

# Knowledge of Students Regarding COVID-19 Amid its Hasty Expansion

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## Abstract

**Background:** The pandemic of COVID-19 has been spreading around the world very rapidly and has took a terrible shape. The one of the better ways to deal with this terrible pandemic is to have thorough knowledge about it and act consequently.

**Objectives:** The present study aim at assessing and comparing the knowledge of Students about COVID 19 and its hasty expansion.

**Material and Methods:** Descriptive cross-sectional research design was adopted for the study. Data using online structured knowledge questionnaire was collected from 316 participants which was selected using convenient sampling technique from selected University of Ambala. The data was collected from students of Nursing, Physiotherapy and IT department.

**Results:** The mean age of participants among Nursing was 21.75 + 1.77, 23.43 + 2.62 among physiotherapy whereas 23.22+ 2.28 among IT department. In relations to Gender it was found that most (76 %) of the participants were female and only 24 percent were male among Nursing, 66 percent's participants were female, and 34 percent were male among physiotherapy while 56 percent were female and 44 percent were male in the IT department. 47 percent participants from the Nursing, 40 percent participants from physiotherapy and 20 percent participants form IT were having good knowledge. The knowledge score among Nursing Participants ranged from 17 to 46, 15 to 47 among Physiotherapy whereas it was 17 to 47 among IT participants. The mean knowledge score of the Nursing participants was 33.84 + 5.48, 32.91+6.67 among physiotherapy and it was 31.63+5.98 among IT. Repeated measure ANOVA was calculated which shows a statically significant difference (F=1.07, p=0.00) among three groups

**Conclusion:** The study concluded that continuing teaching experience is required to the students regarding preventive measures as well as change in the treatment regimen

**Key words:** Knowledge, Understanding, University students, COVID 19,

## Introduction

COVID-19 is an infectious disease caused by virus diagnosed newly i.e. severe acute respiratory

syndrome coronavirus. The virus was reported in Wuhan city of China.<sup>1</sup> Coronaviruses (CoV) are a broad family of viruses that are known to cause serious and sometimes fatal pulmonary diseases such as, Severe Acute Respiratory Syndrome (SARS-) and Middle East Respiratory Syndrome (MERS-).<sup>2</sup> As of now, globally 35,109,317 are the confirmed cases of COVID 19, including 1,035,341 deaths all over the world, whereas in India 6,623,815 confirmed cases of COVID-19 with 102,685 deaths.<sup>3</sup>

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The unique feature of the virus is high transmission rate and low pathogenicity. High infectious rate as well as mortality rate associated with COVID-19 till present and has a matter of great public health concern globally.<sup>3</sup>

The transmission mode of COVID 19 is still vague but, it is believed that the virus transmits through respiratory aerosol by coughing and sneezing of the infected person, or via close personal contact. Touching the objects that are contaminated with coronavirus may also spread the infection. The treatment of COVID 19 is the matter of a great concern because as of now there is no specific antiviral medicine or vaccine to treat or prevent the disease. Only symptomatic relief can be done. Treatment for symptomatic relief can be done. Possible vaccine and medications are still under trial.

The Medical Students are directly or indirectly related to such pandemics. So, they must have a higher level of knowledge and better attitude towards the disease.<sup>4</sup>

The student compliance is an essential component in the prevention and control of the COVID 19 which is directly related to their knowledge. Hence, we undertook a study to assess the knowledge among students of various department at Selected University of Mullana, Ambala, Haryana during very quickly rise of COVID 19 outbreak.

## **Methodology**

### *Study Design*

Descriptive cross section research design was used to assess and compare the knowledge of Students about COVID 19. The study was conducted in the month of April 2020 at selected University of Ambala.

### *Research Setting and Population*

The study was conducted at selected University of Mullana, Ambala. The students of Nursing, Physiotherapy and IT departments who were present at the time of data collection and who were willing to participate in the study were included in the study.

### *Sample Size*

Initially 582 students were enrolled for the study. But at the time of data collection only 317 students have participated in the study. Among 317 participants 136 students were from Nursing Departments, 81 from the Physiotherapy department and 101 students from the Non-Nursing Department.

### *Data Collection Tool and Technique*

#### **Section A:**

The demographic variable includes age, gender, area of residence, previous knowledge and source of knowledge of COVID 19.

