Effect of Educational Program on Teachers' Awareness Related COVID-19 Pandemic in Beni Suef City

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Abstract

Background: During epidemics and epidemics, the gap in knowledge about an emerging disease can create chaos and panic among the public. Appropriate information distribution can not only guide society through such events but can also increase preparedness for epidemics that may occur in the future. **Aim of the study:** To assess the effect of educational program on teachers' awareness related covid-19 pandemic. **Research design:** A quasi experimental design was utilized in August to December 2020. **Setting:** El Shorouk Language School in the new city of Beni Suef. **Subject:** Convenient sample was selected all teachers at previous mentioned setting (75 teachers). **Tools of data collection**: Researchers used three tools as 1st tool predesigned questionnaire include (personal characteristics, knowledge, reported practice and beliefs) **Results:** Total satisfactory knowledge score of teachers' regarding COVID-19 before the educational program implementation was 20%, compared with 69.3% after the implementation and total satisfactory practice score of teachers' regarding COVID-19 before the educational program implementation was 28%, compared with 85.3% after the implementation, with high statistically significant differences at p = 0.01. The total negative belief score of teachers' regarding COVID-19 before the educational program implementation was 74.7%, compared with 37.3% after the implementation with a highly statistically significant difference at p = 0.01. **Conclusions:** Educational program effectively improve teachers' knowledge, beliefs, and practices regarding COVID-19 pandemic. **Recommendation:** Recommended to investigate the relationship between the level of awareness and the psychological health status of teachers.

Keywords: Education, Teachers' awareness, COVID-19 pandemic

Introduction

The coronavirus illness COVID-19 is also known as the 2019 novel coronavirus (**Bender, 2020**). The COVID-19 virus is connected to SARS-CoV (Severe Acute Respiratory Syndrome Coronavirus), which can also be lethal (**Meng, Hua, & Bian, 2020; Toquero, 2020**). This new virus can be spread in minutes by droplets or by contacting contaminated metals or other things that have been contaminated by a person with respiratory difficulties. Even while the elderly and very young children are particularly vulnerable, no one is resistant to this new infectious disease once it has entered the body, thus everyone is vulnerable to its catastrophic consequences (**Bender, 2020; Meng, Hua, & Bian, 2020; Toquero, 2020**).

The COVID-19 is wreaking havoc on the world's health systems and influencing many aspects of life, including education (**Alea et al., 2020; Cucinotta &Vanelli, 2020; Djalante et al., 2020; Osman, 2020; Supriyanto et al., 2020; Van Bavel et al., 2020; World Bank, 2020;**). Currently, every country in the globe is working hard to save and safeguard its population from the Covid-19 onslaught. On March 11, 2020, the World Health Organization (WHO) declared the Covid-19 attack a global epidemic (**Atmojo, et al., 2020**).

Almost all educational systems throughout the world including those centered on schools, colleges, private centers, were obliged to cancel face-to-face lessons in the first half of 2020 as a non-pharmaceutical intervention to prevent the spread of the COVID-19 pandemic (**Giovannella et al., 2020; Onyema et al., 2020; Supriyanto et al., 2020**). Shifting classes from face-to-face to online was a policy reaction necessitated by the pressing need to keep instructors, staff, students, and the public as safe as possible in

the face of a public health crisis **(UNESCO,2020)**.

The globe is now dealing with a highly contagious Coronavirus pandemic. To prevent its spread among the people, a variety of steps have been implemented. However, for these preventative actions to be effective, the public must have the necessary knowledge **(Alea et al., 2020)**. Public health and social measures, such as personal and respiratory hygiene, are required for illness prevention. This involves hand washing for at least 20 seconds with soap, limiting contacts with others, quarantining those who have meet anybody affected, and quarantining sick residents. Such actions necessitate social awareness on the part of both the government and the public. Actions like this need widespread social awareness from both authorities and the public to deal with the issue swiftly and securely **(Arab-Zozani, & Ghoddoosi-Nejad, 2020; Kakemam et al., 2020)**.

