

A Pre-Experimental Study to Assess the Effectiveness of Video Assisted Teaching Programme on Knowledge Regarding COVID-19 among the Students of Selected Nursing Institutes of District Patiala, Punjab

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Abstract: COVID-19 is an infectious disease caused by a recently discovered corona virus which can result in illnesses ranging from the common cold to severe acute respiratory syndrome. Remarkable steps have been taken by the Indian government to restrain the spread of the deadly virus. Since nursing students are valuable assets in the fight against the lethal virus, they should be endowed with adequate knowledge. The aim and objectives of the study is to assess the effectiveness of video assisted teaching programme on knowledge regarding COVID-19 among the students of selected nursing institutes of district Patiala, Punjab. A pre-experimental research design will be used. Sample of 50 students of selected nursing institutes of district Patiala, Punjab will be selected by using Purposive Sampling Technique. Knowledge will be assessed by using self-structured knowledge questionnaire based on video assisted teaching programme. Permission will be taken from the competent authorities. A written consent will be taken from the study participants. Anonymity and confidentiality will be maintained while reporting the study. The analysis of data will be done by using descriptive and inferential statistics.

Keyword: Assess, Effectiveness, Video assisted teaching programme, Knowledge, COVID-19, Students

1. Introduction

A corona virus is a large family of viruses that are known to cause illness ranging from the common cold to more severe respiratory tract diseases such as MERS and SARS. A novel corona virus (CoV-2) is a new strain of corona virus [1]. The outbreak was first reported in late December 2019 in the city of Wuhan of China in Hubei Province and become a global health threat and public health emergency of international concern [4]. later it received a unique name COVID-19 by WHO which declared it a pandemic on 11 March 2020[5].

Most common symptoms of COVID-19 are fever, dry cough, tiredness and less common symptoms are body aches, sore throat, diarrhea, conjunctivitis, headache, loss of taste or smell, rash on skin, or discoloration of fingers or toes or difficulty in breathing. Serious symptoms are difficult breathing, feel chest pressure, loss of speech or movement [6]. It is highly spreadable infection even with close proximity with infected person [2].

General measures for prevention includes washing hands with soap and water, use of a hand sanitizer, and avoid touching the mouth, nose and eyes, covering mouth while coughing or sneezing and wear mask while going out[5]. Government took various preventive initiatives like closed down the schools, restricted public gathering and lock down in whole country and work from home to curb the spread of virus etc [8]. The Indian ministry of health and family welfare have been providing pieces of information on COVID-19 through various means of communication and mobile app such as Aarogya-Setu [3].

The knowledge toward COVID-19 play an integral role in determining a society's readiness to accept behavioral change measures from health authorities. Studies provide baseline information to determine the type of intervention that may be required to change misconceptions about the virus [9].

Nurses play a vital role in health care system and health team. All health care providers especially nurses are on the frontline battling against this pandemic and providing services to patients which is helpful to prevent and control COVID-19 pandemic. Nursing students are the future health care providers [6]. Therefore, this study is undertaken to determine the knowledge of nursing students towards COVID-19 of Nursing Institutions of district Patiala, Punjab. The battle against COVID-19 is still continuing and creating a lot of concern among people. The results of this study are important to inform future efforts focusing on societal readiness to comply with pandemic control measures.

2. Objectives

- 1) To assess the effectiveness of video assisted teaching programme on knowledge regarding COVID-19 among the students of selected nursing institutes by comparing pre-test and post-test knowledge score.
- 2) To find out the association of pre-test knowledge score regarding COVID-19 among the students of selected nursing institutes of district Patiala, Punjab with their selected socio demographic variables.

3. Methodology

A pre-experimental study was conducted using self structured knowledge questionnaire based on video assisted teaching programme to assess the knowledge regarding COVID-19 among nursing students.

