



Effectiveness of Video Assisted Teaching [VAT] in Terms of Knowledge and Self-expressed Stigma Regarding COVID-19 and its Preventive Measures among Housekeeping Staff at Selected Hospital, Gurugram, Haryana: A Pre-experimental Study

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

Article Information

DOI: 10.9734/JPRI/2021/v33i60B34688

Open Peer Review History:

This journal follows the Advanced Open Peer Review policy. Identity of the Reviewers, Editor(s) and additional Reviewers, peer review comments, different versions of the manuscript, comments of the editors, etc are available here: <https://www.sdiarticle5.com/review-history/79457>

Original Research Article

Received 15 November 2021

Accepted 20 December 2021

Published 23 December 2021

ABSTRACT

Background: The coronavirus disease 2019 (COVID-19) is a contagious disease caused by newly discovered virus, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The current study is here about Covid-19 and its preventive measures as housekeeping staffs are on the front lines of fighting this global pandemic, as they are responsible for deep cleaning, disinfecting and scrubbing the surfaces and areas that are hosts of potentially dangerous germs and viruses which can widely spread and affect so many lives.

Objectives: The objectives of the study have drawn to fulfill the research reflecting on the effectiveness of Video Assisted Teaching [VAT] regarding COVID-19 and its preventive measures in terms of knowledge and self-expressed stigma among housekeeping staff at selected hospital, Gurugram, Haryana.

Materials and methods: A pre-experimental study with one-group pre-test post-test design was conducted among 100 housekeeping staff by convenient sampling technique in selected hospital, Gurugram, Haryana.

Results: Among 100 housekeeping staff, 91.66% were having previous knowledge regarding COVID-19, 76% were male and mean age was 54 years of age. Overall, 93 (93%), 7 (7%) and 0 (0%) participants had adequate, moderate and inadequate knowledge regarding COVID-19 and its preventive measures and 42 (42%), 58 (58%) and 0 (0%) participants had favorable, moderate and unfavorable stigma related to COVID-19. There was no significant association between the pre-test knowledge and self-expressed stigma regarding COVID-19 and its preventive measures with the demographic variables.

Conclusion: The study found a significant difference in knowledge and self-expressed stigma on COVID-19 and its preventive measures among housekeeping workers in a chosen hospital in Gurugram, Haryana, before and after VAT programme. It was proved that Video Assisted Teaching was effective in teaching COVID-19 and its preventive measures to housekeeping staff in a selected hospital in Gurugram, Haryana. With continuing education, housekeeping staff may become more aware about COVID-19 and reduces the spreading of the diseases.

Keywords: COVID-19; Video Assisted Teaching [VAT]; knowledge; self-expressed stigma; SARS-CoV-2.

1. INTRODUCTION

Corona virus disease (COVID-19) is an infectious disease caused by a currently discovered corona virus, which was detected from Wuhan, China spreading to several other countries around the world [1]. resulted in an existing pandemic [2]. It's a case of Severe Acute Respiratory Syndrome (SARS). SARS is a communicable viral disease, caused by a new strain of coronavirus, which differs considerably in genetic structure from previously recognized coronavirus [3]. Coronavirus transmits from one person to another person through respiratory droplet of infected people [4]. These droplets contain viral material that can be inhaled into the respiratory system through the windpipe and lungs, causing infection [5]. A novel coronavirus, also known as 2019-nCoV, On 30 January 2020, the World Health Organization (WHO) declared the outbreak to be a Public Health Emergency of International Concern and recognized it as a pandemic on 11 March 2020 [6]. As of 23rd April 2021 Total Coronavirus Cases worldwide: 145,105,327, Total Deaths cases due to coronavirus: 3,079,516, Recovered from coronavirus diseases: 123,127,222 [7]. Total Coronavirus Cases in India: 16,257,164, Deaths:186,927, Recovered:13,641,572 [8]. As of 16 July 2021 Coronavirus cases 190,059,674, deaths 4,086,957 and recovered 173,305,971 worldwide. India- Total cases 31,106,065, deaths 413,640 and recovered 30,269,796 [9]. Haryana -Total cases 7, 69, 504, death 9,593 and recovered 7,59,088 [10]. Some of the most prevalent symptoms of coronavirus disease are Pyrexia, Cough that is dry, Sore throat or scratchy throat, Body ache, Headache, Loss of smell and taste, Chest pain, Shortness of breathing (serious signs) [11].

