Original Research Article

A descriptive study to assess the knowledge regarding post COVID complications among adults in the state of Maharashtra

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A B S T R A C T

Background: Evidence regarding the spectrum of post-COVID-19 illness and management is evolving and will continue to develop in years to come. Recent suggested definitions have described post-acute COVID-19 as illness extending beyond three weeks from initial symptoms and chronic COVID-19 as illness extending beyond 12 weeks from initial symptoms.[1] The incidence of post-COVID-19 squeal in those who have tested positive and who have been managed in an outpatient setting (such as management in the home.[2] The incidence of prolonged illness significantly increases with age, comorbidities and severity of the acute illness.[3]

Objectives: To assess the level of knowledge regarding post COVID complications among adults in the state of Maharashtra. 2) To associate the level of knowledge regarding post COVID complications among adults with selected demographic variables.

Material and Methods: The study was conducted in different region of Maharashtra. Quantitative research approach was used in this study. Non experimental descriptive survey design was used in this study. Non-probability convenient sampling technique was used to collect 100 sample.

Result: majority of the samples i.e. 51 % of them were having very good level of knowledge score, 21 % of them had good level of knowledge score, 16 % of them had Excellent level of knowledge score and 11% had average level of knowledge score, only 1 % had poor level of knowledge score respectively. The minimum score was found to be 1 and the maximum score was 51. The mean score was 16.32 and SD was 4.23.

Conclusion: after detailed analysis, it was found that there is significant association of level of knowledge score in relation to their Age, Occupation, Knowledge about post COVID complications among adults in the state of Maharashtra.

1. Introduction

Coronavirus disease (COVID-19) is an infectious disease caused by a newly discovered coronavirus. Most people infected with the COVID-19 virus will experience mild to moderate respiratory illness and recover without requiring special treatment. Older people, and those with underlying medical problems like cardiovascular disease, diabetes, chronic respiratory disease, and cancer are more likely to develop serious illness.[4]

The best way to prevent and slow down transmission is to be well informed about the COVID-19 virus, the disease it causes and how it spreads. Protect yourself and others from infection by washing your hands or using an alcohol based rub frequently and not touching your face. The COVID-19 virus spreads primarily through droplets of saliva or discharge from the nose when an infected person

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coughs or sneezes, so it's important that you also practice respiratory etiquette (for example, by coughing into a flexed elbow).Coronaviruses are large group of viruses that cause illness in humans and animals.[5]

Rarely, animal coronaviruses can evolve and infect people and then spread between people such as has been seen with MERS and SARS. The outbreak of Novel coronavirus disease (COVID-19) was initially noticed in a seafood market in Wuhan city in Hubei Province of China in mid December, 2019.[2]

2. Background of the study

The current study aimed to assess knowledge about POST COVID complication in the state of Maharashtra.Evidence regarding the spectrum of post-COVID-19 illness and management is evolving and will continue to develop in years to come. Recent suggested definitions have described post-acute COVID-19 as illness extending beyond three weeks from initial symptoms and chronic COVID-19 as illness extending beyond 12 weeks from initial symptoms.[6]

The incidence of post COVID-19 squeal in those who have tested positive and who have been managed in an outpatient setting (Such as management in the home) is thought to be between 10% and 35% . But for those admitted to hospital, this may be closer to80%. The incidence of prolonged illness significantly increases with age, comorbidities and severity of the acute illness.[7]

2.1. Need of the study

The world is currently witnessing a dramatic disruption of everyday life owing to the rapid progression of the coronavirus disease 2019 (COVID-19) pandemic. As the pandemic evolves, there is an urgent need to better understand its epidemiology. And need to assess its knowledge in adult group. One thing that did not make to the spotlight in this COVID-19 pandemic is a question that what happens to the COVID-19 patients after they are discharged from the critical care? A common assumption around the world is that once a patient is discharged from the hospital and is tested negative the problem is resolved. This may be based on a relative lack of information and knowledge, even among the health care professionals, regarding a condition described as Post-Intensive Care Syndrome (PICS).[6] In world, 7 september 2021, there have been 222,003,089 confirmed cases of COVID-19 with 4,589,244 deaths.[7] In India, from 3 January 2020 to 5:02pm CEST, 6 September 2021, there have been 33,027,621 confirmed cases of COVID-19 with 440,752 deaths,[8]