In addition, negative attitudes and practices towards new infectious diseases can exacerbate epidemics that may eventually lead to epidemics. Awareness, attitude, and practice have been studied in many previous epidemics such as swine flu, Middle East respiratory syndrome (MERS), and dengue fever. Better awareness of these diseases along with positive attitudes and practices towards them have been shown to help contain the spread of pathogenic viruses. **(Abdelhafiz et al., 2020)**.

As people around the world take precautions to protect themselves, their families, and their communities from COVID-19, it is also important that children continue to learn, and can do so in an environment that is welcoming, respectful, inclusive, and supportive of all. Schools and teachers play a vital role in this. Sharing accurate information and science-based facts about COVID-19 will help reduce students' fears and anxiety about illness and support their ability to deal with any secondary effects in their lives. **(Kraft et al., 2021).**

Community health nurses may be the unsung heroes of the COVID-19 pandemic, working within communities to help prevent the spread of disease through prevention, education, and testing. There are many responsibilities of a community health nurse during an outbreak such as providing information on COVID-19 and non-pharmaceutical interventions. Reassure residents that the concerns are valid, but that panic should be avoided and education about prevention be provided **(Signorelli & Fara, 2020)**

The willingness of a society to adopt behavioral change measures from health authorities is determined by its knowledge, attitudes, and practices (KAP) about COVID-19. KAP studies give a baseline for determining the sort of intervention needed to influence people's perceptions of the virus **(Azlan et al., 2020)**. It would be beneficial to assess the KAP connected to COVID-19 among the teachers. As a result, this study was undertaken with the aim to Assess the effect of education program on awareness of teachers related covid-19 pandemic, through assess teachers' knowledge, practice and beliefs regarding COVID-19 pandemic to limit the spread of COVID-19. The findings of this study will be useful in informing future efforts aimed at societal readiness to comply with pandemic control measures.

Significance of the study:

In Egypt, from January 2020 to August 2021, there have been 285,465 confirmed cases of COVID-19 with 16,625 deaths, reported to WHO. COVID-19 has hit everyone hard, especially school-age children and students around the world. The current global pandemic has seen 91% of the world's students affected by the current school and university closures. Of the 1.6 billion students who are out of school, 743 million are girls **(El-Monshed ET AL., 2021).** Teachers play a critical role in ensuring students understand the precautions they must take to protect themselves and others from COVID-19, so the current study aimed to assess the effect of educational program on teachers' awareness related covid-19 pandemic.

Aim of the study:

To assess the effect of educational program on teachers' awareness related covid-19 pandemic, through:

To assess teachers' knowledge, reported practice and beliefs regarding COVID-19 pandemic.

-Implement educational program for teachers related COVID-19

-Evaluate the effect of educational program on teachers' knowledge, practice and beliefs regarding COVID-19 pandemic.

Research hypothesis:

H^1: Educational program for teachers had positive effect on their knowledge about COVID-19 pandemic.

H^2: Educational program for teachers had positive effect on their reported practice about COVID-19 pandemic.

H^3: Educational program for teachers had positive effect on their beliefs about COVID-19 pandemic.

Methods:

Research design: A quasi experimental research design was utilized in August - December 2020.

Research Setting: The study was conducted at Al Shorouk Language School in the new City of Beni Suef, which is a joint school from nursery to secondary, and this school was chosen because it is grouped and includes (kindergarten - primary – preparatory - secondary). One of the researchers works at the Faculty of Nursing, Beni Suef University, and there is a cooperation agreement between the Faculty and this School.

Subjects: A convenient sample of all teachers available at previous mentioned setting (75 teachers) and excited to participate in the study regardless of age, sex, educational level, and training courses.

The instruments:

Study instrument included four parts:

Tool I: predesigned questionnaire which prepared by researchers post reviewing literature review **Zhong et al., 2020 & Kakemam et al., 2020** and contain 4 parts.

Part I: Personal characteristics of teachers such as age, sex, educational level, social status, income, training courses, and previous COVID-19 infection.

Part II: Teachers' knowledge related COVID-19 pandemic, it consisted of 18 questions in form of MCQs divided into six domains as concept of COVID-19, signs and symptoms of COVID-19, ways of prevention, concept related COVID-19 vaccination, high risk group related COVID-19 and medical management of COVID-19. The right answer takes one score and wrong answer take zero. Scores are summed and converted to percent score; it was classified into two categories:

Satisfaction knowledge if score > 60% and unsatisfaction knowledge if score 60% or less than.