The front-line personnel in the fight against the global pandemic are housekeeping staff. Due to a lack of understanding and information about COVID-19 disease among the general public, people have wrong perception [12] towards healthcare staff. Despite their well-deserved recognition, HCPs have been subjected to societal stigma and isolation [13]. The study's major goal is to increase housekeeping staff's understanding and awareness of COVID-19 and its prevention methods.

In the present study, Video Assisted Teaching was provided to the housekeeping staff who are working in different wards of the hospital. Their knowledge and self-expressed stigma related to COVID-19 and its preventive measures were assessed by taking a pre-test and post-test. This was important in context to knowledge and self-expressed stigma as housekeeping staff are the backbone of the hospital infection control system. Also it was important to know whether they were able to carried out their duties during the COVID-19 pandemic.

2. RESEARCH METHODOLOGY

A pre-experimental study with one-group pretest and post-test design [14] was conducted among 100 housekeeping staff of selected hospital with aim to assess the knowledge and self-expressed stigma regarding COVID-19 and its preventive measures.

The ethical approval for conducting the research study was obtained from the ethical committee of the University vide letter no. FON/SGTU/20/262 dated 28.11.2020. Consent was taken from the housekeeping staff before the commencement of the study regarding willingness to participate in

the study. Study participants were included by convenient sampling [15] and a total of 100 housekeeping staff posted in different wards and willing to participate were recruited as study participants. Those who were absent at the time of data collection and intervention were excluded from the study.

The study's findings were constructed on statistical analysis. The paired 't' test was used to evaluate the efficiency of the knowledge and self-expressed stigma regarding COVID-19 and its preventive measures. Chi-square test applied on the way to invent association between knowledge with demographic characteristics and Self-expressed stigma level with demographic characteristics.

2.1 Data Collection Procedure

The approval to perform the research in selected hospital was acquired in writing from the

housekeeping head of department. The research samples for this study were chosen from among the housekeeping staff that met the study's inclusion requirements.

A pre-test questionnaire was conducted for 20 minutes before the Video teaching session. Video Assisted Teaching which includes COVID-19 disease causes, sign and symptoms, treatment, preventive measures- hand hygiene, gloving, mask, donning and doffing of PPE was provided to the housekeeping staff by using desktop. Post-test was conducted after the seven days of video assisted teaching (Chart 1).

The teaching session was done by following COVID-19 protocols with a compulsory wearing of masks at all times, small groups of 23-30 at a time to avoid mass gatherings. A total of four video teaching session were taken.

Chart 1. Research design- Pre-experiemntal with non-equivalent pre-test post-test design

Group	Pre-test	Treatment	Post-test
Study Group	01	X	02

Chart 2. Development and description of the tool

Tool	Purpose	Explanation/ Technique	Items	Scoring Interpretation
Demographic variables	Section A: To collect the demographic characteristics of the sample	The tool includes age, gender, marital status, religion, educational level, type of family, income, residence, knowledge about covid-19, and source of information regarding COVID-19 and its preventive measures	10	NA
Self-Structured knowledge questionnaire	Section B: To measure the knowledge regarding COVID-19 and its preventive measures among the housekeeping staff.	It comprised of a structured knowledge questionnaire to assess the knowledge regarding COVID-19 and its preventive measures. The participants will select the appropriate answer and mark the appropriate response.	25	Total Score-25 <hr/> Inadequate 1-12 Moderate 13-19 Adequate 20-25
Self-Structured likert stigma scale	Section C: To assess the stigma which is expressed by the housekeeping staff.	It comprised of likert scale to assess the self-expressed stigma. The scale was based upon identifying the stigma among the housekeeping staff.	10	Total Score-50 <hr/> Favorable 10-20 Moderate 21-30 Unfavorable 31-50

3. RESULTS

3.1 Data Analysis and Interpretation

The collected data were tabulated and presented according to the objectives under the following headings.

