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A study to assess the effectiveness of video assisted teaching regarding SARS-COV among healthcare students

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Abstract

SARS-CoV-2 is a positive-sense single-stranded RNA virus that is contagious in humans as designated by the us national institutes of health, it is the beneficiary to SARS-CoV-1, the virus that caused the 2002–2004 SARS outbreak. Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) was identified in December, 2019, as the cause of the illness designated COVID-19. It is caused by a previously unreported strain of coronavirus, officially named Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2).It primarily spreads person to person through close contact and contaminated surfaces, often via small droplets produced by the infected person through coughing, sneezing or talking. The study aims to measure the amount of information that medical students have on the new and fast-spreading virus and to provide the necessary information as well as to find out if medical students have better knowledge regarding the virus.

1. Introduction

SARS-CoV-2 is a positive-sense single-stranded RNA virus [1] that is contagious in humans [2]. As described by the US National Institutes of Health, it is the successor to, the virus that caused the 2002–2004 SARS outbreak [3]. COVID-19 is caused by a previously unrecorded strain of coronavirus, officially named Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2). It primarily spreads person to person through close contact and contaminated surfaces, often via small droplets produced by the infected person through coughing, sneezing or talking [4, 5]. COVID-19 is most contagious immediately after the onset of symptoms, although the spread through asymptomatic cases has been reported [6]. The incubation period is around 5 days (range, 2–14 days) and common symptoms include fever, cough and shortness of breath [7, 8, 9].

The source of information about COVID-19 is different for health care professionals and the public. As health care professionals are acquiring information from authenticated websites of the world health organization (WHO), centre for disease control and prevention (CDC), Indian council of medical research (ICMR). While the general public relay on television. Both health care professional and the general public are worried to get infected by this virus and taking precautionary measures against COVID-19.

The study aims to measure the amount of information that medical students have on the new and fast-spreading virus and to provide the necessary information as well as to find out if medical students have better knowledge regarding the virus. The findings of this study are expected to help health authorities to organize the necessary educational programs, and better planning for awareness campaigns in order to provide up-to-date information and deliver the best practice to stop the spread of the virus.

2. Materials and Methods

An experimental research design was used to assess the level of knowledge regarding SARS-CoV among healthcare students. This study was conducted in Saveetha Medical College Hospitals, SIMATS, Chennai. The total sample size is 100 who all are satisfies the inclusion criteria. Convenient sampling technique was used to collect the data from sample. The inclusion criteria is those who are willing to participate in the study and those who are available during the data collection. The students who are all previously affected by COVID-19 were excluded. Explained about the study and informed consent was obtained. Data was collected by self-structured questionnaires. Confidentiality was of throughout the study. Collected data were analysed by using descriptive and inferential statistics. The project has been approved by the Ethics Committee of the Institution.

3. Results
Section A: Description of the demographic variables of health care students

Table 1: Frequency and percentage distribution of demographic variables of health care students N = 100

| Demographic Variables	N0.	%
Age		
17 – 18 years	-	-
19 – 20 years	86	86.0
21 – 22 years	14	14.0
Sex		
Male	54	54.0
Female	46	46.0
Level of student		
First year	-	-
Second year	-	-
Third year	-	-
Fourth year	100	100.0
Previous knowledge regarding SARS-COV		
Yes	91	91.0
No	9	9.0
Does any of your family members suffered from COVID-19?		
Yes	77	77.0
No	23	23.0
What is your Source of information regarding COVID-19?		
Newspaper	15	15.0
Television	24	24.0
Internet	38	38.0
All the above	23	23.0
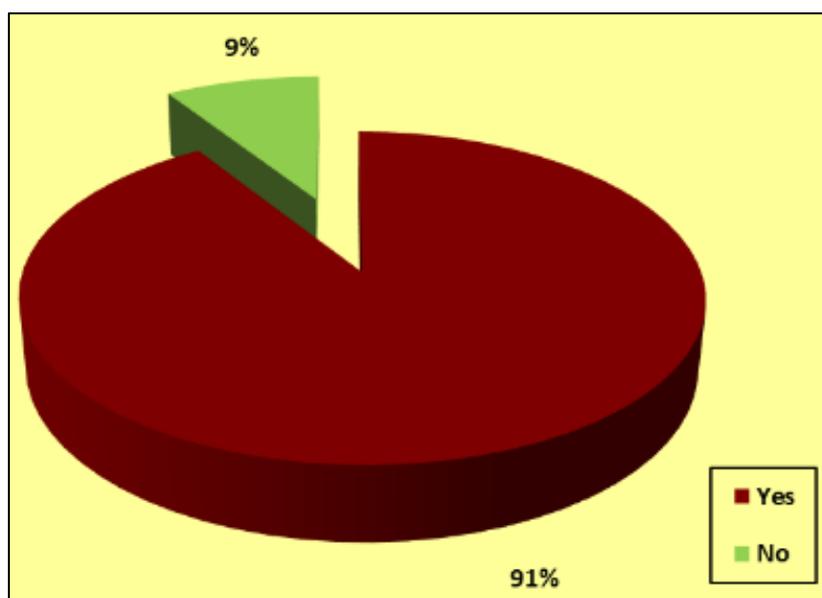
Fig 1

Section B: Assessment of level of knowledge regarding SARS-CoV among health care students.

