



A Study to Assess the Effectiveness on Structured Teaching Programme on Knowledge and Attitude Regarding Covid-19 and its Prevention Among Adults at Selected Urban Area in Khammam, Telangana, India

V. Prasanna*

Department of Obstetrics and Gynecological Nursing, Mamata College of Nursing, Khammam, Telangana, India

Article info

Received 04 October 2021

Revised 05 November 2021

Available Online 20 Nov 2021

*Corresponding author: V. Prasanna, Department of Obstetrics and Gynecological nursing, Mamata College of Nursing, Khammam, Telangana, India.

Abstract

A descriptive research study was conducted to assess the effectiveness of structured teaching programme on knowledge and attitude regarding Covid - 19 and its prevention among adults at selected urban areas, khammam, Telangana. The sample for the present study was adults who are in the age group of 21-45 years. Probability simple random sampling technique was used for 150 sample. Data was collected by using structured interview schedule, it includes socio-demographic data, knowledge questionnaire and attitude rating scale. The reliability of the tool was (r) =0.96. The results revealed that out of 150 adult's majority of them in pre-test 91 (60.67%) had moderately adequate knowledge. Whereas post-test 136 (90.66%) had adequate knowledge and majority of them in pre-test 91 (60.66%) had favorable attitude. Whereas post-test, majority of them 150 (100%) had favorable attitude, none of them had moderately favorable attitude and unfavorable attitude. The study was concluded that there is a need to create awareness programme regarding covid – 19 and its prevention which help them to enhance levels of knowledge and attitude of adults.

Keywords: Attitude; Adults; Covid-19; Knowledge; Structured teaching programme; Urban area.

Introduction

Coronaviruses are important human and animal pathogens. At the end of 2019, a novel coronavirus was identified as the cause of a cluster of pneumonia cases in Wuhan, a city in the Hubei Province of China. It rapidly spread, resulting in an epidemic throughout China, followed by an increasing number of cases in other countries throughout the world. In February 2020, the World Health Organization designated the disease COVID-19, which stands for coronavirus disease 2019. The virus that causes COVID-19 is designated severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2); it was previously referred to as 2019-nCoV. Coronaviruses are a large family of viruses that are known to cause illness ranging from the common cold to more severe diseases such as Middle East Respiratory Syndrome (MERS) and severe acute respiratory

syndrome (SARS). A novel coronavirus (COVID-19) was identified in 2019 in Wuhan, China [1,2]

A corona virus is a kind of common virus that causes an infection in nose, sinuses, upper throat and lower respiratory tract. All corona viruses are not dangerous. Corona virus are enveloped viruses containing a single stranded, positive sense RNA genome of approximately 29,000 nucleotides. A distinctive club shaped projection is present over the virus surface which gives the appearance of a crown or corona from which its name was derived. Four corona virus genera (Alpha, Beta, Gamma & Delta) have been identified so far, with human infection only seen in Alpha [3].

A novel coronavirus (CoV) named '2019-nCoV' or '2019 novel coronavirus' or 'COVID-19' by the World Health Organization (WHO) is in charge of the current

outbreak of pneumonia that began at the beginning of December 2019 near in Wuhan City, Hubei Province, China. COVID-19 is a pathogenic virus. Though three major areas of work already are ongoing in China to advise our awareness of the pathogenic origin of the outbreak. These include early inquiries of cases with symptoms occurring near in Wuhan during December 2019, ecological sampling from the Huanan Wholesale Seafood Market as well as other area markets, and the collection of detailed reports of the point of origin and type of wildlife species marketed on the Huanan market and the destination of those animals after the market has been closed [4].