Research approach: Pre experimental research approach. Research design: one group pre test post test design. Setting of this study: this study was conducted at Bhai Gurdas Nursing College of district Patiala, Punjab, India. Target population: students of selected nursing institution. Sample size: the total sample size is 50 students. Sample technique: purposive sampling technique was used for this study. Research tool technique: research tool consist of two parts: Part 1: It consists of structured questionnaire with questions related to the socio demographic data of the students. Part 2: it consist of 30 self structured knowledge questionnaire which we used to assess the knowledge of nursing students regarding COVID-19.

4. Ethical Consideration

Prior to the study, ethical clearance was obtained from the concerned authorities to conduct the study in Bhai Gurdas Nursing College of district, Patiala, Punjab and also the research ethical committee of Adarsh College of Nursing, Patiala, Punjab.

The level of knowledge score was categories as:

Adequate: 81%-100%

Moderately adequate: 51%-80%

Inadequate: less than 50%

1) Tool validation and reliability

The content validity of tool was done by 8 expert opinions on relevance of items, as per their suggestions, needed amendments were done. The tool was found to be reliable and valid. The language editing of the tool was done by English expert.

Reliability of the tool was established by using Karl Pearson's Correlation Coefficient formula (split-half method) which measures the co efficient of internal consistency. The tool was found to be internally consistent and reliable for the study as reliability obtained was $r=1$.

2) Content of self structured questionnaire:

This study comprise 36 closed-ended-questionnaire, among which 6 were socio demographic questions includes gender, age, class, source of information, COVID-19 Suffered status and vaccination status of the students. Another 30 were knowledge assessment questionnaire including meaning and origin of COVID-19 (7 items), its variants (3 items), incubation period (1 items), symptoms (4items), diagnostic test (4 items), precautions (4 items) and their vaccination status (7 items).

5. Data analyses and interpretations

The collected data was tabulated, organized, analysis and interpreted by using descriptive and inferential statistics

based on the objectives of the study and the hypothesis to be tested. The data is presented into three sections.

Section A: Frequency and percentage distribution of nursing students according to socio demographic variables.

About age, 28 (56%) of nursing students were 18-20 years, 12 (24%) were 21-22 years, 6 (12%) and 4 (8%) were 23-24 years and above.

About class, 26 (52%) students were from class BSc. Nursing 1st year, 13 (26%) nursing students were from class BSc Nursing 2nd year, 7 (14%) from class BSc nursing 3rd year and 4 (8%) from class BSc nursing 4th year.

With regards to source of information 1 (2%) student got information through Website of the Ministry of Health/ health professional followed by 38 (76%) who got information through radio/ television/ Social media whereas 7 (14%) got information through their friends/family, and 4 (8%) got information through newspaper/ magazine/ scientific articles.

On the basis of COVID-19 suffered status, 39 (65%) of students were suffered from it, followed by 34 (68%) were never suffered, however 10 (20%) students did not sure that they might be suffered or not from COVID-19.

Concerning about COVID-19 vaccination 8 (16%) students got 1st dose of vaccine, 40 (80%) students got 1st and 2nd dose, respectively whereas 0 (0%) got booster dose and only 2 (4%) of nursing students had not yet vaccinated.

Section B:

1) Findings related to pre-test knowledge score regarding COVID-19 among nursing students.

Table 1: Level of pre test knowledge of nursing students regarding COVID-19.

Level of Knowledge	Score	F (%)
Adequate	25-30	17 (34%)
Moderately adequate	16-24	22 (44%)
Inadequate	0-15	11 (22%)

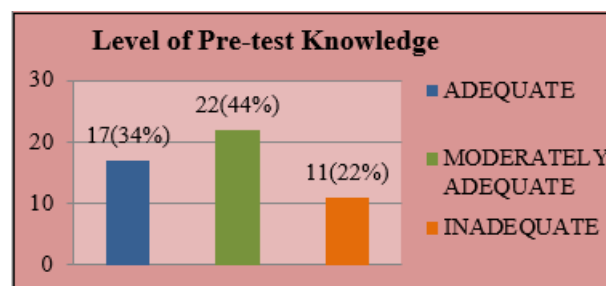


Figure 1: Bar graph showing Level of pre test knowledge of nursing students regarding COVID-19

Table 1 & fig. 1 illustrates level of pre test knowledge regarding COVID-19 among nursing students, depicts that majority 22 (44%) of nursing students had moderately adequate knowledge, followed by 17 (34%) students had adequate knowledge and only 11 (22%) had inadequate knowledge regarding COVID-19.