Demographic characteristics distribution of housekeeping staff those who are contributed in the study. The data discovered, maximum of the participants that is 93% were belongs to Hindu religion and 91.66% had previous knowledge

regarding COVID-19 and its preventive measures and least number of staff that is 1% were having low income and Christian religion (Fig.1).

Fig. 2 shows 84% of the respondents had inadequate knowledge and 16% of the respondents had moderate knowledge and none of the respondents had adequate knowledge. 7% of the respondents had moderate knowledge, 93% of the respondents had adequate knowledge and none of the respondents had inadequate knowledge.

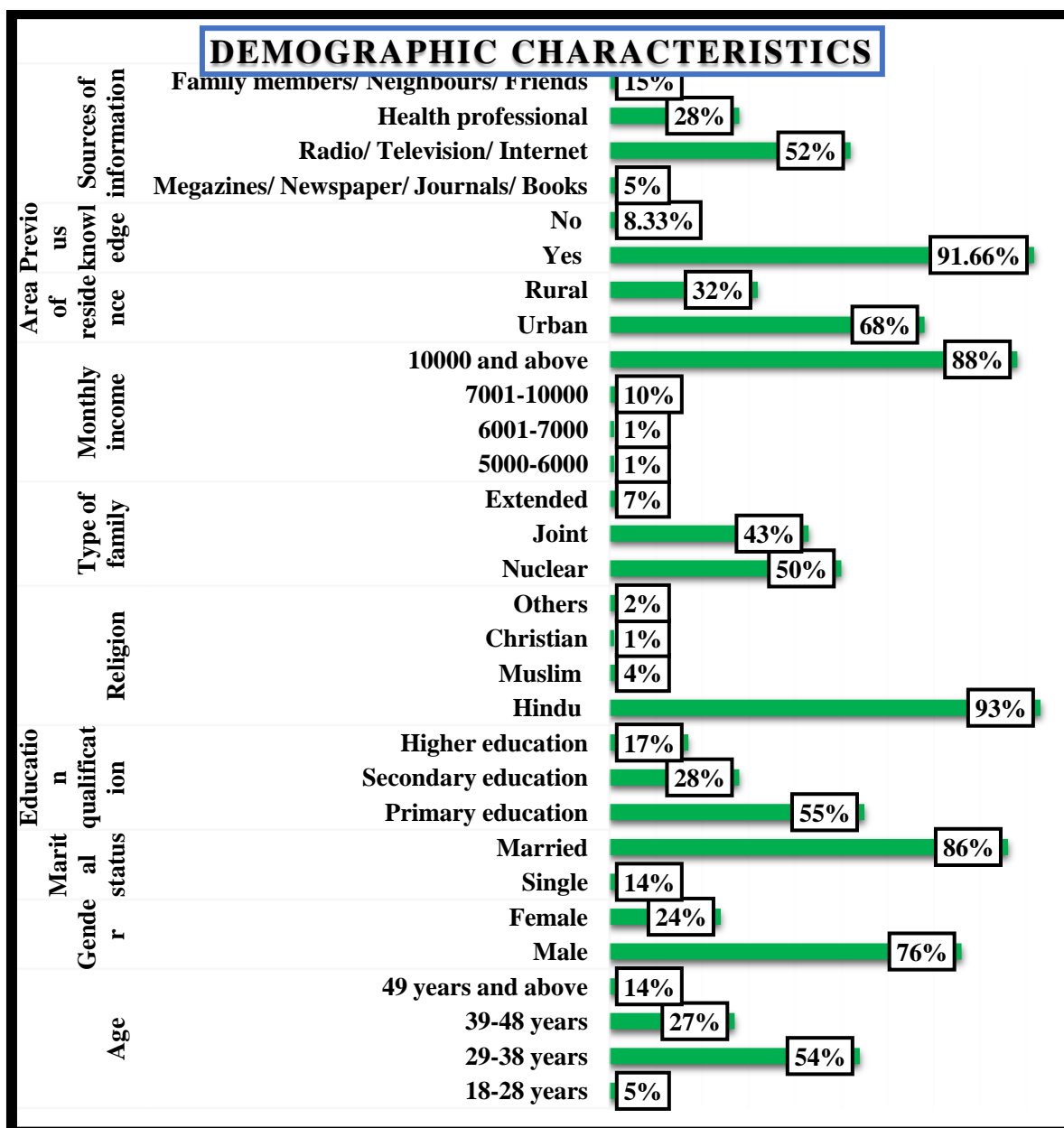


Fig. 1. Explanation of study participants as per demographic characteristic

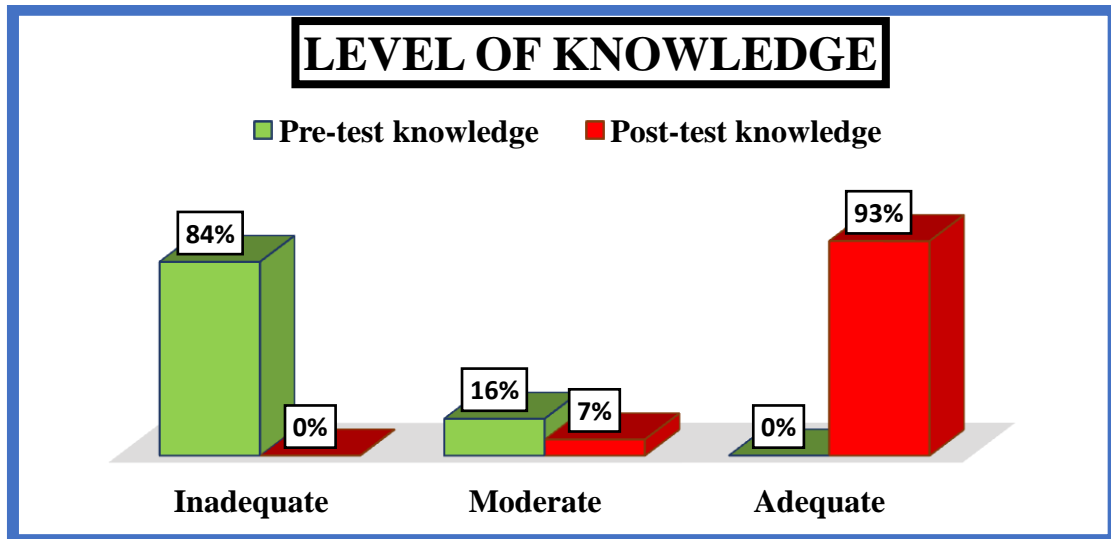


Fig. 2. Percentage distribution of pre-test knowledge score and post-test knowledge score