#### **Section B:**

41 Questions related to various aspects of COVID 19 like Place of Origin, Incubation period, Risk factors, Mode of transmission, Clinical signs and symptoms, Diagnostic tests and Precautions and management of Covid-19. Every question has four possible answers whereas only one was the correct answer. The correct answer was given one marks whereas zero for the wrong answer. The total score is 35. Maximum score was 35 and minimum score is 0.

Structured knowledge questionnaire was made based on the guidelines of WHO, ICMR, CDC and MOHFW to measure the knowledge. Tool was validated from the department of Physiotherapy, Nursing and Non-Nursing.

The questionnaire was administered with the help of Google Form.

### *Data Collection Procedure*

Ethical approval was taken to conduct the study from Ethical Committee. Consent was taken from the participants. Data collection was done in the month of April 2020.

## Data Analysis

**Table 1: Frequency and Percentage Distribution of the Socio Demographic Variables**

N=317

Sample Characteristics	Nursing F(%)	Physiotherapy F (%)	IT F (%)
Age (mean+ SD)	21.75 + 1.77	23.43 + 2.62	23.22+ 2.28
Gender			
Male	33 (24)	27 (34)	44 (44)
Female	103 (76)	53 (66)	57 (56)
Previous Knowledge			
Yes	336 (100)	80 (100)	101 (100)
No	00(0)	00 (00)	00 (00)
Source of Knowledge			
Television	40 (30)	10 (13)	23 (23)
Social media	48 (35)	30 (37)	22 (22)
Newspaper	32 (24)	20 (25)	36 (36)
Webinar	15 (11)	20 (25)	20 (19)
Current area of residence			
Punjab	47 (34)	18 (23)	28 (28)
Himachal	39 (29)	24 (30)	38 (37)
Haryana	30 (22)	26 (32)	30 (31)
Jammu Kashmir	20 (15)	12 (15)	05 (05)
Knowledge score (Mean+ SD)	33.84 + 5. 48	32.91+6.67	31.63+5.98
Good (35 to 51)	65 (47)	32 (40)	20 (20)
Average (18 to 34)	70 (52)	47 (58)	80 (79)
Below Average (1 to 17)	01 (01)	02 (02)	01 (01)

Table 1 represents the frequency percentage of sociodemographic variables. It can be observed in the table 1 that the mean age of participants among Nursing was 21.75 + 1.77, 23.43 + 2.62 among physiotherapy whereas 23.22+ 2.28 among IT department. In relations to Gender it was found that most (76 %) of the participants were female and

only 24 percent were male among Nursing, 66 percent's participants were female, and 34 percent were male among physiotherapy while 56 percent were female and 44 percent were male in the IT department. All of the participants among all the groups have previous knowledge regarding COVID 19.

Further regarding source of knowledge, 30 percent of the participants in Nursing, 13 percent in the Physiotherapy and 23 percent's in IT, Television is the source of knowledge. 35 percent of the participants from Nursing, 37 percent from the physiotherapy, and 22 percent from the IT department know about COVID 19 through Social Media. Further, 24 percent's participants among Nursing, 25 percent from Physiotherapy and 36 percent from IT department participants source of

Knowledge is Newspaper. Webinar was the source of Knowledge among 11 percent Nursing participants, 25 percent Physiotherapy Participants and 19 percent among IT participants.

As per the Current area of Residence, 34 percent participants from Nursing, 23 participants from Physiotherapy and 28 percent from IT were residing in the Punjab. Further 29 percent participants from Nursing, 30 percent from Physiotherapy and 37 percent from the IT, were from Himachal. Next, 22 percent participants from Nursing, 32 percent from the Physiotherapy and 31 percent from IT were from Haryana. Furthermore, 15 percent participants from Nursing, 15 percent from Physiotherapy and 05 percent from the IT, were from Jammu and Kashmir.

**Table 2: Frequency and percentage distribution of Level of Knowledge among Participants**

N=31

Level of Knowledge	Nursing	Physiotherapy	IT
Good (35 to 51)	65 (47)	32 (40)	20 (20)
Average (18 to 34)	70 (52)	47 (58)	80 (79)
Below Average (0 to 17)	01 (01)	02 (02)	01 (01)

Table 2 showed the frequency and percentage distribution of Level of knowledge among participants. It can be interpreted from the table 2 that 47 percent participants from the Nursing, 40 percent participants from physiotherapy and 20 percent participants form IT were having good knowledge. Then 52 percent participants from the Nursing, 58 percent participants from physiotherapy and 79 percent participants form IT were having Average knowledge. Next 01 percent participants from the Nursing, 02 percent participants from physiotherapy and 01 percent participants form IT were having below Average knowledge.