Part III: Teachers' reported practice related COVID-19 pandemic, it consisted of seven questions as washing hands frequently with soap and water or alcohol-based sanitizers, maintain at least 1 meter distance between yourself and other, avoid touching eyes, nose and mouth with hands, wear face mask, stay at home when fell with symptoms like flu, avoided gone to any crowded place and use tissues during coughing and sneezing. Teacher if select done this item take one score while, if not done take zero. Scores are summed and converted to percent score; it was classified into two categories:

Satisfaction reported practice if score >60% and unsatisfaction reported practice if score 60% or less than.

Part IV: Teachers' beliefs related COVID-19 pandemic, it consisted from eight questions as I think that approval of the vaccine guarantees its safety, I perceive myself not at elevated risk to acquire Covid-19, The best preventive measure for COVID-19 is getting vaccinated, I think that the vaccine was not tested for enough time, Concern regarding the adverse effects of the vaccine, having a prior bad experience with any vaccines and their adverse reactions, I am against vaccination in general and Concern for the acquisition of Covid19 from the vaccine. Teachers' responses scored as agree (1 score) and disagree (zero score) for positive elements and vice versa for negative elements, the

scores were summed and converted into a percent score, it was classified into two categories:

Positive beliefs if score >60% and negative beliefs if score 60% or less than.

Content validity:

The validity of the data collection tools, and the content of the brochures were checked by two experts, one of whom is a professor from community health nursing at the Faculty of Nursing, Zagazig University, and a professor from the community health nursing at the Faculty of Nursing, Cairo University, to assess clarity. Applicability and understanding of tools. All recommended changes have been made to the tools.

Field work:

Review of recent national and international literature relevant to the use of journals, periodicals, textbooks, the Internet, and theoretical knowledge of various aspects related to the subject of study. Preparation and implementation the study was carried out over a period of five months from beginning of August 2020 - December 2020. The researchers prepared the tools and translated them into Arabic so that they are ready for use. The researchers distributed data collection forms with instructions on how to fill them out. The time required to fill out the questionnaires paper was from 20 to 35 minutes. Filled forms were collected in a timely manner and reviewed for completeness to avoid any missing data.

Delivery of educational training program:

Assessment Phase

Prior to the educational program the researchers assessed the needs of the teachers who studied. During the first session, the researchers explained the objective of the study and the components of the tools. The educational program has been prepared and designed according to teachers' level of knowledge, reported practices, and beliefs related to the COVID-19 pandemic.

Intervention and Evaluation Phase

The subjects were distributed into five groups. Each group educated for five sessions each session about 45 minutes in the form of seminar, asking open questions with researchers

and studied teachers were provided with literature. Researchers used innovative learning methods as PowerPoint with attractive colors and illustration photo, colored Leaflets, simulation, reflective thinking.

1st session: The researchers introduced the studied teachers to each other. Researchers informed studied teachers about the aim of study, structure, and training method of the sessions. The expectations of studied teachers about training session were well-known and asking teachers to complete the predesigned questionnaires.

2ndsession: Concept of COVID-19, pathophysiology and causes of disease were clarified and debated.

3rdsession: The studied teachers were informed about signs and symptoms of COVID-19, high risk group, complication of disease and medical management.

4thsession: The best ways to prevent spreading of COVID-19 infection and knowledge about vaccine was educated to the studied teachers.

5thsession: The researchers allow to the studied teachers to ask questions and give feedback about the educational program, also asked to complete the predesigned questionnaires. The sessions ended after the trainers answered the teachers' questions. At the end of the intervention, teachers completed questionnaires.

Pilot Study:

The pilot study was conducted on 8 teachers representing 10% of the total sample in the previously mentioned settings to test the applicability of the generated tools and the clarity of the embedded tools. Also, to assess the reliability and validity of the development tool prior to its use in the study. The pilot also estimated the time required for each subject to fill out the questionnaire.

