

# Effectiveness of an Educational Program on Teachers' Knowledge in The Primary Schools about Coronavirus Disease

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## ABSTRACT

**Background:** In the 2020 coronavirus pandemic, many countries have closed schools. and as the pandemic resurges in second and third waves, causing an ongoing pandemic in many countries and territories and consequence of school closures and reopening is the widening of inequalities in children's health and education outcomes. Educators are key to preventing the spread of COVID-19 in educational settings. This study aims to evaluate the effectiveness of educational program on teachers' knowledge in The Primary Schools about Coronavirus disease.

**Methods:** The study was designed as a quasi-experimental design approach for study group and control group participants employed in Al Rusafa Second Education Directorate Schools in Baghdad City being. A non-probability "purposive" sample selected from Primary School's Teachers to obtain represent and accurate data. The sample consisted of seventy teachers, (35) teachers enrolled as a control group and (35) teachers enrolled as a study group. The questionnaire's dependability was proven through empirical study, and it was then submitted to specialists for validation. The total number of items in the questionnaire was 50. Self-reports were used to collect data, which was then evaluated using descriptive and inferential statistical data analysis. The selection criteria included Only Teachers who did not enter coronavirus disease training courses. The period of the study was initiated from 13<sup>st</sup> of October /2021 till 20<sup>th</sup> of April /2022, tested in three periods pre-test, post-test-I, and post-test-II.

**Results:** The results shows The teachers in study group became knowledgeable and aware toward concept and cause of COVID-19; signs and symptoms; transmission methods; diagnosis and treatment; risks and complications; as well as the prevention. Where highly significant differences between study and control group about teacher's knowledge, and no a significant association with their socio-demographic characteristics.

**Conclusions:** In order to improve teachers' knowledge about coronavirus, an educational training programs are essential. The finding revealed that after receiving training, teachers' knowledge improved. The training program is highly successful, there are still many people who do not implement the protocols in a disciplined manner, potentially due to a lack of information and awareness within the community and especially the school environment. Thus, teachers need to be well informed and encouraged of preventive measures and that all teachers should receive coronavirus training to gain the information and skills necessary, in addition reconsidering certified safety measures and standards in schools to match the global standards in light of the coronavirus variants and ahead of winter 2022, through providing adequate preventive commodities, improve ventilation and to plan to build supporting infrastructure commodities to ensure compliance.

**Key-words:** Educational Program, Teachers, knowledge, Primary school, Coronavirus Disease.

## INTRODUCTION

In the 2020 Coronavirus pandemic, many countries have closed schools and kindergartens during their lockdowns. Globally children's daycares and schools were reopened after the summer break and as the pandemic resurges in second and third waves, Schools are public places where teachers and students meet their daily educational needs. Thus, as public places where large numbers of people gather, schools pose a risk of COVID-19 transmission. Community groups that are at risk in the school environment include teachers, students, and canteen managers (Betsch et al., 2021). Studies aim to assess awareness and knowledge of teachers within the community and especially the school environment particularly.

One effort to prevent and control COVID-19 in schools has been to implement new health protocols. The school environment's community is obliged to make lifestyle changes by adapting to new habits, a situation described as the new normal; such protocols enable the community to live productively and avoid COVID-19 transmission. Thus, the public-especially those in the school environment-has been asked to apply the principles of a cleaner and healthier lifestyle to suppress COVID-19 community transmission and quickly end the COVID-19 pandemic (Setyowati et al., 2021).

Global school re-opening is premised on current scientific evidence which demonstrates that children do not transmit the COVID-19 virus as efficiently as adults do, and that school-based virus transmission may not be the main driver of community transmission. Requirements for schools in developing countries to establish safer school environments might however differ from those in more developed countries as the former have a comparatively greater deficit in infrastructure and their school health programs (Sanni et al., 2021).

Knowledge and behavioral assessment of such outbreaks are important. because of the massive number of misconceptions and false information circulating on social media about disease transmission and acquisition methods (Mohamad et al., 2020). The management of this pandemic primarily depends on the adherence to the recommended measures taken. For any health preventive measures to be beneficial, a thorough approach must ensure proper education. Good knowledge of coronavirus infection is associated with positive attitudes and effective practices; therefore, concise knowledge of a disease affects individuals' preventive practices and attitudes. Thus, a Knowledge is essential for understanding the level of awareness towards COVID-19 as it provides baseline information to determine the type of intervention that may be required to change misconceptions about the virus (Zhong et al., 2020).