PICS may be a next public health crisis that we may face when this acute form of COVID-19 crisis settles down a bit. It wouldn't be prudent to ignore this serious problem until it becomes another challenge for societies around the world. PICS is characterized by conglomeration of symptoms involving physical strength deficits, cognitive decline, and mental health disturbances observed after discharge from critical care that persist for a protracted amount of time. Approximately 0.8 million people every year suffer from critical illness requiring mechanical ventilation during their stay in critical care in the United States; beyond all age groups. Although, data on this topic hasn't been collected yet with COVID-19 patients, it will be reasonable to assume that this number is going to drastically increase because of increase in COVID-19 crises worldwide. At least 20% of the COVID-19 patients are reported to require supportive care in the critical care units.[9]

2.2. Objectives of the study

1. To assess the level of knowledge regarding post COVID complications among adults in the state of Maharashtra.
2. To associate the level of knowledge regarding post COVID complications among adults with selected demographic variables.

2.3. Assumptions

1. Adult may have less knowledge regarding post covid complications.
2. Adult knowledge vary according to demographical variables.

2.4. Hypothesis

1. **H0:** There is no significant association between knowledge score regarding post COVID complications among adults and their demographic variables.
2. **H1:** There is significant association between knowledge score regarding post COVID complications among adults and their demographic variables.

2.5. Delimitations

1. This study was limited to the adult of age 18 years and above.
2. The study was conducted only on Maharashtra.

2.6. Inclusion criteria

1. People above 18 years age
2. People who can handle smart phone
3. People who can read and understand English language

2.7. Exclusive criteria

1. People who are not willing to participate
2. People who belongs to medical faculty

3. Review of Literature

The related reviews of literatures are presented in the following sub heading:

1. Literature related to covid.
2. Literature related to post covid complication.
3. Literature related to prevention of covid.

4. Materials and Methods

The Quantitative research approach and non experimental descriptive survey design was used in this study. The study was conducted in the state Maharashtra during year 2021. The population of the study was adult in the state of Maharashtra who were fulfilling the inclusion and exclusion criteria. The sampling technique used was non-probability convenience sampling. The study was approved by the ethical committee and the study was conducted in accordance with the ethical guidelines. In inclusion criteria of the study are, People above 18 years age, People who can handle smart phone, People who can read and understand English language. [10] We exclude adult who are not willing to participate in the study and People who belongs to medical faculty. A self structured knowledge questionnaire was used for data collection. The analysis was done with the help of inferential and descriptive statistics.

5. Results

The analysis and interpretation of the observations are given in the following section:

1. **Section A:** Distribution of adults with regards to demographic variables.
2. **Section B:** Assessment of level of knowledge regarding post COVID complications among adults.
3. **Section C:** Association of knowledge score regarding post COVID complications among adults with their demographic variables.

- **Section A:** Distribution of adults with regards to demographic variables.

72% of the adults were less than 30 years of age, 22% of them were in the age group of 31-40 years and 6% of them were in the age group of 41-50 years.[9–11] 46% of the adults were males and 54% of them were females. 6% of the adults were educated up to higher secondary, 53% up to graduation and 41% of the adults were educated up to post graduation.30% of the adults were students, 5% of them were doing business, 46% of them were doing private services, 3% of them were doing government job and 16% of the adults were farmers. 15% of the adults were from rural area and 85% were from urban area. 37% of the adults had knowledge about post COVID complications. 35.10% of the adults had information from internet, 32.40% had

Table 1: Percentage wise distribution of adults according to their demographic characteristics. n=100

Demographic Variables	No of adults	Percentage
Age		
≤ 30 yrs	72	72
31-40 yrs	22	22
41-50 yrs	6	6
Gender		
Male	46	46
Female	54	54
Educational Level		
Higher Secondary	6	6
Graduation	53	53
Post Graduation	41	41
Occupation		
Student	30	30
Business	5	5
Private Job	46	46
Govt Job	3	3
Farmers	16	16
Area of residence		
Rural	15	15
Urban	85	85
Knowledge regarding post COVID complications		
Yes	37	37
No	63	63
Source of knowledge		
Internet	13	35.1
Media	12	32.4
Friends	4	10.8
Relatives	8	21.6

from media, 10.80% of adults had information from friends and 21.60% of adults had information from relatives.
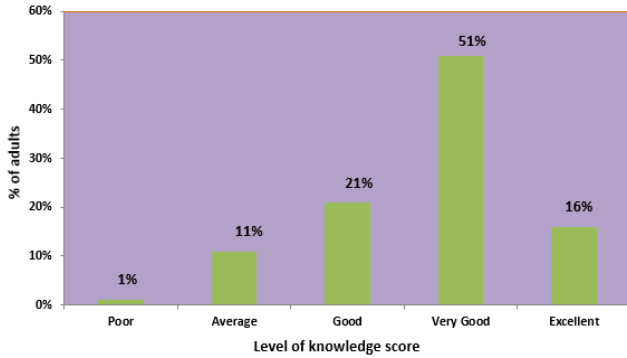
- **Section B:** Assessment of level of knowledge regarding post COVID complications among adults.