A group of experts in community health nursing verified the authenticity of the content validity; Their opinions have been extrapolated regarding the shape, layout, consistency, accuracy, and suitability of the tools. A reliability test was performed to test Cronbach's Alpha reliability of the instrument 0.897.

Administrative design:

Approval was obtained from the director of El Shorouk Language School to conduct the study.

Ethical consideration:

The study was reviewed and approved by the Research Ethics Committee. Submission of an answer to the questionnaire constitutes consent to participate in the study. Study subjects' data was kept confidential throughout the study by making students' data anonymous.

Statistical design:

The data collected from the studied sample were reviewed, coded, and entered using a personal computer (PC). The computerized data and statistical analysis were entered using the Statistical Package for Social Sciences (SPSS) version 24. The data were presented using descriptive statistics in the form of number and percentage. A **t-test** is a type of inferential statistics used to determine whether there is a significant difference between the means of two groups, which may be related to certain features.

Results:

Table (1) revealed that 30.7% of the studied sample were between the ages of 27 to <37 years. The mean age of participants was 34.48±4.11years. Among the respondents, 44 (58.7%) were female. Moreover, 60 (80%) were married. Of all respondents, 58.7% hold teaching diploma. Also, 80% did not attend any training courses related COVID-19 of respondents hold degrees of higher education, 74.7% of them reported earned insufficient monthly income. Fortunately, most of them 89.3% of them did not suffer from previous COVID-19 infection.

Table (2) Overall, it is shown that participant teachers reported satisfactory knowledge about the concept of COVID-19, signs and symptoms, the preventive measures, vaccination, high-risk groups, and medical management of COVID-19 at the percentages of 64%, 52% 83.3%, 37.3%, 40%, and 32%, respectively before the implementation of the educational program, which was markedly increased to become 98.7%, 93.3%, 90.7%, 86.7%, 94.7%, and 82.7 % post-implementation of the educational program, respectively with a highly statistically significant difference at p=0.01

Figure (1) revealed that the total satisfactory knowledge score of teachers' regarding COVID-19 before the educational program implementation was 20%, compared with 69.3% after the implementation with a highly statistically significant difference at p = 0.01.

Table (3) revealed that participant teachers agree with the vaccine guarantees its safety, the elevated risk to acquire Covid19, vaccination is the best preventive measures, vaccination, vaccine was not tested for enough time, having concern regarding the adverse effects of the vaccine, having a prior bad experience with any vaccines, being against vaccination in general, and having concern for the acquisition of Covid19 from the vaccine at the percentages of 38.7%, 40%, 26.7%, 77.3%, 69.3%, 62.3%, 46.7%, and 66.7%, respectively before the implementation of the study intervention, which was markedly changed to become 86.7%, 73.3%, 93.3%, 18.7%, 20%, 26.7%, 0%, 13.3% post-implementation of the educational program, respectively with a high statistically significant difference at p=0.01 for all.

Figure (2) demonstrated that the total negative belief score of teachers' regarding COVID-19 before the educational program implementation was 74.7%, compared with 37.3% after the implementation with a high statistically significant difference at p = 0.01.

Table (4) illustrated that 56%, 46.7%, 40%, 26.7%, 41.3%, 33.3%, and 44% of all participant teachers had a competent practice before the implementation of the study intervention regarding hand washing, social distance, avoid touching eyes, nose, and mouth with hands, wearing face mask, isolation, avoiding the crowded areas, and using tissues during coughing and sneezing, respectively. While this percentages were markedly increased to become 98.7%, 96%, 93.3%, 64%, 80%, 85.3%, and 86.7% post-implementation of the educational program, respectively with a highly statistically significant difference at p=0.01 for all.

Figure (3) demonstrated that the total satisfactory practice score of teachers' regarding COVID-19 before the educational program implementation was 28%, compared with 85.3% after the implementation with a highly statistically significant difference at p = 0.01.