The US Centers for Disease Prevention and Control indicate that masks should not be placed on children younger than 2 years old, anyone

who has trouble breathing or is unconscious, anyone who is incapacitated or otherwise unable to remove the mask without assistance. However, in some children in whom use of masks may be challenging such as in the case of younger students, those with severe asthma or other breathing difficulties and those with special educational or healthcare needs wearing masks is left to the judgment of the teachers. use of masks in children between 6 and 11 years of age has to be decided on the base of the local epidemiological situation, the characteristics of the child, his ability to wear the mask and the impact of this on the learning. This can lead to different rules from one institution to another or even from one class to another and cause doubts about the most appropriate behaviour in all students and school staff with reduction in the use of masks even by those for whom use is clearly defined (Esposito et al., 2021).

Substantial efforts have been made by researchers all over the world to develop a drug that can cure this disease, but, unfortunately, there has not been any success yet, and infected patients continue to receive symptomatic treatment only. The virus has no curing antiviral treatment and applying the measures to reduce the transmission remains the mainstay of prevention (Ogunode, 2020). SARS-CoV-2 vaccinations will likely play an important role in infection prevention in children as more are vaccinated. By the beginning of 2022, the safety and efficacy of vaccinations in the <5-year-old age-group remain under evaluation. New studies will expand our knowledge of SARS CoV-2 epidemiology, change our understanding of disease processes and improve clinical management recommendations (Chou, et al., 2022).

In real terms, a pandemic does not only cause illness or death but also has consequences for changes in psychological, social, economic and educational aspects. The impact of the COVID-19 virus, which is so astonishing, has forced governments worldwide to quickly evaluate, analyze and adjust policies in all sectors related to health, economic and social conditions. In global conditions, the government policy to hold the spread of this pandemic has to consider social activities, which have a domino effect on lack of economic conditions and the decrease of human development index. On the broader side, all government policies, including economic, social, and political levels, are oriented towards ending the pandemic's spread. Policies for maintaining social distance, self-isolation and travel restrictions are the central policies implemented worldwide (El Rizaq & Sarmini, 2021).

## METHODS

In Baghdad, a group of teachers participated in a quasi-experimental investigation for study group and control group participants employed in Al Rusafa Second Education Directorate in Baghdad City being. An objective

sample of 70 teachers was used, which was divided into two groups of 35 samples each. The intervention program was tested on 35 teachers, who were compared to a control group of 35 teachers.

A committee of 18 arbitrators was given the authority, and they were asked to submit their opinions and suggestions on each component of the study questionnaire in terms of the appropriateness of the language, relevance to the dimensions of the study variables to which they were assigned, and suitability to the study population.

The reliability of the study instruments means making sure that the answer will be almost the same, if it is repeatedly applied to the same people, at different times. The same people the second time, after confirming the apparent validity of the study tool, the researcher applied it to a random exploratory sample of 10 teachers, using the test-retest method, where each teachers from the sample was given a number from 1 to 10 and the questionnaire was distributed to them without prior known of them that they are a sample to measure the stability of the tool, and after an interval of about two weeks, 10 questionnaires were redistributed to the same exploratory sample, where the members of this sample were later excluded from the original sample on which the final study was conducted.

The SPSS version 20.0 software application was used to conduct statistical analysis. The information was evenly distributed. Paired and independent sample t test were used to examine variations in variables study and control groups. For continuous variables, descriptive data is reported as mean standard deviation, and for categorical variables, it is shown as number (percent).

**RESULTS**

Female teachers dominated the study 68.6% and control group 71.4%. The age of teachers in the study group 68.6% are with age group 31-less than 41 year while 45.7% of teachers in the control group are with age group 20 – less than 31 year. The level of education refers to bachelor degree among teachers in both groups (74.3%).The highest percentages regarding year of experience refers to 3-less than 6 years among 42.9% of teachers in the study group and 34% in the control group. The teachers who are inflicted with COVID-19 disease were 51.4% in the study group and 62.9% in the control group. Regarding inflicted family members, 54.3% of teachers in the study group and 74.3% in the control group reported they have inflicted family members. Concerning vaccination, 34.3% of teachers in the study group and 42.9% in the control group reported they have vaccinated.

Regarding social media, 82.8% of teachers in the study group and 97.1% in the control group got their information from social media. Regarding social media, 82.8% of teachers in the study group and 97.1% in the control group got their information from social media.