This section deals with the assessment of level of knowledge regarding post COVID complications among adults in the state of Maharashtra. The level of knowledge score is divided into headings of poor, average, good, very good and excellent.

Table 2: Assessment with level of knowledge score n=100

Level of knowledge score	Score range	Knowledge score		Mean score	SD	Mean Percentage (%)
		Frequency	%			
Poor	1-5	1	1			
Average	6-10	11	11			
Good	11-15	21	21	16.32	4.23	65.38%
Very Good	16-20	51	51			
Excellent	21-25	16	16			

The above table shows that 1% of the adults had poor level of knowledge score, 11% had average, 21% had good , 51% had very good and 16% of the adults had excellent level of knowledge score. The mean knowledge score was 16.32 ± 4.23, mean percentage of knowledge score was 65.28 ± 16.94 and range of knowledge score was 4-23.

Graph 1: Assessment with level of knowledge score

- **Section C:** Association of knowledge score regarding post COVID complications among adults with their demographic variables.

This table shows that association of knowledge score regarding Post COVID complications with age of adults. The tabulated 'F' values was 3.05(d f=2, 97) which is much less than the calculated 'F' i.e. 4.85 at 5% level of significance. Also the calculated 'p'=0.010 which was much less than the acceptable level of significance i.e. 'p'=0.05. Hence it is interpreted that age of adults is statistically associated with their knowledge score.

The association of knowledge score regarding Post COVID complications with occupation of adults. The tabulated 'F' values was 3.07(d f=2, 97) which is less than the calculated 'F' i.e. 2.95 at 5% level of significance. Also the calculated 'p'=0.024 which was much less than the acceptable level of significance i.e. 'p'=0.05. Hence it is interpreted that occupation of adults is statistically associated with their knowledge score.

The association of knowledge score regarding Post COVID complications with knowledge regarding post COVID complications of adults. The tabulated 't' values was 1.98 (d f=98) which is much less than the calculated 't' i.e. 2.78 at 5% level of significance. Also the calculated 'p'=0.006 which was much less than the acceptable level of significance i.e. 'p'=0.05. Hence it is interpreted that knowledge regarding post COVID complications of adults is statistically associated with their knowledge score.

6. Discussion

The present study showed that, majority of the samples i.e. 51 % of them were having very good level of knowledge

Table 3: Association of knowledge score regarding Post COVID complications in relation to age. n=100

Demographic Variable	Calculated Value		Degrees of freedom	Table Value	Level of significance	Significance
	T	F				
Age	-	4.85	2.97	3.05	0.010<0.05	S
Gender	0.01	-	98	1.98	0.98>0.05	NS
Education	-	1.81	2.97	3.07	0.16>0.05	NS
Occupation	-	2.95	2.97	3.07	0.024<0.05	S
Residence	01.34	-	98	1.98	0.83>0.05	NS
Knowledge	2.78	-	98	1.98	0.006<0.05	S
Source of knowledge	-	0.71	3.34	2.84	0.54>0.05	NS

score, 21 % of them had good level of knowledge score, 16 % of them had Excellent level of knowledge score and 11% had average level of knowledge score, only 1 % had poor level of knowledge score respectively.

It is observed in the present study that there is significant association of level of knowledge score in relation to Age, Occupation and Knowledge about Post COVID complications.

7. Conclusion

The present study showed that, majority of the samples i.e. 51 % of them were having very good level of knowledge score, 21 % of them had good level of knowledge score, 16 % of them had Excellent level of knowledge score and 11% had average level of knowledge score, only 1 % had poor level of knowledge score respectively. The minimum score was found to be 1 and the maximum score was 51. The mean score was 16.32 and SD was 4.23. It is observed by the study that there is significant association of level of knowledge score in relation to their Age, Occupation and Knowledge about Post COVID complications. There is no significant association of knowledge score in relation to their Gender, Education, Residence and source of Knowledge.

8. Source of Funding

None.

9. Conflict of Interest

None.

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