the current outbreak of pneumonia that began at the beginning of December 2019 near Wuhan City, Hubei Province, China. COVID-19 is a pathogenic virus. From the phylogenetic analysis carried out with obtainable full genome sequences, bats occur to be the covid-19 virus reservoir, but the intermediate host (s) has not been detected till now.

Materials and Methods

The research approach chosen for the study was a quantitative pre-experimental one group pre-test and post-test research design. The study was conducted among 1st year nursing students working in Rahman Institute of Nursing and Paramedical Sciences. Formal permission was obtained from each participant. Every participant was assured of her/her privacy and confidentiality.

Sample Size: The sample size was 90 1st year nursing students who were studying in Rahman Institute of Nursing and Paramedical Sciences.

Sampling technique: Probability simple random sampling technique.

Tool for data collection: The tool used in the study were Section-I Demographic performa, Section-II Structured knowledge questionnaire regarding COVID- 19, Section-III Observational checklist for practices regarding covid-19, the complete analysis of data in the study, descriptive and inferential statistical methods were used.

Method of data collection: A structured questionnaire for knowledge and observational checklist for practices regarding covid-19 were used for the collection of data in the study.

Procedure for data collection: The data was collected in one month from the 1st year nursing students studying at Rahman Institute of Nursing and Paramedical Sciences. Probability simple random sampling technique was used for

the selection of 1st year nursing students in the study. Formal permission was obtained from the concerned authority and 1st year nursing students. The purpose of the study was explained to the participant and pre- test was conducted by using structured questionnaire for knowledge and observational checklist for practices regarding COVID-19. Planned teaching program on covid-19 was given by using lecture cum demonstration method for a duration of one hour. On the 8th day post- test was conducted using the same structured questionnaire and observational checklist regarding covid-19 to assess the knowledge and practices of 1st year nursing students.

Data analysis: The data were analysed and interpreted in accordance with the objectives of the study by using descriptive and inferential statistical methods. Frequency and percentage distribution methods were used for the analysis of demographic variables in the study.

Results

Demographic characteristics of respondents

Table 1: Frequency and percentage distribution of demographic variables of the 1st year nursing students.

n = 90

Sl. No.	Demographic Variables	Frequency	Percentage
1.	Age in year		
1.1	Below 19 years	12	13.3%
1.2	19 years and above	78	86.7%
2.	Gender		
2.1	Female	73	81.1%
2.2	Male	17	18.9%
3.	Religion		
3.1	Christian	18	20.0%
3.2	Hindu	14	15.6%
3.3	Muslim	56	62.2%
3.4	Others	2	2.2%
4.	Educational Standard		
4.1	B.Sc. Nursing	49	54.4%
4.2	GNM	41	45.6%
5.	Residence		
5.1	Day scholar	3	3.3%
5.2	Hosteller	87	96.7%
6.	Father's Occupation		
6.1	Business	28	31.1%
6.2	Govt. Employee	41	45.6%
6.3	Private employee	7	7.8%
6.4	Semi-Govt. Employee	10	11.1%
7.	Mothers Occupation		
7.1	Business	2	2.2%
7.2	Govt. Employee	20	22.2%
7.3	Housewife	67	74.4%
7.4	Private employee	1	1.1%
8.	Family Income		
8.1	10,000-25,000	34	37.8%
8.2	Above 25,000	46	51.1%
8.3	Below 10,000	10	11.1%
9.	Previous knowledge regarding covid-19		
9.1	No	28	31.1%
9.2	Yes	62	68.9%
10.	Source of information regarding covid-19		
10.1	Family members	21	33.9%
10.2	Health professional	10	16.1%
10.3	Mass media	31	50.0%
11.	Any history of covid-19 in family members		
11.1	No	67	74.4%
11.2	Yes	23	25.6%

Table 2: Frequency and Percentage Distribution of Knowledge Level Regarding COVID-19 among 1st Year Nursing Students in Selected Nursing Institute, Guwahati.

n=90			
Knowledge level	Poor	Average	Good
Pre-test Knowledge level	40(44.4%)	50(55.6%)	0%
Post-test knowledge level	0%	25(27.8%)	65(72.2%)

Table 3: Frequency and Percentage Distribution of Practices Level Regarding COVID-19 among 1st Year Nursing Students in Selected Nursing Institute, Guwahati.

Practices level	Poor	Average	Good
Pre-test Practices level	11(12.2%)	53(58.9%)	26(28.9%)
Post-test practices level	0%	2(2.2%)	88(97.8%)

Table 4: Calculation of Paired 't'-Test For the Comparison of Knowledge Level Before and After the Implementation of Planned Teaching Program Regarding COVID-19

n= 90							
Knowledge level	Mean	Mean difference	SD	Std. error mean	't' value	df	P- Value
Pre-test Knowledge	16.47	8.00	2.63	0.25	31.10	89	0.001**
Post-test Knowledge	24.47		1.67				

(**- Significant at $p < 0.05$; tabulated 't' – value = 2.00)**Table 5:** Calculation of Paired 'T'-Test for the Comparison Of Practices Level Before And After The Implementation of Plan Teaching Program Regarding COVID-19.

n =90							
Practices level	Mean	Mean difference	SD	Std. error mean	't' value	df	P- Value
Pre-test practices	12.08	3.91	2.02	0.21	18.46	89	0.001**
Post-test practices	16.00		1.25				

(**-Significant at $p < 0.05$; tabulated 't' – value = 2.00)**Table 6:** Pearson's Correlation Co-Efficient between Pre-Test Knowledge and Pre- Test Practices Score Regarding Covid-19 Among 1st Year Nursing Students.

n=90		
	'r' – Value	P – Value
Pre-Test Knowledge	0.88	<0.001**
Pre-Test practices		

(**-Significant at $p < 0.05$)

Discussion

The study revealed that the planned teaching program regarding covid-19 was effective which showed that the mean knowledge score of 1st year nursing students after implementation of planned teaching program was significantly higher than the mean of the knowledge score before implementation of planned teaching program regarding covid-19 ($t = 31.10$, $df = 89$, $p = 0.001$)

Similar findings were reported by Ayed MMA, Mahmoud TM, Kamal FELZ. There was a statistically significant difference between secondary student's knowledge attitudes, and practices pre and post- structured teaching program implementation. A structured teaching program is effective in improving knowledge, attitudes, and practices among secondary school students regarding COVID -19.

Similar findings were supported by Yadu PE. The finding of the study reveals that in the pre- test 25 (41.67%) staff nurses had average knowledge regarding care of covid-19. Where as in post-test 60 (100%) were having good knowledge regarding care of covid-19. The finding of effectiveness of self-structured awareness programme on knowledge reveals that there was significant difference in pre-test and post-test knowledge scores among staff nurses regarding care of COVID-19 patient as calculated "t" value (17.7) was greater than table value (3.47) at $p < 0.01$ level of significance. The above findings indicate that school based educational programme was effective in improving the knowledge of staff nurses regarding care of COVID- 19 patients.

Conclusion

The following conclusion can be drawn from the findings of the study.

The mean of posttest knowledge score was significantly higher than the pretest knowledge score regarding covid-19 among the 1st year nursing students.

The mean of posttest practices score was significantly higher than the pretest practices score.

Therefore the study concludes that the planned Teaching Program was effective in enhancing the Knowledge and practices regarding covid-19 among 1st year nursing students.

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