Table (1): Distribution of the Sample according to their Socio-demographic Characteristics

No.	Characteristics	Study group		Control group		
		f	%	F	%	
1	Gender	Male	8	22.9	10	28.6
		Female	27	77.1	25	71.4
		Total	35	100	35	100
2	Age (year)	20 – less than 31	9	25.7	16	45.7
		31 – less than 41	24	68.6	13	37.2
		41 – less than 51	2	5.7	6	17.1
		51 ≥	0	0	0	0
		Total	35	100	35	100
3	Level of education	Diploma	5	14.3	5	14.3
		Bachelor	26	74.3	26	74.3
		Postgraduate	4	11.4	4	11.4
		Total	35	100	35	100
4	Years of experience (year)	Less than 3	7	20	8	23
		3 – less than 6	15	42.9	12	34
		6 – less than 11	8	22.9	7	20
		11 ≥	5	14.2	8	23
		Total	35	100	35	100
5	Inflicted with COVID-19	No	17	48.6	13	37.1
		Yes	18	51.4	22	62.9
		Total	35	100	35	100
6	Inflicted family member	No	16	45.7	9	25.7
		Yes	19	54.3	26	74.3
		Total	35	100	35	100
7	Vaccinated	No	23	65.7	20	57.1
		Yes	12	34.3	15	42.9
		Total	35	100	35	100
8	Sources of information	Hard Media	5	14.3	1	2.9
		Social Media	29	82.8	34	97.1
		Relative/friends	1	2.9	0	0
		Total	35	100	35	100

No: Number, f: Frequency, %: Percentage, M: Mean, SD: Standard deviation

Table (2): Assessment of Teachers' Knowledge about Concept and Cause of COVID-19 among Study and Control Group

No.	Knowledge about concept and cause	Study Group (N=35)						Control Group (N=35)					
		Pre-test		Post-test 1		Post-test 2		Pre-test		Post-test 1		Post-test 2	
		M	Ass.	M	Ass.	M	Ass.	M	Ass.	M	Ass.	M	Ass.
1	Some Variants of coronavirus are contagious	.36	Fair	1.00	Good	1.00	Good	.63	Fair	.64	Fair	.66	Fair
2	Mutations in coronavirus strains affect increased spread of COVID-19	.29	Poor	1.00	Good	1.00	Good	.65	Fair	.64	Fair	.66	Fair
3	Influenza virus causes coronavirus disease	.24	Fair	.91	Good	.91	Good	.29	Poor	.29	Poor	.37	Fair
Total		.30	Fair	.97	Good	.97	Good	.52	Fair	.52	Fair	.56	Fair

M: Mean, Poor= 0 – 0.33, Fair= 0.34 – 0.66, Good= 0.67 – 1

Table (3): Assessment of Teachers' Knowledge about Signs and Symptoms of COVID-19 among Study and Control Group

No.	Knowledge about signs and symptoms	Study Group (N=35)						Control Group (N=35)					
		Pre-test		Post-test 1		Post-test 2		Pre-test		Post-test 1		Post-test 2	
		M	Ass.	M	Ass.	M	Ass.	M	Ass.	M	Ass.	M	Ass.
1	The period from infection of the novel coronavirus to the onset of symptoms is 5-7 days and can take up to 14 days	.24	Poor	1.00	Good	.97	Good	.47	Fair	.64	Fair	.64	Fair
2	All people infected with coronavirus develop symptoms and feel unwell	.26	Poor	.97	Good	.97	Good	.43	Fair	.43	Fair	.44	Fair
3	The disease's symptoms are similar to seasonal influenza symptoms	.33	Poor	.94	Good	.94	Good	.47	Fair	.64	Fair	.66	Fair
4	COVID-19 causes only mild symptoms (cough, fatigue, and headache)	.36	Fair	1.00	Good	1.00	Good	.64	Fair	.66	Fair	.66	Fair
5	All individuals infected with coronavirus have serious or severe disease	.43	Fair	1.00	Good	1.00	Good	.26	Poor	.23	Poor	.34	Fair
6	Early symptoms of the disease may include loss of taste or smell	.40	Fair	.97	Good	.97	Good	.64	Fair	.66	Fair	.64	Fair
7	Sore throat is a symptom of COVID-19	.36	Fair	.91	Good	.89	Good	.37	Fair	.37	Fair	.41	Fair
8	Unusual symptoms of COVID-19 include nausea, vomiting, or diarrhea	.33	Poor	.97	Good	.97	Good	.64	Fair	.66	Fair	.66	Fair
9	Mental confusion may be the only symptom of corona infection among the elderly	.11	Poor	.89	Good	.89	Good	.14	Poor	.14	Poor	.23	Poor
Total		.31	Poor	.96	Good	.95	Good	.51	Fair	.49	Fair	.52	Fair