Table (1): Distribution of studied subjects according to their characteristics (n=75)

Items	n	%
Age:		
27 - <37	23	30.7
37 - <47	30	40
47 – 57	22	29.3
Mean (SD) 34.48±4.11		
Gender:		
Male	31	41.3
Female	44	58.7
Educational level:		
Teaching diploma	44	58.7
Bachelor	29	38.7
Master degree	2	2.6
Marital status:		
Married	60	80
Unmarried	15	20
Training courses related COVID-19:		
Yes	9	12
No	66	88
Monthly income:		
Sufficient	19	25.3
Insufficient	56	74.7
Suffered from previous COVID-19 infection:		
Yes	8	10.7
No	67	89.3

Table (2): Distribution of studied teachers related knowledge level regarding COVID-19 at pre and post intervention (n=75)

| Items	Pre				Post				T test P value
	Satisfaction		Un satisfaction		Satisfaction		Un satisfaction		
	n	%	n	%	n	%	n	%	
Concept of COVID-19	48	64	27	34	74	98.7	1	1.3	9.564 <0.01**
Signs and symptoms of COVID-19	39	52	36	48	70	93.3	5	6.7	11.052 <0.01**
Ways of prevention	40	83.3	35	46.7	68	90.7	7	9.3	10.611 <0.01**
Concept related COVID-19 vaccination	28	37.3	47	62.7	65	86.7	10	13.3	9.883 <0.01**
High risk group related COVID-19	30	40	45	60	71	94.7	4	5.3	10.479 <0.01**
Medical management of COVID-19	24	32	51	68	62	82.7	13	17.3	12.500 <0.01**
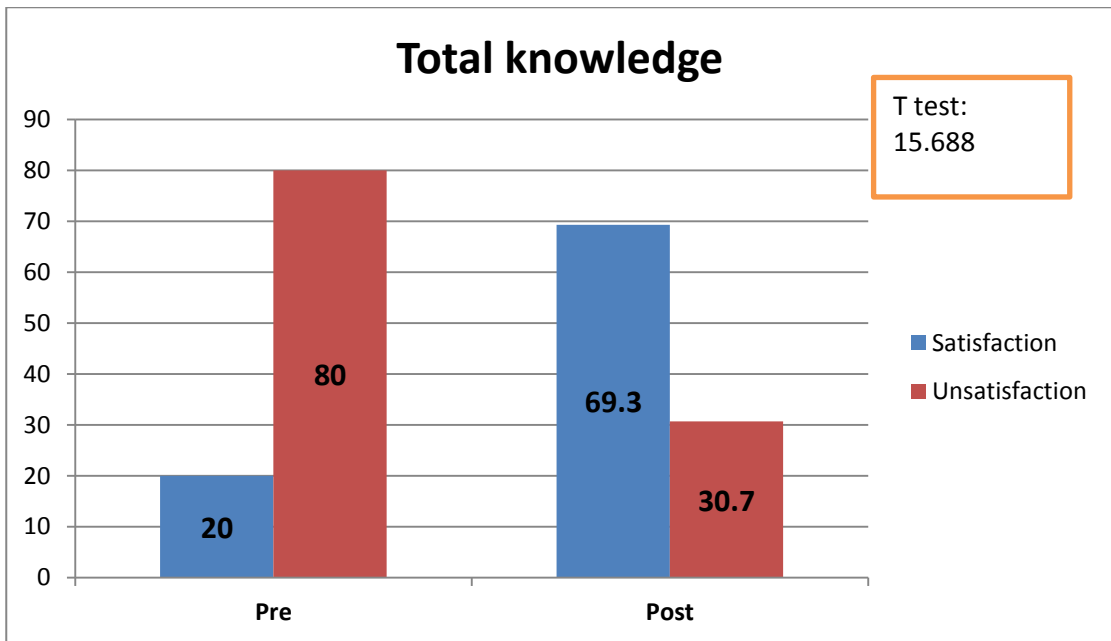
Figure (1): Distribution of studied teachers related total knowledge level regarding COVID-19 at pre and post intervention (n=75)

