EFFECTIVENESS OF WEBINAR ON COVID-19 VACCINATION

Nursing

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ABSTRACT
Background: The COVID-19 pandemic and the resultant "social distancing" has inflamed the use of social media platforms for educational purposes. The global trend of digitalization has also transformed the way in which education is designed, delivered, and implemented. Teaching and learning via webinars has become a widely used approach. **Aim and objective:** To assess the effectiveness of a webinar on knowledge regarding Covid-19 vaccination among health professionals in selected institutions **Methodology:** A quantitative approach and Pre experimental research design was used for this study. Purposive sampling technique was used to select 90 samples. A Structured Questionnaire was prepared as a Google form and the researcher communicated with samples through mobile phone, obtained a formal consent, following which the details of the study and the link for filling the Google form was mailed through e-mail or WhatsApp. A lecture was delivered using Zoom platform by an expert in the field of microbiology covering all the aspects of vaccination against covid 19. Participants have filled-up the post test questionnaire a week after the webinar. **Results:** Among the respondents 79 (87.8%) were UG students, 85 (94.4%) were in the age group of 18-25 years, Majority 88 (97.8%) were females, 82 (91.1%) were unmarried, 89 (98.9%) were from Tamilnadu, and 1 (1.1%) from Karnataka. During the pre-test 58% of the participants had adequate knowledge regarding Covid 19 vaccination which is increased to 90% in post-test. There was no significant association between pre-test knowledge score of health professionals regarding Covid-19 vaccine and selected demographic variables. **Conclusion:** The study revealed that the webinar was effective in terms of improving the knowledge regarding Covid-19 vaccination.

KEYWORDS

INTRODUCTION
In recent times online teaching and learning has become an unavoidable in the field of higher education. Digital India is one of initiatives of Government of India which endorse to strenghthen the digital infrastructure all over India to facilitate technological mode of teaching. Webinar is one such tool with high prospect to reach out the remote corners of the country. The term 'webinar' was first introduced by Eric R. Korb in 1998. 'Webinar' is the combination of 'web' and 'seminar'. The Merriam-Webster Online Dictionary, 2010 defined a webinar as a "live online educational presentation in which participating viewers can submit questions and comments". The basic idea of webinars is to conduct seminars using online platform. Webinar is one of the latest developments among the many computer-mediated communication systems.

National Sample Survey office (2019) describes that the Net enrolment ratio in rural area is 17.7% and 13.2% respectively for male and female. The report also shows that 36.9% male students are unable to continue their regular study because they prefer job over study for their poor economic condition. Whereas, in case of female students, domestic activities (30.2%), distant location of schools (2.7%) and marriage (13.2%) are the prime barriers in the path of achieving higher education. Infrastructural shortfalls, inadequate teachers, loss of teaching learning days due to natural disasters, students with physical disabilities have made 'webinar' as an important tool of higher education.

COVID-19 pandemic has affected globally causing loss of life and livelihood. Several vaccines have been approved against coronavirus diseaseand distributed in different regions. However, knowledge regarding COVID-19 vaccinations are poorly understood. Thus, the study aimed to investigate the effectiveness of the webinar on the knowledge regarding COVID-19 vaccinations in India.

STATEMENT OF THE PROBLEM –
A study to assess the effectiveness of a webinar on knowledge regarding Covid-19 vaccination among health professionals in selected institutions.

OBJECTIVES –
1. To assess the effectiveness of webinar on knowledge regarding corona vaccination among health professionals.
2. To find out the association between pretest knowledge score and selected demographic variables.

HYPOTHESIS –
Research hypothesis –

H_1 – There will be a significant difference between mean pretest and post-test knowledge score regarding Covid vaccination among health professionals.

H_2 – There will be a statistically significant association between the pretest knowledge of health professionals regarding Covid vaccination and selected demographic variables such as designation, institution, gender, age, marital status, district and state.

OPERATIONAL DEFINITIONS
Webinar - A lecture was delivered using Zoom platform by an expert in the field of microbiology covering all the aspects of vaccination against covid 19. PowerPoint presentation and video were used to supplement the lecture. Participants were encouraged to interact during the session.

Knowledge – Awareness of health professionals regarding different aspects Covid vaccination obtained from the response on the structured questionnaire on Covid vaccination.

Health professionals – Health professionals include undergraduate and postgraduate nursing students, Staff nurses and nursing faculty from various institutions all over India.

METHODS
Research design – Pre experimental design
Population - The study population included health professionals from 7 institutions all over India
Sampling technique – Purposive sampling technique
Sample size - 90 health professionals

Sampling criteria
INCLUSION CRITERIA
• Those who are willing to participate in the study

Tool
A structured multiple-choice questionnaire (online Google form) was used for the data collection.
The tool has two parts

Part -1

Demographic variables included age, gender, designation, institution, Socio economic status, Place of residence, District and State

Part – 2
Knowledge questionnaire consisted of 15 multiple choice questions with four alternatives each. The participants were asked to choose the correct answer and mark against the box for each question. Each item had one correct response and was given the score of one. The maximum score was 15.