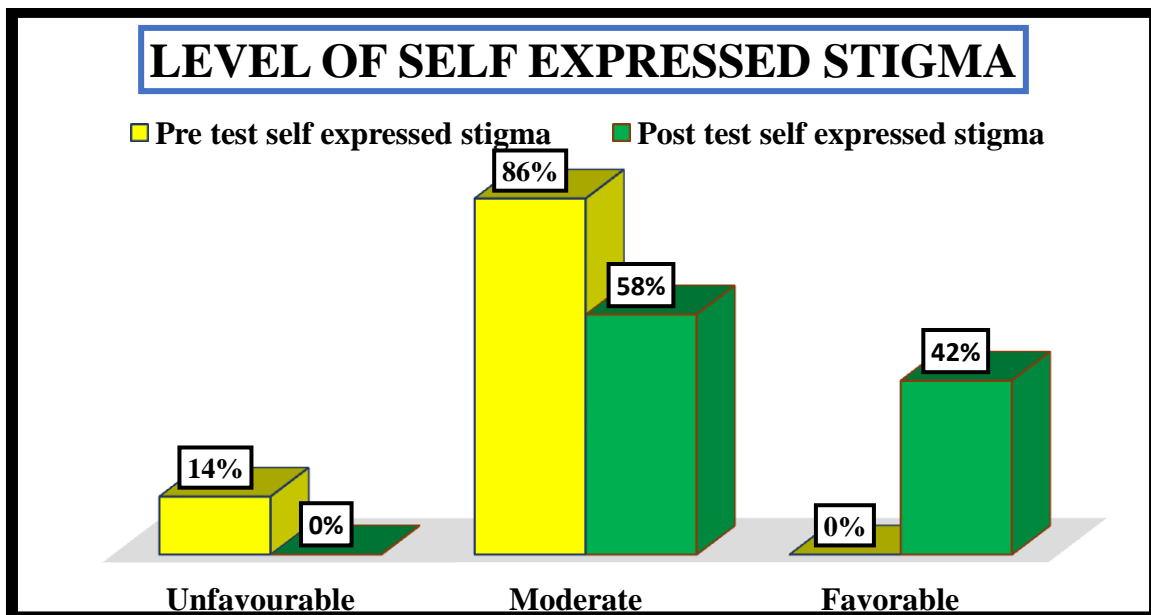


Fig. 3. Percentage distribution of pre self-expressed stigma score and post self-expressed stigma score

Table 1. Effectiveness of Video assisted Teaching Regarding COVID-19 and its preventive measures

	Group	Mean ±SD	Mean difference	df	T value	p value*
Knowledge	Pre-test	10.53±2.355	11.92	99	58.477	0.001
	Post-test	22.45±1.855				
Self-expressed stigma	Pre self-expressed stigma	28.15±3.328	7.28	99	15.156	0.001
	Post self-expressed stigma	20.87±2.820				

*Significant at ≤0.05 level

Table 2. Association between pre-test Knowledge level with selected Demographic characteristics n=100

Demographic Variable	Category	Sample		Respondents Knowledge		χ ² value	df	p value	Inferences		
		N	%	Inadequate (A)						Moderate (B)	
				N	%					N	%
Agegroup	18-28	5	3	60	2	40	2.632	3	7.82	NS	
	29-38	52	45	86.54	7	13.46					
	39-48	28	24	85.71	4	14.29					
	49 and above	15	12	80.00	3	20.00					
Gender	Male	76	64	84.21	12	15.79	0.010	1	3.84	NS	
	Female	24	20	83.33	4	16.67					
Marital status	Single	14	11	78.57	3	21.43	0.357	1	3.84	NS	
	Married	86	73	84.88	13	15.12					
Education qualification	Primary education	55	45	81.82	10	18.18	0.483	2	5.99	NS	
	Secondary education	28	24	85.71	4	14.29					
	Higher education	17	15	88.24	2	11.76					
Religion	Hindi	93	77	82.80	16	17.20	1.434	3	7.82	NS	
	Muslim	4	4	100.00	0	0.00					
	Christian	1	1	100.00	0	0.00					
	Others	2	2	100.00	0	0.00					
Types of family	Nuclear	50	41	82.00	9	18.00	0.298	2	5.99	NS	
	Joint	43	37	86.05	6	13.95					
	Extended	7	6	85.71	1	14.29					
Income	5000-6000	1	1	100.00	0	0.00	5.709	3	7.82	NS	
	6001-7000	1	0	0.00	1	100.00					
	7001-10000	10	9	90.00	1	10.00					
	10000 & above	88	74	84.09	14	15.91					
Area of residence	Urban	68	55	80.88	13	19.12	1.537	1	3.84	NS	
	Rural	32	29	90.63	3	9.38					
Previous knowledge	Yes	93	79	84.95	14	15.05	0.885	1	3.84	NS	
	No	7	5	71.43	2	28.57					
If yes, Sources	Megazines/	5	3	60.00	2	40.00	2.632	3	7.82	NS	