Table (4): Assessment of Teachers' Knowledge about Transmission Methods of COVID-19 among Study and Control Group

No.	Knowledge about transmission methods	Study Group (N=35)						Control Group (N=35)					
		Pre-test		Post-test 1		Post-test 2		Pre-test		Post-test 1		Post-test 2	
		M	Ass.	M	Ass.	M	Ass.	M	Ass.	M	Ass.	M	Ass.
1	COVID-19 can be transmitted from animal to human	.36	Fair	1.00	Good	.97	Good	.43	Fair	.46	Fair	.43	Fair
2	Insects can transmit COVID-19 to humans	.37	Fair	.91	Good	.91	Good	.20	Poor	.20	Poor	.23	Poor
3	Coronavirus in respiratory droplets can land on surrounding surfaces and remain alive for 30 min	.20	Poor	.91	Good	.91	Good	.26	Poor	.26	Poor	.26	Poor
4	Regardless of the surface type, the coronavirus survival period is the same on any surface	.09	Poor	.94	Good	.94	Good	.17	Poor	.17	Poor	.24	Poor
5	A person can get COVID-19 through water and food	.20	Poor	.97	Good	.97	Good	.34	Fair	.34	Fair	.35	Fair
6	People infected with coronavirus cannot spread the disease when they have no fever	.31	Poor	1.00	Good	1.00	Good	.61	Fair	.66	Fair	.66	Fair
7	COVID-19 asymptomatic person can transmit the virus	.34	Fair	1.00	Good	1.00	Good	.59	Fair	.66	Fair	.66	Fair
8	Can the dead bodies of infected person transmitted the disease	.23	Poor	.94	Good	.94	Good	.26	Poor	.26	Poor	.31	Poor
Total		.26	Poor	.96	Good	.96	Good	.36	Fair	.38	Fair	.39	Fair

Table (5): Assessment of Teachers' Knowledge about Diagnosis and Treatment of COVID-19 among Study and Control Group

No.	Knowledge about diagnosis and treatment	Study Group (N=35)						Control Group (N=35)					
		Pre-test		Post-test 1		Post-test 2		Pre-test		Post-test 1		Post-test 2	
		M	Ass.	M	Ass.	M	Ass.	M	Ass.	M	Ass.	M	Ass.
1	You should be tested for COVID-19 if you have been in contact with someone who has been confirmed to be infected, even if you have been infected before in the past 3 months	.30	Poor	.97	Good	.97	Good	.51	Fair	.51	Fair	.54	Fair
2	A covid-19 test result may be falsely negative	.35	Fair	1.00	Good	1.00	Good	.61	Fair	.66	Fair	.66	Fair
3	Holding breath for more than 10 second is a test for COVID-19	.20	Poor	.94	Good	.91	Good	.06	Poor	.09	Poor	.06	Poor
4	All patients with COVID-19 need to be admitted in the hospital	.36	Fair	.94	Good	.97	Good	.57	Fair	.57	Fair	.65	Fair
5	Antibiotics are an effective treatment for COVID-19	.11	Poor	.89	Good	.89	Good	.17	Poor	.17	Poor	.23	Poor
6	People recovered from COVID-19 will never get the disease again	.33	Poor	1.00	Good	1.00	Good	.66	Fair	.17	Poor	.66	Fair
Total		.28	Poor	.96	Good	.96	Good	.43	Fair	.36	Fair	.47	Fair

Table (6): Assessment of Teachers' Knowledge about Risks and Complications of COVID-19 among Study and Control Group

No.	Knowledge about risks and complications	Study Group (N=35)						Control Group (N=35)					
		Pre-test		Post-test 1		Post-test 2		Pre-test		Post-test 1		Post-test 2	
		M	Ass.	M	Ass.	M	Ass.	M	Ass.	M	Ass.	M	Ass.
1	The disease is more dangerous in people with weakened immune systems	.35	Fair	.97	Good	.97	Good	.66	Fair	.66	Fair	.66	Fair
2	Not all people with COVID-19 have severe cases. Only older adults with chronic illnesses tend to be more severe	.26	Poor	1.00	Good	1.00	Good	.34	Fair	.26	Poor	.34	Fair
3	One of the complications of COVID 19 is blood clots that damage the heart muscle	.39	Fair	1.00	Good	.94	Good	.46	Fair	.26	Poor	.46	Fair
4	Complications of COVID-19 are acute pneumonia or kidney failure	.35	Fair	.97	Good	.97	Good	.66	Fair	.66	Fair	.60	Fair
5	Infection with the virus cause death always	.34	Fair	1.00	Good	.94	Good	.66	Fair	.63	Fair	.66	Fair
Total		.34	Fair	.99	Good	.96	Good	.56	Fair	.49	Fair	.54	Fair