Table (3): Distribution of studied teachers related their beliefs regarding COVID-19 at pre and post intervention (n=75)

| Items	Pre				Post				T test P value
	Agree		Disagree		Agree		Disagree		
	n	%	n	%	n	%	n	%	
I think that approval of the vaccine guarantees its safety	29	38.7	46	61.3	65	86.7	10	13.3	10.110 <0.01**
I perceive myself not at elevated risk to acquire Covid19	30	40	45	60	55	73.3	20	26.7	9.088 <0.01**
The best preventive measure for COVID-19 is getting vaccinated	20	26.7	55	73.3	70	93.3	5	6.7	10.547 <0.01**
I think that the vaccine was not tested for enough time	58	77.3	17	22.7	14	18.7	61	81.3	9.408 <0.01**
Concern regarding the adverse effects of the vaccine	52	69.3	23	30.7	15	20	60	80	12.009 <0.01**
having a prior bad experience with any vaccines and their adverse reactions	49	62.3	26	34.7	20	26.7	55	73.3	11.079 <0.01**
I am against vaccination in general	35	46.7	40	53.3	0	0	75	100	12.336 <0.01**
Concern for the acquisition of Covid19 from the vaccine	50	66.7	25	33.3	10	13.3	65	86.7	8.970 <0.01**
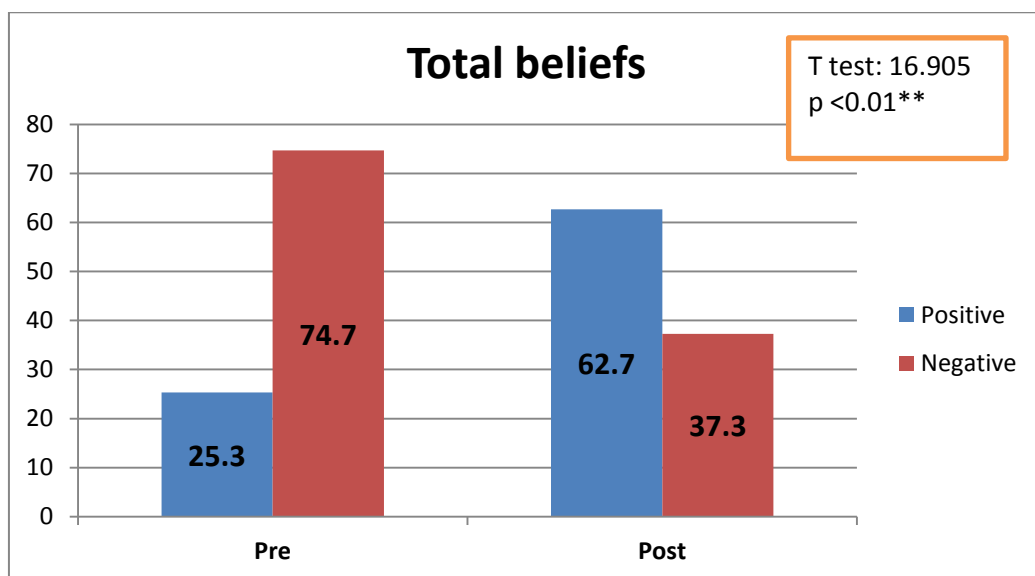
Figure (2): Distribution of studied teachers related total beliefs regarding COVID-19 at pre and post intervention (n=75)

Table (4): Distribution of studied teachers related practice level regarding ways prevention of COVID-19 at pre and post intervention (n=75)