Table 2: Frequency and percentage distribution of pretest and level of knowledge regarding SARS-COV among health care students N = 100

Knowledge	Inadequate (1- 40%)		Moderate (41-70%)		Adequate (71-100%)	
	No.	%	No.	%	No.	%
Pretest	71	71.0	17	17.0	12	12.0
Post Test	8	8.0	56	56.0	36	36.0

The above table 2 shows that in the pretest, 71(71%) had inadequate knowledge, 17(17%) had moderate knowledge and 12(12%) had adequate knowledge regarding SARS-COV among health care students.

Whereas in the post test, 56(56%) had moderate knowledge, 36(36%) had adequate knowledge and 8(8%) had inadequate knowledge regarding SARS-COV among health care students.
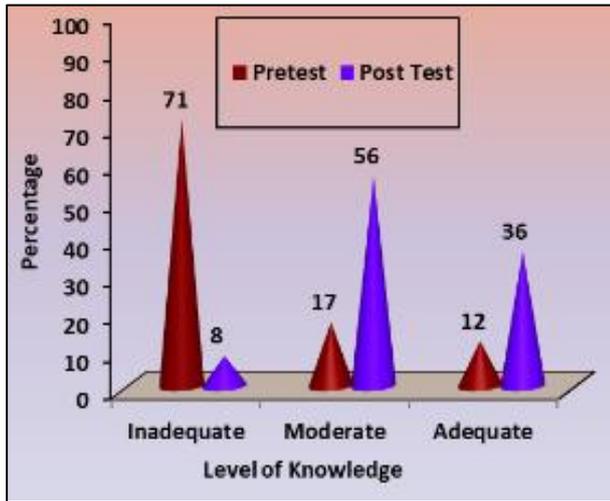
Fig 2: Percentage distribution of pretest and level of knowledge regarding SARS-COV among health care students

Section C: Effectiveness of video assisted teaching regarding SARS-CoV among health care students

Table 3: Comparison of pretest and post-test level of knowledge regarding SARS-COV among Health Care Students. N = 100

Knowledge	Mean	S.D	Paired 't' test Value
Pretest	10.05	4.03	**t = 14.514**
Post Test	15.75	3.83	**p = 0.0001** **S*****

***p<0.001, S – Significant

The table 3 shows that the pretest mean score of knowledge was 10.05±4.03 and the post test mean score of knowledge was 15.75±3.83. The calculated paired 't' test value of t = 14.514 was found to be statistically highly significant at p<0.001 level. This clearly infers that administration of Video Assisted Teaching on knowledge regarding SARS-COV among Health Care Students was found to be effective in improving the level of knowledge among Health Care Students in the post test.

Section D: Association of level of knowledge regarding SARS-CoV among health care students with selected demographic variables

Table 4: Association of post level of knowledge regarding SARS-COV among Health Care Students with their selected demographic variables N = 100

Demographic Variables	Inadequate		Moderate		Adequate		Chi-Square Value
	No.	%	No.	%	No.	%	
Age							χ^2=1.502 d.f=2 p = 0.472 N.S
17 – 18 years	-	-	-	-	-	-	
19 – 20 years	8	8.0	47	47.0	31	31.0	
21 – 22 years	0	0	9	9.0	5	5.0	
Sex							χ^2=2.655 d.f=2 p = 0.265 N.S
Male	3	3.0	28	28.0	23	23.0	
Female	5	5.0	28	28.0	13	13.0	
Level of student							-
First year	-	-	-	-	-	-	
Second year	-	-	-	-	-	-	
Third year	-	-	-	-	-	-	
Fourth year	8	8.0	56	56.0	36	36.0	
Previous knowledge regarding SARS-COV							χ^2=7.601 d.f=2 p = 0.022 S*
Yes	8	8.0	54	54.0	29	29.0	
No	0	0	2	2.0	7	7.0	
Does any of your family members suffered from COVID-19?							χ^2=0.402 d.f=2 p = 0.818 N.S
Yes	6	6.0	42	42.0	29	29.0	
No	2	2.0	14	14.0	7	7.0	
What is your Source of information regarding COVID-19?							χ^2=2.570 d.f=6 p = 0.861 N.S
Newspaper	1	1.0	7	7.0	7	7.0	
Television	2	2.0	12	12.0	10	10.0	
Internet	4	4.0	23	23.0	11	11.0	
All the above	1	1.0	14	14.0	8	8.0	

*p<0.05, S – Significant, N.S – Not Significant

The table 4 shows that the demographic variable previous knowledge regarding u-COV had shown statistically significant association with post test level of knowledge regarding SARS-COV among health care students at p<0.05 level. The other demographic variables had not shown statistically significant association with post test level of knowledge regarding SARS-COV among health care students.

4. Discussion
The COVID-19 is an emerging disease, which needs to be briefly understood by all individuals. Whereas preventive aspects need to be grossly understood by all individuals. the pretest mean score of knowledge was 10.05±4.03 and the post test mean score of knowledge was 15.75±3.83. The

calculated paired 't' test value of t = 14.514 was found to be statistically highly significant at p<0.001 level. This clearly infers that administration of Video Assisted Teaching on knowledge regarding SARS-COV among Health Care Students was found to be effective in improving the level of knowledge among Health Care Students in the post test.

5. Conclusion
The present study indicates that video assisted teaching is the effective and easy method to improve knowledge among students.

6. Acknowledgement
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7. Authors Contribution
All the authors actively participated in the work of study. All the authors read and approved the final manuscript.

8. Conflict of Interest
The authors declare no conflict of interest.

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