Table (7): Assessment of Teachers' Knowledge about Prevention of COVID-19 among Study and Control Group

No.	Knowledge about prevention	Study Group (N=35)						Control Group (N=35)					
		Pre-test		Post-test 1		Post-test 2		Pre-test		Post-test 1		Post-test 2	
		M	Ass.	M	Ass.	M	Ass.	M	Ass.	M	Ass.	M	Ass.
1	A person who recovered from COVID-19 does not need to follow prevention protocols	.39	Fair	1.00	Good	.97	Good	.54	Fair	.54	Fair	.56	Fair
2	Masks are used as an alternative method of social distancing	.34	Fair	.91	Good	.91	Good	.23	Poor	.23	Poor	.26	Poor
3	People should only wear a mask if they are infected with the virus, or if they are caring for someone with suspected COVID-19 infection	.30	Poor	.97	Good	.91	Good	.59	Fair	.66	Fair	.66	Fair
4	Social distance means stay more than 1 m (3 feet) away from a person who is sick	.34	Fair	1.00	Good	.94	Good	.64	Fair	.64	Fair	.54	Fair
5	Washing hands with water and soap can eliminate the disease cause	.31	Poor	.97	Good	.91	Good	.54	Fair	.54	Fair	.54	Fair
6	It is not necessary for children to take measures to prevent the infection by the COVID-19 virus	.30	Poor	1.00	Good	.94	Good	.54	Fair	.63	Fair	.60	Fair
7	you should to wash your hands for 20sec -1minute to kill the virus	.31	Poor	1.00	Good	1.00	Good	.60	Fair	.63	Fair	.60	Fair
8	Hand rubbing with alcohol-based solutions is more effective than handwashing with soap	.14	Poor	.94	Good	.91	Good	.23	Poor	.23	Poor	.23	Poor
9	Regularly rinsing nostrils with saline has a protective effect against COVID-19	.11	Poor	.91	Good	.83	Good	.03	Poor	.11	Poor	.03	Poor
10	Mouth washing has protective effect against COVID-19	.53	Fair	.89	Good	.89	Good	.29	Poor	.29	Poor	.29	Poor
11	Young has good immunity and does not need to take precautions to protect against coronavirus	.33	Poor	1.00	Good	.94	Good	.66	Fair	.66	Fair	.66	Fair
12	Taking a shower with hot water can kill the agent inside the body	.03	Poor	1.00	Good	.86	Good	.06	Poor	.06	Poor	.06	Poor
13	self-isolate, if you have accidentally come in contact with a person with COVID-19	.31	Poor	1.00	Good	.97	Good	.66	Fair	.66	Fair	.66	Fair
14	Quarantine separates infected patients from healthy people and restricts their movement to stay in health facilities and receive treatment	.06	Poor	.86	Good	.80	Good	.14	Poor	.14	Poor	.14	Poor
15	Exposure to the sun and heat is recommended because it is useful in preventing the transmission of the disease	.14	Poor	.94	Good	.91	Good	.23	Poor	.26	Poor	.23	Poor
16	Vaccination against pneumonia or influenza has no protection against COVID-19	.11	Poor	.91	Good	.89	Good	.17	Poor	.17	Poor	.17	Poor
17	COVID-19 vaccine can transmit coronavirus to you	.20	Poor	.83	Good	.83	Good	.09	Poor	.09	Poor	.09	Poor
18	Side effects of the coronavirus vaccine include pain, redness and swelling at the injection site, or fever and fatigue	.30	Poor	1.00	Good	.94	Good	.37	Fair	.37	Fair	.37	Fair
19	Currently, there is no vaccine for corona virus available for ages under 12 years	.26	Poor	1.00	Good	.91	Good	.09	Poor	.17	Poor	.09	Poor
Total		.25	Poor	.95	Good	.91	Good	.35	Fair	.37	Fair	.36	Fair

Table (8): Repeated Measure Analysis of Variance (RM-ANOVA) Test for Effectiveness of Educational Program on Teachers' Knowledge about COVID-19 among the Study Group (N=35)