| Items	Pre				Post				T test P value
	Done		Not done		Done		Not done		
	n	%	n	%	n	%	n	%	
washing hands frequently with soap and water or alcohol-based sanitizers	42	56	33	44	74	98.7	1	1.3	10.664 <0.01**
maintain at least 1 meter distance between yourself and others	35	46.7	40	53.3	72	96	3	4	9.012 <0.01**
void touching eyes, nose and mouth with hands	30	40	45	60	70	93.3	5	6.7	11.844 <0.01**
wear face mask	20	26.7	55	73.3	48	64	27	36	12.613 <0.01**
stay at home when fell with symptoms like flu	31	41.3	44	58.7	60	80	15	20	10.972 <0.01**
avoided gone to any crowded place	25	33.3	50	66.7	64	85.3	11	14.7	9.618 <0.01**
use tissues during coughing and sneezing	33	44	42	56	65	86.7	10	13.3	10.732 <0.01**
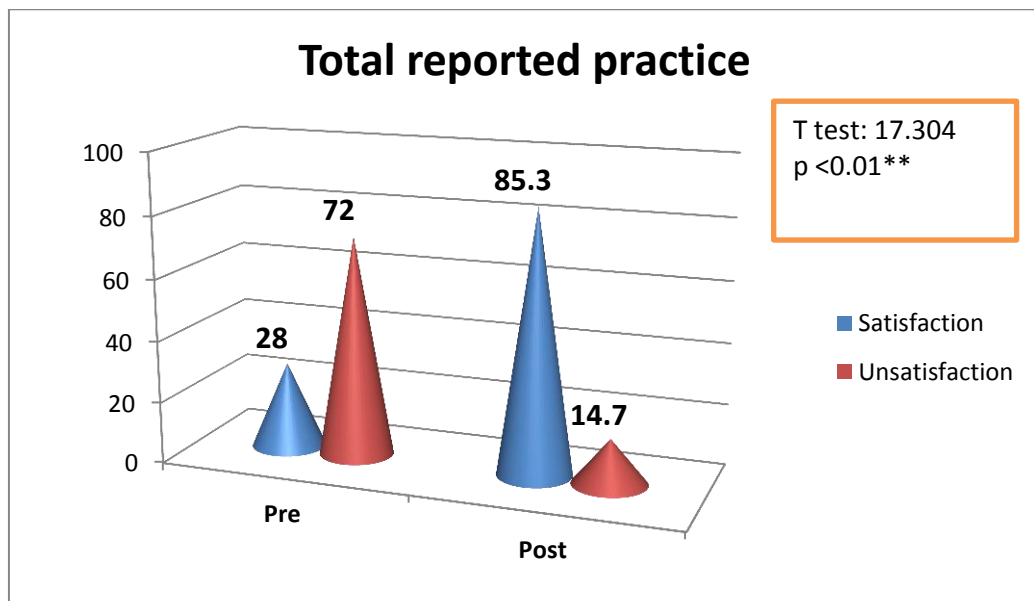
Figure (3): Distribution of studied teachers related total reported practice level regarding COVID-19 at pre and post intervention (n=75)

Discussion:

To reduce infection, preventative measures are critical. Reducing infection rates and halting the spread of the illness reveals the importance of public compliance with preventative and control measures, which is influenced by their knowledge, attitudes, and behaviors. This study aimed to assess the level of KAPs of teachers' around COVID-19 in Egypt. In this regard, the knowledge, beliefs, and practices data imply that, while COVID-19 knowledge and prevention practices were successfully promoted throughout the epidemic, misunderstandings and prejudiced attitudes against persons who survived the virus were widespread. The study also highlighted the differences between teachers' knowledge, beliefs, and practices before and after the educational program.

Regarding the socio-demographic profile of the studied participants, the participant characteristics were matched with **Kakemam et al., (2020)** in Iranian cross-sectional study entitled "Knowledge, Attitudes, and Practices Among the General Population During COVID-19 Outbreak in Iran: A National Cross-Sectional Online Survey." Carried on 1,480 people. It showed that mean age of

participants was 31.29 years. Among the respondents, 57.2% were female. Moreover, 53.1% were married. Of all respondents, 41.9% were between the ages of 20–31 years. Also, above 80% of respondents hold degrees of higher education.

Moreover, another similar finding was demonstrated by **Al-Hanawi et al., (2020)** in a cross-sectional study entitled "Knowledge, attitude and practice toward COVID-19 among the public in the Kingdom of Saudi Arabia". Which clarified that 57.73% of the sample were between the ages of 18 and 39. Of the participants, 63.43% were married. 56.20% of the sample had a college or university degree. Respondents were grouped according to monthly income, with 24.97% in the < SR 3000 group, and 7.26% in the ≥ SR 30,000 group.

Knowledge about the signs and symptoms of coronavirus disease was at a high level among people with over 93.3% providing correct answers post implementation of the educational program. This compares with studies in various countries, including China **(Zhong et al., 2020)**, USA **(Clements, 2020)**, and India **(Roy et al., 2020)**, revealing that people are highly aware of coronavirus, due to

information in the mass media, including radio, television, social media, and official authorities' efforts like the Ministry of Health programs.