Demographic Variable	Category	Sample	Respondents Knowledge				χ ² value	df	p value	Inferences
			Inadequate (A)		Moderate (B)					
			N	%	N	%				
	Newspaper/ Books	52	45	86.54	7	13.46				
	Radio/ Television/ Internet	28	24	85.71	4	14.29				
	Health personnel Family members/ Neighbours/ Friends	15	12	80.00	3	20.00				

* Significant at ≤0.05 level significant

Table 3. Association between Self-expressed stigma level with selected Demographic characteristics n=100

Demographic Variable	Category	Sample	Respondents Self-expressed stigma				χ ² value	df	P -value	Inferences
			Unfavorable (C)		Moderate (B)					
			N	%	N	%				
Age group	18-28	5	2	40	3	60	3.492	3	7.82	NS
	29-38	52	7	13.46	45	86.54				
	39-48	28	4	14.29	24	85.71				
	49 and above	15	1	6.67	14	93.33				
Gender	Male	76	10	13.16	66	86.84	0.187	1	3.84	NS
	Female	24	4	16.67	20	83.33				
Marital status	Single	14	3	21.43	11	78.57	0.746	1	3.84	NS
	Married	86	11	12.79	75	87.21				
Education qualification	Primary education	55	10	18.18	45	81.82	3.568	2	5.99	NS
	Secondary education	28	4	14.29	24	85.71				
	Higher education	17	0	0.00	17	100.00				

Demographic Variable	Category	Sample	Respondents Self-expressed stigma				χ ² value	df	P -value	Inferences
			Unfavorable (C)		Moderate (B)					
			N	%	N	%				
Religion	Hindi	93	13	13.98	80	86.02	0.890	3	7.82	NS
	Muslim	4	1	25.00	3	75.00				
	Christian	1	0	0.00	1	100.00				
	Others	2	0	0.00	2	100.00				
Types of family	Nuclear	50	8	16.00	42	84.00	1.306	2	5.99	NS
	Joint	43	6	13.95	37	86.05				
	Extended	7	0	0.00	7	100.00				
Income	5000-6000	1	1	100.00	0	0.00	6.769	3	7.82	NS
	6001-7000	1	0	0.00	1	100.00				
	7001-10000	10	2	20.00	8	80.00				
	10000 & above	88	11	12.50	77	87.50				
Area of residence	Urban	68	9	13.24	59	86.76	0.103	1	3.84	NS
	Rural	32	5	15.63	27	84.38				
Previous knowledge	Yes	93	13	13.98	80	86.02	0.001	1	3.84	NS
	No	7	1	14.29	6	85.71				
If yes, Sources	Megazines/ Newspaper/ Books	5	2	40.00	3	60.00	3.492	3	7.82	NS
	Health personnel	28	4	14.29	24	85.71				

* Significant at 0.05Level, significant

Fig. 3 shows that majority (86.0%) of the respondents have moderate self-expressed stigma and 14.0 % of the respondents have unfavorable self-expressed stigma regarding COVID-19 and its preventive measures. 58 % the respondents have moderate Self-expressed stigma and 42 % of the respondents have favorable Self-expressed stigma regarding COVID-19 and its preventive measures.

Table 1. Explains housekeeping staff were enhanced their knowledge from 10.53 to 22.45 and stigma from 28.15 to 20.87 in self-expressed stigma. The computed 't' value was found to be significant at 0.05 level of significance. Variances between pre and post assessment score was analyzed via paired 't' test and the 't' value in knowledge is 58.477 and self-expressed stigma is 15.156 and p value is 0.001 in both knowledge and self-expressed stigma. So, the Video Assisted Teaching was effective and is statistically significant.

Table 2 reveals that there is no association between pre-test knowledge level of respondents on COVID-19 and its preventive measures with age, gender, marital status, education qualification, religion, types of family, income per month, area of residence, and knowledge about COVID-19 and its preventive measures.

Table 3 displays that there is a no association between pre- Self-expressed stigma level of respondents on COVID-19 and its preventive measures with age, gender, marital status, education qualification, religion, types of family, income per month, area of residence, previous knowledge and sources of information about COVID-19 and its preventive measures.