Coronaviruses mostly cause gastrointestinal and respiratory tract infections and are inherently categorized into four major types: Gammaparacoronavirus, Deltacoronavirus, Betacoronavirus and Alphacoronavirus. The first two types mainly infect birds, while the last two mostly infect mammals. Six types of human CoVs have been formally recognized. These comprise HCoV HKU1, HCoV-OC43, Middle East Respiratory Syndrome coronavirus (MERS-CoV), severe acute respiratory syndrome coronavirus (SARS-CoV) which is the type of the Betacoronavirus, HCoV-229E and HCoV-NL63, which are the member of the Alphacoronavirus. Coronaviruses did not draw global concern until the 2003 SARS pandemic, preceded by the 2012 MERS and most recently by the COVID-19 outbreaks. SARS-CoV and MERS-CoV are known to be extremely pathogenic and spread from bats to palm civets or dromedary camels and eventually to humans. Furthermore, the faecal-oral route does not seem to be a COVID-19 transmission engine; its function and relevance for COVID-19 need to be identified [5].

Risk factors for COVID-19 appear to include: Close contact (within 6 feet, or 2 meters) with someone who has COVID-19. Being coughed or sneezed on by an infected person. COVID-19 spreads mainly by droplets produced as a result of coughing or sneezing of a COVID-19 infected person. This can happen in two ways:

Direct close contact: one can get the infection by being in close contact with COVID-19 patients (within one Metre of the infected person), especially if they do not cover their face when coughing or sneezing.

Indirect contact: the droplets survive on surfaces and clothes for many days. Therefore, touching any such infected surface or cloth and then touching one's mouth, nose or eyes can transmit the disease. The incubation

period of COVID 19 (time between getting the infection and showing symptoms) is 1 to 14 days. Some people with the infection, but without any serious symptoms can also spread the disease [6].

When the virus travels in small respiratory droplets that linger in the air for minutes to hours from an infected person who is more than six feet away or has since left the space. This method of spread is more likely to occur in enclosed spaces with poor ventilation. From close contact (touching, shaking hands) with an infected person. By touching surfaces that the virus has landed on, then touching your eyes, mouth, or nose before washing your hands. (Not thought to spread easily by this method) [7].

COVID-19 enters your body through your mouth, nose or eyes (directly from the airborne droplets or from transfer of the virus from your hands to your face). The virus travels to the back of your nasal passages and mucous membrane in the back of your throat. It attaches to cells there, begins to multiply and moves into lung tissue. From there, the virus can spread to other body tissues [8].

The CDC says you may have coronavirus if you have these symptoms or combination of symptoms:

Fever or chills, Cough, Shortness of breath or difficulty breathing, Tiredness, Muscle or body aches, Headaches, New loss of taste or smell, Sore throat, Congestion or runny nose, Nausea or vomiting, Diarrhea. Additional symptoms are possible. Symptoms may appear between two and 14 days after exposure to the virus. Children have similar, but usually milder, symptoms than adults. Older adults and people who have severe underlying medical conditions like heart or lung disease or diabetes are at higher risk of more serious complication from COVID-19. Trouble breathing, Persistent pain or pressure in your chest, confusion, inability to arouse (wake up from sleep), bluish lips or face [9].

Nucleic acid amplification testing (NAAT), most commonly with a reverse-transcription polymerase chain reaction (RT-PCR) assay, to detect SARS-CoV-2 RNA from the upper respiratory tract is the preferred initial diagnostic test for COVID-19. Rapid RT-PCR tests appear to perform comparably to standard laboratory-based NAAT, but rapid isothermal tests may be less sensitive. In settings where access to NAAT is limited or too costly, antigen testing may be the initial test used, but the sensitivity of antigen tests is lower than that of NAATs, and negative antigen tests may warrant confirmation with additional testing [10].

Radiographic findings: Chest radiographs of patients with COVID-19 typically demonstrate bilateral air-space consolidation, although some patients have unremarkable chest radiographs early in the disease [1]. Chest Computerized Tomography (CT) images from patients with COVID-19 typically demonstrate bilateral, peripheral ground glass opacities [11].

Patients with suspected or confirmed moderate COVID-19 (pneumonia) is to be isolated to contain virus transmission. Patients with moderate disease may present to an emergency unit or primary care/outpatient department, or be encountered during community surveillance activities, such as active house to house search or by telemedicine. The defining clinical assessment parameters are Respiratory Rate of more than or equal to 24 and oxygen saturation (SpO₂) of less than 94% on room air (range 90-94%). Such patients will be isolated in Dedicated Covid Health Centre (DCHC) or District hospital or Medical College hospitals. The patient will undergo detailed clinical history including co-morbid conditions, measurement of vital signs, Oxygen saturation (SpO₂) and radiological examination of Chest X-ray, Complete Blood Count and other investigations as indicated. Antibiotics should not be prescribed routinely unless there is clinical suspicion of a bacterial infection.