**Table 3 Range, Mean, Median and Standard Deviation of Knowledge Scores of students N=317**

Group	Range	Mean± SD	Median
Nursing	17 to 46	33.84 + 5.48	34
Physiotherapy	15 to 47	32.91+6.67	33
IT	17 to 47	31.63+5.98	31

Table 3 representing the Range, Mean, Median and standard deviation of knowledge score of students regarding COVID 19. The knowledge score among Nursing Participants ranged from 17 to 46, 15 to 47 among Physiotherapy whereas it was 17 to 47 among IT participants. The mean knowledge score of the Nursing participants was 33.84

+ 5. 48, 32.91+6.67 among physiotherapy and it was 31.63+5.98 among IT. The median of the knowledge of the participants of Nursing, Physiotherapy and IT was 34, 33 and 31.

**Table 4. Repeated Measure ANOVA of Knowledge Score of the Participants**

**N=317**

Area	Group 1 Mean± SD	Group 2 Mean± SD	Group 3 Mean± SD	F	Df	p
Introduction and Origin of Covid-19	9.1±2.21	9.3±1.88	8.89±2.24	2.54	1	0.00S
Epidemiology, incubation period and risk of Covid-19	5.13±1.36	5:01±1.43	4.98±4.41	3.22	1	0.04 S
Clinical Sign and Symptoms, Screening and diagnostic test	8.88± 2.22	8.31±2.51	7.76±2.23	9.92	1	0.00 S
Precaution and management of Covid-19	10.64± 2.18	10.26±2.38	9.80±2.13	3.94	1	0.02 S
Total	33.84 + 5. 48	32.91+6.67	31.63+5.98	1.07	1	0.00 S

Table 4 depicting the Repeated Measure ANOVA of Knowledge Score of the Participants. The total mean knowledge score of the Nursing students was 3384 + 5. 48, which was 32.91+6.67 among Physiotherapy students and 31.63+5.98 was on IT students. Repeated measure ANOVA was calculated which shows a statically significant difference (F=1.07, p=0.00) among three groups, so it can be concluded that there was a statically significant difference found among the knowledge of the Nursing Students.

### Discussion

The present study aim was to assess and compare the knowledge of students regarding COVID 19. The results of the study revealed that 47 percent participants from the Nursing, 40 percent participants from physiotherapy and 20 percent participants form IT were having good knowledge. Then 52 percent participants from the

Nursing, 58 percent participants from physiotherapy and 79 percent participants form IT were having Average knowledge. Next 01 percent participants from the Nursing, 02 percent participants from physiotherapy and 01 percent participants form IT were having below Average knowledge. Similarly, study conducted to assess the knowledge of Nursing students showed that the students had average knowledge regarding COVID 19.<sup>5</sup>

Similarly, another cross-sectional study was done to assess the knowledge of Nursing Students regarding COVID 19 showed that over all 75.58±3.21 participants showed good knowledge and awareness about COVID-19. Around 87.47% participants were aware about high risk age group for COVID-19. 83.54% participants were aware about concept of hand hygiene and 83.37% were well aware of PPE for suspected or confirmed COVID-19 cases.<sup>6</sup>

**Limitations:**

- The study was limited to only one university.
- The study was limited only to students of the Nursing.

**Recommendations:**

**Nursing Practice**

- There should be hands on experience for Nursing Students to deal with COVID 19 and it will help to reduce the fear among students.
- Continuing teaching for the students regarding preventive measures and changing treatment regimen needed to update the knowledge.

**Future Research**

- The study can be done between multiple colleges to compare the knowledge regarding COVID 19.
- Further research is needed to determine the preventive behaviour and risk perception of Nursing Students related to COVID 19.

**Conclusion**

The study concluded that continuing teaching experience is required to the students regarding preventive measures as well as change in the treatment regimen.

**Ethical Clearance:** Ethical clearance taken from the ethical committee.

**Conflict of Interest:** Nil

**Source of Finding:** Self

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