The scoring procedure is as follows

Level of knowledge	Score
Adequate knowledge	11-15
Moderately adequate knowledge	6-10
Inadequate knowledge	1-5

Data Collection procedure
Webinar flyer was prepared and circulated to all the nursing colleges and hospitals all over India using social media platform and encouraged people to register for the webinar.

A Structured Questionnaire was prepared as a Google form and the researcher communicated with samples through mobile phone, obtained a formal consent, following which the details of the study and the link for filling the Google form was mailed through e-mail or WhatsApp.

A lecture was delivered using Zoom platform by an expert in the field of microbiology covering all the aspects of vaccination against covid 19.

7 days after the webinar, a reminder mail was sent to the participants to fill up the Posttest questionnaire.

Participants have filled-up the post-test questionnaire a week after the webinar.

Plan for data analysis
Analysis and interpretation of data was based on the objectives of the study by using descriptive and inferential statistics

Ethical consideration
- Formal permission was obtained from the Institutional Ethical Committee
- The nature and purpose of the study was explained to the participants and consent was obtained.

RESULTS
Table 1 - Distribution of subjects based on the demographic variables n=90

S. No	Demographic variables	Frequency	Distribution
1.	**Designation**		
	Faculty	8	8.9%
	UG	79	87.8%
	PG	2	2.2%
	Staff Nurse	1	1.1%
2.	**Institution**		
	VVVCON	81	90%
	Velammal Nursing College	3	3.3%
	Former Sriher	1	1.1%
	CSI JACON	2	2.2%
	MIOT hospital	1	1.1%
	Pragathi College of Nursing	1	1.1%
	Arcot College of Nursing	1	1.1%
3.	**Gender**		
	Male	2	2.2%
	Female	88	97.8%
4.	**Age**		
	18 – 25 years	85	94.4%
	26 – 33 Years	1	1.1%
	34 – 40 Years	3	3.3%
	41 Years – Above	1	1.1%
5.	**Status**		
	Married	8	8.9%
	Unmarried	82	91.1%
6.	**District**		

	Virudhunagar	84	93.3%
	Madurai	3	3.3%
	Chennai	1	1.1%
	Thirupathur	1	1.1%
	Banglore	1	1.1%
7.	**State**		
	Tamilnadu	89	98.9%
	Karnataka	1	1.1%
8.	**Residence**		
	Urban	90	100%
	Rural	0	0

- Among the respondents 79 (87.8%) were UG students, 8 (8.9%) were faculty, 2 (2.2%) were PG students and 1 (1.1%) was staff nurse. 81 (90%) were from V.V.Vanniaperumal Nursing College for Women, 3 (3.3%) were from Velammal College of Nursing, 2 (2.2%) were from CSI Jayaraj Annapackiam College of Nursing, 1 (1.1%) from Former Sriher college, 1 (1.1%) from MIOT hospital, 1 (1.1%) from Pragathi College of Nursing and 1 (1.1%) from Arcot College of Nursing.
- Majority 88 (97.8%) were females and 2 (2.2%) were males. 85 (94.4%) samples were in the age group of 18-25 years, 3 (3.3%) were in the age group of 34 – 40 years, 1 (1.1%) was in the age group of 26 – 33 years and 1 (1.1%) was in the age group of 41 years. Majority of respondents 82 (91.1%) were unmarried, while 8 (8.9%) were married.
- Regarding state, 89 (98.9%) were from Tamilnadu and 1 (1.1%) from Karnataka. With regard to district, among the 89 participants from Tamilnadu 84 (93.3) were from Virudhunagar, 3 (3.3%) were from Madurai, 1 (1.1%) was from Chennai and Thirupathur. One participant was from Bangalore district of Karnataka.
- Regarding residence all the 90 (100%) of the respondents were from Urban area.

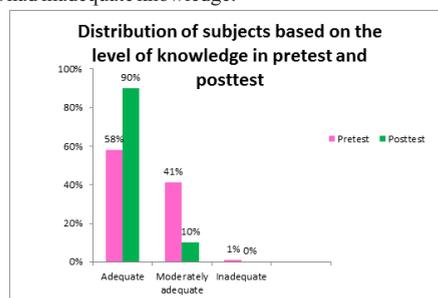**Distribution of subjects based on the designation**
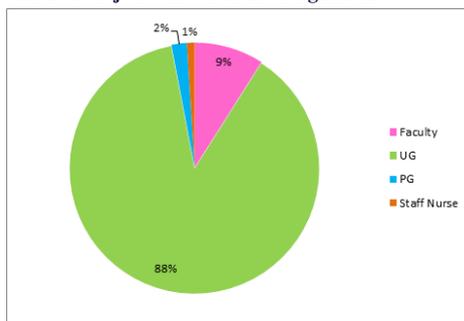
Fig 1 - Distribution of subjects based on the designation

Table 2 Comparison of subjects based on the level of knowledge regarding covid-19 vaccination among health professionals in pretest and post test

n=90

S.No	Level of knowledge	Pre test	Post test
1.	Adequate	58%	90%
2.	Moderately adequate	41%	10%
3.	Inadequate	1%	0%

During the pretest 58% of the participants had adequate knowledge which is increased to 90% in posttest. During the posttest none of the subjects had inadequate knowledge.