Clinical Management of Moderate cases

- Oxygen Support: Target SpO₂: 92-96% (88-92% in patients with COPD)
- The device for administering oxygen (nasal prongs, mask, or masks with breathing / non-rebreathing reservoir bag) depends upon the increasing requirement of oxygen therapy. If HFNC or simple nasal cannula is used, N95 mask should be applied over it.
- Awake proning may be used as a rescue therapy.
- All patients should have daily 12-lead ECG
- Follow CRP, D-dimer & Ferritin every 48-72 hourly (if available); CBC with differential count, Absolute Lymphocyte count, KFT/LFT daily
- Tab. Hydroxychloroquine (400 mg) BD on 1st day followed by 200mg 1 BD for 4 days. (After ECG Assessment)
- Consider IV methylprednisolone 0.5 to 1 mg/kg for 3 days (preferably within 48 hours of admission or if oxygen requirement is increasing and if inflammatory markers are increased) Anticoagulation
- Prophylactic dose of UFH or LMWH (e.g., enoxaparin 40 mg per day SC).
- Control of co-morbid condition.

- Monitor for: • Increased work of breathing (use of accessory muscles).
- Hemodynamic instability
- Increase in oxygen requirement If any of the above occurs, shift to Dedicated Covid Hospital Few patients with COVID-19 experience a secondary bacterial infection. Consider empiric antibiotic therapy as per local antibiogram and guidelines in older people, immune-compromised patients, and children < 5 years of age. Close monitoring of patients with moderate COVID-19 is required for signs or symptoms of disease progression. Provision of mechanisms for follow up and transportation to Dedicated Covid Hospital should be available. Remdesivir (under Emergency Use Authorization) may be considered in patients with moderate disease (those on oxygen) with none of the following contraindications:
 - AST/ALT > 5 times Upper limit of normal (ULN)
 - Severe renal impairment (i.e., eGFR < 30 ml/min/m² or need for hemodialysis)
 - Pregnancy or lactating females
 - Children (< 12 years of age) Dose: 200 mg IV on day 1 followed by 100 mg IV daily for 5 days [12].

Prevention: Find new guidance for fully vaccinated people. If you are not vaccinated, find a vaccine and Important Ways to Slow the Spread. Wear a mask that covers your nose and mouth to help protect yourself and others. Stay 6 feet apart from others who don't live with you. Get a COVID-19 vaccine when it is available to you. Avoid crowds and poorly ventilated indoor spaces. Wash your hands often with soap and water. Use hand sanitizer if soap and water aren't available.

If you are wearing a mask: You can cough or sneeze into your mask. Put on a new, clean mask as soon as possible and wash your hands.

If you are not wearing a mask: Always cover your mouth and nose with a tissue when you cough or sneeze or use the inside of your elbow and do not spit. Throw used tissues in the trash. Immediately wash your hands with soap and water for at least 20 seconds. If soap and water are not readily available, clean your hands with a hand sanitizer that contains at least 60% alcohol [13].

Need for the Study

The virus has caused an outbreak of viral pneumonia. It was first reported by Chinese authorities in Wuhan city at the end of December 2019 [1].

The coronavirus disease 2019 (COVID-19) emerged in Wuhan, China at the end of 2019. Since then, it has spread to 213 countries and territories (1) and had been declared as a global pandemic by the World Health Organization (WHO) on 11th March 2020 (2). To date, there are 26, 573, 612 positive COVID-19 cases recorded with at least 874, 858 deaths globally, with these numbers constantly changing [2].