4. DISCUSSION

4.1 Objective 1: To assess the knowledge and self-expressed stigma regarding COVID-19 among housekeeping staff at selected hospital, Gurugram, Haryana

Most of the participants had inadequate knowledge and few of them were having moderate knowledge and none of the respondents had adequate pre-test knowledge while in self-expressed stigma the majority of the respondents have Moderate self-expressed stigma some are having unfavorable self-expressed stigma and none of the participants

have favorable stigma regarding COVID-19 and its preventive measures. Total pre-test mean and SD in knowledge score is 10.53 ± 2.355 and 28.15 ± 3.328 in self-expressed stigma.

Incongruent with the findings of Mehrotra Sameer, Jambunathan Prashant, et al., (2020) conducted a study to investigate health care workers' knowledge of coronavirus illness (COVID-19). Medical workers who took part in the study had a moderate degree of understanding, with 65.5 percent having a moderate level of knowledge. In analyzed, the study result of the nurse, doctors and dental surgeons are not differ statistically significant [16].

4.2 Objective 2: To assess the effectiveness of Video Assisted Teaching in terms of knowledge and self-expressed stigma regarding COVID-19 among housekeeping staff at selected hospital, Gurugram, Haryana

The evaluation of overall pre and post-test knowledge score earlier and afterward the implementation of Video Assisted Teaching. Housekeeping staff were enhanced their knowledge from 10.53 to 22.45 and reducing the stigma from 28.15 to 20.87. So, the Video Assisted Teaching was effective and is statistically significant.

In similar with this study Rakesh Sharma, Aroop Mohanty, and colleagues published a paper in 2021 titled "Effectiveness of Video-Based Online Training for Health Care Workers to Prevent COVID-19 Infection." The results of pair-wise comparisons of pre-test and post-test scores revealed that intervention using video-assisted teaching-learning resulted in a statistically significant improvement in knowledge (p-value 0.001). It was concluded that during the COVID-19 pandemic, video-assisted teaching-learning using virtual platforms effectively taught health workers on infection prevention and control methods [17].

4.3 Objective 3: To find out the association between knowledge with the selected demographic variables

Current study displays that there is no association between knowledge with the selected demographic variables.

The present study is different from the study done by Amirhossein Erfani, Reza Shahriarad, and colleagues published a paper in 2020 titled "Knowledge, Attitude, and Practice Regarding the Novel Coronavirus (COVID-19) Outbreak." The total obtained knowledge score for COVID-19 features was 90%, with 60.8 percent of the general community having a moderate understanding of the illness. Male gender, non-healthcare related jobs, being unmarried, and having a lower degree of education were all significantly associated with poorer knowledge scores, according to multiple linear regression analysis [18].

4.4 Objective 4: To find out the association between self-expressed stigma with the selected demographic variables

The present study which was done among 100 participants there is a no association between pre-test self-expressed stigma scores on COVID-19 and its preventive measures with age, gender, marital status, education qualification, religion, types of family, income per month, area of residence, and knowledge and sources of information.

5. CONCLUSION

The study found a significant difference in knowledge and self-expressed stigma on COVID-19 and its preventive measures among housekeeping workers in a chosen hospital in Gurugram, Haryana, before and after VAT programme. It was proved that Video Assisted Teaching was effective in teaching COVID-19 and its preventive measures to housekeeping staff in a selected hospital in Gurugram, Haryana.

6. RECOMMENDATION

- ❖ Frequent hand hygiene and maintaining social distancing to prevent COVID-19 for better health and each staff should have proper knowledge regarding COVID-19 and its preventive measures in order to take prevention timely.
- ❖ To compare the effectiveness of VAT programme with different teaching methods, a comparison research can be undertaken.

CONSENT

Consent of all the participants obtained prior to the study.

ETHICAL APPROVAL

The ethical approval for conducting the research study was obtained from the ethical committee of the University vide letter no. FON/SGTU/20/262 dated 28.11.2020

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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Peer-review history:

*The peer review history for this paper can be accessed here:
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