Fig 2 - Distribution of subjects based on the level of knowledge in pre-test and post-test

Table 3 – Comparison of subjects based on the knowledge score regarding covid-19 vaccination among health professionals in pretest and posttest n = 90

S.No	Knowledge	Mean	Stanadard deviation	't' value
1.	Pretest	10.86	1.97	11.064*
2.	Post- test	13.25	1.96	

*Significant at 0.05 level.

Table 3 compares the mean difference in the knowledge score before and after the intervention. The mean knowledge score after the intervention (13.25) was higher than the mean knowledge score before the intervention (10.86). Paired 't' test was used to find out the effectiveness and the difference in the mean knowledge score was found to be statistically significant at $p<0.05$ level. (Table 3)

Table 4 – Association of knowledge regarding covid-19 vaccination among health professionals with selected demographic variables n=90

S. no	Demographic variables	Pretest Knowledge			χ^2 value	p value
		Adequate knowledge	Average knowledge	Inadequate knowledge		
1.	**Designation**				4.083	0.665
	Faculty	7	1	0		
	UG	43	35	1		
	PG	1	1	0		
	Staff Nurse	1	0	0		
2.	**Institution**				3.290	0.993
	VVVCON	45	35	1		
	Velammal Nursing College	2	1	0		
	Former Sriher	1	0	0		
	CSI JACON	1	1	0		
	MIOT hospital	1	0	0		
	Pragathi College of Nursing	1	0	0		
	Arcot College of Nursing	1	0	0		
3.	**Gender**				1.495	0.474
	Male	2	0	0		
	Female	50	37	1		
4.	**Age**				1.640	0.950
	18 – 25 years	48	36	1		
	26 – 33 Years	1	0	0		
	34 – 40 Years	2	1	0		
	41 Years – Above	1	0	0		
5.	**Marital status**				1.103	0.576
	Married	6	2	0		
	Unmarried	46	36	1		
6.	**District**				4.698	0.789
	Virudhunagar	46	37	1		
	Madurai	3	0	0		
	Chennai	1	0	0		
	Thirupathur	1	0	0		
	Banglore	1	0	0		
7.	**State**				0.739	0.691
	Tamilnadu	51	37	1		
	Karnataka	1	0	0		

*Significant at 0.05 level.

The table III shows there is no significant association between pretest knowledge score of health professionals regarding Covid-19 vaccine with selected demographic variables such as designation (χ^2 = 4.083, p = 0.665), institution (χ^2 = 3.290, p = 0.993, gender (χ^2 = 1.495, p = 0.474) , age (χ^2 = 1.640, p = 0.950) , marital status (χ^2 = 1.103, p = 0.576) , district (χ^2 = 4.698, p = 0.789) and state (χ^2 = 0.739, p = 0.691).

DISCUSSION

The study aimed to assess the effectiveness of a webinar on knowledge regarding Covid-19 vaccine among health professionals of selected institutions in India. The study found that the webinar was effective in terms of improving the knowledge regarding Covid-19 vaccine among health professionals.

Similar study was conducted by Mateen Mossa EA, Ali TM, Hammad A (2020) to evaluate the impact of webinar on improving knowledge among 130 Egyptian ophthalmologists and to assess their satisfaction. 123 (95%) participants expressed that the knowledge level improved after attending the online webinars during the period of pandemic.

Andreas Gegenfurtner, Christian Ebner(2019) carried out a meta analysis of 12 Randomized Controlled Trials to study the effectiveness of webinars in higher education and professional training. The study found that webinars are trivially more effective in promoting student achievement than other learning environments.

A study was conducted by Krishna Chythanya Nagaraju, Karanam Madhavi and Jandhyala N. Murthy (2020) among 683 faculty across India to find the efficiency of webinars. Information is gathered through online survery containing 31 research questions. Study observed that global reach at no cost plus freedom of working from home spurred many faculty to experiment this mode and 40% from them have been found to be juggling with many courses simultaneously for certificate sake only. Many participants were not confident to start work with the concepts learning through online. 25% of participants expressed that they have attended irrelevant sessions but received certificate. 45% of respondents haven't shown interest to attend sessions which doesn't offer certificate. The study recommended that the Conduction of sudden Quiz on the screen and attendance, asking participants to switch on their Video camera, interaction of resource person with participants can improved the efficacy of webinars.

CONCLUSION

Webinars are readily available, inexpensive, beneficial educational tool to be continued even after the COVID-19 pandemic. Webinar events should be modified to attract more audience and encourage them to engage to it and maintain their attention and concentration level up to the end. It is important to select the appropriate day and time. It is advisable to the speakers to register the participants via their email to be able to re communicate with answering their questions, and send them evaluation survey, to be able to plan for more attractive and successful scientific webinars. The current study assessed the efficacy of the webinars subjectively through the answers of the participants to the questionnaire; further studies may be conducted for some kind of objective evaluation for assessing the efficacy of the webinar.

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