Descriptive Knowledge	Mean (S.D)	Within-Subjects Effect								
		Source	Type III Sum of Squares	df	Mean Square	F	P-value	Sig.	Partial Eta Squared	
Pre-test Post-test I Post-test II	15.89 (3.288) 48.09 (2.049) 47.03 (2.885)	Time	Sphericity Assumed	23424.743	2	11712.371	2025.243	.001	H.S	.983
			Greenhouse-Geisser	23424.743	1.208	19394.476	2025.243	.001	H.S	.983
			Huynh-Feldt	23424.743	1.228	19073.460	2025.243	.001	H.S	.983
			Lower-bound	23424.743	1.000	23424.743	2025.243	.001	H.S	.983
		Error (Time)	Sphericity Assumed	393.257	68	5.783				
			Greenhouse-Geisser	393.257	41.065	9.576				
			Huynh-Feldt	393.257	41.757	9.418				
			Lower-bound	393.257	34.000	11.566				

## DISCUSSION

The findings indicate that there is no significant difference in teachers' knowledge with regard to their gender, age, year of experience, their inflicted with COVID-19, taking vaccine, and their sources of information in the study and control groups. Studies in the literature agree with this results, with respect to the gender, a study by Hussein & Khalil (2020). demonstrated that there is non-significant association between teachers' general knowledge and their gender characteristics in the study.

Also, With relation to the right responses among the age groups, there was a substantial variation among the groups. The biggest proportion of the correct answers were in the age of thirty years the majority of participants of this group obtained the correct answers. The last group was that of twenties in which half of the participants only offered that right responses (Labban et al., 2020). Results suggested that there was no significant link between teachers' general knowledge and their age group in the study in which both young and elderly instructors had the same knowledge regarding communicable illnesses. Studies stressed that there was non-significant association between instructors' expertise and their age groups (Hussein & Khalil, 2020).

The participant's level of education was a significant factor in the COVID 19 knowledge and awareness. The findings were in a strong agreement with their findings of Labban et al. (2020), who confirmed that the number of respondents who gave the correct responses grew with their level of education. Those respondents who had completed their college education had the highest percentage of accurate responses, followed by those who had completed their high school education and those who had completed their basic education. The gap between the degree of education obtained in college and that obtained in high school or basic education was large (Labban et al., 2020).

The findings indicate that the educational program being used was highly effective on teachers' knowledge among the study group. It is clear out of descriptive the noticeable increasing of mean score on teachers' knowledge during post-test 1 and 2 that indicate the effectiveness of educational program. In compare with the descriptive shows no differences in mean score of teachers' knowledge in the control group during pre-test, post-test 1, and 2 because they did not receive the educational program. From the researcher's opinion point of view this is related may be explained as that the teachers lacked the motivation to review the handout.

According to the findings of the study, an increase in educational level was associated with a rise in overall score. A number of other research have come to the same conclusions regarding the connection between the education level of a population and their degree of awareness of COVID-19. The findings of this study also revealed a statistically significant connection between the participants' employment situations and their responses to the questionnaire. There was also a substantial association between having a high score on the questionnaire and working in the health care industry, in comparison to individuals who were not working at the time of the survey. This discovery was repeated over and over again in a variety of research. The research also revealed that around one half of the participants obtained the majority of their information from the internet, whereas one third of the participants obtained the majority of their knowledge through television and radio channels. This discovery is particularly helpful for the authorities since it allows them to focus their efforts in the battle against the disinformation (Al-Rubaye et al., 2020).

The results of this study demonstrated that participants' levels of knowledge changed both before and after receiving the educational program, with a rise in the participants' mean score after receiving the educational program. Studies lend more credence to the idea that educational therapies that make use of various forms of multimedia might boost a patient's level of education-related knowledge. In another study, the provision of health education using audio-visual material was shown to be successful in terms of raising the participants' levels of general knowledge for a certain subject (Setyowati et al., 2021).

## CONCLUSIONS

In order to improve teachers' knowledge about coronavirus, an educational training programs are essential. The finding revealed that after receiving training, teachers' knowledge improved. The training program is highly successful, there are still many people who do not implement the protocols in a disciplined manner, potentially due to a lack of information and awareness within the community and especially the school environment. Thus, teachers need to be well informed and encouraged of preventive measures and that all teachers should receive coronavirus training to gain the information and skills necessary, in addition reconsidering certified safety measures and standards in schools to match the global standards in light of the coronavirus variants and ahead of winter 2022, through providing adequate preventive commodities, improve ventilation and to plan to build supporting infrastructure commodities to ensure compliance.

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