The first case of COVID-19 in India, which originated from China, was reported on 30 January 2020. As of 3rd September 2020, the Ministry of Health and Family Welfare (MoHFW) has confirmed a total of 3853406 cases, 2970492 recoveries and 67376 deaths in the country. India currently has the largest number of confirmed cases in Asia and has the third highest number of confirmed cases in the world after the United States and Brazil with the number of total confirmed cases breaching the 100,000 mark on 19 May, 200,000 on 3 June, and 1,000,000 confirmed cases on 17 July 2020. On 29 August 2020, India recorded the global highest spike in COVID-19 cases on a day with 78, 761 cases surpassing the previous global highest daily spike of 77, 368 cases which was recorded in the US on 17 July 2020 [14].

India's case fatality rate is among the lowest in the world at 2.41% as of 23 July and is steadily declining. By mid-May 2020, six cities accounted for around half of all reported cases in the country – Mumbai, Delhi, Ahmedabad, Chennai, Pune and Kolkata. As of 24 May 2020, Lakshadweep is the only region which has not reported a case. On 10 June, India's recoveries exceeded active cases for the first time [14].

The first case of the COVID-19 pandemic in the Indian state of Maharashtra was confirmed on 9 March 2020. Maharashtra is a hotspot that accounts for nearly one-third of the total cases in India as well as about 40% of all deaths. As of 7 July, the state's case fatality rate is nearly 4.3%, which is lower than the global average but significantly higher than other Indian states with large numbers of cases. Mumbai is the worst-affected city in India, with about 100,000 cases. About half of the cases in the state emerged from the Mumbai Metropolitan Region (MMR) [7].

On 30 January 2020, the World Health Organization (WHO) declared the outbreak a public emergency of International Concern (PHEIC) and on 11 March 2020, a pandemic. Nurses play a vital role in health care system and health team. All health care professionals especially nurses are on the front-line battling against this pandemic and providing services to patient which is

helpful to control and prevent COVID-19 pandemic. As the evidence suggests that the disease is transmitted from person to person through the droplets. Health care workers are at a high risk of being infected by the viral disease and protecting the health care workers is of great importance. At present 9,614,017 active cases of COVID-19 and 35,079,152 confirmed cases are present worldwide and in India 9,34,427 active cases of COVID-19 and 66,23,815 confirmed cases [8].

The number of people infected changes daily. Organizations that collect this information, including the World Health Organization (WHO) and the Centers for Disease Control and Prevention (CDC), are gathering information and continuously learning more about this outbreak. As of this writing (05/11/2021), more than 159,000,000 people in the world have been infected. Over 3,300,000 people have died. Some 192 countries and territories on all continents (except Antarctica) have now reported cases of COVID-19. The U.S. has the highest number of cases, with more than 32,000,000 people infected and over 580,000 deaths. India has nearly 23,000,000 cases and 250,000 deaths. Brazil has more than 15,200,000 cases and 420,000 deaths. France has over 5,800,000 cases; Turkey has over 5,000,000 cases; Russia and England have over 4,400,000 cases; Italy has more than 4,100,000; Spain and Germany have over 3,500,000 cases; Argentina and Columbia have more than 3,000,000 cases; Poland and Iran have over 2,600,000 cases and Mexico has over 2,300,000 cases [14].

Method

A quantitative evaluative approach was used for this study with pre-experimental research design one group pre- test, post-test design was used. Study was conducted at Ballepalli urban area at Khammam, Telangana. The sample for current study was adults. The sample size was 150 and the sample was selected by Probability Simple random sampling technique. Data was collected by using structure interview schedule. The data was collected by using structured interview schedule. Research variables used in the study was knowledge and attitude of adults. The research tool was developed after doing extensive literature reviews of primary and secondary sources of data, the expert's suggestions were incorporated, and the research tool is organized into 3 sections (Socio-demographic data, knowledge questions and attitude rating scale).

Results

This chapter deals with analysis and interpretation of the data collected from 150 samples to assess the structured

teaching programme on knowledge and attitude regarding covid 19 and its prevention among adults at selected urban area Khammam, Telangana.

Table 1: Distribution of pre test and post test levels of knowledge on adults regarding covid-19 and its prevention (n = 150).