2) Findings related to post-test knowledge score regarding COVID-19 among nursing students.

Table 2: Level of post test knowledge of nursing students regarding COVID-19.

Level of Knowledge	Score	F (%)
Adequate	25-30	32 (64%)
Moderately adequate	16-24	12 (24%)
Inadequate	0-15	06 (12%)

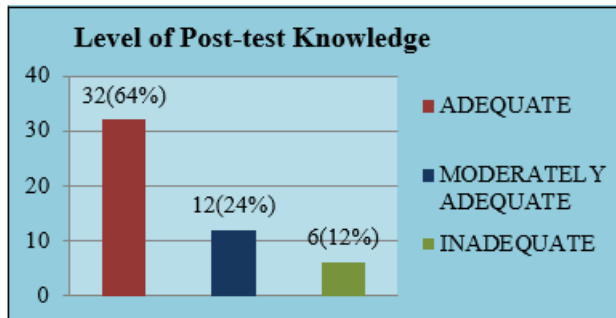


Figure 2: Bar graph showing Level of post test knowledge of nursing students regarding COVID-19

Table 2 & fig 2 illustrates level of pre test knowledge regarding COVID-19 among nursing students, depicts that majority 32 (64%) of students had an adequate knowledge followed by 12 (24%) had moderately adequate knowledge and only 6 (12%) had inadequate knowledge regarding COVID-19.

3) Findings related to effectiveness of video assisted teaching programme by paired “t” test.

Table 3: Comparison of pre-test and post test knowledge of nursing students regarding COVID-19.

Level of Knowledge	Score	Pre Test f (%)	Post Test f (%)
Adequate	25-30	17 (34%)	32 (64%)
Moderately Adequate	16 – 24	22 (44%)	12 (24%)
Inadequate	0 – 15	11 (22%)	6 (12%)

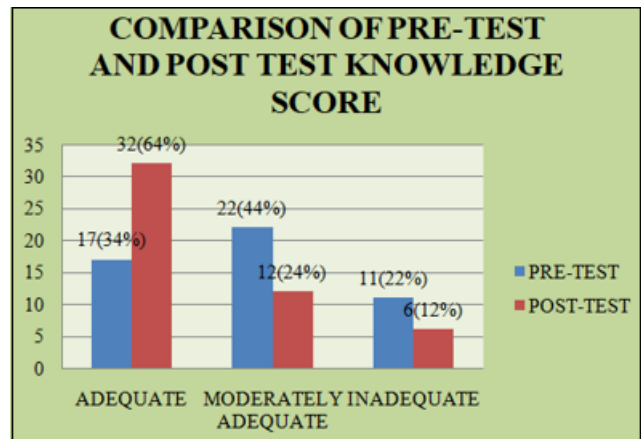


Figure 3: Bar graph showing comparison of level of pre test and post test knowledge score of nursing students regarding COVID-19

Table No. 3 and Fig. 3 depict that the knowledge score of nursing students was higher (adequate) 32 (64%) in post-test as compared to the pre-test 17(34%) and only few of them had inadequate knowledge in post test.

Table 4: Effectiveness of video assisted teaching programme by paired ‘t’ test.

Paired T test	Mean	SD	“t” value	P value	Table value at 0.05	result
Pre test knowledge	19.8	1.35	7.44*	<0.0001	2.000	Significant at p<0.05
Post test knowledge	23.3	3.20				

** Significance Level 0.05

Table 4 & fig 3 shows that the significant difference between the pre-test and post- test knowledge score regarding COVID-19 among nursing students. The data further represent that obtained ‘t’ value 7.44 at (49 df) is significantly higher than the table value. Hence the researcher hypothesis:

Section C: Findings related to association between pre-test knowledge score regarding COVID- 19 among nursing students with their selected socio demographic variables.