Additionally, **Kakemam et al., (2020)** found that coronavirus prevention and treatment awareness was found to be strong among respondents, with virtually everyone knowing that coronavirus can be avoided by remaining at home and limiting contact with others (95.3 %), as well as frequent hand washing and applying disinfectants (92.5%). Furthermore, 75.1 % of respondents believed that treating coronavirus early could improve survival and lower the risk of death. This result goes in the same line with our study finding that most of participants have satisfactory knowledge before program implementation regarding preventive measures of COVID-19. The researchers attribute that to the role of mass media, including radio, television, social media, and official authorities' efforts like the Ministry of Health in public awareness.

Contrary, **Kakemam et al., (2020)** reported that there were a lot of misunderstandings about how coronavirus spreads, how to avoid it, and how to cure it. Nearly half of the respondents (47%) claimed they can protect themselves from the Corona virus by washing their hands with a solution of salt and hot water, and almost half (48.3%) believed that the Corona virus is spread through the air, while 58 percent believed coronavirus is spread by wild animals.

Furtherly findings of **Saqlain et al., (2020)** in a cross-sectional study carried in Pakistan entitled "Knowledge, attitude, practice and perceived barriers among health care workers regarding COVID-19" showed that HCWs have good knowledge (93.2%), regarding COVID-19. From the researchers' point of view these results may return to the more susceptibility of the HCWs to infection more than teacher related to their work environmental hazards that may reflect on their awareness and seeking more information and attending training courses about COVID-19.

Concerning attitudes, negative belief score of teachers' regarding COVID-19 before the educational program implementation was 74.7%. These findings uncoordinated with **Al-Hanawi et al., (2020)**, who revealed that participants had a positive and hopeful attitude regarding COVID-19. Nearly 94 percent believe the virus can be successfully handled, and 97 percent believe the Saudi government will keep the epidemic under control. The government's extraordinary steps and rapid response in establishing tight control and preventative methods against COVID-19, to secure residents and protect their well-being, can explain positive views and high trust in the management of COVID-19.

Also, the current study finding was inconsistent with a recent study conducted in China by **Zhong et al., 2020**, where many participants were confident that the virus could be cured and that their country would fight it. From the researchers' point of view, these results suggest that during a pandemic, people are more likely to display negative emotions like fear and terror, which might impact their beliefs and attitude.

Significantly, the current study demonstrated that the total satisfactory practice score of teachers' regarding COVID-19 before the educational program implementation was 28%, compared with 85.3% after. These findings were in harmony with **Saqlain et al., (2020)** who reported that 88.7% of the study participant had good practice regarding COVID-19.

A similar finding demonstrated by **Reuben et al., (2021)** in a cross-sectional study entitled "Knowledge, Attitudes and Practices Towards COVID-19: An Epidemiological Survey in North-Central Nigeria" which illustrated that 79.5% of the respondents had a positive practice towards adherence to government preventive measures with 92.7, 96.4 and 82.3% practiced social distancing/self-isolation, improving personal hygiene and using face mask respectively. Also, **Kamate et al., (2020)** reported good practice scores were observed among 79.5 % of the dentists.

Conclusion:

In the light the results of the current study, it can be concluded that the educational sessions were effective in increasing teachers' knowledge of the COVID-19 pandemic as well

as their positive practices and beliefs toward the COVID-19 pandemic. In addition, the result showed that the post-test knowledge score was higher than the pre-test score in teachers' knowledge, practice, and beliefs about COVID-19.

Recommendation:

Based on the current study findings, the following recommendations were suggested:

- Primary prevention of infectious diseases like COVID-19 pandemic should be given priority, and education about it should be applied in schools.

- Regular health education programs, particularly targeting teachers regarding COVID-19, are essential for encouraging a positive attitude and maintain safe practices during COVID pandemic.

- Application of educational program via telehealth nursing for teachers is recommended. Teachers should be provided with simple educational guidelines about COVID-19 to share us in talking to their students about coronavirus disease.

- Recommended to repeat the current study on a larger representative probability sample size in various governorates of Egypt to achieve generalization of the results.

Conflict of interest: Not present any conflict

Funding: Self-funding, without any external source.

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