Levels of Knowledge	Pre-Test		Post-Test	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Inadequate knowledge 0-33.3%	59	39.33	-	-
Moderately adequate knowledge (33.4-66.6%)	91	60.67	14	9.34
Adequate knowledge (66.7%-100%)	-	-	136	90.66
Total	150	150	150	150

The above table shows the distribution of pre-test knowledge levels of 150 adults regarding covid – 19 and its prevention, majority of them 91 (60.67%) had moderately adequate knowledge, 59 (39.33%) had inadequate knowledge and none of them adequate

knowledge. Whereas post-test knowledge levels of 150 adults regarding covid – 19 and its prevention, majority of them 136 (90.66%) had adequate knowledge, 14 (9.34%) had moderately adequate knowledge and none of them had inadequate knowledge.

Table 2: Distribution of pre-test and post-test attitude scores on adults regarding covid-19 and its prevention (n = 150).

Attitude scores	Pre-Test		Post-Test	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Unfavourable attitude 0-33.3%	-	-	-	-
Moderately favourable 33.4-66.6%	59	39.34	-	-
Favourable attitude 66.7%-100%	91	60.66	150	100
Total	150	100	150	100

The above table reveals the distribution of pre-test attitude scores of 150 adults regarding covid-19 and its prevention, majority of them 91 (60.66%) had favourable attitude, 59 (39.34%) had moderately favourable attitude and none of them had unfavourable

attitude. Whereas post-test attitude scores of 150, adults regarding covid – 19 and its prevention, majority of them 150 (100%) had favourable attitude, none of them had moderately favourable attitude and unfavourable attitude.

Table 3: Distribution of pre-test and post-test knowledge levels of adults regarding covid -19 and its prevention (n = 150).

Knowledge	Mean	Standard deviation	Mean difference	't' calculated value	't' Table value	Significance
Pre – test	12.52	3.44	13.33	36.70	3.29	S***
Post - test	25.85	2.53				

df: (n-1); S***: Significant at $p < 0.001$

Table 3 reveals the effectiveness of structured teaching programme on levels of knowledge among adults. It shows that pre-test mean knowledge score is 12.52 and standard deviation (+3.44) whereas post-test mean score is 25.85 and standard deviation (+2.53) and the mean difference is 13.33, the paired 't' calculated value is

36.70, which is greater than table value (3.29) at $p < 0.001$ level. It proves that there is a very highly significant difference between pre-test and post-test knowledge levels at $p < 0.001$. It indicates that structured teaching programme was very effective.

Table 4: Distribution of pre-test and post-test attitude scores of adults regarding covid-19 and its prevention.

Attitude	Mean	Standard deviation	Mean difference	't' calculated value	't' Table value	Significance
Pre - test	38.25	3.72	7.98	20.96	3.29	S***
Post - test	46.23	2.56				

df: (n-1); S***: Significant at $p < 0.001$

Table 4 reveals the effectiveness of structured teaching programme on attitude among adults. It shows that pre-test mean attitude score is 38.25 and standard deviation (+3.72) whereas post-test mean score is 46.23 and standard deviation (+2.56) and the mean difference is 7.98, the paired 't' calculated value is 19.14, which is greater than table value (3.29) at $p < 0.001$ level. It proves that there is a very highly significant difference between pre-test and post-test attitude score at $p < 0.001$. It indicates that structured teaching programme was very effective

standard deviation (+3.44) whereas post-test mean score is 25.85 and standard deviation (+2.53) and the mean difference is 13.33, the paired 't' calculated value is 36.70, which is greater than table value (3.29) at $p < 0.001$ level. It proves that there is a very highly significant difference between pre-test and post-test knowledge levels at $p < 0.001$. It indicates that structured teaching programme was very effective.

Reveals the effectiveness of structured teaching programme on attitude among adults. It shows that pre-test mean attitude score is 38.25 and standard deviation (+3.72) whereas post-test mean score is 46.23 and standard deviation (+2.56) and the mean difference is 7.98, the paired 't' calculated value is 19.14, which is greater than table value (3.29) at $p < 0.001$ level. It proves that there is a very highly significant difference between pre-test and post-test attitude score at $p < 0.001$. It indicates that structured teaching programme was very effective.