Table 5: Association of the pre-test knowledge score among nursing students with their selected socio demographic variables

Socio Demographic Variables	Level of Pre Test Knowledge			ChiTest	Table value	P Value
	Adequate	ModeratelyAdequate	Inadequate			
1. Gender						
a) Male	3	5	7	1.70	5.99	0.002
b) Female	9	18	8			
2. Age (In Years)						
a) 18-20 years	5	15	8	3.40	12.59	0.005
b) 20-22 years	4	7	1			
c) 22-24 years	1	3	2			
d) Above 24 years	1	1	2			
3. Class						
a) BSc (N) 1 st year	4	16	6	8.33	12.59	0.001
b) BSc (N) 2 nd year	2	8	3			
c) BSc (N) 3 rd year	1	4	2			
d) BSc (N) 4 th year	1	2	1			
4. Source of information regarding COVID-19						
a) Website of M & H	0	1	0	6.82	12.59	0.007
b) Social media	3	30	5			

c) Friends/family	1	4	2			
d) Newspaper/ articles	0	2	2			
5. COVID-19 suffered status						
Yes	1	3	2	22.33	9.48	0.001
No	6	22	6			
Not sure	1	6	3			
6. Vaccination status						
1 st dose	2	5	1	23.56	12.59	0.037
2 nd dose	4	32	4			
Booster dose	0	0	0			
Not yet	0	0	2			

Table No. 5, represents the association of the pre test knowledge score regarding COVID-19 among nursing students in selected institute of nursing with their selected socio- demographic variables. It was obtained, the chi-square value for gender ($\chi^2=1.70$, $df=2$), age ($\chi^2=3.40$, $df=6$), class ($\chi^2=8.33$, $df=6$), source of information ($\chi^2=6.82$, $df=6$), is less than table value, which indicates non significant association between the knowledge score of nursing students with their gender, age, class and source of information, whereas the chi-square value for COVID-19 suffered status ($\chi^2=22.33$, $df=4$) and vaccination status ($\chi^2=23.56$, $df=6$) is more than table value, which indicates significant association between the knowledge score of nursing students with their COVID-19 suffered status and vaccination status.

6. Major findings

In pre test out of 50 nursing students, majority 22 (44%) of nursing students had moderately adequate knowledge followed by 11 (22%) of nursing students had inadequate knowledge and only 17 (34%) had adequate knowledge regarding COVID-19. Whereas in post test out of 50 nursing students, that majority 32 (64%) of nursing students had an adequate knowledge followed by 12 (14%) of nursing students had moderate knowledge and only 6 (12%) had inadequate knowledge regarding COVID-19.

The difference between knowledge scores of pre-test (19.8 ± 1.35) and post-test (23.3 ± 3.20) was calculated by 't' Test. The data further represent that obtained 't' value 7.44 at (49 df) is significantly higher than the table value which was found statistically significant at $P < 0.001$.

The association of the pre test knowledge score regarding COVID-19 among nursing students in selected nursing institutes with their selected socio- demographic variables. It was obtained, the chi-square value for gender, age, class, source of information, is less than table value, which indicates non significant association between the knowledge score of nursing students with their gender, age, class, source of information where as the chi-square value for COVID-19 suffered status and vaccination status, is more than table value, which indicates significant association between the knowledge score of nursing students with COVID-19 suffered status and vaccination status.

7. Conclusion

From the findings of the study following conclusions were drawn

- 1) The majority of nursing students had adequate knowledge scores regarding COVID-19 in post test as compared to moderately adequate knowledge in pre test.
- 2) There was statistically significant difference between Pre-test and Post-test knowledge scores regarding COVID-19.
- 3) There will be significant increase in mean post- test knowledge score as compared to mean pre-test knowledge score regarding COVID-19 among nursing students.

Thus study shows that knowledge regarding COVID-19 among nursing students is the most essential requirement which should be improved among them.

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