Discussion

In the present study the distribution of pre-test knowledge levels of 150 adults regarding covid – 19 and its prevention, majority of them 91 (60.67%) had moderately adequate knowledge, 59 (39.33%) had inadequate knowledge and none of them adequate knowledge. Whereas post-test knowledge levels of 150 adults regarding covid – 19 and its prevention, majority of them 136 (90.66%) had adequate knowledge, 14 (9.34%) had moderately adequate knowledge and none of them had inadequate knowledge.

Reveals the distribution of pre-test attitude scores of 150 adults regarding covid – 19 and its prevention, majority of them 91 (60.66%) had favourable attitude, 59 (39.34%) had moderately favourable attitude and none of them had unfavourable attitude. Whereas post-test attitude scores of 150, adults regarding covid – 19 and its prevention, majority of them 150 (100%) had favourable attitude, none of them had moderately favourable attitude and unfavourable attitude.

Reveals the effectiveness of structured teaching programme on levels of knowledge among adults. It shows that pre-test mean knowledge score is 12.52 and

Conclusion

The findings of this study shows that structured teaching programme on covid – 19 and its prevention was effective in enhancing levels of knowledge and attitude among adults.

Recommendations

- ✓ A comparative study can be done among adults in rural and urban area to assess the knowledge and practice.
- ✓ Similar studies can be replicated on larger samples for wider generalization mainly in the community to assess knowledge and attitude among adults.

- ✓ A study can be done to assess effectiveness of self-instruction module on knowledge, attitude and practice among adults.
- ✓ A similar study can be conducted at different settings.

References

1. Jahangir MA, Muheem A, Rizvi MF, et al. Coronavirus (COVID-19): History, Current Knowledge and Pipeline Medications. *Int J Pharm Pharmacol* 2020; 4: 140.
2. Shahab MS, Imam SS, Jahangir MA. A Review on the Contemporary Status of Mutating Coronavirus and Comparative Literature Study of Current COVID-19 Vaccines. *Int J Pharm Pharmacol* 2021; 5: 153.
3. Al-Hanawi MK, Angawi K, AlShareef N, et al. Knowledge, Attitude and Practice Toward COVID-19 Among the Public in the Kingdom of Saudi Arabia: A Cross-Sectional Study. *Frontiers in Public Health* 2020; 27: 217.
4. Fernandes M, Thakur JR, Gavanje MS. A Study to assess knowledge regarding covid-19 among Nursing students. *Asian J. Nursing Edu Res* 2021; 11: 65-67.
5. Fong SJ, Dey N, Chaki JS. An Introduction to COVID-19. *Artificial Intelligence for Coronavirus Outbreak* 2020: 1-22.
6. <https://www.mohfw.gov.in/pdf/PreventionandManagementofCOVID19FLWEnglish.pdf>.
7. Braver A, Khaire SR. Knowledge, Attitude and Practices towards Covid-19 Outbreak in Maharashtra State. *Int J of Advances in Nur Management* 2021; 9: 162-168.
8. Ayed A, Zabn K. Knowledge and Attitude Towards COVID-19 Among Nursing Students: Palestinian Perspective. *SAGE Open Nursing* 2021 7: 23779608211015150.
9. Infectious Diseases Society of America Guidelines on the Diagnosis of COVID-19, updated December 23, 2020. <https://www.idsociety.org/practice-guideline/covid-19-guideline-diagnostics/> (Accessed on January 14, 2021).
10. Shi H, Han X, Jiang N, et al. Radiological findings from 81 patients with COVID-19 pneumonia in Wuhan, China: a descriptive study. *Lancet Infect Dis* 2020; 20: 425-434.
11. <https://www.mohfw.gov.in/pdf/ClinicalManagementProtocolforCOVID19.pdf>.
12. <https://health.mo.gov/living/healthcondiseases/communicable/novel-coronavirus/prevention.php>
13. Kumar R, Singh V, Mohanty A, Bahurupi Y, Gupta PK. Corona health-care warriors in India: knowledge, attitude, and practices during COVID-19 outbreak. *J Edu Health Promotion* 2021; 10.
14. <https://jovian.ai/ijazbacha14/pakistan-covid19-dataset-ananalysis>

This manuscript was peer-reviewed
Issue Editor: Dr. M.A. Jahangir

